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Fruit, Fiber, and Fire: A Cultural History of Modern Agriculture in New Mexico

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**FRUIT, FIBER, AND FIRE:
A CULTURAL HISTORY OF MODERN AGRICULTURE
IN NEW MEXICO**

by

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B.A., History, Bates College, 2005
M.A., History, The University of New Mexico, 2011

DISSERTATION

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ABSTRACT

In New Mexico, no crops have defined the people and their landscape in the industrial era more than apples, cotton, and chile. They illustrate, more than any other three crops in twentieth-century New Mexico, how agriculture has spurred migrations of plants and people, and in turn, shaped the culture of the place. The physical origins, the shifting cultural meanings, and the environmental and market requirements of these three iconic plants all broadly point to the convergence in New Mexico of diverse regional attitudes toward industry in agriculture. These three crops, all industrialized at different times in the twentieth century and in very different ways, in turn help illuminate New Mexico's long and fraught relationship with modernity. As this dissertation illustrates, for much of the twentieth century modernization did not simply radiate from cities into its hinterlands; rather, the broad project of modernity, and resistance to it, has often originated in farm fields, at agricultural festivals, and in agrarian stories.

A central premise to this investigation is that there is neither a single form of industrial agriculture nor a single form of traditional agriculture; rather, many ever-changing approaches of agriculture have often existed in tandem, often influencing each other in surprising ways. Through examining how various approaches to agriculture have relied upon, benefited from, or challenged each other, simple dichotomies between industrial and non-industrial agriculture disappear. In their place emerges a more nuanced portrait of an ever-changing, creative agricultural landscape that defies teleological narratives of inevitable and ever-increasing resource and labor exploitation that often accompany discussions of agricultural industrialization. Agricultural industrialization in the twentieth century, this dissertation shows, followed a nonlinear and highly contingent path.

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Introduction

Ten years ago, in the fall of 2007, I cleared out an overgrown half-acre of willows, elms, and various annual weeds twenty miles north of Albuquerque, and planted a few rows of garlic that I planned to sell the following summer. Though full of energy, earnestness, and enthusiasm, I lacked an intimate knowledge of the landscape and faced a steep learning curve on how to grow vegetables there. Over the course of several sweaty months and years, I eventually expanded the garden and learned the ins and outs of managing a small farm business. As I sought to learn how to grow vegetables in the arid climate, my mind often wandered to the region's agricultural history. How have other farmers done it? What did they grow, and why? Though I gleaned what I could from a small number of lay books, I could not find a scholarly history of recent commercial agriculture in New Mexico that could answer many of my questions. This project, in part, sprung from the seed of that quest. My hope is that within these pages lie some useful details for local farmers and local food advocates, that I provide some kindling for their further research, and that I offer them an overall sense of how rich and diverse an agricultural history this region has experienced over the long twentieth century.

This dissertation, however, strives to tell a history that will interest many more people than just the curious farmers out there. My intended audience goes well beyond the farming community to include all those interested in the broader cultural and environmental history of the twentieth-century New Mexico borderlands and how that history fits into even broader national and global narratives. To uncover some of this

history, I examined various angles of the state's agricultural past and, specifically, decided to focus on three crops that have long histories in the state: apples, cotton, and chile.

At the core of my decision to hone in on specific crops is my conviction that to understand the history of a people, we must understand the history of the plants that sustain them. In New Mexico, no crops have defined the people and their landscape in the industrial era more than apples, cotton, and chile. They illustrate, more than any other three crops in twentieth-century New Mexico, how agriculture has spurred migrations of plants and people, and in turn, shaped the culture of the place. The physical origins, the shifting cultural meanings, and the environmental and market requirements of these three iconic plants all broadly point to the convergence in New Mexico of larger regions—the Mexican North, the American Northeast, and the American South—and the convergence of diverse regional attitudes toward industry in agriculture.

These three crops, all industrialized at different times in the twentieth century and in very different ways, in turn help illuminate New Mexico's long and fraught relationship with modernity. As this dissertation illustrates, for much of the twentieth century modernization did not simply radiate from cities into its hinterlands; rather, the broad project of modernity, and resistance to it, has often originated in farm fields, at agricultural festivals, and in agrarian stories. This historical examination of apples, chile, and cotton in New Mexico helps illuminate the many, and often surprising, ways that New Mexicans have embraced, eschewed, appropriated, or fought modernity over the long twentieth century.

Many recent monographs have focused on a diverse array of crops, from corn to wheat, bananas to pecans, all over the world. The best of these have illustrated, to varying degrees, the co-productive relationships between agricultural production and consumption, the role of culture in shaping the natural world, the ways crops can both reify and defy borders, and the complex consequences a single plant can have on a landscape and society.¹ Several historians have emphasized how crops, as they become icons, embody myths of the people who cultivate, consume, and celebrate them. William Thomas Okie argues that the Georgia peach, for example, “is at the center of a myth, an imaginative pattern, a belief-embodying, meaning-shaping history”; and Cindy Ott explains how the ubiquitous Halloween pumpkin became a site where “the American agrarian myth... found expression.”² This dissertation draws from the many useful approaches these histories provide to offer its own unique contribution by examining in depth the interdependencies and relationships between industrial and non-industrial systems. These crops, their farmers and their attendant industries, together reveal an agricultural and cultural history of New Mexico that sheds new light on New Mexicans’ relationship to modernity, race, nation, and the environment.

¹ For a few examples of exemplary commodity histories, see Sterling Evans, *Bound in Twine: The History and Ecology of the Henequen-Wheat for Mexico and the American and Canadian Plains, 1880-1950* (College Station: Texas A&M University Press, 2007); Mark Kurlansky, *Salt: A World History* (New York: Walker and Company, 2002); Sidney Mintz, *Sweetness and Power: The Place of Sugar in Modern History* (New York: Viking, 1985); Douglas Cazaux Sackman, *Orange Empire: California and the Fruits of Eden* (Berkeley: University of California, 2005); and John Soluri, *Banana Cultures: Agriculture, Consumption and Environmental Change in Honduras and the United States* (Austin: University of Texas Press, 2005).

² William Thomas Okie, *The Georgia Peach: Culture, Agriculture, and Environment in the American South* (New York: Cambridge University Press, 2016), 2; and Cindy Ott, *Pumpkin: The Curious History of An American Icon* (Seattle: The University of Washington Press, 2012), 6. Philip Pauly, *Fruits and Plains: The Horticultural Transformation of America* (Cambridge, Mass.: Harvard University Press, 2007), and Jared Farmer, *Trees in Paradise: A California History* (New York: W.W. Norton and Company, 2013) both present particularly good examples of recent monographs that investigate the cultural meanings of multiple crops introduced to the United States in the nineteenth and early twentieth centuries.

To tell this history, I have divided the dissertation into six chapters. I devote two chapters to each crop, and each chapter approaches the crop's history from different historical lenses. Though each chapter carries its own conclusions, common to each chapter is the broad question of how modernity, in the form of agricultural industrialization, took shape in the New Mexico borderlands? When scholars have investigated the history of industrial agriculture, a term that many use but few define, many have focused on technological advances, such as tractors or synthetic fertilizers and pesticides, or to biological advances such as hybrid seed breeding. As historian Deborah Fitzgerald has invaluable articulated, by the 1920s an "industrial ideal," larger than any single technological innovation, had emerged in the United States that fore-fronted efficient, large-scale production under specialized labor-models.³ As historians have begun to emphasize, this shift in agricultural industry involved more than efficiency-minded innovations in production; it also involved appropriating old myths into new forms of storytelling specifically designed to spur consumer demand and support the increased yields made possible by innovations in production.

Storytelling, in the form of advertising, as Douglas Sackman has pointed out, "responded to the crisis brought about by the advent of mass production" and helped shape modern agriculture to be "a form of imperialism... composed of both land and images." Agrarian storytelling, which took many forms beyond advertising, helped shape

³ Deborah Fitzgerald argues that an "industrial logic" developed after the first World War that drove American agriculture. "Science, technology, and the spirit of rationalism... characterized industrial agriculture," Fitzgerald explains, "maintained by a new class of people and institutions [i.e. economists, farm managers, agricultural college researchers, extension agents, rural banks and insurance companies, and agricultural businesses] whose principal purpose was to modernize the whole agricultural enterprise." Deborah Fitzgerald, *Every Farm a Factory: The Industrial Ideal in American Agriculture* (New Haven, Conn.: Yale University Press, 2010), 6. For a seminal work on biological innovations in the history of US agriculture, see Alan Olmstead and Paul Rhode, *Creating Abundance: Biological Innovation and American Agricultural Development* (Cambridge: Cambridge University Press, 2008).

an agriculture imperialism by defining not just what agricultural products Americans should and shouldn't buy, but also by defining core cultural attitudes of national identity, race, and citizenship. Agrarian stories in the United States have long celebrated a democratic republic composed of white, male, landowning farmers and have long written out all others as subservient and unentitled. "Studying agrarian narratives," as historian Sarah Wald explains, "helps identify the cultural logic through which various groups are written into and out of the nation."⁴ With an eye on both land and image, this dissertation investigates how the introduction of industrial agriculture, built on science, technology, and innovative storytelling, shaped not only the physical landscape of New Mexico's irrigated valleys, but also the cultural landscape through the particular crops growers planted and the stories that grew alongside them.

Storytelling played an essential role in agricultural modernization in the long twentieth-century, in part, by defining notions of progress. "Modernity," suggests Frederick Cooper, can be thought of as a "representation, as the endpoint of certain narrative of progress, which creates its own starting point (tradition) as it defines itself by its end point[.]"⁵ In the case of modern agriculture, agrarian stories often present a teleology that situates agriculturalists either in the nostalgic "traditional" past or in the ever-improving modern present. At times, as this dissertation explores, stories of industrial agriculture embrace elements of "tradition" in the quest toward an ever-improving modern goal.⁶ This embrace—itsself a response to latent, popular anxieties

⁴ Sackman, *Orange Empire*, 86 ; and Sarah Wald, *The Nature of California: Race, Citizenship, and Farming since the Dust Bowl* (Seattle: University of Washington Press, 2016), 5.

⁵ Frederick Cooper, *Colonialism in Question: Theory, Knowledge, History* (Berkeley: University of California Press, 2005), 126.

⁶ As this dissertation will illustrate, rather than follow a simple, triumphalist narrative that completely derides "traditions," modern agrarian stories often celebrate elements of the "traditions" they aim to supplant. In a form of imperialist nostalgia, industrial agriculturalists have at times painted the agricultural

over modernity—nonetheless helps solidify a core story of a general progression from one binary, tradition, to another, modernity, and ultimately serves to validate the modern project.

This dissertation challenges this dichotomous narrative of agricultural modernization from a variety of angles, including cultural mixings and introductions of seeds and technologies, to investigate modern agricultural reliance on a diverse set of alternative agricultural systems. This approach echoes recent shifts in agrarian scholarship. “Seeds,” historian Courtney Fullilove has recently argued, can “challenge us to reconsider linear or progressive models of innovation, and of history as a form of storytelling about the past.” Indeed, a careful examination of the history of seeds defies conventional teleologies of modern agriculture precisely because, as scholars such as Jack Kloppenburg and Neil Kingsbury have shown, modern agriculturalists in the global North have consistently relied upon seeds from small farmers in the global South.⁷ With deep irony, then, modern agricultural industry has relied on the embedded labor of countless generations of non-modern farmers that the genes of these seeds reflect. Yet seeds are only one of many cultural artifacts that that can help reveal the interwoven relationships between agricultural industry with the very types of agricultural systems that industry aims to supplant. This dissertation travels from farmworker fiestas to

legacy of non-industrialists into a nostalgic past that is at once virtuous but woefully ill-equipped to navigate ever-changing complexities of the global marketplace. For more on imperialist nostalgia, see Renato Rosaldo, “Imperialist Nostalgia,” *Representations* 26 (Spring 1989): 107–122. For seminal works on modernity and tradition, see Reinhard Bendix, “Tradition and Modernity Reconsidered,” *Comparative Studies in Society and History* 9, no. 3 (April 1967): 292–346; and Eric Hobsbawm and T. O. Ranger, eds. *The Invention of Tradition* (New York: Cambridge, 1983).

⁷ Courtney Fullilove, *The Profit of the Earth: The Global Seeds of American Agriculture* (Chicago: The University of Chicago Press, 2017), 220; Jack Kloppenburg, *First the Seed: The Political Economy of Plant Biotechnology*, 2d ed. (Madison, University of Wisconsin Press, 2004), 14; and Noel Kingsbury, *Hybrid: The History and Science of Plant Breeding* (Chicago: The University of Chicago Press, 2009), 370.

agricultural fairs, from research stations to small cooperatives, from abandoned apple orchards to fields where geese weed cotton, all in search of the threads of diverse agricultural systems interwoven into the fabric of our agricultural past that modern storytelling has missed.

A central premise to this investigation is that there is neither a single form of industrial agriculture nor a single form of traditional agriculture; rather, many ever-changing approaches of agriculture have often existed in tandem, often influencing each other in surprising ways. Through examining how various approaches to agriculture have relied upon, benefited from, or challenged each other, simple dichotomies between industrial and non-industrial agriculture disappear. In their place emerges a more nuanced portrait of an ever-changing, creative agricultural landscape that defies teleological narratives of progress or of inevitable and ever-increasing resource and labor exploitation that often accompany discussions of agricultural industrialization. Agricultural industrialization in the twentieth century, this dissertation shows, followed a nonlinear and highly contingent path.

I begin the dissertation with two chapters that examine the history of apples in New Mexico. “Assessing the meaning of the apple,” writes historian William Kerrigan, “a fruit also enshrined as a cultural symbol, in American history is also no simple task.”⁸ The first two chapters tackle this challenge by examining the hopeful apple districts of New Mexico over the course of roughly a century, beginning with how commercial horticulture shaped New Mexico’s cultural and environmental landscape in the decades surrounding statehood in 1912. Through an examination of booster literature, newspaper

⁸ William Kerrigan, *Johnny Appleseed and the American Orchard: A Cultural History* (Baltimore: Johns Hopkins University Press, 2012), 191.

articles, governor reports, horticultural board records, and other primary documents, chapter one investigates how New Mexico boosters, growers, and scientists used various meanings of the apple—heavily laden with notions of Anglo morality, virtue, and nation—to entice white emigrants to settle and modernize the region. I examine, too, how the commercial apple brought not only deeply entrenched myths, but also virulent moths that also reworked the physical and cultural landscape. The eradication of the codling moth required cooperation among growers that swiftly led to coercive pesticide laws and cultural critiques that left little room for alternative approaches to horticulture. Together these myths and moths help explain how the early industrial apple in New Mexico represented a widespread and at times coercive effort, only partially successful, to fundamentally re-order and homogenize the physical and cultural landscape of the territory in the name of modernity, profit, and nation.

In chapter two, I follow the history of apples into northern New Mexico at mid-twentieth century. I compare the stories of two markedly different apple-growing ventures. First, I examine the history an influential advertising executive, James Webb Young, who moved to a remote canyon near Cochiti Pueblo and developed a hugely successful orchard business through his marketing acumen. Under the persona of “Old Jim Young,” he developed a “champagne apple” that became the focal point of family pilgrimages to the orchard even long after he had passed away. Second, I examine an apple cooperative in Chimayó that, in the wake of Reies Tijerina’s “Courthouse Raid” in Tierra Amarilla in 1967 and the region’s broader social turmoil, became a centerpiece for a less radical, state-driven counter-strategy to economically revive northern New Mexico. Though the cooperative very nearly succeeded, it ultimately failed due to problems with

management, outside competition, and several environmental setbacks, including a devastating freeze in 1971. Together, these histories of apple growers reveal northern New Mexico to be a complex site of competing visions of the cultural identity of the state, its relationship to modernity and colonialism, and its relationship to the rest of the nation that continued to converge late into the twentieth century.

From apples, I move to cotton. Between the world wars, the global empire of industrial cotton spread into newly irrigated lands of southern New Mexico and far west Texas and reshaped regional cultural, socio-economic, and environmental connections. Chapter three examines how cotton's arrival spurred new migrations among farmers and farmworkers, led to new and stronger regional alliances among growers, and strengthened ties between the land-grant college and growers throughout the borderlands. As cotton instigated migrations of diverse people and genetic material into the region, it paradoxically led to increased homogenization in the fields themselves as farmers organized to plant the same single variety of cotton, often in large monocropped fields that left little room for soil-building, rotational crops. Yet this homogenization was neither foreordained nor complete; rather, industrialization followed a contingent, ever-changing, and contested path. The history of New Mexico's many early cotton farms, themselves ever-evolving composites of diverse growing systems, reveals how one-crop farming during this time often belied early logics of industrialism and often relied, both directly and indirectly, on more diverse farms of all sizes.

In New Mexico, as well as throughout west and south Texas, Southern-style paternalism often aligned with emerging doctrines of scientific management and ideals of industrial efficiency to create a new cotton landscape of interwar New Mexico that

highlights the changing ideals of industrial agriculture throughout the nation. Chapter Four examines the nuance and contingencies of this industrial ideal by focusing on one of the largest and most successful cotton farms in the region, Stahmann Farms. Over the course of roughly four decades, from the founding of the farm in 1926 to the farm's last cotton crop in the late 1960s, Stahmann Farms gained success by embracing a diversified crop regime and paternalistic labor structure that upended simple narratives depicting agricultural industrialization as a linear path toward monoculture and evermore-exploitive labor practices. Stahmann Farms embraced a paternalistic approach to industrial agriculture that contained flexibility for extensive crop diversification and intricate cultural negotiations with the farm's workers.

The success of Stahmann Farms came not simply from its crop choices, but also from its spatial and cultural geography. The borderlands farm benefited from its proximity to Mexico in several ways; in turn, a thread of *Mexicanidad* wove through the culture of the farm. The transnational threads of cotton on Stahmann Farms come as little surprise; global historians such as Sven Beckhardt have adeptly illustrated the inter-workings of a cotton empire, rooted in financial centers in Europe, that connected vast stretches of the globe for centuries.⁹ Yet broad-sweep commodity histories often miss how local actors, broadly influenced by the workings of a global cotton empire, spun their own interregional webs of cotton that had tremendous impacts on the region landscape. Following the lead of historians such as Sam Truett, I take a more on-the-ground approach that views the myriad interregional exchanges facilitated by the cotton economy in the New Mexico borderlands. The borderlands are not simply a remote

⁹ Sven Beckert, *Empire of Cotton: A Global History* (New York: Alfred A. Knopf, 2014).

region where actors in distant cities create the forces that dictate the landscape; they are a site of intricate, interwoven connections—at once transnational and local—that crossed geopolitical, cultural, and environmental borders in ways that significantly shaped the southern New Mexico cotton economy and the broader New Mexico borderlands.

The final two chapters focus on the state's most iconic crop, the chile pepper. Chapter five examines the first chile pepper developed at New Mexico's land grant college and its breeder, Dr. Fabián García, in the early twentieth century. The number 9 chile, as García called the pepper he bred, was more than simply the first scientific and industrial chile pepper; it embodied a pan-Hispanic and nationally inclusive vision for New Mexico that encouraged cultural transformations both within and beyond the New Mexico borderlands. García's efforts transformed more than the chile's genetics; his efforts represented the first major step in transforming the idea of the chile into a modern crop that the nation as a whole could more readily consume. García's number 9 chile illustrates how breeding for industrial traits involved crafting new definitions of place, identity, and citizenship. Perhaps better than any other single crop variety, the number 9 chile sheds light on the intersections among modernity, race, and nation within the wider agricultural and cultural network of the early twentieth-century US-Mexico borderlands.

The final chapter traces the history of the chile pepper into the current century by examining not only subsequent breeding efforts to shape the chile, but also the many efforts to shape the chile through its stories. The modern chile is more than a selectively bred chile, it is a carefully told chile. The narratives of the industrial chile, and its counter-narratives that often surround the state's native chiles, once again reveal how modernity continues to be contested in the fields and kitchens of the state. The history of

the chile in New Mexico, like the state's histories of apples and cotton, reflects an American agricultural past rife with myths, fables, pageantry, and, occasionally, outright lies. Rather than an exercise to merely “expose the dirty underbelly” (to borrow William Thomas Okie's words) of agrarian stories, this chapter, as throughout the dissertation, investigates storytelling to better understand the process of agricultural modernization in New Mexico and the efforts to resist it.¹⁰

Altogether, this is a history of modern agriculture that focuses on its extremities to better understand the heart. The local stories matter; they represent lives filled with meaningful struggles, lessons, and successes. Yet I intend this to be more than simply a local history. The implications of how agriculture industrialized in New Mexico stretch well beyond the state's irrigated fields and speak to the greater process modernization in the long twentieth century. “We need a history of agriculture,” historian Courtney Fullilove implores, “that shifts focus from institutions of research to the broad field of agrarian knowledge on which they drew. It should fasten changes in material environments to the systems of knowledge deployed to describe and transform them. And it should identify the contingency and variety of environmental decision making at local, regional, national, and international scales.”¹¹ The following pages provide one such history by seeking out the many systems of knowledge in our recent agricultural past, whether in the seeds themselves or in the broader culture of farmers and farmworkers. In the process, seemingly mere marginalia—maybe a farmworker's meal, a small orchard's advertisement campaign, or a long-gone chile seed—add up to an agricultural past with diverse cultural influences, many possible futures, and competing visions of how to feed

¹⁰ Okie, *The Georgia Peach*, 8.

¹¹ Fullilove, *The Profit of the Earth*, 9.

and clothe ourselves that remain relevant as we continue to reimagine the crops of our future.

Apples

1.

Before There Were Aliens, There Were Apples

Myths, Moths, and Modernity in New Mexico's Early Commercial Orchards

“...State of Apple Blossoms, is Nuevo Mejico...”

-Elizabeth Garrett; *O, Fair New Mexico*; 1915

Roughly three and a half decades after her father gunned down the most famous outlaw in America, Elizabeth Garrett immortalized her beloved New Mexico in what would soon become the official state song. Her father would no doubt have appreciated the horticultural paradise the song depicts. Pat Garrett, whose landholdings included an orchard of over 800 apple and peach trees, had spent and lost a fortune trying to dam the Pecos River near Roswell in an effort to create a lucrative agricultural valley. His daughter's portrayal of a “Nuevo Mejico” filled with rugged sierras, “fiery hearted Montezumas,” and “dotted with fertile valleys” captured the mythic ideal shared by her father and many other eastern newcomers alike. At the heart of the vision was a familiar and thoroughly “American” crop; the smell of apple blossoms, not roasting green chile, filled the breezes of the visionaries' minds.¹²

Those four decades between Pat Garrett's first fruit tree and the state's official adoption his daughter's blossom-filled song witnessed rapid agricultural industrialization that profoundly shaped the physical and cultural landscape of New Mexico. Fruit in

¹² On Pat Garrett's orchard, see Leon Claire Metz, *Pat Garrett: The Story of a Western Lawman* (Norman: University of Oklahoma Press, 1974), 150.

general, and apples in particular, initially led the way. Apples brought in more money and were grown in more parts of the territory than any other non-grain or non-hay crop in the decades surrounding the turn of the twentieth century.¹³ But even more than with crops such as alfalfa, wheat, or corn, apples required a highly industrialized landscape—physically and culturally—to grow profitably in a competitive regional and national market. Apple production relied on major irrigation and rail systems; modern technology to grow, market, process, pack, and ship; cooperation among growers; and federal and local governmental support in the form of land-grant college research, tax-funded horticultural boards, and spraying laws. While investors and farmers experimented with other industrial crops including sugar beets, sweet sorghum, and even canaigre, no crop was planted in more places and with more success than the apple.¹⁴ In nearly every narrow mountain hamlet and broad irrigated valley alike, farmers gave apples a try.

No crop represented cultural change more than the apple. Yet, perhaps because the industry proved shorter-lived and less economically significant compared to other regions, historians have largely ignored the role of early industrial horticulture in New Mexico despite its significant cultural impacts on the region. The apple carried deep cultural meanings as a symbol of Anglo morality, virtue, and nation. Apples also required commercial growers to adopt the most modern technologies—involving irrigation, tillage, smudging, and pesticides—to compete, and therefore represented a force of

¹³ Wheat, corn (for feed), sorghum, oats, and alfalfa all brought in more total revenue than apples throughout this period; by 1920, cotton and beans also brought in a more valuable crop than apples in the state. See *United States Census of Agriculture: 1935*, Vol 1, part 3, (Washington, D.C.: Government Printing Office, 1936), 863, 869.

¹⁴ Canaigre, *Rumex hymenosepalus*, is also known as Tanner's dock and is native to the US southwest. Late nineteenth-century industrialists briefly considered it a potentially important crop to support the region's tanning industry. See Frederica Bowcutt, *The Tanoak Tree: An Environmental History of a Pacific Coast Hardwood* (Seattle: University of Washington Press, 2015), 48.

modernization. The early industrial apple in New Mexico represents a widespread, pervasive, and at times coercive effort, only partially successful, to re-order and homogenize the physical and cultural landscape of the territory in the name of modernity, profit, and nation.

The Cosmopolitan Fruit

In the late nineteenth century, many apple varieties took a cross-country journey that reflected larger migrations and transformations. Industrialization was changing where and how apples were produced, and who was producing them. Home orchards, mostly in the east, gave way to specialized commercial orchards, largely in the west. These newer, more western districts—or “fruit belts”—all vied for a share of the enormous national, and even international, market. Commercial western orchards were often large, flat fields with reliable irrigation, fertile soil, and, initially, an environment free of many pests common in the east. To offset the added costs of irrigation and long-distance rail charges, growers increasingly specialized in monocultures of few varieties, grown and managed according to the most scientific methods of the day, and were supported by major infrastructure projects, such as the railroads, irrigation projects, and agricultural colleges. No longer a profitable side venture for the diversified small farm, fruit growing became a big industry requiring full-time commitment and a fair amount of capital to get started. A competitive fruit grower was at the forefront of modern agricultural science and industrialization.¹⁵

¹⁵ Several historians have illustrated how western horticulturalists embraced science and modernity during this time. For examples in California, see Farmer, *Trees of Paradise*; Douglas Sackman, *Orange Empire*;

The US was the world's top apple producer in the late nineteenth century. Several major fruit-growing sections of the country—including the inter-mountain west, from southern New Mexico through Colorado and Utah—vied for supremacy during the four decades surrounding the turn of the twentieth century. High apple prices in the late 1880s spurred heavy plantings, which led to lower prices for much of the 1890s, exacerbated by the Panic that swept the nation in 1893. By the turn of the century, however, as prices once again rose, throughout the west new orchards were planted, and throughout the east, old and inefficient ones were removed.¹⁶ For newly arrived settlers throughout the irrigated reaches of the mountainous west, a ready eastern market connected by a newly laid railroad, new irrigation technologies, extremely optimistic estimates of water supply, and the absence of virulent pests inspired hope that the apple industry would succeed.

Apples were not new to territorial New Mexico. Seedling varieties with Spanish origins had been grown in New Mexico since at least the early seventeenth century. Sometime in the 1850s, Archbishop Jean Baptiste Lamy imported apples from east of the Mississippi for his renowned orchard in Santa Fe, and in 1859, John Clark planted apples

and J.P. Sandul, "The Agriburb: Recalling the Suburban Side of Ontario, California's Agricultural Colonization," *Agricultural History* 84:2 (Spring 2010): 195–223. For a Pacific Northwest example, Jason Patrick Bennet argues that the orchard landscape of the early twentieth-century Pacific Northwest represented a rural "alternative modernity" that "valorized a partnership between farmer and nature through the insights of agricultural science." Jason Patrick Bennet, "Blossoms and Borders: Cultivating Apples and a Modern Countryside in the Pacific Northwest, 1890–2001," (PhD diss., University of Victoria, 2008), 27.¹⁶ John Clifford Folger and Samuel Mable Thomson, *The Commercial Apple Industry of North America* (New York: Macmillan, 1921). The predominant regions were the Northeast, the mid-Atlantic, the Midwest, the Ozarks, the Intermountain West, and the Pacific Northwest. Folger and Thomson claim that it wasn't until the 1890s that commercial orchards in the mid-West (Illinois, Arkansas, Missouri) took off, and when, nation-wide, commercial orchardists planted apples in large numbers. Prices for apples were high in the late eighties, stimulating planting throughout the country. In Washington, major commercial plantings did not begin until 1894, with the most extensive plantings happening from 1900 to 1908, in the Yakima valley, and not until 1903 in the Wenatchee valley. Hood River was commercially planted in last years of nineteenth century. In California, the Pajaro valley was planted with commercial orchards earlier, from 1880 to 1900. See also John Robert Magness, *Apple Varieties and Important Producing Sections of the United States*, USDA Farmers' Bulletin no. 1883 (Washington, D.C.: Government Printing Office, 1941).

from Missouri at Los Luceros in Rio Arriba County.¹⁷ By the 1870s, apples from these and a few other orchards were highly praised as far as away as Colorado. Much more common in New Mexico in the 1870s, however, were the “native” apples that commentators variously described as “sweet and leathery,” a “bitter sweet native apple the size of a plumb,” and a “small sweet variety of very little value.”¹⁸ Newcomers from the East viewed these seedling apples as inferior in quality but nonetheless proof of the territory’s good soil and fruit-growing conditions.

Some of the earliest commercial orchards were planted with local consumption in mind, particularly near mining communities. But soon, the railroad made more distant markets available. Wealthy local businessmen planted the most successful early orchards.¹⁹ Although initial commercial orchards faced neighbors’ skepticism, tales of success quickly spread around the territory and beyond. Locals initially dubbed Manley M. Chase’s orchard in Colfax County “Chase’s Folly,” for example, but when Chase’s trees matured and he began shipping apples into Texas, Oklahoma, and Colorado and eventually took gold at the Chicago World’s Fair, the laughter abated. By 1910, looking back on his then-65-acre orchard’s success, Chase could declare that “beyond any question...this is as good a fruit country as any of the famous fruit-growing districts of

¹⁷ Fabián García, “History of Fruit Growing in New Mexico,” in *Proceedings of the American Pomological Society*, vol. 29, (Cleveland, Ohio: The Society, 1905), 84.

¹⁸ García, “History of Fruit Growing,” 84; “Fruit,” *Santa Fe New Mexican*, 25 October 1871, p.1; and “Vegetable and Fruit Gardens Wanted,” *Santa Fe New Mexican*, 23 July 1875, 1.

¹⁹ In addition to the orchards of John Chisum and Chase, the Bull and Casad orchards in the Mesilla Valley serve as preminent examples of large-scale, successful orchards. See *Report of the Governor of New Mexico to the Secretary of the Interior* (Washington, D.C.: Government Printing Office, 1902), 493. Thomas J. Bull made “large quantities” of apple brandy and wine, and even wowed Santa Feans with a mammoth apple that measured thirteen inches in diameter in 1876. See *The Santa Fe New Mexican*, 29 August 1876, 1. By 1890, one visitor described Bull’s orchard’s as a “bonanza.” See A. W. Small, “A Visitor’s Testimony,” *Rio Grande Republican* (Las Cruces, N.Mex.), 15 February 1890, 1.

Colorado or the Northwest, and it has some advantages over them.” In fact, he added, “In my judgment there is no better paying crop to be grown in Colfax County.”²⁰

Such tales of success were fodder for local boosters. Throughout the territory pamphlets and articles declared New Mexico ripe for becoming the next great apple-growing region of the country. Land developers (often organized into “orchard companies”) and individual settlers planted commercial orchards in nearly every irrigated valley of the territory, from Mimbres to Cimarron, Las Cruces to Taos, and scattered points between and throughout. The success of apples, though predictably overblown by local boosters, was nonetheless quite real. “Apples are the most important orchard fruit in the United States, and they are also the most cosmopolitan,” state horticulturalist Fabián García declared in 1910, and “undoubtedly the most important orchard fruit in New Mexico.”²¹ While growers had early success with the cosmopolitan fruit throughout the territory, only two districts—the Farmington and Roswell districts—developed into large, regionally and nationally significant apple-growing regions. In both districts, in opposite corners of the state, white settlers had arrived to remote outposts of the irrigated west with horticultural visions of virtue, health, science, and profit.

²⁰ “The Chase Orchard: New Mexico’s Famous Pioneer Orchard,” *The Western Empire*, 1928, 20-21, from the private collection of Gordon Tooley. See also, “New Mexico...,” *Decatur (Indiana) Daily Democrat*, 28 December 1907, 3.

²¹ Fabián García, *Apple Culture Under Irrigation*, New Mexico College of Agriculture and Mechanic Arts Experiment Station Bulletin 75 (Santa Fe: New Mexican Printing Company, 1910), 3. As García describes, the Rio Grande Valley developed smaller, but locally important apple districts from Taos to Mesilla, as did the Mimbres Valley. Otero, Lincoln, Colfax, Mora, Grant, and San Miguel counties also developed small but locally significant apple districts in the late nineteenth and early twentieth centuries. For examples of booster literature promoting New Mexico’s potential apple-growing greatness, see *San Juan County, New Mexico*, comp. Women’s Auxiliary Committee, World’s Columbian Exposition, San Juan County (Chicago: Rand McNalley, 1893); and “A Fruit Belt,” in *Santa Fe New Mexican Review*, 28 June 1899, 1, which includes the claim “New Mexico is destined to become the leading apple country in the world.”

The Land of the Big Red Apple

In the mid-1870s, John Chisum's apple orchard in the mid-1870s must have been a remarkable, if not unsettling, sight to the Hispanos in nearby Plaza de Missouri. Though not enormous by industrial standards, the cattle baron's new orchard of 1,500 fruit trees in long neatly ordered rows, nonetheless intimated major changes for villagers and their surrounding landscape. Many of them would eventually work building, and rebuilding, the irrigation infrastructure for a horticultural vision that targeted new settlers and largely excluded them.²² Over the course of roughly three decades—1890 to 1920—the Pecos Valley fruit district developed from a cattle-raising country of mostly creosote, grama, and acacia, into an irrigated, more homogenous landscape that produced a significant portion of the entire Mountain West's apple crop. People came to call the Pecos Valley, along with the San Juan Valley, the "land of the Big Red Apple."

Despite the hopeful moniker and the thousands of carloads of apples shipped out of state, however, both valleys fell short of the apple-growing dominance investors and growers had envisioned. Many factors—an overestimated water supply, long distances, tenacious pests, early frosts, floods, and increased competition from elsewhere among them—stifled the effort to transform the region into a horticultural commercial center. In the Pecos Valley, success came sooner than the San Juan Valley, but left sooner, too. Some growers left the valley entirely, many others switched from apples to an old staple of the south that by the 1920s swept across the southern reaches of the irrigated West.

²² Stephen Bogener, "Ditches Across the Desert: A Story of Irrigation Along New Mexico's Pecos River," (PhD diss. Texas Tech University, 1997), 24–25, 183; For more on Chisum's orchard, see George B. Anderson, *New Mexico: Its Resources and Its People, Vol. 2* (Los Angeles, Calif.: Pacific States Publishing, 1907), 796.

While Chisum's was one of the first orchards in the region, Charles Eddy and Pat Garrett first developed the vision of an irrigated agricultural mecca of white settlers in the Pecos Valley. Eddy, originally from New York state, recruited capitalists from Chicago and Colorado Springs to undertake the monumental task of controlling the Pecos. Their principal recruit, Colorado mining baron James Hagerman, soon became instrumental in creating what he and Eddy envisioned to be a grand agricultural center. With deep pockets extending to New York, Chicago, and Colorado, and with the aid of the newly passed Desert Land Act, Eddy devoted his efforts toward securing the money, water, land and settlers needed for "a model community in the desert."²³

Developing the area first meant attracting investors, but soon it meant attracting farmers. By 1891, Hagerman explained that he wanted "steady, industrious, frugal people—people who understand farming and fruit growing and are not afraid to work and do not expect to make a fortune in one or two years." Hagerman, and other investors such as fellow easterners-turned-westerners Francis Tracy and Charles Greene (then-editor of the *Santa Fe New Mexican*), hoped to make money by raising fruit themselves and also selling improved land with fruit trees. They organized the Pecos Orchard Company in 1892, and planted over half a million fruit trees in their first two years. Charles Greene supervised the company from Chicago, as well as another company, the Pecos Irrigated Company, which also planned to sell off subdivided sections irrigated newly planted orchards.²⁴

Fruit was central to investors' pitches to attract the "right" kind of people to settle the valley. Boosters specifically sought potential settlers from Colorado, St. Louis,

²³ Bogener, "Ditches Across the Desert," 135.

²⁴ Bogener, "Ditches Across the Desert," 155–56.

Louisiana, and eastern states, and even from European countries such as Denmark, Italy, and Switzerland. In 1892 alone, Hagerman spent \$55,000 to recruit immigrants.

Advertisements boasted that the area, with the “richest,” most extensive cropland in the Southwest, would surely make a modest fortune for the industrious and patient grower.

“It is generally conceded that there is no line of business that will bring as large returns on the investment as will a bearing orchard in the fertile valleys of the West,” a typical booster tract stated, “visit the Roswell district yourself and confirm these statements.”²⁵

Stephan Bogener writes that most of the “‘unbiased’ valley citizens who had grown fruit trees and vines” quoted in booster tracts “were intimately connected with land sales and irrigation in the valley.”²⁶ While other products constituted more of railways’ cargo, the Pecos Valley Railroad advertised itself as the “Fruit-Belt Route” to entice further emigration and immigration to the valley.

Contrary to the boosters’ claims, many newly arrived farmers struggled. Many arrived just before a devastating flood wiped out irrigation infrastructure in 1894, and just before the nationwide Panic of the 1890s set in. A Swiss contingent of largely inexperienced farmers returned to Switzerland after only two years in New Mexico. To respond to farmers’ troubles, investors such as Hagerman formed the Pecos Valley Orchard Company in 1894, aided by nationally renowned pomologist Parker Earle. Missouri-based nursery Stark Brothers, the largest in the country, traded stock for trees. Hagerman spent nearly \$100,000 on the orchard, and planted nearly 1,000 acres in trees. After experimenting with a wide range of potential commercial crops, such as sugar

²⁵ “The Pecos Valley: A Collection of Views in and about Roswell, New Mexico, Together with Appropriate Descriptions of Same, Also a Brief Statement of Facts concerning Lands Still Available in the Pecos Valley,” (Roswell, N.Mex.: Trimble-Davisson Company, 1911), 6.

²⁶ Bogener, “Ditches Across the Desert,” 161–62.

beets, cotton, and canaigre, Hagerman was convinced that only fruit, and especially apples, were profitable in the valley. His large orchard soon became well-known throughout the region. When Hagerman refused to sell his entire apple crop, on the trees, for \$65,000 in 1902, instead electing to pick, pack, and ship the fruit himself, newspapers and industry reports took his success as a sign of the valley's economic promise.²⁷

While growers continued to plant more apples in the northern end of the valley, the southern end by Eddy (later Carlsbad) struggled. Plagued by poorer soils, more saline water, leaky irrigation infrastructure, and damage from another devastating flood in 1904, the southern section shifted away from fruits. The northern section, however, near Roswell and Hagerman, continued to grow apples. In 1892, Nathan Jaffa first discovered a massive artesian aquifer beneath Roswell that produced, initially at least, an abundance of water from self-pressurized wells. Boosted by this unique and reliable water source, and by relatively richer soils than further south, the area rapidly grew into a significant apple producer.²⁸

A strong regional market developed. Growers tapped into a large Texas market, where they were usually able to sell their Jonathan apple crop at least two weeks before the same variety ripened in the Pacific Northwest, the main competition for the New

²⁷ Bogener, "Ditches Across the Desert," 163–166. For Hagerman's famous refusal, see William J. Parish, "Sheep Husbandry in New Mexico, 1902–1903" *New Mexico Historical Review* (January 1963): 60–61. See also, Fabián García, *Proceedings of the Thirty-Eighth Convention of the American Pomological Society, Toledo, Ohio, December 7, 8, and 9, 1921* (Columbus, Ohio: F.J. Herr Printing Co., 1922).

²⁸ Boosters never failed to allay prospective horticultural settlers' fears of water. Despite the dependable surface and ground water, water estimates throughout the valley were nonetheless routinely placed absurdly high. At one point, estimates on how many acres could be irrigated from the Carlsbad Project, for example, ranged from 400,000 to 700,000. In the end, only 40,000 were irrigated. See Bogener, "Ditches Across the Desert," 260. As in Roswell, San Juan growers at times considered their water "inexhaustible." "Our water supply is inexhaustible," wrote one grower, [illegible] to Prince, Junction City [Farmington], N. Mex., 21 August 1894, microfilm, r. 109, sub. ser. 11.19, Territorial Archives of New Mexico, 1846–1912, New Mexico State Records Center and Archives [hereafter TANM, NMSRCA], Santa Fe, New Mexico.

Mexico industry.²⁹ These advantages were enough to overcome its relative distance to other national markets, damage from occasionally devastating spring frosts, and a long growing season that allowed for four broods of codling moths, the insect pest most devastating to apples.³⁰ By 1920, the Roswell area had become a major apple-growing district in the Mountain West.³¹ New Mexico apples thrived initially because they took advantage of their national isolation by serving nearby regional markets.

In the opposite corner of the state, newcomer horticulturalists likewise developed an apple industry by serving a regional market. Like Roswell, the Farmington District was settled by mostly white easterners enticed by the dream of healthy horticultural pursuits. Whereas the Pecos River wound through the heart of “Little Texas,” where early landowners often came from southern states (some had even fought for the Confederacy) and sold their apples to southern markets, San Juan county settlers were mostly northerners who had arrived via Colorado and shipped their apples through Colorado markets to points further north and east. “The tide of immigration thus far is mostly from Missouri, Colorado, Kansas, Nebraska, Iowa, Texas, Oklahoma and the Northwest,” a booster tract from 1906 reported. As in Roswell and throughout the West, whiteness was emphasized. “The people are law-abiding, thrifty, industrious and energetic,” The tract

²⁹ Folger and Thomson, *The Commercial Apple Industry of North America*, 62–63.

³⁰ Well into the 1920s, Roswell had the freight advantage over any other region in New Mexico, and even over other apple growing regions like Montrose, Colorado, and Hood River, Oregon, to important markets such as Dallas, Kansas City, Chicago, and New York. For example, the freight charges from the apple district of Hood River, Oregon were seventy-six percent higher to Dallas and Kansas City, sixty-two percent higher to Chicago, and seven percent higher to New York than from Roswell. For good comparative maps of apple freight charges within and outside New Mexico, see A. L. Walker, “Farmers’ Cooperation in New Mexico, 1926-1926,” Bulletin 164, New Mexico College of Agriculture and Mechanic Arts, Agricultural Experiment Station [hereafter NMCAMA, AES], July 1927, 56-58, in NMSU Library Digital Collections [hereafter NMSU LDC], <http://contentdm.nmsu.edu/cdm/compoundobject/collection/AgCircs/id/20611/rec/9>.

³¹ See Folger and Thomson, *The Commercial Apple Industry of North America*, 62.

continued, “Only one-tenth of the people of San Juan County are of Spanish or Mexican parentage, and these live apart in one settlement. They are intelligent and honest, many of them speak both English and Spanish and are well off financially.”³²

Unlike Roswell, a lack of a rail connection was perhaps the biggest obstacle for San Juan growers. Before 1903, all fruit had to be hauled by cart to Durango, Colorado. After the rails came, apples still had to be loaded to a standard gauge boxcar in Farmington, then to a narrow-gauge car in Durango, and back to a standard-gauge car east of the Rockies. The result was high handling charges that made competitive pricing more difficult. While the big orchards were shipping fruit to both coasts and even Europe, the majority of commercial apples grown in San Juan during the first decades of the industry went through Durango.³³ A smaller percentage went to markets in eastern Arizona and parts of western New Mexico.³⁴ Often, the San Juan crop was sold and marketed as Colorado apples, a fact that local boosters continually pointed out had largely helped the Colorado brand. Like the Pecos growers, the early orchardists initially benefited from a pest-free environment that produced worm-free apples well after California fruit was gaining a bad reputation for blemished fruit. Such an advantage, however, did not last long.

Just as in Roswell, apples spurred land speculation. An advertisement for the Bloomfield Orchard Co. boasted “280 acres set to trees last spring—row upon row of trees planted with the accuracy of a mosaic.”³⁵ The area’s largest orchard—Sunnyside

³² Granville Pendleton, *San Juan County, New Mexico: An Ideal Agricultural Section with Plenty of Water and Land for Homeseekers* (Santa Fe: New Mexico Bureau of Immigration, 1906), 55.

³³ William Locke to L. Bradford Prince, 2 September 1890, Microcopy, r. 107, sub. ser.11.19, TANM, NMSRCA. See also, Dyvena Crawford, *Under the Apple Tree: A Personal History of Apple Growing in San Juan County* (Las Cruces, N.Mex.: Sky Eagle Design, 2000), 85.

³⁴ Pendleton, *San Juan County*, 41.

³⁵ Crawford, *Under the Apple Tree*, 6.

Ranch—exemplifies this pattern. In 1880 William Locke planted 84 acres in fruit trees—including 80 varieties of apples—shipped by rail from the east, then by wagon to Farmington. Locke reported to Governor Bradford Prince in 1890 that he had roughly 12,000 trees in his orchard, by far the largest in the area.³⁶ As in Roswell, growers embraced industrial farming early. “The people generally have dropped off the old style of farming,” Locke wrote to Governor Prince in 1891, “and added the more modern facilities for doing this work.” Locke sold the orchard to W. N Kight, who ten years later once again put the orchard on the market, this time subdivided to 5- to 40-acre tracts.³⁷

Proximity to the Navajo and Ute reservations also differentiated the Farmington experience. Navajos provided labor in the orchards, but also an important market for the produce. A booster tract in 1906, explained that “The New Mexico portion of the great Navajo Reservation, with its almost 2,000 Indians, furnishes a valuable home market for San Juan County products. These regenerated Red Men own immense herds of sheep and goats and carry on an ever increasing manufacture of world famous Navajo blankets, the annual wool, pelt and blanket sales representing heavy revenues.” Here, Navajos are treated as an asset: they are “peaceable, industrious, and far advance in their civilization” and “rarely leave of the reservation.” They are “self-supporting.” The “Utes, too are peaceable and in many instances industrious.” Indians’ “regeneration” is emphasized, as is their contribution as a market.³⁸

This rosy description of Native populations shows how the industry relied on them in myriad ways. The Hyde Exploration Company, for example, which was

³⁶ William Locke to L. Bradford Prince, 2 September 1890, r.107, sub. ser.11.19, TANM, NMSRCA.

³⁷ William Locke to L. Bradford Prince, r.104, sub. ser.11.19, TANM, NMSCRA. See also Crawford, *Under the Apple Tree*.

³⁸ Pendleton, *San Juan County*, 41, 49, 51.

responsible for excavating Chaco Canyon, also ran a large orchard. Navajos would sometimes pick apples for the company, in addition to providing the sales outlet for lower-grade apples.³⁹

The Reordered Landscape

To profitably grow an apple in New Mexico for a consumer in Texas in 1900, a grower needed a lot of help. He (most, but not all, growers were men) needed help from his fellow growers nearby, from his hired workers, and from his wife and kids. He needed help, too, from the local college, from the horticultural board, and from political leaders. He needed a good source of irrigation, adequate roads, and access to a railroad. In short, he needed an entire region that was on board with the project. The commercial apple-grower was not the homesteader taking a stand with a spring-fed small orchard in a remote canyon two days from the nearest post-office; he was tied into regional markets and needed to be in a region with significant support and subsidies for his project. Once he had that, he could get to work reordering his land into an efficient farm system.

First, the land needed to be cleared. The galleta, blue and black gramas, saltbush, Mormon tea, shadscale, and Indian ricegrass of the San Juan Tablelands; and the creosote bush, acacia, gyp grama, tarbush, and saltbush of the Pecos valley Chihuahuan desert all had to be cleared to make way for one species.⁴⁰ Once cleared, a grower would have been

³⁹ While documentation of Navajo workers is scarce, some evidence of early participation as laborers exists. See, for example, "Picking Apples at Cunningham Orchard," Farmington Museum, New Mexico Digital Collections [hereafter FM, NMDC], <http://econtent.unm.edu/cdm/singleitem/collection/farmington/id/534/rec/109>. For later accounts of Navajo apple workers, see Crawford, *Under the Apple Tree*, 46–47.

⁴⁰ G. E. Griffith et al., 2006, "Ecoregions of New Mexico," (Reston, Va.: U.S. Geological Survey, 2006), ftp://ftp.epa.gov/wed/ecoregions/nm/nm_front.pdf.

wise to cover crop the cleared land with a leguminous cover crop, such as alfalfa, for a year or two prior to planting to build humus and soil fertility. If the orchard were planted on speculation, however, this step would often be skipped. Either way, the grower then had to select good trees to plant.

A good orchard needed strong, reliable trees grafted to good rootstock. Most growers, not skilled in the specialized art of grafting, purchased grafted trees from a nursery. A San Juan County booster tract reported that “one or two large nurseries are needed. There is a big demand for fruit trees and shrubbery, and thousands of dollars worth are shipped in from a distance every year.”⁴¹ Often these nurseries were in the east, though there were some noted grafters, particularly in Colorado where no doubt some of the Farmington District trees were sourced.⁴² Once the grafted trees were purchased, they needed to be planted correctly in the most efficient pattern and spacing possible.

Clearing the land and replacing the native vegetation with ordered rows of a single species led not only to homogenization in the form of monoculture; the monoculture itself became more homogenized. Whereas it was not uncommon in the 1880s to hear of large orchards with sixty or more varieties of apples, within a couple decades most orchards had only five or six varieties in production. It became more profitable to grow a few popular varieties that could be sent in bulk rail shipments, alone or combined with other farmers’ apples of the same variety.⁴³ Further, the land-grant

⁴¹ Pendleton, *San Juan County*, 65.

⁴² For example, Jasper Hall and Jesse Frazier were two notable nineteenth-century Colorado grafters.

⁴³ The diversity of available apple varieties developed by nurserymen in the mid- to late nineteenth-century United States has led some scholars to dub the period the Golden Age of Apples. See, for example, Thomas Burford, “Apples,” in *The Oxford Encyclopedia of Food and Drink in America*, Vol. 2, ed. Andrew Smith (New York: Oxford University Press, 2013), 79; and Creighton Lee Calhoun, *Old Southern Apples: A Comprehensive History and Description of Varieties for Collectors, Growers, and Fruit Enthusiasts*, rev. ed. (White River Junction, Ver.: Chelsea Green, 2010), 8. By the early 1890s, when at least twenty apple varieties were still considered well-suited and marketable for the area, agricultural experts had begun to

college had experiment stations that took the onus of experimentation from the farmer to the professional researcher. The net result was not only an agricultural landscape of increasingly similar farms growing larger amounts of the same few varieties, but also a consolidation of knowledge production into the central institution of the college.⁴⁴

Western commercial orchardists strived to increase efficiency in all facets of their operation. Efficient irrigation often meant digging furrows where the new trees would be planted; orchardist only irrigated in the planted furrows for the first two years, which significantly saved both water and time. In older orchards, growers would often irrigate through furrows plowed between rows. Often, beginning growers intercropped young orchards with market crops such as celery, sweet potatoes, and strawberries as a way of making money off the land before trees began to bear fruit and while leaf cover was still thin enough to let sufficient sun through. Other work included manuring, cultivating, and, if pests appeared, spraying. Pollination was also key, and growers often either kept bees or hired local beekeepers during the pollination period in spring. Beginning in the early twentieth century, smudging (the practice of burning fuel in orchard heaters on spring nights when a freeze was possible) became standard practice. The apples then had to be picked at their peak ripeness; sorted by size, shape, color, and quality; and packed efficiently in boxes known as the “western box”—work often performed by women.⁴⁵

recommend growers to select only a few varieties to make bulk sales and joint shipments easier. See F.C. Barker et al., “A Productive Valley,” *Rio Grande Republican* (Las Cruces, N.Mex.) 17 February 1893, 1.

⁴⁴ For general histories of experiment stations at land grant universities, see Roger L. Geiger, *To Advance Knowledge: The Growth of American Research Universities, 1900–1940* (New York: Oxford University Press, 1986); and Alan I. Marcus, *Agricultural Science and the Quest for Legitimacy. Farmers, Agricultural Colleges, and Experiment Stations, 1870–1890* (Ames: Iowa State University Press, 1986).

⁴⁵ Local, young, white women often packed apples and sometimes picked apples, as well. For photographic examples in the Farmington district, see “Hyde Exploration Company Apple Pickers,” 1900, and “Hyde Exploration Co. Apple Pickers,” 1907, both in FM, NMDC. For Roswell District examples, see “Packing Apples B. Cleve Orchard,” Elk, N.Mex., 16 October 1908, Image no. 01010793, MS 0101; and “Packing Apples at Roswell, New Mexico,” Roswell, N.Mex., 24 March 1904, Image no. 02231001, MS 0223,

The western apple grower was a full-time horticulturalist, who employed cutting-edge science and invested a lot of personal labor, hired labor, and capital in equipment to compete on the national markets. The grower relied on a mix of local and extra-local resources to transform nature into an exportable commodity. Expensive technologies catalyzed the trend toward specialized, intensive fruit growing. But of all the industrial adaptations toward the goal of an efficiently homogenous landscape, none was as initially as important as pesticide spraying.

The Industrial Pest

“You will remember always the pink and white of an apple orchard in bloom on a lazy spring day...You are drugged by the haunting perfume that will always remain with your memories of nature’s most productive flower garden,” long-time Farmington resident and apple grower Mary Hudson Brothers wrote in 1938, “but the apple grower, blind to all this beauty, sees in drifting petals only that the time is ripe for the calyx spray.”⁴⁶ Such unromantic and practical-minded words provide a counter-narrative to the blossom-filled breeze of Elizabeth Garrett’s state song, and capture the nearly half-century industrial reality of New Mexico apple-growing that many casual observers had missed. The codling moth, along with a host of scale insects, propelled horticultural industrialization in late nineteenth- and early twentieth-century New Mexico. Early

Thomas K. Todsien Photographs, both in New Mexico State University Photographic Collections, Las Cruces, N.Mex. Some later photographs (c.1930s) indicate Navajo women also picked apples. See “Picking Apples at Cunningham Orchard,” FM, NMDC.

⁴⁶ Mary Hudson Brothers, “Farmington Apple Industry,” *Farmington (N. Mex.) Times Hustler*, 12 August 1938, 2.

pesticides saved the emergent industry from immediate economic disaster with an imperfect solution that led to the territory's first compulsory pesticide treadmill due to increasing moth resistance and left behind a legacy of contaminated soil. The story of early pesticides in New Mexico illustrates the cultural impact of industrial agriculture, as large growers, legislators, and researchers, in their struggle to control a resistant nature in name of industry and nation, quickly became a coercive force of modernization.

Sometime in the late 1880s, the codling moth arrived to New Mexico, likely by rail in a box of imported apples, and quickly got to work transforming the ecology of the territory.⁴⁷ The moth had been tormenting eastern apple orchards since the 1820s. It had been only a minor problem prior to the advent of large commercial orchards, but like so many other pests, it thrived on monocultures that replaced diverse habitat with one full of its host species. By the 1870s it had reached California and seriously threatened the emergent industry there. Throughout the west, the industrial pest was fast becoming as ubiquitous to commercial orchards as the sweet smell of apple blossoms. By the turn of the century, the moth had arrived in all the major apple growing districts of New Mexico.⁴⁸ Some more isolated areas were spared the moth for another decade or longer, but eventually wormy apples could be found in untreated orchards throughout the territory.

For years, even after the moth's appearance, New Mexico boosters sold the idea that New Mexico's natural advantages in fruit production included the absence of pests,

⁴⁷ Judge J. F. Wielandy reports the first sighting of the worm by a "French gentleman named Bouquet" in Pojoaque, New Mexico, who had first noticed the moths in his trees in 1889. See C. H. Tyler Townsend, *Notices of Importance Concerning Fruit Insects*, Bulletin 5 (Las Cruces, N.Mex.: Rio Grande Republican, 1892), 6. For early history of the codling moth's migration, see C. B. Simpson and L. O. Howard, "The Codling Moth," USDA Bulletin no. 41 (Washington, D.C.: Government Printing Office, 1903), 13–14.

⁴⁸ The moth first arrived to the Mesilla Valley in 1892, the Farmington district shortly thereafter, and the Pecos Valley late in the decade.

and especially the codling moth. New Mexico's pest-free atmosphere, sold alongside its tuberculosis-free air, provided an environmental advantage—just like abundant water, rich soil, moderate temperatures, or ample sunlight—that could be exploited and transformed into marketable products. An 1901 Eddy County booster tract, for example, declared erroneously that the dry air of the county made fruit pests non-existent, and that the “‘codlin moth’ has never yet put in appearance here.”⁴⁹ An 1898 article from Scranton, Pennsylvania, republished by the Bureau of Immigration similarly declared that “the high altitude of the most of the territory renders dangers from insect pests less than in other sections,” and that New Mexico apples harkened back to the taste of childhood before “disreputable worm-eaten and effete apples” made their way into the markets.⁵⁰ Perhaps the most emphatic advertisement came on the train leaving Durango in 1900 carrying one hundred carloads of apples and a sign that read, “All from San Juan County, New Mexico. A Million Apples and Not a Single Worm.”⁵¹ Even as late as 1907, a booster tract from Illinois declared that in Colfax County, New Mexico, “Trees are absolutely free from disease and insects. Apples are perfect in growing and flavor and free of worms. Spraying has not been necessary in this country.”⁵² Three years later, M.M. Chase reported that Colfax County was remarkably still codling moth-free. “Those insects and parasites which make fruit growing so uncertain and expensive in many

⁴⁹ *Eddy County, The Most Southeastern County of the Territory of New Mexico* (Santa Fe: New Mexico Bureau of Immigration, 1901), 9, 10.

⁵⁰ “Apples in New Mexico,” *Agriculture and Horticulture*, 1898, Bulletin no. 2, Territorial Bureau of Immigration, Microcopy, r. 96, fr. 1041, p. 12, New Mexico Territorial Bureau of Immigration Records, 1880–1911, collection 1959-114, Center for Southwest Research, University Libraries, University of New Mexico, Albuquerque, New Mexico [hereafter CSWR].

⁵¹ Pendleton, *San Juan County*, 29

⁵² “New Mexico,” *Decatur (Indiana) Daily Democrat*, 28 December 1907, 3.

localities do not exist here, and so far spraying has not been necessary,” Chase reported, “I can say I have never found what is known as a wormy apple in my orchard.”⁵³

Despite both the real and the exaggerated absences of the moth, wormy apples eventually appeared in orchards, often in huge numbers, throughout the territory. As early as 1891, one observer in Santa Fe claimed to the state entomologist that the codling moth in some parts of New Mexico was “certainly worse than I have ever noticed it in the ‘States’ anywhere.”⁵⁴ He described a nearby orchard, where “the value of this little ‘ranch,’ which is wholly devoted to fruit and has hitherto been very profitable to the owner, is reduced one-third, if not one-half, by the mere presence of the Codling Moth.”⁵⁵ The presence of the moth greatly concerned researchers, growers, speculators, politicians, and everyone interested in the economic development of the territory. Within a few years of the moth’s first arrival in the territory, growers throughout the territory and researchers from the newly founded land-grant college joined others around the country in a quest for methods of extermination.

Pesticides provided a relatively new and unproven option. To be effective, growers had to coat the trees with poison just as new generations, or broods, of insects were hatching. Growers used two main types of pesticides: arsenates such as London Purple, Paris Green, and, later, the much more effective lead arsenate for “biting insects” like the codling moth; and soaps made from alkalis, resin, kerosene, and even tallow and whale oil for “sucking insects” like scales.⁵⁶ Although lead arsenate pesticides proved

⁵³ Quoted in “The Chase Orchard: New Mexico’s Famous Pioneer Orchard,” *The Western Empire*, 1928, 20–21, from the private collection of Gordon Tooley.

⁵⁴ Townsend, *Notices of Importance Concerning Fruit Insects*, 7.

⁵⁵ Townsend, *Notices of Importance Concerning Fruit Insects*, 6–7.

⁵⁶ C. H. Tyler Townsend, *Insecticides and their Appliances*, Bulletin 9, NMCAMA, AES (Las Cruces, N.Mex.: Rio Grande Republican, 1892), 4, 6.

more effective than early London Purple and Paris Green, many growers and researchers remained skeptical of the practice for the first decade of their introduction. The expense of spraying—not only the capital investment for pressurized spraying equipment; but also the added labor of using a team of men to spray the orchard four to eight times a year and the added need to space trees far enough apart for machinery, which in some cases meant removing trees—was a major deterrent for smaller growers. The potential health impacts of arsenic sprays were a further concern. As far away as London, newspapers had begun complaining about white, presumably arsenate residue on American apples. Perhaps the single biggest issue concerning spraying was the need for cooperation among all growers. Because moths freely traveled across property lines, spraying was only effective if the neighbors sprayed as well.

The uncertainty, cost, and concerns surrounding pesticides led growers and researchers to experiment with approaches beyond spraying. After several years of observation throughout the territory, several growers, as well as the college's entomologist Theodore Cockerell, considered chemical pesticides such as Paris Green and London Purple "ineffectual," and argued that fighting the pest with living predators was a far better solution.⁵⁷ Spraying quite simply was "not the success in the west—and especially the southwest—as it is in the northeast," Cockerell argued, and instead living predators such as "woodpeckers—particularly the 'flicker,' should be encouraged as far as possible, and boys should not be allowed to shoot them." Even better, Cockerell posited, would be to starve the insect by destroying every piece of fruit in the valley one

⁵⁷ T. D. A. Cockerell, *Preliminary Notes on the Codling Moth*, Bulletin 25, February 1898, NMCAMA, AES (Mesilla Park, N.Mex., 1898), 60.

year. “Whether it is possible to carry out the plan so thoroughly as to get good results... obviously depends on the extent to which orchardists are willing or able to co-operate.”⁵⁸

Several prominent growers, including strong proponents of spraying, seriously considered the starvation strategy and concluded in 1897 that “there seems no other way at hand to get rid of the pest but to starve it out.”⁵⁹ The idea remained popular enough that in 1907, following a heavy spring frost that killed most of the apple crop in the Mesilla valley, horticultural inspectors were hired by the board of commissioners to inspect and kill any surviving fruit in orchards and inspect all incoming shipments of apples. The following year, Fabián García reported that “it was impossible to find any wormy apples.”⁶⁰ Orchards which two years before were practically destroyed by the codling moth seemed to be absolutely free from any worms in the spring of 1908...⁶¹ The starvation strategy proved successful, but at the ultimately intolerable cost of the valley’s entire season harvest. The strategy speaks to the ineffectiveness of early sprays and the willingness of growers and researchers to look beyond sprays as a tactic. It also reveals the socially minded but nonetheless coercive side of industrial agriculture—in the form of mandatory inspections and fruit destruction—even more evident in policies surrounding pesticide sprays.

⁵⁸ Cockerell, *Preliminary Notes on the Codling Moth*, 57, 60, 68.

⁵⁹ *Rio Grande (Las Cruces: N.Mex.) Republican*, 5 November 1897, 3. A Mesilla Valley Horticultural Society in November 1897, led by spraying advocate Dr. Jas. H. Bailey, decided on the starvation method. A month or so earlier, the society met because “[growers] must devise means to fight the codling moth successfully or quit raising apples.” See, *Rio Grande (Las Cruces, N.Mex.) Republican*, 1 October 1897, 3.

⁶⁰ Fabián García, “Report from the Horticulturalist,” *Eighteenth Annual Report of the College of Agriculture and Mechanic Arts Agricultural Experiment Station, 1906-1907* (Albuquerque, N.Mex.: Albuquerque Morning Journal, 1908), 31.

⁶¹ Fabián García, “Report from the Horticulturalist,” *Nineteenth Annual Report of the College of Agriculture and Mechanic Arts Agricultural Experiment Station, 1907-1908*, (Santa Fe, N.Mex.: New Mexican Printing Company, 1908), 26–27.

Despite efforts to develop alternative pest control strategies, by the turn of the century prominent growers, horticultural societies, and the college all advocated spraying as the best solution. One of the first endorsements came from Cockerell's predecessor at the college, C. H. Tyler Townsend, who in 1891 argued at length that arsenate pesticides were safe for human consumption. London newspaper reports about American apples having dangerous arsenic residues, Townsend made clear, were "without a shadow of foundation, [and] were made without doubt in the interest of speculators, and with the sole view of injuring the sale of American apples in the English market." In an effort to drive home his point, he remarked that, given the low levels of pesticide residue on apples, someone would have to "consume several barrels of apples in a sitting in order to obtain a fatal dose."⁶² Prominent orchardist Dr. J.H. Bailey in 1894 similarly advocated spraying and declared it safe for human consumption. By 1899, despite Cockerell's doubts, the college officially backed spraying Paris Green over other methods,⁶³ and by 1902, Fabián García confidently claimed lead arsenate to be the "best and most economical way of fighting the insect." García stressed that while "many of the large orchardists in this locality have had very little faith in spraying," García continues, "the time is coming when our apple growers will have to spray, if they expect to have any considerable amount of sound fruit."⁶⁴ Indeed, within a decade of the moths' arrival, such language of inevitability shaped the discussion around spraying and, regardless of an

⁶² Townsend, *Insecticides and their Appliances*, 9.

⁶³ Charles A. Keffer, "Spray the Fruit Trees" Bulletin no. 10, 17 May 1899, NMCAMA, AES (Mesilla Park, 1899).

⁶⁴ Fabián García, *Spraying Orchards for the Codling Moth*, Bulletin 41, NMCAMA, AES (Santa Fe: New Mexican Printing Company, 1902), 4.

individual's stance on pesticides, the choice to not spray disappeared in commercial fruit-growing districts.

As spraying became the preferred method of extermination, the problem of the codling moth increasingly became a cultural one. Because the codling moth easily crossed property lines, one neighbor who didn't spray would provide enough host trees to make everyone else's spraying regime effectively pointless. Pesticides thus required cooperation, voluntary or otherwise, to be effective, and such cooperation relied on cultural acceptance of both the problem and the solution. Land developers, politicians, researchers, and growers, and anyone else invested in the apple industry and economic development of the territory, all promoted a cultural shift among fruit growers to commit to spraying—and with it the scaled-up agriculture that justified the increased costs of spraying.⁶⁵

Cultural change took a variety of forms. On a rhetorical level, those who chose not to spray were variously derided as stubborn, unprogressive, “slipshod,” or selfish. At times, the critique was blatantly racialized. For example, Judge J. F. Wielandy of Santa Fe explained to the college entomologist in 1891 that spraying was difficult in his region because “the universal practice in New Mexico, of planting trees too close... affords excellent shelter for the moth and every other variety of insects; but there is no argument that could be brought to bear to dispossess a Mexican or so-called ‘old-timer’ of his

⁶⁵ Leading this effort was the college and, initially even more, the New Mexico Horticultural Society. Founded in 1886, territorial governor L. Bradford Prince led the effort along with some of the territory's most elite (and mostly Anglo—only 3 of 18 original board members had Spanish surnames) orchardists, politicians, and lawyers, whose work to develop the “horticultural industry in New Mexico” came in tandem with broader efforts to modernize the territory centered on pest control on fruit trees. The group organized expositions to showcase New Mexico fruit throughout the territory and country, organized lectures on pest control in Santa Fe, and took the lead on developing and enforcing early orchard inspection laws.

preconceived and irrational notions. To undertake this task is absolutely useless.”⁶⁶ Often, however, cultural critiques extended beyond racial lines. Southern New Mexico ranch woman Edith Nicholls, for example, argued “that there are progressive Mexicans and unprogressive Americans may be taken for granted, the latter vastly more numerous than the former. The often unavailing efforts to induce some-fruit-growers to take measures for the extirpation of the insect pests which have lately begun to infest our orchards is one proof—nay, one of several—of the existence of the latter.”⁶⁷

Diligent pest control, industrial proponents argued, was the responsible, intelligent, and even “patriotic” thing that all growers, regardless of race, needed to do for the good of business and the territory. College entomologist Cockerell explained in 1894 that his research was not simply for “the purely self-interested farmer”; it would “lead us to conclusions of importance to the Territory at large” and maybe even be “an honor to its fatherland.” New Mexico citizens, he implored, should gladly “look to the future” and consider entomological research, and with it the advances in industrial agriculture it may bring, with “an unselfish feeling, a form of patriotism.”⁶⁸ The problem of pest control, Cockerell’s appeal makes clear, did not simply come down to a lack commercial farmers, but rather to a lack of future-minded commercial farmers who understood the economic intelligence and the patriotic virtue of science. Impatient self-interest, in other words, threatened the project of accumulating scientific knowledge for the larger good of industry. Such an appeal to science in the name of patriotism and the “fatherland” makes

⁶⁶ Townsend, *Notices of Importance Concerning Fruit Insects*, 6–7.

⁶⁷ Edith Nicholls, *Observations of a Ranchwoman in New Mexico* (London: MacMillan and Co., 1898), 64–66.

⁶⁸ T. D. A. Cockerell, *Entomological Observations of 1894*, Bulletin no. 15, NMCAMA, AES (Las Cruces, N.Mex.: The Independent Democrat, 1896), 50.

clear the inextricable connection between science, industry, and nation in early commercial orchards.

Such lofty rhetorical appeals, however, were undergirded by a much more immediate and forceful tool to impel cultural change: the law and its enforcement apparatus. Nearly as soon as the codling moth arrived, so too did legislation to compel growers to exterminate. Following the example of California, New Mexico and a host of other territories and states developed orchard inspection and spraying laws.⁶⁹ The New Mexico legislature passed its first pest control law in 1891, largely in response to early scale infestations and as a preventive action against further pest ingresses. “Being practically in close proximity to southern California,” Townsend wrote in reference to the new law in 1891, “it is rather to be wondered at that we have not more of the fruit enemies which abound there, and which may at any time make their appearance within our limits. It is only by the greatest vigilance, and by measures of the utmost precaution on the part of all concerned, that such a contingency can be prevented.”⁷⁰ The law allowed concerned landowners to petition for the creation of county horticultural boards of commissioners, which would hire inspectors to visit orchards, order owners to promptly spray any infested trees, and issue binding orders if the owner refused. In the rare cases where the owner still refused, the inspector could spray the trees himself at the owner’s expense, or even cut down and burn infested trees. If an owner refused to pay for the extermination, a lien against his property would ensue. Within a year of the law’s

⁶⁹ L. H. Bailey, ed. *Cyclopedia of American Agriculture: 1909: A Popular Survey of Agricultural Conditions, Practices and Ideals in the United States and Canada*, (New York: Macmillan, 1909), 530–31.

⁷⁰ C. H. Tyler Townsend, *Scale-Insects in New Mexico*, Bulletin 7, NMCAMA, AES (Las Cruces, N.Mex.: Rio Grande Republican, 1892), 3.

passage, Doña Ana horticultural inspectors enforced spraying of London Purple and Paris Green on all orchards with scales or moths.

Mandatory spray laws help illustrate turn-of-the-century industrial horticulture's state-making role in New Mexico and elsewhere throughout the West. Similar to state boards of health, which largely only appeared in the United States after the Civil War, and which, in the words of William Novak, represented an "administrative reform...in the direction of centralization, professionalization, and uniformity," state horticultural boards represent important, though often overlooked, state-making institutions.⁷¹ Boards of health, which provided legal regulation designed to benefit of the *salus populi*, or public good, run counter to popular myths of Western individualism and Turnerian exceptionalism. Though too often overlooked by historians, horticultural boards and their pesticide laws similarly served to regulate society and represented a continuation of *salus populi* policing in the West into the first decade of the twentieth century. These laws illustrate that growers' attempts at agricultural control in the turn-of-the-century West not only meant attempting to control their own farm's environment, but their neighbor's environment, as well. As such, these boards not only mark an important step in the emergence of a more industrialized agriculture in the West, but also an early example of public commons regulations that illustrate how state-making in the West occurred in its rural environs.

⁷¹ William Novak, *The People's Welfare: Law and Regulation in Nineteenth-Century America* (Chapel Hill: The University of North Carolina Press, 1996), 203. Philip Pauly offers a brief history of late nineteenth- and early twentieth-century horticultural board policing, with an emphasis on the interstate and international pest-control policing, in Philip J. Pauly, *Fruits and Plains: The Horticultural Transformation of America* (Cambridge, Mass.: Harvard University Press, 2007), 131–64.

Mandatory spraying was hardly met with universal enthusiasm. Although the Doña Ana Board reported cooperation from growers—“we have not been compelled thus far to resort to the law in compelling fruit growers to spray their orchards but on the contrary we are pleased to report a hearty cooperation of all interested”—their meeting minutes paint a different picture. In the daily records that inspector Barker submitted to the board, for example, he frequently reported serving legal notice to growers who showed reluctance to spray. In one case, after finding scale in local apple grower Marten Lohman’s orchard, Barker had the infested trees cut down and burned.⁷² A letter from F.N. Page, an orchard owner from Guadalupe County, to Governor Hagerman in 1906, further illustrates resistance to spraying. Page complained about the president of the county commissioners, Jose Pablo Sandoval, who opposed a petition to establish mandatory spraying in the county. Sandoval “opposed the petition on various grounds ‘that the county was too poor,’” Page explained, and “‘That it was wrong to impose the cost of spraying on the poor people.’ and various other reasons.” Page requested that the governor “write to Don Jose Pablo Sandoval saying to him that is necessary to spray as a benefit to all the people.”⁷³ Many smaller growers no doubt shared the board president’s concern.

Despite opposition, New Mexico’s orchard inspection laws certainly led to a further industrialized agricultural landscape in New Mexico. As Mary Hudson Brothers’s statement makes clear, spraying became a routine part of apple growing for all commercial orchardists. “The development of spraying led to many changes in the

⁷² Percy Barker to the Doña Ana County Board of Horticultural Commissioners, 1 July 1892, folder 82, box 3, Doña Ana County, N.M. Records, 1952–1946, collection 1974-017, NMSCRA.

⁷³ F. N. Page to Gov. Hagerman, Guadalupe County, N.Mex., 1 March 1906, Microcopy, r. 159, fr. 646, TANM, NMSCRA. Emphasis in original.

industry,” an industry analyst explained in the early 1920s, “the apple grower had to choose between being an intensive orchardist, prepared to spray and produce clean, attractive fruit, or going out of the orchard business.”⁷⁴ Yet, the story of the moth in New Mexico reveals that such analysis only captures part of the story.

Despite decades of inspections, the codling moth, and the efforts to eradicate its host environments—both in the orchards and in growers’ minds—continued with only partial success well into the twentieth century. Sprayings became less effective and more frequent as moths evolved to be more resistant.⁷⁵ In southern New Mexico especially, where four broods of the moth developed each year, spray regimens became heavier than in most other apple-growing regions. By 1938, as the college experiment station actively sought alternatives to lead arsenate as a partial response to national residue legislation, their research revealed dangerous levels of lead and arsenic on New Mexico apples.⁷⁶ Unsprayed orchards persisted as well, and with them the antagonism toward both the non-industrial and the sloppy industrial farmers who were blamed for the moths. “Is this the land of the big red apple, or was it only a pipe dream?” a man asked a successful orchardist at a Roswell Rotary club luncheon in 1923. “No, the big red apple is not a pipe dream,” responded the orchardist, “but the average man who tries to grow it is a joke.” The average grower, he asserts, does not spray on time, nor cultivate in the spring, irrigate often enough, or grow the best varieties. The moth is not the problem, in other

⁷⁴ Magness, *Apple Varieties and Important Producing Sections in the United States*, 2.

⁷⁵ James E. McWilliams describes an “insect paradox,” where efforts to control environment through insecticides have been undermined those very means of control, in James E. McWilliams, *American Pests: The Losing War on Insects from Colonial Times to DDT* (New York: Columbia, 2008). For codling moth resistance to lead arsenate, see Rebecca Claren, “Farming’s Toxic Legacy,” *High Country News* (Paonia, Colo.), 13 December 2010, <http://www.hcn.org/issues/42.21/farmings-toxic-legacy>.

⁷⁶ C. W. Botkin and G. R. Hamiel, *Spray Residue on Apples in New Mexico*, Bulletin 258, NMCAMA, AES (Las Cruces: May 1938).

words, the man is. “We need not wonder that trees are being pulled out by the hundreds when we have orchards in the hands of men that ought to be running livery stables.”⁷⁷

The story of the codling moth reveals how agro-industrial control of the physical landscape often went hand in hand with control of the cultural landscape. Industrial pests forced commercial fruit-growers to employ cutting-edge technologies based on scientific research; those unwilling or unable to embrace scientific, capital-intensive, industrial farming were pressured—in the name of country and by law—to change their stance or pick a different crop. The story of the moth also reveals the degree to which the physical nature of a crop shapes the historical impact of agriculture on a place and its cultures. In this case, the apple’s capacity to host a virulent pest led to cultural pressures, and even coercion, that created cultural change. Yet, the story of the moth only begins to touch on the cultural history of the early New Mexico apple industry. Newcomers brought with their apples powerful and pervasive cultural meanings. The stories, myths, and ideals that people transcribed onto the apple go just as far as its material attributes—its growing requirements, its pests, its shipping capabilities, etc.—in explaining how the fruit shaped the landscape where it was planted. The next section explains how these stories—uniquely New Mexican amalgams of the local and extra-local tapped into larger national myths. Those myths played just as important role in shaping the landscape as the codling moth and the spray guns that followed.

The Apple as a Cultural Colonizer

⁷⁷ “Agricultural Quiz at Rotary Club Yesterday Brought Out Numerous Interesting Facts,” *Roswell (N.Mex.) Daily Record*, 19 January 1923, 1.

Early in the twentieth century, as the Big Red Apple was becoming an industrial force in some of the larger irrigated regions of the territory, people began to pay more attention to a few ancient apple trees that still bore tiny yellow fruits. The Manzano apple orchard, located in the tiny hamlet of Manzano in the mountains just east of Albuquerque, was shrouded with mystery and lore. A Spanish friar had planted the trees sometime prior to the Pueblo Revolt, the popular legend went. They survived a century of neglect before a new wave of Spanish settlers discovered them sometime around 1800 and named the new village in their honor. These were thus the oldest apple trees in the country, and they stood in silent rebuke to the teleology of American conquest. The improbable and science-defying trees—a source of pride, nostalgia, and reverence to many throughout New Mexico—were as loaded with cultural meaning as they were with apples.

One of the first written records of the orchard comes from Lieutenant James W. Abert, who in 1846 was told by “even the oldest inhabitants” of the village that “the trees were old even when the first settlers came.”⁷⁸ Decades later, villagers told archaeologist Adolf Bandelier that the trees were simply “much older than the recollections of their fathers and grandfathers.”⁷⁹ Bandelier surmised that the stout trees were at least two hundred years old, and likely planted by a Spanish friar. This story was considered the best historical explanation of the orchard for over half a century.

By all accounts, the inhabitants of Manzano revered the old trees. “The Manzano people have a deep regard for the grove, which is almost sacred,” a journalist reported in 1911, “They will not allow it to be touched.”⁸⁰ For those outside the mountain hamlet, the

⁷⁸ Mary Orr, “Manzano—America’s Oldest Apple Orchard,” *New Mexico Magazine* (July 1935): 47.

⁷⁹ Florence M. Hawley, “Yes, We Have No Old Apples,” *New Mexico Magazine* (August 1936): 17.

⁸⁰ “The Oldest Bearing Apple Trees in America,” *Albuquerque (N.Mex.) Journal*, 2 December 1911, 6.

reverence was often tinged not only with wonder and pride, but also a sense of Progressive-Era responsibility and even a note of “imperialist nostalgia.” The modern newcomers—colonizers who had brought industry, science, and multitudes of orderly monocultures of commercial apple varieties to the region—memorialized the trees as they poignantly gazed back at the very landscape and people that their colonial presence had transformed. The poignancy often came with a decidedly triumphant note. Commemorations celebrated not only the tenacity of the ancient trees to withstand environmental stress and neglect, but also the scientific civilization that had come to appreciate and save the trees. This keenly paternalistic imperialist nostalgia, ripe with Progressive Era faith in modernity, celebrated the age, perseverance, and inevitable passing of these trees, and, by extension, the non-modern cultures and people of New Mexico.

The concerted effort to take care of and preserve these living monuments began in the early twentieth century, just as the Progressive Era tide of social reform swept across the nation. In 1905, a local development association threw “a working picnic,” asking volunteers to come “with their sardines and crackers,” camp out, and help “get the work of caring for and protecting the trees started.” The picnic was successful enough to become an annual event, and three years later drew over five hundred people to the orchard.⁸¹ Five years later, in 1912, state horticulturalist Fabián García set out, amid a modest amount of media coverage, to take scions from the ancient trees to determine its origins once and for all, and to try to graft the trees to new rootstock and thereby preserve

⁸¹ A. H. Garnett to Governor Otero, “Manzano Day Picnic, July 24, 1905,” 17 July 1905, Microcopy, r. 137, fr. 401, TANM, CSWR; and “Manzano Picnic Well Patronized,” *Santa Fe New Mexican*, 23 July 1907, 1.

the potentially rare and important genetic stock of the trees.⁸² Once again, however, the trees seemed beyond scientific categorization, and García's efforts yielded no conclusions. It was not until 1936 that the newly developed technique of tree-ring analysis abruptly shattered New Mexico's pomological origin story with the news that the trees were likely only planted around 1800.

The old trees were used to promote both tourism in New Mexico and the burgeoning apple industry. Early tourism guides often included the orchards as a destination. In 1907, New Mexico's former governor and foremost apple enthusiast, L. Bradford Prince, now president of the newly formed Apple Congress, urged the organization to use an image of the old trees in its official seal. It is deeply ironic that he would choose the old "unimproved" Spanish variety to promote an apple industry that was rapidly reducing apple variety diversity, especially of the seedling type growing in Manzano. But the symbol perfectly promoted New Mexico as a place with deep roots that were at once exotic (planted by the Spanish) and familiar (a European fruit with biblical roots and status as the most American of fruits). Prince even went as far as to declare, tongue-in-cheek, at the beginning of his address to the Apple Congress in 1911, that the apples in fact predated the Spanish altogether. They were none other than living remnants of the Garden of Eden.

Such an outlandish declaration led to an even more outlandish stunt at the American Apple Exposition in Denver in 1911. The exposition generously offered a

⁸² "Will Graft Old Apple Tree Scions," *Rio Grande (Las Cruces, N.Mex.) Republican*, 30 January 1912, 4. Silver City also had a "300 year old" apple tree it celebrated. "The old apple trees supposed to be 300 years old planted by seeds brought by priests with Pizarros Expedition to the North" near Silver City, New Mexico," Palace of the Governors Photo Archives, New Mexico History Museum, Santa Fe, NMDC, <http://econtent.unm.edu/cdm/singleitem/collection/acpa/id/5473/rec/104>.

“handsome wedding present,” as well as some apples from the old trees themselves, to any couple who happened to be named Adam and Eve, and who desired to be married at the exposition’s auditorium in front of 12,000 people.⁸³ Such an event, presciently anticipating the best of reality television that would come a century later, illustrates the modern core that ran through the Manzano nostalgia. What better way to celebrate these survivors of a bygone era than with a media promotion involving 12,000 spectators in a state-of-the-art auditorium? The stunt not only bathed the trees in modern spectacle, it managed to take claim of New Mexico’s deep history by somehow writing out the very Native and Hispanic forbearers who give that claim validity. The re-crafted legend of the ancient apples in Edenic terms paints New Mexico’s claim to history and originality in firmly Anglo-digestible terms, a place where the original white man and woman fatefully gazed upon the apples of this immaculately planted paradise.

The ironies of this hyper-modern Denver wedding using old “unimproved” trees to promote New Mexico’s rapidly modernizing apple industry certainly run deep. Beneath the many ironies specific to the Edenic wedding, lies a deeper irony that pervades the history of industrial agriculture beyond apples. Industrial agriculture, in New Mexico and elsewhere, often relied on non-industrial agriculture in myriad ways. In this case, New Mexico’s emergent apple industry used local agriculture, culture, and history to provide a “classy” display at this national exposition and, hopefully, a marketing edge.

⁸³ “Garden of Eden in New Mexico,” *Albuquerque (N.Mex.) Journal*, 13 October 1911, 8; “The Garden of Eden is as Fertile as Ever,” *Albuquerque (N.Mex.) Morning Journal*, 12 December 1911, 6; and *Santa Fe New Mexican*, 10 February 1907.

Also beneath the sometimes-lighthearted story of the Manzano apple orchard's veneration and ironic appropriations lay a very real and not-so-lighthearted notion of racial and cultural superiority. Just years prior to the first picnic to save Manzano's ancient trees, white newcomers expressed disregard and, at times, even condemnation for native trees such as those in the Manzano orchard. They considered the small, bittersweet, yellow "manzanas Mejicanas," as many locals called them, to be "unimproved" and an indication of the native population's lack of intelligence, aversion to hard work, and racial inferiority. Edith M. Nicholls' 1896 *Observations of a Ranchwoman in New Mexico* hardly minces the connections between varieties of apples and race. "The fruit of New Mexico, since being taken hold of and improved upon by Americans, possesses both looks and inward merit," Nicholls explains. Such "improvements," Nicholls makes clear, were directly connected to racial superiority: "The Mexican, unless a superior specimen of his race, is at once too supine intellectually, too lazy physically, and too unintelligent by heredity, to improve upon methods acquired three centuries ago."⁸⁴

To Nicholls, like many others, the existence of old fruit orchards in the territory offered proof of the territory's suitability to fruit culture but not of existing culture's suitability to fruit-raising. "Needless to say that, while it was the sight of native orchards heavy with fruit which was the impelling motive of the original American settler," she observed, "it is not from the orchard of the native that the magnificent apples, peaches, and other fruits for shipping are culled."⁸⁵ F. C. Barker, also in the Mesilla Valley, came to a similar conclusion in 1893 when discussing the possibility of pears doing well in the

⁸⁴ Nicholls, *Observations of a Ranchwoman*, 59, 64.

⁸⁵ Nicholls, *Observations of a Ranchwoman*, 59.

territory. “As to the soil being suitable for pears we have the very best evidence in the large healthy trees to be found growing in many of the old Mexican gardens,” Barker explained, “Unfortunately these old trees are poor varieties. There is a fortune to be made here by any one who will plant out twenty acres of the modern varieties of pears.”⁸⁶ An otherwise celebratory account of the Manzano orchard in 1911 also further echoed this sentiment, concluding that the most significant meaning of the trees was its implications for “the adaptability of the foothill lands of New Mexico to the culture of the great American fruit.”⁸⁷ For each observer, the old trees signified an opportunity for newcomers to turn the natural wealth of New Mexico’s soil and climate into material profit.

White settlers imparted meaning to the differences between the “manzanas Mejicanas” and their “improved” varieties. Such ideas reflected broader beliefs in their racial and cultural superiority, a theme that ran through discourse about apples throughout this period. Newcomers explicitly connected improved varieties of apples with Anglo whiteness. As a Farmington grower argued in 1908, apples were superior to California oranges (their main competitor), because, unlike the orange and its Hispanic origins, the apple was the “native” fruit of the Mayflower pilgrims. Never mind that the apple was in fact not native to New or Old England (it is native to south central Asia), the apple was so quintessentially Anglo American in many people’s minds that it was simply “native.”⁸⁸ Some even celebrated the apple for its white body. Employing a common

⁸⁶ F.C. Barker and Co., “A Productive Valley: The Candid Opinion of a Practical Fruit Raiser on the Products of the Valley Written by Request for the Republican,” *Rio Grande (Las Cruces, N.Mex.) Republican*, 17 February 1893.

⁸⁷ “Garden of Eden in New Mexico,” *Albuquerque (N.Mex.) Journal*, 13 October 1911, 8.

⁸⁸ *Farmington (N.Mex.) Enterprise*, 13 March 1908. Associations of the apple with both middle-class whiteness and misconceptions of the apple as native to North America were ubiquitous to the nation. Philip Pauly writes, for example, that “Apples, everyone agreed, were model Americans whose naturalization had

cliché writers throughout the country used to equate apples to white women’s bodies, San Juan apples were “rosy cheeked” and advertised in 1901 as having “with a tint as delicate and beautiful as a blush that overspreads a gentle maiden’s cheek.”⁸⁹

The association of the American apple with Anglo whiteness extended beyond simple notions of heritage or phenotype. The apple came to embody a mix of science, industriousness, and agrarian virtue that many white people considered absent in the native and Hispanic populations. A Roswell resident explained in a 1904 that much of the success of his county’s fruit-growing section owed to the fact that the newly settled farmers were “good men who understand farming, who fully value every acre or land and every drop of water... and who, above all else are thorough and industrious.”⁹⁰

Boosters and politicians used these cultural connotations of the industrial apple—at once Anglo American, modern, and profitable, and suited for New Mexico soils—to entice would-be white settlers to the region. The New Mexico Bureau of Immigration, founded in 1888 with the explicit purpose of bringing more white people to the territory, often highlighted the region’s fruit-growing promise. At the forefront of this early effort to promote apple culture was the New Mexico Horticultural Society, also founded in 1888. With territorial governor L. Bradford Prince at its helm, the society organized fairs and exhibitions showcasing the territory’s abundant produce, intended to convey both the natural wealth and the cultural industriousness of the territory. Although other fruits, along with industrial crops such as sugar beets and sorghum, also made the list of

been effortless and whose ability to improve was remarkable. Horticulturalists had to remind readers that in spite of appearances, the genus *Malus* was not a primordially New World fruit.” Pauly, *Fruits and Plains*, 67.

⁸⁹ Pendleton, *San Juan County*, 27, 31.

⁹⁰ “Money in Apples,” *Santa Fe New Mexican*, 7 May 1904, 1.

displayed crops, apples were by far most prominently displayed. The display of abundant, unblemished, familiar apples served to promote the modern and Anglo side of the territory, and ease easterners' racial anxieties.

Apples were a quintessentially American fruit in a nation that considered fruit-growing to be a particularly “pleasurable and interesting pursuit,” where a man of modest means could pursue wealth healthfully and virtuously. “Fruit-growing has always attracted city people,” two industry analysts reported in 1921, “and in specialized fruit regions to-day are many who, after retirement from business, sought fruit-growing as a healthful vocation and yet one which might be expected to offer fair returns on investment.”⁹¹ Boosters ascribed a “certain biblical respectability” and “bourgeois enlightenment” to fruit culture throughout the West. Fruit-growing shaped the California Dream, historian Kevin Starr has argued, by encouraging, above all else, a “rural civility” in the West.⁹² The early apple districts of New Mexico show how the image of a healthy and harmonious pastoral workscape spread throughout the desert and mountain west. Such images touted the healthy climate and the horticultural potential of the region. No boosters' promotional vision of a western irrigated Eden was complete without dangling fruit.

The dangling fruit for the boosters, of course, was the horticultural settler himself. New Mexico apple districts, like their fruit-growing counterparts in California and throughout the West, sought white emigrants from the eastern US and Europe to form

⁹¹ Folger, *Commercial Apple Industry of North America*, 129.

⁹² From Kevin Starr, *Inventing the Dream: California through the Progressive Era*, 128, 134, quoted in Don Mitchell, *Lie of the Land: Migrant Workers and the California Landscape* (Minneapolis: University of Minnesota Press, 1996), 19. For explicit associations of whiteness to horticulture in late nineteenth-century California, see Ian Tyrell, *True Gardens of the Gods: Californian-Australian Environmental Reform, 1860-1930* (Berkeley: University of California Press, 1999), 118–19.

model communities that competed in national markets with cutting edge scientific agriculture.⁹³ Jared Farmer’s description of the ideal late nineteenth-century irrigation colony shareholder in California holds true for New Mexico apple districts, as well. This financially independent “agrarian entrepreneur grew luxury crops for profit using the latest technologies and scientific methods,” Farmer writes, and “did not like to be called a farmer [but rather] *grower* or *horticulturalist* or, better yet, *rancher*.” A letter from a M. E. Dane in the Vermejo Valley to Governor Prince in 1889 echoed this ideal and went a step further, assuring territorial boosters that New Mexico was in fact a superior destination to California for potential settlers. “There are lots of people coming into this valley from the East [...] most of them are people with means [...] I am very anxious to have them invest and improve here,” Dane writes, “We have the productions here to make this superior to California [in] climate, fruits, alfalfa, grains, vegetables, and all kinds of stock.”⁹⁴ Throughout the west, boosters, politicians, and land developers, who had themselves invested fortunes in irrigation works and rail systems, considered such fruit growers as value added to their investments. Such settlers—white, hard-working, and even bourgeois—were “the right kind of people” who would start farms and businesses, raise families, and attract others like them.⁹⁵

The ideal, however, proved elusive. Percy Hagerman, reflecting in 1934 on his father’s investments in the Pecos Valley in the last decade of the nineteenth century,

⁹³ Paul Sandul, “The Agriburb: Recalling the Suburban Side of Ontario, California’s Agricultural Colonization,” 201.

⁹⁴ Jared Farmer, *Trees in Paradise* (New York: Norton, 2013); and M. E. Dane to Prince, 4 November 1889, Prince Papers, TANM, r.104

⁹⁵ Folger and Thomson write, “Intensive fruit regions are necessarily thickly settled and provide social advantages superior to those in the average rural communities. The desire to live among educated persons and to have the advantages of excellent schools and churches and means of social recreation is strong.” Folger and Thomson, *Commercial Apple Industry*, 129

declared in exasperation that “Every other thing that has been tried down here, with the one exception of apple growing in Roswell has proven a failure. I have made up my mind that this country has got to go back to stock raising and depend on that for whatever prosperity it has. That means that it will never be a decent country to live in; no cattle country never is. All the expensive efforts that have been forth to make this a white man’s country have been futile and always will be.”⁹⁶ Hagerman’s lament reveals not only the explicit effort to transform the Pecos valley’s racial and cultural landscape through transforming the agricultural landscape, but also the limits of those efforts. Roswell failed to become a wholly “white man’s country” despite the success of apples.

In the decades surrounding the turn of the twentieth century, the apple—the “great American fruit” that at once symbolized interconnected Anglo American ideals of modern science and industry, Jeffersonian virtue, and racial and cultural superiority—both transformed the physical and cultural landscape of the territory and was itself transformed. It enticed white settlers to New Mexico with dreams of industrial apples in a horticultural Eden. Settlers arrived, however, to a harsh climate, where moths had their own visions of paradise, and where the deep-rooted culture and history of the place forced them to adjust their vision. Percy Hagerman’s lament of a Pecos Valley that had failed to become a “white man’s country” hardly resembled Elizabeth Garrett’s celebration of “fiery hearted Montezumas” amid the “scent of apple blossoms.” Garrett’s song, full of the type of condescending imperialist nostalgia that sentimental journalists continued to assign to the Manzano orchard’s “marvelous stand against time,”

⁹⁶ Bogener, “Ditches Across the Desert,” 307.

nonetheless indicated a mixing of the local non-Anglo and non-modern context of her horticultural paradise.

A Bright Future

The history of early commercial apples in New Mexico shows us how paying attention to the particularities of crops helps us understand humans' history. It matters that the *apple* arrived, not just "industrial agriculture," to late nineteenth-century New Mexico. The physical requirements and cultural meanings of the apple shaped the cultural and environmental landscape of the place. The apple enticed white settlers with specific notions of Anglo national identity; Jeffersonian virtue, morality, and health; and the promise of a lucrative export that other crops such as alfalfa—which in reality brought in more revenue—could not. It also brought a virulent pest that required neighborly cooperation that led to coercive laws and cultural critiques that left little room for alternative approaches to horticulture. In short, the modern apple ushered a degree of cultural change far beyond what a simple glance at census data would suggest.

For many, the apple represented hope for a more Anglo, more modern, and industrialized New Mexico. "As the territory becomes more thickly settled, fruit growing is going to develop faster, and with the influx of settlers into New Mexico this industry awaits a bright future," Fabián García wrote in 1905.⁹⁷ The territory's elite researchers, growers, and politicians thus gave the apple a starring role in New Mexico's broader history of immigration and emigration, modernity, and nation-building in the decades

⁹⁷ García, "History of Fruit Growing," 88.

surrounding the turn of the century. The apple, due to its physical and cultural characteristics, was simply the easiest way for land developers to transform raw resources—sun, water, and soil—into exportable wealth. Irrigation projects would have been useless to early developers if there were not an enticing crop the water could grow; railroads less profitable without a constant, shippable product. The apple made the dream of prosperous horticultural irrigation districts possible.

By the 1920s, however, the dream was beginning to lose its luster in southern New Mexico, where orchards were being transitioned to cotton fields in large numbers. Farmington became the epicenter of the land of the big red apple, but even there, as the following chapter demonstrates, the industry could not compete against ever-growing competition from apple growers elsewhere and the growing oil industry at home. Two decades after García proclaimed a “bright future” for apples, he offered a more nuanced take on the future of the New Mexico fruit industry. “I am inclined to believe that the old idea of planting large plantations is a thing of the past in this country,” García wrote in 1922, “as it takes too much time and money to manage them. I feel that the future fruit business in New Mexico will develop along small, but more numerous, plantations, so that the individual growers can take care of them, instead of having to hire everything done as has often been the case in past years.”⁹⁸ García’s statement, as the following chapter will explain, proved prescient. As New Mexico’s apple industry moved north, it also moved away from the predominately Anglo irrigation districts at opposite corners of the state and toward the Hispano homeland of northern New Mexico,⁹⁹ where growers

⁹⁸ *Proceedings of the Thirty-Eighth Convention of the American Pomological Society, Toledo, Ohio, December 7, 8, and 9, 1921* (Columbus, Ohio: F.J. Herr Printing Co., 1922), 112.

⁹⁹ For a definition of the Hispano homeland in northern New Mexico, see Richard L. Nostrand, *The Hispano Homeland* (Norman: University of Oklahoma Press, 1992).

gave new meaning to the big red apple and invested heavily in smaller scale, cooperative apple production.

2.

Patent Lies, the “People’s Business,” and the Modern Core of Northern New Mexico Agriculture, 1940-1980

Every autumn for decades, until 2011, New Mexicans would wait in miles of traffic along a remote clay road in northern New Mexico for a chance to buy a bag or two of the celebrated Dixon’s Champagne apples, which supposedly grew nowhere else in the world. Local news channels hired extra staff members to handle the phones for the deluge of inquiries about when the orchard would open. The annual autumnal pilgrimage to the orchard became a family tradition for many who cherished the apples as a unique and distinctly New Mexican food, the fruity version of the Hatch chile. Sadly, the Las Conchas wildfire in 2011 devastated the orchard and put an end to the seventy-five-year-old business. To add to the sad news, despite the often-repeated claims that Fred Dixon found the original wild tree growing in a nearby canyon and later patented it as the Champagne apple, the historical record—and patent office records—make clear that the supposedly rare apple was actually a common Golden Delicious. A beloved icon of New Mexican agriculture was built on a patent lie.

Growing an orchard—complex, scientific, and laborious as it may be—remains a simpler task than growing a legend to go with it. The myth, even more than the apples, accounted for the orchard’s success. But a far more pervasive and harmful myth, the romantic figure of the yeoman farmer, preceded Dixon’s specious claims of genetic exceptionality. The founder of the Dixon orchard, an advertising executive named James

Webb Young, drew on that myth to create for himself the persona of “Old Jim Young,” the living embodiment of the Jeffersonian yeoman farmer whose age-old agricultural pursuits represented a nostalgic retreat from modernity. The Ad Man Young used this nostalgic image—ripe with associations of agrarian virtue, independence, civic-minded democracies, sweat-driven meritocracies, and white entitlement—to sell an apple he named “Champagne.” Young’s back-road orchard, and his innovative advertising and marketing strategies, reveal how modernity can originate and spread from places on the periphery. This story also shows us how agricultural producers, as storytellers, become cultural producers and intermediaries who invariably influence the cultural identity of the places they inhabit.

Young sold apples alongside rosy yeoman imagery excised of labor, land, and race struggles, even as other growers throughout northern New Mexico turned to the apple as a potential solution to region-wide poverty linked to these very struggles. Commercial apple growing, which began to decline elsewhere in the state, rose sharply in the predominantly Hispanic and Native villages of northern New Mexico in the three decades following World War II.¹⁰⁰ As a result from this increase, as well as from land-grant activism that eventually culminated in the Courthouse Raid in Tierra Amarilla in 1967, local growers teamed up with government agencies to form an apple cooperative in

¹⁰⁰ Using census data from 1940 through 1978, and defining northern New Mexico as San Miguel, Mora, Taos, Sandoval, Santa Fe, and Rio Arriba counties, the percentage of statewide apples grown in northern New Mexico jumped from 14% in 1940 to 36% in 1945. It remained roughly at that percentage for the following two decades, before again shooting up to 49% by 1978. See the *United States Census of Agriculture: 1945*, vol. 1, part 42, County Table 2 (Washington, D.C.: Government Printing Office, 1936), 48–51; *United States Census of Agriculture: 1959*, vol. 1, part 42, New Mexico, Chapter B, Table 11 (Washington, D.C.: Government Printing Office, 1936), 158–60; *United States Census of Agriculture: 1964*, vol. 1, part 42, New Mexico, County Table 13 (Washington, D.C.: Government Printing Office, 1936), 284–87; and *United States Census of Agriculture: 1978*, vol. 1, part 31, New Mexico, Table 32 (Washington, D.C.: Government Printing Office, 1936).

Chimayó, New Mexico. The cooperative represented a key part of War on Poverty programs in New Mexico that addressed land-based unrest through intensive, export-based agriculture. Proponents of an apple cooperative for northern New Mexico hoped that farmers might succeed through agricultural modernization that would allow them to create jobs and compete with growers on a national scale. Opponents derided state-funded initiatives such as the cooperative as ill-conceived, top-down boondoggles that would perpetuate northern New Mexico's ongoing colonial relationship to the rest of the nation. During the short ten years of its life, the cooperative made the apple a centerpiece of larger debates on the economic and cultural direction of the region, and poignantly pointed to the limitations of the very yeoman ideal so successfully sold by nearby Old Jim Young.

Northern New Mexico has a rich history of small- and medium-scale, modern agriculture. Together, the histories of the Champagne apples and the Chimayó apple cooperative offer a more full portrait of this history—with its successes and failures—than either does alone. Their complementary stories illustrate how the lines between industrial and non-industrial agriculture blurred in mid-twentieth-century New Mexico. Apple orchards remained complex sites where competing visions of the cultural identity of the state, its relationship to modernity and colonialism, and its relationship to the rest of the nation continued to converge late into the twentieth century.

How to Catch a Fish with an Apple

“Madison Avenue is many places,” Norman Strouse, President and CEO of J. Walter Thompson (JWT), wrote in 1961, it “symbolically runs through every part of the country where advertising originates.”¹⁰¹ State Road 22, the long dirt road that leads to an apple orchard in the remote La Cañada de Cochiti at the base of the Jemez Mountains roughly fifty miles from both Santa Fe and Albuquerque, proves no exception. The orchard and its original owner, Strouse’s JWT colleague James Webb Young, both embodied the avenue’s long reach and its two-way direction. While the orchard employed industrial technology in the forms of pesticides, smudge burners, irrigation systems, and refrigerated storage, James Webb Young developed even more cutting-edge methods of cultural production. As an executive at one of the nation’s top advertising firms throughout the first half of the century, Young led the development of a “scientific yet magical formula”—a blend of market-based research, psychology, and artful appeals to the romance and fantasy rooted in American “folkways”—to spur consumption for the benefit of “modern American Civilization.”¹⁰² Young produced and exported both stories and apples to shape consumers’ perceptions of the region. Through successfully producing and selling the stories behind his New Mexico products, Young served as a cultural intermediary between New Mexico and the rest of the nation, between ranch and metropolis, and between agricultural production and consumption.

¹⁰¹ Norman H. Strouse, “Madison Avenue Is Many Places,” in *The Promise of Advertising*, ed. C. H. Sandage (Homewood, Ill.: Richard D. Irwin, Inc., 1961), 77.

¹⁰² Kate Forde, “Celluloid Dreams: The Marketing of Cutex in America, 1916- 1935,” *Journal of Design History* 15, no. 3 (2002): 175–89 (188 quoted). In the first decades of the twentieth century, JWT was at the cutting edge of employing market research in advertising (see Karen L. Cox, *Selling Dixie: How the South Was Created in American Popular Culture* [Chapel Hill: University of North Carolina Press, 2011], 42), and Young, especially later in his career, emphasized blended market research, statistics, psychology, and an understanding of “folkways” into advertisements. See M. M. Manring, *Slave in a Box: The Strange Career of Aunt Jemima* (Charlottesville: University of Virginia Press, 1998), 94.

James Webb Young was born in 1886 in Kentucky to a Yankee father and a Southern belle “unreconstructed Rebel” mother. He graduated fifth grade and decided he was done with formal education. Inspired by Horatio Alger tales, he set out make his fortune and, unlike most, succeeded. He received his first big break as a Bible salesman, despite a lack of personal religious conviction. On the job one day in 1907, he saw an advertisement for a course on *How to Use Words to Make People Do Things* that cost only ten dollars with a dollar down. He later claimed the dollar he sent in the mail that day was the best investment of his life.¹⁰³

Young became one of the most influential advertising men of the twentieth century. He worked his way up to the vice-presidency of J. Walter Thompson, the nation’s oldest advertising firm (the firm that would go on to produce Richard Nixon’s successful 1968 campaign for the Presidency, under the direction of a young Roger Ailes). At JWT, Young helped initiate the use of scientific research in advertising, led the first major effort to export American advertising overseas, led wartime propaganda efforts during both World Wars, and was instrumental in the creation of the Ad Council in the 1940s. In his early career, he invented the Legend of Aunt Jemima, arguably the most iconic figure in American advertising history, which, along with his work with Old South imagery in his Maxwell House coffee campaign, ranked among the first advertising campaigns to incorporate Americana. Beyond his work with JWT, he served as director of the Bureau of Domestic and Foreign Commerce under Commerce Secretary

¹⁰³ James Webb Young, *Ego-Biography* (Coapa [La Cañon de Cochiti], N.Mex.: The Piñon Press, 1955); and James Webb Young, *The Itch for Orders* (Coapa [La Cañon de Cochiti], N.Mex.: The Piñon Press, 1957), 2–3. Fred Dixon told an interviewer in 2003 that Young was “was the smartest man I ever knew...he was an atheist, his first job was selling Baptist bibles.” Fred Dixon, interview by Ramona Rand-Caplan, 15 June 2003, transcript, p. 9 [Tape One, Side A], New Mexico Farm and Ranch Heritage Museum Oral History Program, Las Cruces, N.Mex. [hereafter FD-NMFRM].

Coolidge; he helped draft the plan for the Bureau of Indian Arts and Crafts; worked closely with the Rockefeller Foundation; and taught at the Business School at the University of Chicago. He wrote fifteen books, including the highly influential *A Technique for Producing Ideas*. Not too shabby for a man with a fifth-grade education.¹⁰⁴

Perhaps one of the most remarkable, if little known, features of his life is his decision in 1927, at age 42, to give up his apartment in the prestigious Marguery Hotel on Park Avenue for an adobe house on a remote ranch fifty miles from Santa Fe. He bought the roughly 10,000-acre Cañada de Cochiti land grant after one of his sons had expressed interest in dude ranching. The dude-ranching venture failed, but Young and his wife fell in love with the land and decided to stay. He noticed apples on the property, planted long before by Hispanic inhabitants of the land grant, and learned from locals that they seemed to bear consistently every year. Young planted the first trees of the new orchard shortly thereafter and, within only a few years, began selling his apples, at a “neat” nine percent profit on annual investments, to local grocers, regional truckers, mail-order buyers from around the country, and local customers making day-trips to his ranch.¹⁰⁵

The ideas James Webb Young produced, even more than the apples themselves, led to his orchard’s success. Young developed innovative business and advertising strategies that set his apples apart from others grown in the region. He was among the first apple producers in the country to advertise directly to mail-order customers in national magazines; and managed to sell blemished, small, and wormy fruit when others

¹⁰⁴ Manring, *Slave in a Box*, 91–109.

¹⁰⁵ Paul Hoffman, “Introduction” in *The Promise of Advertising*, ed. Sandage, x. On the old trees of La Cañada de Cochiti, see Fred Dixon, 15 June 2003, p.31, FD-NMFRHM. On his profit, James Webb Young, *The Diary of an Ad Man* (Chicago, Ill.: Advertising Publications, Inc, 1944), 50.

couldn't or wouldn't.¹⁰⁶ One particularly creative sales strategy, involving a hailstorm that pockmarked his apple crop in 1963, became nearly legendary in advertising circles. After considering whether or not to sell the blemished crop, and risk having his mail-order customers demand refunds on his dime, Young crafted a card that appeared in every customer's box of apples:

Note the hail marks that appear as minor skin blemishes on some of these apples. These are proof of their growth at a high mountain altitude, where the sudden chills from mountain hail storms which these apples receive while growing help firm their flesh and develop the fruit sugars which give them their fine flavor.

Not only did Young receive no requests for refunds that year, for years to come he actually received requests for pockmarked apples.¹⁰⁷ He had successfully transformed blemishes into badges of quality and had even reinforced his central marketing message that the specific environmental conditions of the ranch made his apples unique and superior. Never mind that hail damage reduces long-term storability, or that hail storms affect apple growers throughout the country. He was the only man clever, audacious, and perhaps disingenuous enough to claim hail provides “sudden chills” that actually *improve*

¹⁰⁶ Fred Dixon later recalled that, the first time they met, Young told him not to smash a wormy apple because “I’ll sell every one of those.” Dixon then asked, “You’d sell a wormy apple?” and Young replied, “Yes...they’ll all sell.” Fred Dixon, 15 June 2003, p.12, FD-NMFRHM.

¹⁰⁷ G. Lynn Sumner, *How I Learned the Secrets of Success in Advertising*, Rare Marketing Classics Edition (North Audley Media, 2009), 201–202. See also “Here’s a Blessing in Disguise,” advertisement, *Santa Fe New Mexican*, 1 October 1961, 22; and “Young Victim of His Own Salesmanship,” *Santa Fe New Mexican*, 18 December 1964, 3.

flavor. This creative spin of a potential problem into a marketable advantage exemplifies Young's advertising acumen that often teetered on the line between suggestive conceit and actual deceit.

The branding of Young's apples themselves, especially transforming his Golden Delicious apples into Champagne apples (and to a somewhat lesser extent, his Red Delicious into Sparkling Burgundy apples), proved to be one of Young's most successful long-term marketing endeavors. Using language that anticipated contemporary discussions of "terroir," he argued that unique environmental conditions converged—high altitude, mountain water, volcanic soil—to transform a Golden Delicious apple, one of the most widely grown apples in the country, into a truly unique apple that he would even trademark as Champagne. The transformation began with a 1947 advertisement in the *Albuquerque Journal* headlined "The Champagne of Apples," which, fittingly, began with an origin story. Young opened the ad by introducing the original Golden Delicious tree, which grew on a hillside in Clay County, West Virginia and which Paul Stark of Stark Brothers nursery famously bought in 1914 for \$5,000 before promptly enclosing the tree in a padlocked steel cage wired with a burglar alarm. Young writes:

The Champagne of Apples: Old Jim Young's Golden
Delicious

On a middle-western hillside there is an apple tree growing
in a cage—the most valuable apple tree in the world.
Through some unknown trick of Nature this tree bore

apples such as had never been seen before—apples with a rich golden color in skin and flesh like rare champagne. From this parent tree came the trees on which I grow the same wonderful Golden Delicious Apples in my little Jemez Mountains Valley. There our New Mexico sunshine and cold nights bring them to such perfection that every bite crackles and the juice runs down your lips. People all over America send me for these apples—even from the big apple-growing states of Washington and Oregon. You can get these prize apples by simply asking your Safeway Store for Old Jim Young’s Golden Delicious Apples.¹⁰⁸

The advertisement makes clear that the Champagne of Apples were Golden Delicious and, although the New Mexico sunshine and cold nights “bring them to perfection,” even the original Golden Delicious has “flesh like rare champagne.” Over the next fifteen years, Young slowly crafted an entirely new “Champagne Apple” by discarding the origin story of the Golden Delicious altogether from his advertisements and instead insisting that New Mexico’s environment made *these* Golden Delicious unique. Throughout the following decade, however, Young sold the apples clearly as Golden Delicious. A writer for *New Mexico Magazine* visited Old Jim Young’s ranch in 1950 and reported that he bit into “one of those Golden Delicious apples and, by gosh... It truly tasted like champagne”; in 1955, an advertisement to truckers mentioned Golden

¹⁰⁸ “The Champagne of Apples,” advertisement, *Albuquerque (N.Mex.) Journal*, 21 October 1947, 8.

Delicious but not Champagne apples; and even in 1960 an advertisement sold Golden Delicious without mention of champagne.¹⁰⁹ But by 1961, Young refers simply to his “famous ‘Champagne’ apples,” and ran ads in 1962 that sold Old Jim Young’s apples as just “Champagne.” By 1963, a trademark symbol accompanies the Champagne apples.¹¹⁰

Significantly, Young claimed the uniqueness of the Champagne Apples derived not from genetic uniqueness, as the Dixons would later claim, but from the uniqueness of the environment in which it grew. By the late 1950s, Young argued that the unique environmental conditions of his New Mexico ranch set apart his apples from the rest. In 1958, he wrote “every bite crackles and juice runs down your lips...because I grow them in a beautiful little valley, 6000 ft. up in the Jemez Mountains. Here the volcanic ash soil, the pure, cold mountain water, and the cool summer nights give apples a crispness and flavor no low country can have.” For Young, emphasizing “mountain grown” was paramount, and he switched his brand name from simply Old Jim Young’s in the forties and early fifties to Old Jim Young’s Mountain Grown by the late fifties. By emphasizing environmental terroir and not genetic difference, Young once again crafted persuasive suggestions without resorting to blatant deception.

On a more basic and less literal level, however, Young’s apple advertisements hardly avoided deceit. By creating and taking on the persona of Old Jim Young, Young crafted into his apples one of the nation’s most foundational myths: the mythic American yeoman. Various depicted in popular American imagery as an independent, industrious,

¹⁰⁹ C. E. Hellbusch, “Old Jim Young’s Big Red Apples,” *New Mexico Magazine* (January 1950): 35; “Apples,” advertisement, *Albuquerque (N.Mex.) Journal*, 18 October 1955, 20; “Garden Fresh Fruits and Vegetables,” advertisement, *Albuquerque (N.Mex.) Journal*, 1960; and *Santa Fe New Mexican*, 15 September 1960.

¹¹⁰ “Here’s a Blessing in Disguise,” advertisement, *Santa Fe New Mexican*, 1 October 1961, 22; Advertisement, *Santa Fe New Mexican*, 11 October 1962, 16; and “Now See the Valley of Glory,” advertisement, *Santa Fe New Mexican*, 3 November 1963, 16.

virtuous, morally-centered, civic-minded, modest, and, importantly though often tacitly, white man who owned his land fee simple—the mythic yeoman had, for much of the nation’s history, provided the bedrock to US democracy, justified US claims to expansion and exceptionalism, and served as a key part, in Henry Nash Smith’s words, of the “poetic idea...that defined the promise of American life.”¹¹¹ James Webb Young built his career by embracing such poetic ideas, and he understood as well as anyone both their power and fallacy.

Young carefully crafted this yeomanly character for the sake of selling apples, and not because the image bore any resemblance to his actual life. “There must be a personality shining through all the talk about the product;” Young wrote in *How to Become an Advertising Man*, “I have overwhelming evidence that one of the reasons why people buy my Mountain Grown Apples is because they take to a character called Old Jim Young, who chats with them in the advertising.” Studebaker president and Director of the Marshall Plan, Paul G. Hoffman, would later explain that Young sold his apples by taking off, “at least for a few minutes, the Brooks Brothers flannels and put on overalls. He had his picture taken astride a fence with a corn cob pipe and became Old Jim Young, the apple man.”¹¹² Throughout his apple advertisements, Young assumed a folksy, humble voice that regularly addressed women (he made his target audience clear in his writings and often published his ads on the “Woman’s Page”) to bring the “small fry” along to visit his “little” orchard. At times he took on a God-fearing voice (asking his customers, for example, to “now come see the valley of glory” where his orchard

¹¹¹ Henry Nash Smith, *Virgin Land: The American West as Symbol and Myth* (New York: Vintage, 1950), 123.

¹¹² Paul Hoffman, “Introduction” in *The Promise of Advertising*, ed. Sandage, x.

dwells) and he voiced concern for the customers' wellbeing (and directly appealed to women's sense of maternal responsibility) with advertising messages such as "I want children to have more apples." Such homespun language, often infused with appeals to morality and civic concern, bears little resemblance to the cunning and cynical voice that characterized Young's diaries and professional writings.

No one expects advertising characters to be exact mirrors of reality. But this particular fiction perpetuated the myth of virtue in agriculture by erasing the exploitation of agricultural labor that drove commercial agricultural ventures throughout the country. Inequalities built on differences of race, ethnicity, and class created a cheap labor force that allowed Young's business to turn its "neat nine percent" profit. Young himself did little of the physical work of growing apples; he did not even manage the orchard. Fred Dixon, a white working-class farmer from southwestern Colorado, took on that job in 1944, including hiring workers, most of whom were Hispanic and Pueblo Indian from neighboring towns, to perform the labor necessary to maintain the ranch and produce the apples. Young paid little for this labor. In 1944, seven men from Cochiti Pueblo did that work, which included tasks such as digging an irrigation ditch by hand. According to the Dixon, Young paid the men made "a dollar a day," a paltry amount considering a worker making the federal minimum wage at the time would have made well over twice that amount for an eight hour day. A rare reference to his hired labor reveals Young's ever-present cunning and affinity for psychology; he mused in 1943 that he had been "busy all day in the warm October glow, getting my Golden Delicious apples off the trees. Made every picker wear white cotton gloves, and found the psychological effect of these greatly

reduced the number of culls due to carelessness in handling.”¹¹³ Such managerial work largely fell to Dixon after he arrived. As orchard manager, Dixon frequently “battled with labor,” and eventually shifted from hiring mostly local Indian and Hispanic labor to hiring mostly Mexican migrant laborers, who were paid “piecework.”¹¹⁴

Young even erased the indispensable and more authentically agrarian Fred Dixon. Dixon, who once explained he “was born and raised in a log cabin” and who gained the nickname “Old Oso” on the ranch after fighting a bear, experienced a full life of farm labor. Yet Young never wrote Dixon into the orchard’s advertisements, and in fact never mentioned him in any of his published writings. Young paid Dixon a hundred dollars a month, and Dixon later recalled that “we knew what it was to go to bed hungry...there were times that hundred dollars didn’t go too far.”¹¹⁵ Dixon was well aware of the fallacy of Young’s yeoman imagery. “Mr. Young spent two or three months out of the year here,” Fred Dixon later recalled, “But he didn’t like it. In his writings he’d say he liked it. He’d say a lot of things that weren’t true in his writings.”¹¹⁶

Young, for his part, certainly understood the deception he perpetrated. He told the graduating class at the University of Chicago in 1955 that: “Your lifelong study in the Art of Advertising will be to discover what the Public wants. This creates an Ethical Problem, as it must be clear to you by now that human nature is fundamentally bad and what it wants is always wrong.” With a cynical humor and clear disdain for the masses, Young declared that the public represented fish to be caught and that the Latin name for their species of fish was “*suckers economicus*.” To catch these fish—to sell them

¹¹³ James Webb Young, *The Diary of an Ad Man*, 220.

¹¹⁴ See Dixon, 15 June 2003, p. 51–52, FD-NMFRHM.

¹¹⁵ Dixon, 15 June 2003, p. 83, FD-NMFRHM.

¹¹⁶ Dixon, 15 June 2003, p. 42, FD-NMFRHM.

things they don't actually need and that don't actually serve their best interests— understanding the “quaint folkways” of the public “will be your stock in trade,” Young concluded. “But if you use [these quaint folkways] to bait your hooks (as you must) there is only one consolation which can be offered you. You will recall the ancient maxim: ‘Be Good and you’ll be Happy—but you won’t have much Fun.’ As an Advertising Man you will never be Good, and seldom Happy. But you’ll have a lot of Fun.”¹¹⁷

When James Webb Young died in 1973, so did Old Jim Young. Manager-turned-owner Fred Dixon had learned a thing or two from the Ad Man. Dixon marketed his apples with a decidedly new myth based on specious claims about apple genetics. Dixon claimed that, in the late forties, he had discovered a wild seedling of what would become the Champagne apple, growing in a nearby canyon. He eventually claimed to patent this tree and steadfastly refused to sell or give a single scion to any other grower.¹¹⁸ Dixon’s myth, tapping into the growing popular understanding of genetics in the seventies, perhaps lacked Young’s artful suggestiveness but nonetheless continued to illustrate the power of storytelling in New Mexico’s agricultural successes.

Dixon lied. The U.S. patent office holds no patents for Champagne (or Sparkling Burgundy) apples, and Young’s earlier advertisements made clear that the Champagne of apples had its genetic origins on a hillside in West Virginia, not New Mexico. Still, customers ate up the both the apples and the stories. By the early eighties, newspapers reported that the Champagne and Sparkling Burgundy apples were, according to Dixon,

¹¹⁷ James Webb Young, *The Compleat Angler*, Coapa [La Cañon de Cochiti], N.Mex.: The Piñon Press, 1953).

¹¹⁸ Dixon, 15 June 2003, pp. 27, 32, FD-NMFRHM.

“only grown in this canyon.”¹¹⁹ “Mr. Dixon, who is 68 years old and has tended his land for 48 years, recently began the harvest that will last until the end of this month,” a *New York Times* travel piece began in 1988, “He and his 80 pickers will bring in Red Delicious and Rome apples as well as two varieties—Champagne and Sparkling Burgundy—for which Mr. Dixon holds the patent and which he said are grown nowhere else in the United States.”¹²⁰ Dixon would tell an oral historian fifteen years later that “I would say most of the people in this part of New Mexico know what Champagne and [Sparkling] Burgundy [are]...That’s the only place in the world they’re raised and we own the patents on them and, as I’ve stated over and over, it’s nice to have...something that nobody else has and it’s good for the state of New Mexico to have something that no other state has.”¹²¹ Even as late as 2011, the year that the Las Conchas fire devastated the orchard and ended more than seventy years of apple business in La Cañada de Cochiti, an *Apple Lovers Cookbook* explained that “what really attracts the crowds [to Dixon’s] are their signature varieties, which the farm’s founder, Fred Dixon, named Champagne and Sparkling Burgundy, after he discovered the two chance seedlings in the late 1940s.”¹²²

The history of the apples growing on the former Cañon de Cochiti land grant bears several lessons. Agriculturalists might take away the practical lesson that storytelling is an important facet of agricultural success, and advertising often pays dividends. Such advertising allowed Young, and later Dixon, to primarily (and eventually exclusively) focus on local sales and mail-order buyers willing to pay retail prices. Less

¹¹⁹ Peter Eichstaedt, “Apples: Dixon’s Crop Cut short; ‘Freeze, Hail Made Waste,’” *Santa Fe New Mexican*, 9 October 1983, B1.

¹²⁰ Catherine C. Robbins, “At the Nation’s Table”, *New York Times*, 5 October 1988.

¹²¹ Dixon, 15 June 2003, pp. 1, 32, FD-NMFRHM.

¹²² Amy Traverso, *An Apple Lover’s Cookbook* (New York: W. W. Norton, 2011), 120–22.

successful apple operations elsewhere in the region lacked such a focus on advertising. Stories also play a role in shaping the cultural identity of those producing and eating apples. James Young and Fred Dixon sold a notion of uniqueness—built on notions of terroir and eventually also genetics—that tapped into New Mexicans’ place-based pride. Yet, it also served to whitewash perceptions of New Mexico agriculture by erasing labor and agricultural exploitation through well-worn associations of yeomanly independence, morality, and whiteness. The story of small apple producers elsewhere in northern New Mexico reveals the extent of the whitewashing, and provides an important lesson about the cultural impact of apple-growing on the region.

Tanks in the Mountains and War on Poverty in the Orchards

In 1967, nineteen men, led by the charismatic Pentecostal preacher from a Texas sharecropping family named Reies Tijerina, stormed the Tierra Amarilla Courthouse in northern New Mexico’s Rio Arriba county to make a citizen’s arrest on the attorney general and free several, recently arrested fellow land-grant-rights activists. The Courthouse Raid left two police officers injured, made national news, and led to a massive manhunt for Tijerina that included National Guard tanks combing the dirt roads in surrounding mountains. The raid “thrust New Mexico’s colonial...property disputes into the national consciousness,” as David Correia argues, and laid bare how the poverty of land-grant heirs throughout the region “was a monument to colonial greed.”¹²³ Yet

¹²³ David Correia, *Properties of Violence: Law and Land Grant Struggle in Northern New Mexico* (Athens: University of Georgia Press, 2013), 2.

despite ample scholarly attention given to Tijerina, the Courthouse Raid, and the broader land- and property-rights struggle of the period, scholars have yet to fully examine the regional agricultural context prior to and directly after the raid. Given agriculture's central position in the varied and contested land-use visions for the region, and given the size of the agricultural cooperatives that formed throughout the region in response to the unrest that centered around the Courthouse Raid, such an examination is overdue. A particularly good place to start is the apple orchards that blanketed the irrigated valleys of the region.

By the late sixties, apples had become a major facet of the region's agricultural economy and played a central role in the broader debate over the economic and cultural direction of the region. Half of all apples produced in the state came from trees growing in small acreages in northern New Mexico, mostly by Native and Hispano growers. Many of these commercial apple growers increasingly embraced basic tenets of modern export agriculture, employing at least some modern technologies—orchard heaters, wind machines, pesticides, mechanical graders, and improved rootstocks—to compete with growers throughout the country. As growers, planners, researchers, and politicians considered the future of the emergent industry, they developed plans for a cooperative that once again placed the apple squarely within broader contestations over modernity and the cultural and economic direction of the region.

The cooperative emerged from both unrest and unprecedented optimism. On a warm February day in 1970, a group of politicians, state and national government officials, newspaper reporters, and about 150 apple growers and Española valley residents gathered in Chimayó to eat apple pie, drink apple cider, and listen to largely

hopeful and congratulatory speeches on the newly approved \$259,700 federal loan to build a 33,000 square-foot apple packing and storage facility in the small town. The new cooperative, officially called the Northern New Mexico Farmer's Cooperative, like nearly all the government-funded producer-run cooperatives in northern New Mexico at the time, aimed to help producers modernize their operations for increased bulk and out-of-state sales. The coop would soon provide fertilizer, pesticides, advice on pruning and harvesting techniques; build an automated processing plant to press cider and grade, polish, and pack apples; and provide refrigerated storage for up to 25,000 bushels of apples.¹²⁴ Governor David Cargo called the loan "extremely significant," cooperative President John Trujillo suggested it would bring prosperity to the region and "the whole state," and state senator and Chimayó apple cooperative member Arturo Jaramillo went as far as declaring it that it could possibly impart the "strongest influence on the economy we've had in the history of the state."¹²⁵ Within a year, the small, predominantly Hispano town in northern New Mexico would lay claim to an apple shed that was the largest in the state and "the most modern in the Southwest."¹²⁶

The construction of the politically popular facility came after decades of growth in the region's apple industry and several attempts to create lasting cooperatives. Beginning in the mid-1930s, improved roads and the advent of selling directly to truckers (itinerant, often out-of-state, wholesale buyers) increased the profitability of commercial apple growing in the Española area and led to "evidence of renewed interest in apple

¹²⁴ Andrea Hughes, "A Good Harvest—At Last," *Santa Fe New Mexican*, 23 September 1973, 49.

¹²⁵ "Valley Apple Cooperative Gets \$333,000 loan from SBA, EDVC," *Santa Fe New Mexican*, 27 January 1970, 6.

¹²⁶ James Gray and H. R. Stucky, "New Mexico Agriculture—1970," Research Report 195 (Las Cruces, N.Mex.: NMSU Cooperative Extension Service publication, 1971), 42.

production” among area growers.¹²⁷ This new marketing strategy, along with high prices during World War II, spurred the initial surge in plantings. By the mid-fifties, roughly a third of all apples grown statewide came out of northern New Mexico, leading the Española Valley Experiment Station to start a test orchard for commercial production in 1953.¹²⁸ As the industry grew, so too did the need for growers to organize.

Early ventures at forming cooperatives in the valley, which dated as far back as a fruit exchange spearheaded by L. Bradford Prince in the first decade of twentieth century, had never achieved lasting success. Cooperatives had failed due to “poor planning, excessive risk sharing, and short supplies resulting from unfavorable weather conditions,” and had left a memory of failure that made growers hesitant to try again.¹²⁹ The most recent cooperative prior to the Chimayó Coop had been the Truchas Peak Apple Cooperative, a small packing and marketing shed that formed in Espanola in 1957 but had failed by 1964.¹³⁰ Despite its short tenure, the initial success of the Truchas Peak Apple Cooperative encouraged growers to plant more trees and illustrated the need for an expanded shed with refrigerated storage.¹³¹ Additionally, reclamation projects such as Abiquiu Dam in Rio Arriba County in the early sixties led to a forty percent increase in irrigated land downstream, much of which landowners planted in apples.¹³² The region

¹²⁷ Percy Walter Cockerill and R. P. Callaway, “Economics of the Production and Marketing of Apples in New Mexico,” Bulletin 242, NMCAMA, AES (State College, N.Mex.: 1936), 11, 63–64.

¹²⁸ “Because of the interest in commercial fruit production in the [Española] valley, a tree fruit variety orchard was established at this station during the springs of 1953 and 1954.” Phillip M. Trujillo, R. F. Hooks, and Darrel T. Sullivan, “Tree Fruit Variety Trials, Española Valley Branch Station, 1953 to 1968,” Bulletin 599 (Las Cruces: NMSU Experiment Station publication), 1.

¹²⁹ Richard S. Berberich, “Considerations in Establishing a Fruit Storage and Marketing Facility and a Chile Processing Plant in the Española Valley, New Mexico,” Report no. 70 (Washington, D.C.: USDA Farmer Cooperative Service, December 1964).

¹³⁰ John Curtis, “Fruit Trade Booms in Northern Areas,” *Santa Fe New Mexican*, 13 October 1957, 14.

¹³¹ “Apple Project Loans Sought,” *Santa Fe New Mexican*, 20 May 1962, 11.

¹³² Burke, Sullivan, Vastine, *An Economic Base Report*, New Mexico State University Special Report, 15 July 1969 (Las Cruces: Department of Agricultural Economics and Agricultural Business, Agricultural Experiment Station, New Mexico State University), 2.

produced fully half of the entire state's apple crop by the late sixties, and growers sought greater capacity for storage, marketing, and horticultural expertise.

Growers needed to organize. New Mexico, due to its high elevation and southern latitude, could produce a ripe crop on average two weeks before the major apple producing regions in the Pacific Northwest. This environmental advantage created a brief window of high prices that accounted for the bulk of growers' profits. However, because the market window was small and all growers had apples at the same time, growers needed to sell large quantities quickly to wholesale brokers, truckers, or other large buyers. Creating a cooperative would allow growers to sell as a larger unit, increase their marketing leverage, and prevent growers from undercutting each other. Furthermore, a cooperative would allow growers to pool resources to increase efficiencies and, most importantly, to expand their storage capacity. Refrigeration would increase growers' sales window for wholesalers, as well as their ability to sell smaller amounts over a prolonged period at higher prices to local markets.¹³³ Yet by the mid-sixties, the few refrigerated facilities in the state existed almost entirely on larger, well-funded operations such as James Webb Young's orchard, and as a result, only about one percent of the total crop in New Mexico was sold after the first of November by the mid-sixties.¹³⁴

The first rumblings of an apple cooperative in Chimayó came from the growers themselves. A bumper crop in 1967 and a large joint sale of culls to a processing plant in

¹³³ See Burke, Sullivan, and Vastine, *An Economic Base Report*, 30. The authors state that New Mexico apples not sold within a few weeks after harvest had "little chance of competing with Washington apples at a later date unless rapidly cooled and stored a low temperature." See also Berberich, "Considerations in Establish a Fruit Storage and Marketing Facility."

¹³⁴ By the mid-sixties, the Española Valley was capable of growing 800,000 bushels of apples, yet apple growers across the entire state had the capacity to store only 57,000 bushels under refrigeration. See Berberich, "Considerations in Establishing a Fruit Storage And Marketing Facility." On the packing facilities at the Young orchard, see Burke, Sullivan, and Vastine, "An Economic Base Report," 18.

Colorado in 1968 encouraged growers. Seizing the swell of enthusiasm, Arturo Jaramillo, a prominent grower and restaurant owner in Chimayó, helped lead roughly 110 separate growers, mostly with small orchards along the Santa Cruz river and many falling below the national poverty line, to organize. “If this momentum could not now be captured it may be lost for another generation,” Arturo Jaramillo remarked, “since the history of promises, attempts and failures in the area is too prominent to forget.” Such sentiment echoed a USDA report that had concluded five years prior that “the attitude of growers does not appear conducive for establishing a successful cooperative...in part [because of the] unfavorable cooperative history in this area.”¹³⁵ The newfound momentum among growers to organize derived not only from a few good harvests and their successful sale to the Colorado processor, but also from the unprecedented availability of government funding.

When Lyndon B. Johnson declared a “War on Poverty” with the Economic Opportunity Act of 1964, he set the course to significantly fund small community-led economic ventures throughout the country. By the end of the decade, a host of new government-backed cooperatives proliferated in northern New Mexico. The Home Education Livelihood Program (HELP), founded in 1965 by the New Mexico Council of Churches through War on Poverty funding, especially embraced the establishment of producer-run cooperatives throughout the state and particularly in northern New Mexico. “Many of the underlying causes of poverty can be eradicated by developing a self-sustaining economic base in the rural community,” a HELP spokesman declared in 1968,

¹³⁵ Berberich, “Considerations in Establish a Fruit Storage and Marketing Facility,” 18. On bumper crop of 1967, see “New Corporation forms to take over Chimayo Apple Co-op,” *Santa Fe New Mexican*, 23 February 1978, 43.

and developing such a base requires “more creative methods for freeing persons from their social bondage.”¹³⁶ By 1968, these “creative methods” included funding projects ranging from hand-carved furniture co-ops, weaving shops, construction shops, craftsman co-ops, to livestock management programs. The group helped form produce cooperatives in the Mora valley, the Peñasco valley, and in the Ruidoso-Hondo valley of southern New Mexico. In the cases of the Mora and Peñasco cooperatives, which produced crops such as cabbage, onions, carrots, chile, corn, garlic, pinto beans, peas, cucumbers, turnips, and oats on a combined 520 acres, HELP helped growers with equipment and fertilizer costs, business management, and market development.¹³⁷

The Chimayó apple growers reached out to several state agencies and programs funded through the War on Poverty. They initially approached the State Economic Opportunity Office (SEOO), which independently of the Chimayó apple growers organizing efforts, had begun “preparations of a program for a long range, comprehensive apple development operation in this area,” as well as the newly formed joint state-federal Four Corners Regional Commission. The state extension service, which had also been leading a development survey of commercial apple growing, soon became involved, as well.¹³⁸ Shortly thereafter HELP also joined the effort. The apple cooperative had become a politically popular project that attracted the involvement of many agencies.

¹³⁶ Max K. Jones, “Social Research Design: Home Education Livelihood Program Research and Demonstration Project,” c. 1968, box 2, folder 32, Frances Leon Quintana Papers, Center for Southwest Research, University Libraries, University of New Mexico, Albuquerque [hereafter FLQ CSWR].

¹³⁷ “Report to Legislative Council, June 21 1968 from Home Education Livelihood Program,” Box 2, folder 34, FLQ, CSWR.

¹³⁸ “Report for the Governor: Status of the Apple Program; Chimayo/Espanola” Winter 1969, Box 57, Folder 1096, serial no. 10066, OEO-HELP Correspondence, collection no. 1969-001, Governor David F. Cargo Papers [hereafter DCP], NMSCRA. As this document points out, the growers selected organizing committees and appealed to state and federal entities for help securing a long-term, deferred payment loan for material costs and a two-year management grant “to provide expert services.”

Nearly from the outset, however, financial woes plagued the cooperative.¹³⁹ Some experts blamed low yields on insufficient pollinator trees; poor cultivation, soil-building, and pruning practices; and inadequate pesticide spraying and spring frost protection infrastructure.¹⁴⁰ Others held that “the small size of the orchards prohibits the use of modern equipment for pruning or topping except through joint ownership.” A 1970 NMSU extension service report concluded, “many of these small orchards suffer from...lack of frost protection systems, due to the high costs, and failure to control insects cause fluctuations in both production and quality from year to year.”¹⁴¹ A group of planners similarly concluded in 1971 that “the main problem with the hundreds of small orchards from an agricultural standpoint is that those persons merely owning apple or other fruit trees for shade and esthetic purposes do not spray them for diseases injurious to fruit, and therefore, the unsprayed trees become a host to insects and fungi which can then rapidly spread back and infect sprayed trees following a heavy rain.”¹⁴²

Yet beyond agricultural issues, organizational and “extreme marketing difficulties”¹⁴³ significantly hampered the cooperative. In its first year of operation, the cooperative lost \$32,000 “due to operational problems and the fact that growers were too eager to sell their product immediately for cash rather than wait to receive higher prices later after processing and sale by the Coop.”¹⁴⁴ Arturo Jaramillo articulated this concern

¹³⁹ “New Corporation forms to take over Chimayo Apple Co-op,” *Santa Fe New Mexican*, 23 February 1978, 43.

¹⁴⁰ Burke, Sullivan, and Vastine, *An Economic Base Report*, 42–53.

¹⁴¹ James Gray and H. R. Stucky, “New Mexico Agriculture—1970,” Research Report 195 (Las Cruces: NMSU Cooperative Extension Service publication, 1971), 42.

¹⁴² Kenneth W. Larson et al., *Comprehensive Plan, Espanola Planning Area, Including Portions of Rio Arriba and Santa Fe Counties* (Albuquerque, N.Mex.: Kenneth Larson and Associates, December 1971), 55.

¹⁴³ Vastine, Burke, and Sullivan, “An Economic Base Report,” 1.

¹⁴⁴ Kenneth W. Larson et al. *Comprehensive Plan*, 29.

succinctly in 1970: “The cooperative is probably the biggest business to come to Northern New Mexico and it is the people’s business... if [growers] sell to a trucker then they are competing with themselves.” In the first years of its existence, the cooperative sold mostly to local grocery stores and schools, as well as to brokers as far afield as Los Angeles, east Texas, and Shreveport, Louisiana.¹⁴⁵ Independent truckers were mostly out-of-state buyers that directly competed with the brokers the cooperative sold to, and thus growers’ rogue sales to these truckers significantly undercut the cooperative’s marketing leverage.

Rogue sales to truckers also contributed to already-existing marketing problems surrounding New Mexico’s poor reputation among large apple buyers region-wide. Wholesalers surveyed in 1960 overwhelmingly considered New Mexico apples to be below average quality compared to apples from elsewhere in the United States, and described them as “wormy”; “more perishable”; having “poor color”; not dependably graded, sized, or packed; and generally “over-priced in relation to quality.”¹⁴⁶ Throughout the decade, researchers and marketing experts continually voiced concerns over poor grading and general low quality in New Mexico apples, and viewed the Chimayó cooperative as a large part of the solution. Yet the cooperative’s modern grading facilities solved the issue only as long as individual growers did not sell ungraded bulk sales—often in the form of “orchard run” sales— to truckers. A few shipments of low-quality

¹⁴⁵ “Valley Apple Co-op Concerned Over Quick Sales to Truckers,” *Santa Fe New Mexican*, 10 September 1970, 13.

¹⁴⁶ James Stallings and Jere Boyer, “Wholesale Fruit and Vegetable Markets in El Paso and Albuquerque,” Research Report 43 (Las Cruces: NMSU Experiment Station Publications, July 1960), 10–11. The report adds that “When asked about preference for New Mexico produce in comparison to that of the rest of the United States, wholesalers generally thought that New Mexico lettuce, onions, carrots, chile, sweet potatoes, cabbage, and cantaloupes were average or above depending on price, but rated New Mexico tomatoes, apples, and Irish potatoes average or below” (p. i).

apples were enough to tarnish the region's reputation and indirectly hurt the cooperative. Yet, as the example of James Webb Young's apples clearly illustrates, effective advertising and branding can overcome a certain degree of quality issues, and while the lack of sufficient grading and quality control undoubtedly hurt the industry, so too did a lack of effective storytelling.

With significant state funding already invested and with a potentially large amount of political credit to be gained, New Mexico's state agencies, up to the level of direct involvement by the state's governors, stepped in to help with both finding buyers and enhancing the image of the state's apple crop. As early as 1969, Gov. David Cargo touted cooperatives as a means to overcome the lack of locally grown produce consumed in state, and pledged to meet with chain store buyers to "discuss marketing of locally grown products."¹⁴⁷ In 1970, he proposed an "apple tax" to spur local sales,¹⁴⁸ and even helped facilitate a sale of 22,200 boxes of apples to the Defense Department for soldiers in Vietnam.¹⁴⁹ By 1973, the cooperative still struggled to sell their crop, particularly to local buyers. Cooperative secretary Pamela Mabry Tate wrote to Governor Bruce King in 1973 that, despite significant sales of the region's bumper crop to buyers in Texas, "we wonder why it is taking so long for New Mexico buyers to come to the same conclusion."¹⁵⁰ She appealed to the governor to help them sell their crop. Governor King

¹⁴⁷ Press Release from the Office of the Governor, n.d. [likely 1969], OEO-HELP, Correspondence, Box 57, serial no. 10066, DCP, NMSRCA.

¹⁴⁸ "Growers Backed on Tax to Promote NM Apples," *Santa Fe New Mexican*, 28 August 1970, 23.

¹⁴⁹ "Shipment of Apples Set Nov. 13," *Santa Fe New Mexican*, 4 November 1970, 47.

¹⁵⁰ Pamela Mabry Tate (Secretary of Northern New Mexico Farmers Cooperative) to Gov. Bruce King, October 1973, "Northern NM Farmers Cooperative," Folder 1471, Box 126, series VII, collection no. 1972-009, Governor Bruce King Papers, 1st Term [hereafter BKP-1], NMSRCA.

responded by personally appealing to various state institutions to buy New Mexico apples and by instituting an official “Apple Week” across the state.¹⁵¹

No amount of governor’s phone calls, agricultural improvements, or improved organizational cooperation, however, could have prevented the cooperative from suffering its most serious setback. In January 1971, temperatures hovering around minus-40 degrees Fahrenheit shattered previous records (the region is classified as USDA 6b, which means the average annual extreme low temperature is between zero and minus-five Fahrenheit). The record freeze—dubbed “the Big Freeze” in local papers—killed 80 percent of the season’s crop.¹⁵² Much more devastatingly, it killed an estimated 65,000 fruit trees in the area.¹⁵³ Unlike more typical spring freezes that kill blossoms, these air temperatures sunk low enough to kill the trees themselves. The freeze hit northern New Mexico harder than any other part of the state and, more than any other single factor, led to the apple industry’s downturn in the seventies. Subsequent spring freezes, along with another extreme winter freeze in 1974, significantly hurt yields at a time when growers most needed strong harvests to repay the loan on the cooperative shed. After the Big Freeze, the cooperative “established a loan fund to assist members in securing new trees, removing old trees, financing the application of recommended cultural practices and encouraging installation of frost equipment,”¹⁵⁴ but the damage of losing entire orchards was too severe for many growers to overcome. Alex Mercure, who ran HELP at the time

¹⁵¹ Gov. Bruce King to David Best, 25 October 1973; Gov. Bruce King to Elaine Weinschenker [manager of New Mexico Union Food Services], 25 October 1973; and Col. (ret.) Norman E. Fisher [business manager at the New Mexico Military Institute] to Gov. Bruce King, 30 October 1973; all in folder 1471, Box 126, BKP-1, NMSRCA.

¹⁵² “Chimayo Apple Crop Called ‘Good’ But Market Slow,” *Albuquerque (N.Mex.) Journal*, 10 October 1973, B4.

¹⁵³ “Valley Fruit Growers Plan Workshop Series,” *Santa Fe New Mexican*, 9 December 1971, 4.

¹⁵⁴ “Appraisal of the Apple Industry in the Four Corners Region,” A Study Sponsored by the Four Corners Regional Commission (Washington, D.C.: USDA Cooperative Service, June 1972), 70.

and who since become the assistant secretary of Agriculture, reflected in 1978 that “had it not been for freezes and related events, the original co-op probably would have survived.”¹⁵⁵

The slew of setbacks facing the roughly five hundred small-scale apple growers who supplied the cooperative ultimately led to the cooperative’s dissolution. Despite an increasing membership role and, in Arturo Jaramillo’s words, “tremendous improvement” in orchard management, the growers could not overcome the combined setbacks of bad weather, poor yields, marketing difficulties, and organizational problems within the cooperative. The co-op had repaid only about \$25,000 of its original \$299,000 loan from the Small Business Administration by February 1978 when it finally shut its doors.¹⁵⁶ Northern New Mexico acreage in apples began to decline and, despite renewed efforts to form subsequent cooperatives, enthusiasm for the apple industry on both the grower level and on an institutional level never again approached its heights of the late sixties.

Despite being short-lived, the Chimayó apple shed played an important role in broader debates at the time concerning the cultural and economic direction of the region. These debates among scholars, activists, writers, and politicians, which invariably centered on land and property rights issues brought to the fore by Tijerina and La Alianza, often addressed War on Poverty programs and the proper role of the state in shaping agricultural land use. Some of the most vocal critiques of the War on Poverty in northern New Mexico came from the Española-based newspaper, *El Grito del Norte*. The

¹⁵⁵ “New Corporation forms to take over Chimayo Apple Co-op,” *Santa Fe New Mexican*, 23 February 1978, 43.

¹⁵⁶ “New Corporation forms to take over Chimayo Apple Co-op,” *Santa Fe New Mexican*, 23 February 1978, 43.

paper routinely lambasted HELP's programs as a "pacification programs" meant to appease land-grant tensions by appointing leaders that did not truly represent the masses in northern New Mexico. The paper specifically derided its director, Alex Mercure, as a one-man "empire builder" and "New Mexico's #1 vendido [sellout]." Carlos Cansino explained to readers: "Another vendido Chicano was given prominence by the establishment whose name is Alex Mercure. This was done on June 8, 1967 in order to offset the fame that Tijerina was getting among the Chicanos."¹⁵⁷ To the editors and writers of *El Grito del Norte*, HELP's programs represented a government- and corporate-backed effort to quell the revolutionary sentiments sparked by Tijerina surrounding land-grant rights in northern New Mexico. War on Poverty programs—the Chimayó apple cooperative, included—did not represent the values of the majority of the region's residents, they argued, and invested in economic initiatives that would only perpetuate northern New Mexico's colonial status with the rest of the nation.

As an alternative to War on Poverty programs, *El Grito del Norte* held up the example of a small and ultimately short-lived cooperative farm in Tierra Amarilla called the Cooperativa Agrícola del Pueblo de Tierra Amarilla. The Cooperativa Agrícola focused on barter economies, and invoked imagery from the era's hippie commune culture along with nostalgic notions of New Mexico's agricultural past. Its leaders explained in 1969 that "our people in Tierra Amarilla are going to [...] revive the old traditions of working together to feed our people...because this is the revolution also. What good is it to fight this long fight for the land, when our children grow up without food? Without a culture?" Implicitly, the "culture" of the place derives from a non-

¹⁵⁷ Carlos Cansino, "After the 'Courthouse Raid'..." *El Grito del Norte (Española, N.Mex.)*, 1 April 1970, 4.

commercial, barter-based form of agriculture. Without directly referencing the apple cooperatives, the article further explained that “Last summer, the people in Velarde [in northern New Mexico] lost a lot of apples in the apple sheds and on the trees because of the market not giving them reasonable prices. The market wants to make money, not feed people. So in making a cooperative in Tierra Amarilla, we give the people of Velarde a chance to put their fruit to use [through offering barter] instead of losing it.”¹⁵⁸ To its members and supporters, the Cooperativa Agrícola served as a significant alternative, economically and culturally, to commercial cooperatives such as the Chimayó apple cooperative.

Academics, activists, students, and public intellectuals added similar criticisms of the War on Poverty in northern New Mexico. Peter van Dresser, a public intellectual based in El Rito, for example, argued in his 1972 *A Landscape for Humans* that planners and bureaucrats should focus on “intensive and diversified cultivation of high vitamin and protein crops and the raising, fattening, and processing of livestock *primarily for local and regional consumption*” to avoid perpetuating “the second-class ‘colonial’ status of the regional economy.”¹⁵⁹ Clark S. Knowlton, a sociology professor at Highlands University in Las Vegas, New Mexico, argued that, despite some successes, War on Poverty programs in northern New Mexico generally failed because government officials remained insensitive to the cultural values of the region’s residents, and their programs did not directly address “the fundamental causes of poverty such as discrimination, segregation, alienation of land and water resources and denial of due process and civil

¹⁵⁸ “New T. A. Co-op Revives,” *El Grito del Norte (Española, N.Mex.)*, 10 March 1969, 4.

¹⁵⁹ Peter van Dresser, *A Landscape for Humans* (Albuquerque, N.Mex.: Biotechnic Press, 1972), 111.

rights.”¹⁶⁰ In addition, Knowlton insisted that the land issue must be “thoroughly ventilated” before any significant improvement would be possible.

In response to the onslaught of criticisms, HELP director Alex Mercure emerged as the programs’ chief spokesman. Born in rural northern New Mexico and eventually serving as assistant secretary of agriculture under Jimmy Carter, Mercure responded with an appeal to practicality. “We have no argument with attempting to pursue the question of land fraud,” Mercure told a journalist in 1969, “but in the meantime, we may not have any heirs left—they might have all starved to death. The whole thing becomes academic in that solution.” Mercure pointed to the “various kinds of economic enterprises,” such as the Chimayó apple cooperative, that were particularly worth focusing on in lieu of a “miracle” of the land-grants being returned to heirs. In direct response to the *Cooperativa Agrícola*, he argued that farmers needed to farm not only for sustenance but for monetary income. He added that farmers should embrace the idea of the “corporate entity” and its notion of limited liability, which he considered “one of the great concepts of middle-class Anglo culture.” Implicitly, Mercure argued, a focus on intensive commercial agriculture represented a reasonable, though hardly ideal, partial response to loss of lands. “If some lands should be recovered, fine,” Mercure concluded, “but I think we also have to look at what exists today—and build from there.”¹⁶¹

This debate reveals an important agricultural context to the state’s political history in the mid-twentieth century. Histories of this era that have focused solely on land-grants and their forest lands have overlooked an important and complimentary story in the

¹⁶⁰ Clark S. Knowlton, *Some Observations About the Relative Lack of Success of Government Anti-Poverty Programs Among Mexican-Americans* (np: np, nd [1970?]), 96.

¹⁶¹ Alex Mercure quoted in Frankie McCarty, “North N.M. Poverty, Land Issue Linked,” *Albuquerque (N.Mex.) Journal*, 9 October 1969, 1.

valley lands. The significant number of modern, commercial, and government-supported apple operations in the region's irrigated valleys helps break down familiar dichotomies that pit the government versus the people, or traditional agriculture versus commercial agriculture. Just as James Webb Young's apple advertisements and marketing strategies illustrate an often-overlooked degree of modernity in the region's agricultural past, the history of Española Valley's small-scale, modern, commercial growers debunks notions of timeless traditions. Agricultural systems in northern New Mexico have been fluid and have woven modernity with tradition in myriad ways.

The agricultural history of New Mexico helps explain the state's political history. As land-rights pressure built in the mountains, an apple industry expanded in the valleys. The growers who helped build this industry ranged from the many small-acre apple producers who eventually helped form the Chimayó cooperative, to a Madison Avenue executive and his farm manager from Colorado. Together the history of the Young/Dixon orchard alongside the apple cooperative in Chimayó reveals the modern core of northern New Mexico agriculture in the mid-twentieth century. These small- and medium-scale orchards blended traditional methods with cutting-edge technologies to build an industry that served the greater Southwest and beyond.

Cotton

3.

The Shifting Subjects of a Southwest King

Cotton, Agricultural Industrialization, and Migrations in the Interwar New Mexico

Borderlands

A fake dawn broke upon the staged cotton fields in El Paso in 1926, where a large reveling crowd from throughout southern New Mexico and western Texas gathered to watch a “flock of pickanannies” pick white gold. One of Mexico City’s finest *típica* bands provided the soundtrack with southern plantation songs. The renowned band had nearly missed the show; they were detained at the US border and granted entry only after each member played his instrument to the satisfaction of the border agents.¹⁶² The festivities involved crowning a king and queen, the son and daughter of local elite cotton growers, who sat on their newly built, “one-thousand-dollar throne” and presided over a long list of “courtiers,” “princesses,” “duchesses,” and “ladies in waiting.” At the cotton palace at Liberty Hall in downtown El Paso in 1926, the Old South had met Old Mexico in the New West.

The real king, of course, was not the young bachelor on stage. King Cotton brought dreams of wealth to irrigated valleys of the region; spurred new migrations of people and seeds; and instigated cultural convergences like the El Paso cotton festival, a

¹⁶² To add injury to insult, after the show the band leader’s priceless violin was stolen. Still in serape and sombrero from the performance, the “impressive and dejected” band leader explained to a journalist that “the wonderfully sweet tone cannot be matched by violins made nowadays.” See “King Cotton to Reign Supreme in Border City,” *Albuquerque (N.Mex.) Morning Journal*, 2 December 1925, 2; “Mexican Tipica Orchestra Cuts Govt. Red Tape,” *Albuquerque (N.Mex.) Morning Journal*, 13 January 1926, 3; and “Theft of Fine Old Violin at El Paso,” *Roswell (N.Mex.) Daily Record*, 31 December 1925, 1.

display of racist, fetishized Old South aristocratic imagery in the nation's western borderlands. As cotton spread rapidly throughout the irrigated valleys of far western Texas, southern New Mexico, and far eastern Arizona (a region variously termed either the "El Paso market region" or the "New Mexico Region" by contemporary analysts), farmers quickly shifted away from raising a diverse mix of vegetables, alfalfa, and horticultural crops such as apples—which continued to suffer from pests and disease, late frosts, distance to markets, and lack of region-wide cooperation—to the cash crop that seemed much better suited to the region's realities of isolation, aridity, southern latitudes, and western irrigation.

Following its adoption as a commercial crop in the region in the late 1910s, cotton reshaped the cultural and agricultural landscape of the New Mexico borderlands. Cotton's arrival spurred new migrations among farmers and farmworkers, led to new and stronger regional alliances among growers, and strengthened ties between the land-grant college and growers throughout the borderlands. The new cotton economy focused on sourcing genetic material from around the continent, refining it through scientific research and cooperation among growers, and shipping the finished product, as fiber and as seed, to markets throughout the continent and world. As cotton instigated migrations of diverse people and genetic material into the region, it paradoxically led to increased homogenization in the fields themselves. Farmers across the entire region organized to plant a single variety of cotton, often in large monocropped fields that left little room for soil-building, rotational crops. Yet the history of New Mexico's many early cotton farms, themselves ever-evolving composites of diverse growing systems, reveals this increased homogenization was neither immediate nor complete. One-crop farming belied early

logics of industrialism and often relied, both directly and indirectly, on more diverse farms of all sizes. The industrialization of agriculture, as the history of cotton in the isolated Borderlands valleys of New Mexico illustrates, was a contingent process.

King Cotton in the Industrial West

Cotton growers in the US South, the antebellum center of global cotton production built on enslaved labor, had by the early twentieth-century lost their dominance in global cotton markets. Throughout the world, new cotton-growing regions emerged to successfully compete with Southern growers, who struggled with a host of cotton-production issues including depleted soils, the spread of the Mexican boll weevil, the inefficiencies of the tenant-sharecropper system, and genetic erosion of cotton varieties. By the first decades of the twentieth century, a major source of their increased competition emerged from their compatriots to the west.

Growers had successfully raised cotton in California as early as the early 1870s, but a cotton industry in the US West had to wait for the arrival of the railroad, an increased availability of labor, the formation of state and USDA experiment stations, and reclamation projects that drastically improved irrigation systems in the early twentieth century.¹⁶³ In the valleys of southern New Mexico and far western Texas, cotton production sputtered before surging in the interwar period. The first experiments with cotton began in the Mesilla Valley as early as 1890¹⁶⁴ and about a decade later in the

¹⁶³ Mark Lawrence Stamen, *Genetic Dreams: An Environmental History of the California Cotton Industry, 1902–1953* (PhD diss., University of Iowa, 1999), 103, 139.

¹⁶⁴ “A Visitor’s Testimony,” *Rio Grande (Las Cruces, N.Mex.) Republican*, 15 February 1890, 1. The college experiment station first planted cotton in 1891.

Pecos Valley, but the first sizable commercial acreage in the region emerged only in the Pecos Valley in the early 1910s¹⁶⁵ and toward the end of the decade in the Mesilla and El Paso Valleys.¹⁶⁶ Elsewhere in smaller districts throughout the region, cotton growers followed suit.¹⁶⁷ Both the more common upland varieties and long-staple Egyptian cottons proved well-adapted to the region's irrigated valleys.

Cotton grew well in the arid, irrigated west. Western growers' previous environmental disadvantages such as isolation and aridity suddenly became advantages. Aridity accounted for the absence of the notorious boll weevil and other pests, and isolation helped prevent cross-pollination among varieties and thus made the crucial task of seed improvement easier. The long taproot of the cotton plant proved well-adapted to periodic flood irrigation between long dry periods. The growing season of southern New Mexico was just long enough to ensure consistent yields, and cotton's salt tolerance made the alkaline soils that plagued much of the West less of a hindrance. Because cotton was nonperishable, long distances to markets no longer posed a major problem.

Yet environmental factors alone hardly account for the rise of the New Mexico region as a fiber- and seed-producing hub. Federal expenditures in reclamation, transportation, seed explorations, and university funded research and breeding all made

¹⁶⁵ Rupert L. Stewart, *Cotton Growing*, Bulletin 120, NMCAMA, AES, (Las Cruces, N.Mex.: December 1919). By 1916, the college began its first cotton variety trials in the Pecos Valley.

¹⁶⁶ John C. Overpeck and William Thomas Conway, *Cotton*, Bulletin 141, NMCAMA, AES (Las Cruces, N.Mex.: January 1924), 3. One of the first commercial cotton plantings in New Mexico was likely planted in first years of the twentieth-century by Francis Tracy, a Pecos Valley farmer who claimed to have planted the first commercial crop of Egyptian cotton in 1902 and have introduced the Durango variety of cotton to the valley.

¹⁶⁷ The largest cotton growing districts in the New Mexico region were in the Pecos Valley, the Mesilla Valley, and the El Paso valley. Smaller districts included counties north of Elephant Butte Dam and south of Albuquerque; well-irrigated parts of far western New Mexico and far eastern Arizona. There was a small amount of dry-farmed cotton in far eastern New Mexico, which often was marketed separately from the irrigated cotton of the New Mexico region.

efficient, large-scale, commercial agriculture possible. In particular, federal Reclamation projects such as Elephant Butte Dam and the Carlsbad Project provided ample irrigation that made large-scale cotton growing more controllable and more reliable based on the best agronomic research available. In the years immediately following World War I and the construction of Elephant Butte Dam, commercial cotton in New Mexico and far western Texas became “an exceptionally profitable crop”¹⁶⁸ and quickly transformed the crop regimes of farmers throughout the valleys. The construction of Elephant Butte dam created roughly 107,000 acres of irrigable land, most of which—along with the existing land principally in wheat, alfalfa, corn, beans, vegetables, and fruit—went into cotton.¹⁶⁹ Within only a few years, cotton acreage more than tripled in the new federal Reclamation areas of Arizona and New Mexico and accounted for over a quarter of the entire gross value of all crops grown in those areas.¹⁷⁰ By 1930 farmers throughout the Elephant Butte district, had in some years devoted a full 75% of all irrigable land to cotton. Nearly all irrigated farms in the region grew some cotton, and cotton provided the lion’s share of most farmers’ incomes.¹⁷¹ Cotton production peaked in 1929, but remained a steady and significant source of income for farmers up to and during WWII. Dust Bowl—era Agricultural Adjustment and government quotas in cotton acreage generally led to a

¹⁶⁸ B. P. Fleming to L. D. Howell, 18 September 1931, folder 16, box 2, Cotton Products in Mesilla Valley, sub. ser. B, Office Files 1931–1940, series 2, Elephant Butte Irrigation District Records [hereafter EBID], Archives and Special Collections Department, New Mexico State University Library, Las Cruces, New Mexico [hereafter NMSUL].

¹⁶⁹ A.R. Leding, “Community Production of Acala Cotton in New Mexico,” USDA circular 314 (Washington, DC: USDA, 1934), 3.

¹⁷⁰ “Cotton Growing on the Southwestern Projects” *Reclamation Record*, January 1925, p. 7, folder 10, box 206, MSS 394 BC, Dennis Chávez Papers [hereafter DCP], CSWR. The article reports that whereas in 1917 only 40,000 acres of cotton had been grown in Arizona and New Mexico, by 1923 over 135,000 were planted and accounted for over a quarter of the entire gross value of all crops grown in those areas.

¹⁷¹ B. P. Fleming to L. D. Howell, 18 September 1931. In 1929, seventy-five percent of irrigable land was in cotton. See also Bärbel Hannelore Schönfeld La Mar, “Water and Land in the Mesilla Valley, New Mexico: Reclamation and its Effects on Property Ownership and Agricultural Land Use,” (PhD diss., New Mexico State University, 1984), 227.

retirement of the least productive acreage and therefore did not drastically reduce total production despite reducing acreage.¹⁷²

Shifting Subjects

Cotton production instigated demographic shifts that transformed the agricultural and cultural landscapes of the region. With the inflow of newly dammed irrigation water and the promise of profits in cotton came “an influx of new settlers” to the valleys of southern New Mexico and far west Texas. Settlers came from throughout the country and from many backgrounds, including a small number of Japanese farmers in the Mesilla Valley and African-Americans in the Pecos Valley who grew cotton at the town of Blackdom and later El Vado. Yet, the vast majority of these new settlers were white farmers “from cotton-growing portions of Texas and other States.”¹⁷³ In the Pecos Valley, where population shifts were most dramatic, some rural communities resembled small boomtowns. By 1925, a local journalist could report that “as a result of the introduction of cotton here there has been more money in the community than in many years and also an increase in population. It is impossible to supply the demand for houses.”¹⁷⁴

The new populations of white southerners embraced cotton both in and out of the field. Harvest festivals centered around the new crop. Roswell hosted its first “cotton carnival” in 1923 and which within a few years attracted thousands of visitors from as far

¹⁷² “Migratory Labor in Southern New Mexico,” 1940, p. 3, folder 37, box 17, MSS 289, United States Soil Conservation Service Region Eight Records [hereafter SCSR8], CSWR.

¹⁷³ A.R. Leding, “Community Production of Acala Cotton in New Mexico,” USDA circular 314 (Washington, DC: USDA, 1934), 3.

¹⁷⁴ “Cotton Brings New People to Pecos Valley,” *Albuquerque (N.Mex.) Morning Journal*, 14 January 1925, 1.

as El Paso and Amarillo, Las Cruces, Santa Fe, and Albuquerque.¹⁷⁵ Formally the home of the Alfalfa Palace and elaborate apple centerpieces, the annual harvest fair in the Pecos Valley changed its name and image to realign with the new realities of cotton.¹⁷⁶ “Sponsored by the Roswell Merchants’ association and endorsed by the entire citizenship,” the carnival was “designed in honor of cotton” and featured the crop prominently in agricultural displays.¹⁷⁷ Yet the carnival celebrated much more than cotton; it celebrated a new cotton-centered teleology of western expansion and served as a moment of collective cultural storytelling. “More than cotton, and [...] more than a carnival,” the *Roswell Daily Record* explained in 1924, the event was about “education,” “visiting,” and the “wonderful possibilities of the soil of the fertile Pecos valley.” The carnival featured an Old Timers Parades with “western pioneers” (Elizabeth Garrett among them), “cowboy dances,” and a “mammoth historical pageant” that involved hundreds of participants and traced “the development from the early days of the Indians on down to the present.”¹⁷⁸ Cotton, as an economic force but also as a powerful cultural symbol, brought people together to craft new stories about their past, present, and future. Cotton in the Pecos Valley, one enthusiastic Carnival booster proclaimed in 1927, “will undoubtedly produce [...] the means of livelihood of thousands of people for generations

¹⁷⁵ Cecil Bonney, “Cotton Carnival Nears,” *Roswell (N.Mex.) Daily Record*, 6 September 1930, 15.

¹⁷⁶ Marta Weigle and Peter White, *The Lore of New Mexico*, abridged (Albuquerque: University of New Mexico Press, 2003), 386.

¹⁷⁷ H. S. Hunter, “Old Settlers’ Parade Today Features Roswell’s Carnival,” *El Paso (Tex.) Herald*, 5 October 1928, 1. Despite the focus on cotton, the article noted that “the apple orchards also are the pride of the county.”

¹⁷⁸ “Chaves County Cotton Carnival to Be Held Here on Oct. 9-10-11,” *Roswell (N.Mex.) Daily Record*, 29 September 1924, 1.

to come. So we enter the carnival to honor the king, Cotton. Let us show due respect to that king.”¹⁷⁹

Cotton festivals throughout the region continued for decades. Eventually Las Cruces and Tularosa developed their own festivals. People throughout the region eventually participated not only in these cotton carnivals, but also later in the Maid of Cotton pageants put on by the Cotton, Inc.¹⁸⁰ Even across the US-Mexico border in Ciudad Juárez, where farmers likewise switched to large acreages of cotton following the construction of Elephant Butte Dam, a cotton festival emerged by the 1930s.¹⁸¹ The embrace of cotton by communities throughout the region reveals that cotton was more than simply a source of income for a few well-off farmers; it affected the entire economy of the region. Cotton-growing communities throughout the New Mexico region viewed the crop as an important element of their cultural stories that, as the historical pageants of the early Roswell cotton carnivals and the 1926 El Paso event illustrate, folded the new commodity from the South into familiar frontier narratives of the US West.

The commingling of South and West extended beyond cultural narratives and into the cotton fields themselves. Irrigated cotton production in the New Mexico region,

¹⁷⁹ “Cotton Prospects Better Now Than Ever Before, Survey of Situation in Valley Now Shows,” *Roswell (N.Mex.) Daily Record*, 30 September 1927, 25, 31

¹⁸⁰ The Roswell cotton carnival became the eastern New Mexico state fair. Cotton, Inc. is the trade organization of the cotton industry in the United States.

¹⁸¹ Although bull fights, rather than World Series broadcasts or rodeos, provided some of the entertainment, the Juárez event similarly revolved around the process of crowning a cotton Queen from local, most often elite, girls. (When a “rural girl” who “picks cotton” won in 1951, it made headlines in the local paper). The fair continued for decades, often hosting Mexican movie stars, prizes for the most “industrial exhibits,” and military displays. The festival corresponded with Mexico’s independence celebrations of September 19 and had a nationalist feel. See “Juarez Princess is Selected,” *El Paso (Tex.) Post-Herald*, 2 September 1936, 6; “Chico in Bullfight in Juarez Oct. 11” *El Paso (Tex.) Post-Herald*, 10 October 1936, 7; “Governor Will Crown Queen of Juarez Fair,” *El Paso (Tex.) Post-Herald*, 5 September 1947, 12; “Railroad Reduces Fares for Fiesta,” *El Paso (Tex.) Post-Herald* 10 September 1947, 8; “Queen of Juarez Fair Plows, Picks Cotton,” *El Paso (Tex.) Post-Herald*, 5 September 1951, 1; “Offer Prize for First Juarez Cotton Bale,” *El Paso (Tex.) Post-Herald*, 15 July 1952, 21; and “Juarez Stages Largest Independence Day Parade,” *El Paso (Tex.) Post-Herald*, 16 September 1960, 1.

firmly built on the same tenets of efficient, organized, and scientifically managed irrigated agriculture that defined cotton regions throughout the US West, nonetheless retained elements of Southern-style cotton growing not widely seen further west. New Mexico lacked the extremely large cotton farms such as elsewhere in California, Arizona, and southern Texas, and its large farms that did exist were often individually owned with paternalistic labor structures rather than corporately owned.¹⁸² New Mexico, also had smaller farms—averaging just over thirty acres—and, principally due to a large land-owning Hispanic population in the Rio Grande Valley, a much higher number owner-operators than elsewhere in the cotton-growing West in the interwar years.¹⁸³ Although

¹⁸² Paternalistic labor agreements were largely absent elsewhere in the cotton West. Moses Musoke and Alan Olmstead explain that California cotton growing by the 1940s was mostly handled by labor contractors and farmers had little direct contact with their laborers. “The California farm worker was more akin to an agricultural proletarian than to a rural peasant. The proverbial paternalism of southern planters toward their tenants which supposedly delayed modernization had few parallels in California.” Moses S. Musoke and Alan L. Olmstead, “The Rise of the Cotton Industry in California: A Comparative Perspective,” *The Journal of Economic History* 42, no. 2 (1982): 395–96. Another glaring difference between cotton growing in the New Mexico region and California is the presence of worker strikes in the 1930s in California but not in New Mexico. By 1941, the six largest cotton farms in the state ranged from 2,000 to 3,000 acres. See Sigurd Arthur Johansen, *Migratory-Casual Workers in New Mexico*, Press Bulletin 870, NMCAMA, AES (State College: Las Cruces, 1941), 6. In Texas, however, Neil Foley argues that the paternalistic, scientifically managed, corporate “cotton ranches” of south Texas fell in line with the model throughout the irrigated West. In fact, however, New Mexico’s paternalistic cotton farms were individually owned, smaller, and fewer than elsewhere in the West. See Neil Foley, *The White Scourge: Mexicans, Blacks, and Poor Whites in Texas Cotton Culture* (Berkeley: University of California Press, 1997), chap. 5.

¹⁸³ Sigurd Arthur Johansen, *Migratory-Casual Workers in New Mexico*, Press Bulletin 870, NMCAMA, AES (State College: Las Cruces, 1941), 6. In the Mesilla and El Paso valleys, typically the newer and younger farmers embraced cotton more readily. In her 1984 dissertation, Schönfeld La Mar interviewed several old cotton farmers who recalled the introduction of cotton. They related to her that the “new” farmers first planted cotton, followed by the more established “old” farmers. Schönfeld La Mar, “Water and Land in the Mesilla Valley,” 224–27. For details on cotton acreages, see *United States Agricultural Census, 1950*, vol. 1, part 30, “New Mexico Chapter A Statistics for the State,” State Table 12: Specific Crops Harvested (Washington D.C.: Government Printing Office, 1952), 14. The average acreage in cotton for farms in New Mexico were: 31.6 acres in 1920, 36.6 acres in 1930, 31.7 acres in 1940, and 82.6 acres in 1950. After the War, the acreage jumped to an average of 82.6. In California, in contrast, the average acreage in farms producing cotton hovered just under seventy during the same period, and jumped to over an average over one hundred after the war. see, *United States Agricultural Census, 1950*, vol. 1, part 33, “California Chapter A Statistics for the State,” State Table 12: Specific Crops Harvested (Washington, D.C.: Government Printing Office, 1952), 14. The average acreage in cotton for farms in California were: 69.96 acres in 1920, 69.78 acres in 1930, 59.5 acres in 1940, and 103.12 acres in 1950. By the early 1980s, the discrepancy had grown to an average acreage of 116 in New Mexico, compared to an average of 437 in California (*United States Agricultural Census, 1982*, chapter 1, table 40, California and New Mexico

New Mexico averaged smaller acreage and maintained more owner-operators than elsewhere in the West, the region nonetheless witnessed changes in landownership patterns and a sharp rise of tenancy and sharecropping consistent with cotton-growing throughout the country. White newcomers tended to supplant, but by no means entirely displace, older Hispanic farmers, and a new class of mostly Hispanic New Mexican and Mexican tenant and sharecropper cotton farmers emerged.

The region's earliest and most prominent large-scale cotton growers brought experiences of cotton production from both the US West and the US South that, along with the labor and expertise from a mostly Mexican workforce, reveal a conglomerate of approaches to industrial agriculture within the region. The case of Louis J. Ivey, an enormously influential cotton farmer who spearheaded cotton production throughout the Elephant Butte Irrigation District, provides an illustration of the close connections between early cotton production in New Mexico, Arizona, and California. Ivey had spent his youth in the cotton belt of central Texas and, still in his twenties, had "planted the first [cotton] crop at Calexico in the Imperial Valley."¹⁸⁴ "As is generally known," Ivey recalled decades later, "I planted the first commercial crop [in the Elephant Butte District] in 1918, bringing seed from my farm in California. I supplied this seed to all who wished to plant." Ivey provided not only seed but also, for seven years, purchased

(Washington D.C.: Government Printing Office, 1984). The average acreage per cotton farm in New Mexico, while less than California averages, nonetheless was greater than averages east of the Mississippi, which hovered under fifteen during this time. See, Musoke and Olmstead, "The Rise of the Cotton Industry in California," 391. Even into the 1950s, New Mexico had more owner-operators than in the major growing regions of Texas, the Mississippi Delta, or the southeastern piedmont. See W. A. Faught, "The Operations of Local Cotton Marketing Agencies: Four Major Cotton Producing Regions, 1949-50 Season," Southern Cooperative Series, Bulletin No. 40 (Auburn: Agricultural Experiment Stations of Alabama Publications, August 1954), 40.

¹⁸⁴ "Life of Louis J. Ivey -Cotton Farmer,"

http://www.lrl.state.tx.us/scanned/members/bios/Ivey_Louis_Joseph_Family.pdf

seventy-five percent of all local cotton, as well as cotton from parts of southern Arizona. “After coming to El Paso and until 1925,” Ivey explained, “I handled from sixty to seventy-five thousand bales per annum. My shipments and sales were made to domestic mills and mills in England, France, Germany, Spain, Japan, China, and Canada.”¹⁸⁵ Ivey built his own gin, and eventually built twenty-one gins in El Paso and Doña Ana counties, as well as a cottonseed oil mill in Mesa, Arizona. Ivey’s vertically integrated, global cotton business model mirrored that of large cotton firms in California, Arizona, and south Texas.

Other large farms in the region provided more paternalistic models of large-scale cotton production that focused on a large, highly trained workforce and not on contracted tenant farmers. Deane Stahmann, for example, planted 900 acres of cotton near Ivey’s farms in Fabens, Texas, and in 1925 bought the 3,000-acre former Santo Tomás land grant in the Mesilla Valley with plans to devote up to \$100,000 and 3,000 acres toward cotton production. Within a few years his large farm, which would eventually span multiple generations and hemispheres to become the self-proclaimed “largest Pecan farm in the world,” contained eleven separate “colonias” and a full commissary to house, feed, clothe, and otherwise supply his large workforce of mostly Mexican laborers and their families. While within a few decades pecans eventually reigned on Stahmann’s farm, cotton was by far the biggest crop on the farm in its initial decades.¹⁸⁶ Stahmann’s farm eventually even bred its own cotton varieties, some of which proved significant in later

¹⁸⁵ Louis J. Ivey to Messrs. Thompson, Greggerson, Simons, Squires, Payne, and Brinkman, El Paso, Texas, 5 September 1938, folder 8, box 95, subseries B, series 2, EBID, NMSUL. Also, “2010: Louis J. Ivey was Father of Area’s Cotton Industry,” *El Paso (Tex.) Times*, 26 June 2010.

¹⁸⁶ Sánchez, 3 August 2001, transcript, p. 5 [tape 1, side A], LS-NMFRHM.

commercial and university breeding efforts.¹⁸⁷ Missourian William Henry Harroun provided a similar example of a paternalistic, large-scale cotton farm in the Pecos Valley. Harroun first planted cotton in 1917 and by 1940 had 2,570 acres of cotton, making it one of the largest cotton operations in the state. Thirty families lived year-round on the ranch, which had its own store and state-maintained school. The ranch employed and housed fifty year-round farmhands and its own tractor mechanics, store clerks, carpenters, truck drivers, and teachers, and during the harvest hired up to one hundred more itinerant workers—”Okies” from further east and Mexicans. The sheer size, high degree of vertical integration, and paternalistic nature of cotton farms such as Harroun’s and Stahmann’s in the region led some observers to note their resemblance to the antebellum Southern plantation model. “Here is a plantation,” wrote John Collier Jr. (son of the BIA director) about William Henry Harroun’s cotton farm in 1940, “complete as the cotton kingdoms of the old South.”¹⁸⁸

The Tyranny of Homogeneity

In New Mexico, as well as throughout west and south Texas, Southern-style paternalism often aligned with emerging doctrines of scientific management and ideals of industrial efficiency. This “industrial ideal,” espoused by government officials and college-trained researchers and prevalent on large farms throughout the West, emphasized highly rationalized and organized factory-like farm systems that maximized

¹⁸⁷ C. Wayne Smith and J. Tom Cothren, eds., *Cotton: Origin, History, Technology, and Production*, Wiley Series in Crop Science (New York: John Wiley and Sons, 1999), 150–51.

¹⁸⁸ John Collier Jr., “Cotton...” *New Mexico Magazine* (July 1940): 19.

efficiencies to successfully compete in national and global markets.¹⁸⁹ With the government's stake greatly increased by federal investments in the West, government officials and researchers encouraged growers to organize around cash crops that could not be grown more efficiently elsewhere in the country. Many adherents of this ideal nonetheless viewed crop diversification as an efficient, integral part of agricultural industrialism and did not initially see agricultural industrialism as necessarily at odds with yeomanly ideals of self-sufficiency. By the second World War, however, a sense of inevitable monoculture, adjoined with stratified labor models, pervaded the ideal.

The widespread adoption of cotton in New Mexico led some contemporary observers to worry that a largely unrealized industrial ideal had descended into an industrial problem as many growers sacrificed the health of their soil, their laborers, and their local institutions to cash in on high cotton prices and maximize short-term profits. Many growers in the twenties devoted "their entire holdings, including their traditional family gardens," to cotton and during high prices "frequently planted [cotton] right up to the dwellings on farms, for it was more profitable to grow cotton and purchase staple foods than to maintain a vegetable garden." The percentage of alfalfa in irrigated lands in the Mesilla Valley dropped forty percent by the late twenties, and most commercial fruit orchards disappeared altogether.¹⁹⁰ Voices of caution mounted in government reports, extension bulletins, and local newspapers as the landscape rapidly transitioned from a relative patchwork of orchards and fields of alfalfa and vegetables to a more uniform sea of irrigated cotton. "So important has cotton become in the last few years, and so rapid

¹⁸⁹ Deborah Fitzgerald, *Every Farm a Factory: The Industrial Ideal in Agriculture* (New Haven, Conn.: Yale University Press, 2003), 3, 22.

¹⁹⁰ Schönfeld La Mar, "Water and Land in the Mesilla Valley," 226–28.

has been the increase in the number of acres planted,” one geographer reported in 1931, “that some uneasiness is being felt by the more conservative farmers of the region for fear that it will become a one-crop area.”¹⁹¹ In fact, “some uneasiness” may have been an understatement. “Cotton is king and it looks very much as if he had added the Mesilla Valley to his dominions, but farmers need to watch his reign,” the *Rio Grande Farmer* warned in 1923, “Cotton may become a tyrant, a soil robber and finally spell the ruin of the fertile valley.”

Many contemporary observers understood soil health to be foundational to the long-term economic and social health of their communities. “No system of agriculture can be permanent and consistently prosperous that does not provide for maintenance of soil fertility,” the *Rio Grande Farmer* admonished, “This means crop rotation and the use of livestock on the farm.” Yet by the mid-twenties, despite significant signs of soil depletion due to un-rotated cotton plantings, many farmers, especially the smaller-scale and less-capitalized farmers, continued to plant the cash crop with diminishing returns.¹⁹² Throughout the decade, Reclamation districts, which had a stake in the long-term soil health of the region in part because it needed farmers to be able to pay off dam construction debt, became accustomed to hearing a lot “criticism of our farmers for having adopted a one crop system.” In various reports and newsletters, officials urged farmers to grow cotton in a “systematic and well planned crop rotation” that dedicated fifty percent of available land to soil-building crops and avoided planting the crop “on the

¹⁹¹ Edwin Foscue, “The Mesilla Valley of New Mexico: A Study in Aridity and Irrigation,” *Economic Geography*, 7, no. 1 (January 1931): 16.

¹⁹² Schönfléd La Mar, “Water and Land in the Mesilla Valley,” 238. Based on oral testimonies, Schönfléd La Mar argues that farmers who had been in the Mesilla Valley longest, who tended to be older and Hispanic, often rotated later and more reluctantly than newer farmers, who often had more capital.

same ground more than once in three years.” In one newsletter, they offered a time-tested crop rotation used by cotton growers in the climatically similar Turkestan, which involved seven crops over the course of eight years.¹⁹³ Various commentators also warned against creating more alkaline soils through over-irrigation and increasing pest pressure by foregoing rotations. The state college, for its part, continually advocated for crop rotations in cotton culture, and even released a bulletin advising farmers to interplant cotton with corn or cowpeas as a “trap crop” for bollworms.¹⁹⁴

The many calls for diversification were not meant to curb the trend of industrialization in agriculture, but rather to encourage it with the longer-term economic benefits and efficiencies of crop diversification. The industrial ideal of the interwar period, in other words, was not synonymous with large-scale, undiversified monocropping. Indeed, despite the propensity of most growers to forego crop rotations or diversification to cash in on high cotton prices, several of the largest farms—the ones that could afford it—invested acreage and money into soil health through diversified livestock, cover crops, and inter-plantings. As I examine in depth in the following chapter, no farm better illustrates the role of diversification within the interwar industrial ideal than the 3,000-acre Stahmann Farms outside of Las Cruces.

Yet even smaller farms in the region grew cotton within a diversified system. The *Reclamation Record* and the *Rio Grande Farmer* often highlighted smaller farms that had profitably diversified their cotton operations. The *Record*, for example, described Tom

¹⁹³ “Cotton Growing on the Southwestern Projects” *Reclamation Record* (January 1925): 7 in folder 10, box 206, DCP, CSWR. The rotation plan was: “(1) Cotton, two years; (2) corn, followed by a green manure crop such as cowpeas or tepary beans, on year; (3) barley, followed by a green manure crop, one year; (4) cotton, one year; and (5) alfalfa, three years.”

¹⁹⁴ John Robert Eyer, “Planting Corn as a Trap Crop to Protect Cotton Against the Cotton Bollworm,” Press Bulletin 598, NMCAMA, AES (Las Cruces: 4 June 1930).

Watson, a cotton farmer in the Texas side of the Elephant Butte Irrigation District, who grew 70 acres in cotton and 25 in alfalfa in 1923. “Farmers in the El Paso Valleys can not afford to confine their operations exclusively to cotton, because no one is in position to say exactly what buyers will pay for lint,” Watson argued in the *Record*, “I believe a farmer should have an abundant supply of milk on the farm, about 100 good laying hens, a few hogs, a home garden, and a family orchard.” The *Rio Grande Farmer*, eager to highlight a successful and diversified farm, reported on the success of J. J. Hoskins farm near Anthony. Hoskins inter-planted twenty acres of cotton and cabbage, netting \$600 per acre, heavily manured his fields, and devoted significant additional acreage to cantaloupes, melons, lettuce, sugar beets, and green beans.¹⁹⁵ Farm Bureau president James Quesenberry similarly emphasized that while he had success with growing cotton principally on his farm, he also grew cantaloupes and cabbage to avoid “putting all his eggs in one basket.”¹⁹⁶

The call for crop diversification had as much to do with labor and social concerns as it did with concerns of soil health. Cotton is labor-intensive, but only during a few times of the year and especially during the harvest. As farmers tore up orchards to make room for cotton, they not only lost potential supplemental income streams to hedge their agricultural bets, they also lost a use for laborers at slow times of the year in the cotton-growing cycle, particularly with the orchard-pruning work throughout the winter, that helped keep a permanent labor supply in the area. Commentators made the case that crop diversity increased the health of the community as it increased the health of the soil

¹⁹⁵ “Hoskins Farm Report Shows Profitable Yields,” *Rio Grande Farmer* (Las Cruces, N.Mex.), 21 June 1923, 9.

¹⁹⁶ “Farmer Realizes More Than \$150 An Acre Net” *Rio Grande Farmer* (Las Cruces, N.Mex.), 8 November 1923, 8.

precisely because it spread out labor demands and obviated the need for large amounts of hired labor and, worse, itinerant labor. Crop diversification meant staggered work schedules that would help maintain a less stratified, more yeomanly society of self-sufficient farmers. “No agricultural community that depended upon a single crop system of agriculture was ever consistently prosperous,” the *Rio Grande Farmer* declared. The paper continued its economic argument for crop diversification with an yeomanly appeal:

No system of agriculture that requires a large amount of hired labor and cash outlay for labor at one season of the year and a large amount of idle time on the farmer’s hands at other times can result in a prosperous community.

Diversification of crops, supplemented by livestock, means continuous employment for the farmer, less necessity for high priced hired labor at any one time and a source of income, because of the variety.[...]

No community dependent on agriculture as the original source of its wealth can be consistently prosperous unless that agriculture is so organized as to provide a continuous income to the farmer. That means a variety of crops and livestock products, some of which go on the market at all seasons of the year.

No agricultural community can be consistently prosperous unless the farmers produce all the food and other products

consumed on the farm than can produced on that farm
cheaper than they can purchased on the market....
Plan your farm business about one or two major farm
enterprises and select other enterprises which can be
coordinated with these. Dairying, truck driving, cotton and
alfalfa, etc. But do not become a one crop farmer, rob your
soil, be idle a large part of the year and hire expensive labor
during the rush season.

Class and race concerns undergirded appeals for self-sufficiency. As the supposed “agricultural ladder” became ever more illusory and even farcical, the presence of permanent, dispossessed farm laborers contradicted mythic ideals of yeomanly self-sufficiency. Throughout the cotton West in the first decades of the twentieth century, racial tensions closely interwove with labor concerns.¹⁹⁷ In New Mexico, a Chaves County Department of Public Welfare alluded to race and class concerns with a succinct response to 1940 government questionnaire on a possible migrant camp. A migrant camp is a bad idea, he argued; it would only “encourage more of the undesirable class of people to come to the [Pecos] valley.”¹⁹⁸

Despite the success of several diversified cotton farms, most growers planted cotton, and only cotton. A proliferation of large- and medium-scale undiversified cotton farms created new labor demands that the local population could not meet. The more

¹⁹⁷ California cotton growers, for example, “associated cotton with slavery and African-Americans.” See Steman, “Genetic Dreams,” 145.

¹⁹⁸ “Migratory Labor in Southern New Mexico,” 1940, 33.

homogenous cotton landscape created a more diverse and economically stratified population demographic, as farmworkers moved into and through the region. Mexicans, fleeing the turmoil of the Revolution, provided the bulk of the workforce. “Labor is abundant,” remarked state senator J. E. Reinburg in 1923 in regard to cotton, “All that is necessary is to go to the international bridge and haul your pickers to the ranch in car or truck.”¹⁹⁹ Yet, as the new US border patrol and increased immigration restrictions took hold, growers began to seek labor elsewhere. By the end of the decade, as dryland agriculture failed in the southern Plains, a pattern of migratory labor, largely fueled by cotton-picking demands, connected the greater Southwest from Oklahoma to California. “Only in areas near the large towns is the bulk of the cotton picked by Spanish-American or Mexican labor,” a government report concluded in 1940. “Negroes from the Deep South come in to pick from time to time, but only in comparatively small numbers... for the most part, the migratory farm workers who pick cotton in southern New Mexico are Anglo-Americans from the States east of New Mexico, mostly Oklahoma and Texas.”²⁰⁰

By the end of the 1920s and throughout the 1930s, many farms, especially in the Pecos Valley, depended on migrant labor. By 1940 forty percent of the total cotton crop was picked by migrant labor, and government officials concluded that migrants were “required” for a successful harvest. Widespread calls for diversification among officials had largely dissipated, only to be replaced with discussions of creating migrant labor camps. In southern New Mexico “the need for migratory labor to assist cotton picking

¹⁹⁹ “Valley Cotton Farmers Form Organization,” *Rio Grande Farmer* (Las Cruces, N.Mex.), 20 September 1923, 1.

²⁰⁰ “Migratory Labor in Southern New Mexico,” 1940, 10. According to Johansen, in 1941 ten percent of migratory laborers were African American. The remaining ninety percent were white, mostly from Oklahoma and Texas, and to a lesser degree Kansas and Arkansas. Sigurd Arthur Johansen, *Migratory-Casual Workers in New Mexico*, Press Bulletin 870, NMCAMA, AES (State College: Las Cruces, 1941), vii, 4.

reflected, to some degree at least,” one report concluded with a tone of accepting the inevitable, “the development of large-scale farming.”²⁰¹ Indeed Carey McWilliams, reflecting in 1942 on how “once prosperous small-farming communities have become desert sweat-shops” across the cotton-growing West, concluded that “occupational stratification is an inevitable concomitant of industrial agriculture.”²⁰² As the War began, agricultural industrialization no longer shared common ground with earnest calls for yeomanly self-sufficiency and diversification among many scientific researchers, government officials, and social critics; industrialized agriculture had become largely synonymous with one-crop farming and a migrant workforce.

The shift to undiversified agriculture and its consummate reliance on cheap temporary labor further eroded *salus populi* ideals previously associated with agricultural industrialization. As I discussed in the first chapter, turn-of-the-century horticultural boards throughout New Mexico had mandated pesticide spraying in the name of public welfare, explicitly equating disease in commercial orchards to disease in human bodies. Concerns for *salus populi* had extended to the *salus agricultura*. Yet the living conditions and public health problems associated with migrant workers undercut this logic. “In general, the conditions under which these people live and work while picking cotton in Southern New Mexico are unhealthy and unpleasant,” a 1940 government survey on migratory labor succinctly concluded. The plight of migrants, highlighted by contemporaries such as Carey McWilliams, Paul Taylor, and John Steinbeck, as well as

²⁰¹ “Migratory Labor in Southern New Mexico,” 1940, 3, 5.

²⁰² Carey McWilliams, *Ill Fares the Land: Migrants and Migratory Labor in the United States* (1941; New York: Barnes and Noble, 1967), 72.

scores of scholars since, is generally well known.²⁰³ In southern New Mexico, migrant cotton pickers frequently camped under cottonwoods with only ditch water to drink; commonly experienced dysentery and sometimes more serious diseases outbreaks such as typhoid; received minimal or no medical services; and most often had to send their children to help in fields instead of to school.²⁰⁴ The deplorable living conditions in migrant cotton camps shows us how the requirements of an undiversified cotton industry redefined public welfare, beyond the human body to the health of plants, to exclude some humans' bodies altogether. Large cotton monocultures that relied on disease-prone migrant camps to succeed became antithetical to the *salus populi*.

Migrant labor reoriented both the human geography and the geography of resource extraction in the Southwest. The cotton crop in New Mexico and Arizona provided a winter “migrant way station” for westbound migrants headed to the fields of California. “New Mexico serves as a passageway for migratory labor moving westward from Oklahoma and Texas [that provides a] considerable portion of the seasonal labor harvesting the cotton crop in New Mexico,” a government report explained. “Southern New Mexico may be regarded as a corridor between the Southern Great Plains and southern Arizona and California.”²⁰⁵ Cotton, being winter-harvested, provided the necessary conduit crop for many westbound workers to pay their way to spring work in California. As commercial cotton farmers increasingly relied on importing migrant labor to export large amounts of cotton, the geography of resource extraction shifted. For

²⁰³ See, for example, John Steinbeck, *The Grapes of Wrath* (London: William Heinemann Ltd, 1939); Carey McWilliams, *Factories in the Field: The Story of Migratory Farm Labor in California* (Boston, Mass.: Little, Brown, and Company, 1942); and Paul Taylor, *Migratory Farm Labor in the United States* (Washington, D.C.: Government Printing Office, 1937).

²⁰⁴ “Migratory Labor in Southern New Mexico,” 1940, 11–12.

²⁰⁵ Migratory Labor in Southern New Mexico,” 1940, 3, 4. See also, McWilliams, *Ill Fares the Land*, 71.

western cotton growers to extract resources—water, sun, soil nutrients—and export them in the form of cotton products, they had to *import* resources in the form of laborers. Except for the few months of harvest, those laborers relied on water, food, and social services provided by far-off watersheds and communities. The new cotton landscape effectively outsourced the resources needed to support the people who grew and harvest the crop.

The Acala Borderlands

Cotton industrialized the agricultural landscape of the Southwest Borderlands and spurred broader and more comprehensive regional cooperation among growers than had any other crop in the region.²⁰⁶ Agricultural industrialization in the 1920s did not mean that suddenly tractors replaced mules; it did mean, though, that nearly all farmers soon planted the same seed.²⁰⁷ New Mexico's cotton industry homogenized the landscape not by simply increasing monocultures of one crop, but of one variety of that crop. Such a controlled landscape required far more involvement from the state and more cooperation and uniform growing methods among farmers than previously existed in the region. The highly organized collaborative effort among growers and the state college to build a local economy around a single improved cotton variety transformed the Mesilla Valley into a research hub that in turn reoriented its relationship to the surrounding regional cotton

²⁰⁶ Given that cotton competed on a global market, and not local ones, cooperation came easier with cotton than with regionally marketed crops such as apples. As George Meager, Las Cruces Chamber of Commerce president, argued to farmers in 1923: "You don't need fear competition [with each other] —the amount of cotton we can raise cannot the world price on the crop." quoted in "Valley Cotton Farmers Form Organization," *Rio Grande Farmer* (Las Cruces, N.Mex.), 20 September 1923, 1.

²⁰⁷ See Alan Olmstead and Paul Rhode, *Creating Abundance: Biological Innovation and American Agricultural Development* (Cambridge: Cambridge University Press, 2008).

landscape. The emergence of one-variety communities in New Mexico—which originated in California, spread throughout the West and eventually the South, and have been described by Alan Olmstead and Paul Rhode as one of “the largest and most successful cooperative movements in American agricultural history”—required that every cotton grower plant the same single variety in a given district.²⁰⁸ The case of Acala cotton—the variety most widely grown in one-variety communities in New Mexico and elsewhere in the West—particularly illustrates the new degrees of organization, regional alliances, and transnational orientation that defined industrial cotton growing in New Mexico.

Acala cotton—developed in southern Mexico, further bred by researchers and farmers throughout the US West, and eventually distributed back to Mexico—bound New Mexico to the greater Southwest and Mexico in new ways. In 1906 and 1907, USDA seed explorer Orator Fuller Cook traveled throughout Guatemala and southern Mexico searching for local cotton varieties that showed early maturation, boll-weevil resistance, and long and strong fibers. The most promising variety, whose progeny would eventually shape cotton-growing communities throughout the Southwest, came from “a small patch of cotton” on the outskirts of the town of Acala, Chiapas. The diversified, inter-planted, small-scale farm where this Acala seed originated provides an example of how early agricultural industrialization fundamentally relied on non-industrial, diversified agricultural systems. Cook obtained seed from the owner of a nearby “primitive cotton gin,” and returned to the US, where USDA researchers in Oklahoma and Texas soon

²⁰⁸ Olmstead and Rhode, *Creating Abundance*, 198.

developed those seeds into the earliest strains of US Acala cotton.²⁰⁹ Acala appeared to especially thrive in the arid conditions, encouraging researchers in both California and New Mexico to focus on developing an Acala strain suited for the arid West. By the mid-1920s, consensus among many Western cotton-growing communities held Acala superior.²¹⁰

In 1923, Cook traveled to New Mexico to personally make the case for forming one-variety districts.²¹¹ The Mesilla Valley Cotton Growers' Association, however, needed little prodding. The Association had formed in 1920 initially to help secure labor and ginning facilities but soon focused on organizing farmers in the valley to grow only a single variety of cotton. In 1922 they bought a carload of Acala seed from the Coachella Valley of California, and in January 1923 officially adopted Acala as the only seed their members would grow. The following year, several growers splintered off to form the Mesilla Valley Acala Cotton Growers' Association, the first organization in the state specifically organized around the exclusive planting of a single variety.²¹² The group formally agreed to work closely with the state college and its USDA cotton field station. The establishment of the field station in 1926 marked the beginning of a prolific and

²⁰⁹ O. F. Cook and C. B Doyle, *Acala Cotton: A Superior Upland Variety from Southern Mexico* (Washington D.C.: USDA, 1927), 9. Throughout his Mesoamerican travels, Cook collected varieties of cotton that perhaps could acclimate to the United States. In Guatemala, he noted that locals grew a very early maturing cotton, and allowed wild turkeys in the fields to control boll weevils. Farmers removed the early-ripening cotton plants before they competed with inter-planted peppers. This practice created a short-season cotton that had potential for shorter-season regions of the US South and West. Again, traits such as early maturation, valuable for industry, often derived from diversified, small-scale agricultural systems. See "Seeds and Plants Imported during the Period from December, 1903, to December, 1905..." United States Bureau of Plant Industry (Washington, D.C.: Government Printing Office, 1907), item 13094, p. 128, digital copy, <https://archive.org/stream/seedsplantsimp97unit#page/128/mode/2up>.

²¹⁰ Smith and Cothren, eds. *Cotton*, 141–54.

²¹¹ "Grow Only One Variety of Cotton to Improve Your Local District," *Alamogordo (N. Mex.) News*, 22 November 1923, 1. Olmstead and Rhode describe Cook as the "father of the one-variety community movement." Olmstead and Rhode, *Creating Abundance*, 164.

²¹² A.R. Leding, "Community Production of Acala Cotton in New Mexico," USDA circular 314 (Washington, D.C.: USDA, 1934), 4, 5.

regionally significant era of seed breeding that included the release of Acala 1517 in 1940, an especially important strain not only to regional growers but to seed breeding programs throughout the country.²¹³ By 1928, this grower-college collaboration expanded into the New Mexico Crop Improvement Association (NMCIA). Fittingly, the group first organized in the state college's cotton field.

The collaborative seed improvement organization between growers, the USDA, and the land-grant college proved crucial to the early and lasting success of commercial cotton in the region. The founding of the NMCIA followed a college-led effort throughout the decade to get farmers to more methodically and carefully select seed of all crops. The NMCIA took on various roles, including inspecting cotton fields and gins, organizing seed roguing workshops, and publishing quarterly newsletters.²¹⁴ By the end of the decade, twelve local "regularly organized improvement associations" existed in the state, supplying the NMCIA with "certified beans, potatoes, alfalfa, grain sorghums, corn, wheat, oats, barley and cotton, and several other crops of lesser importance." Most of this seed remained in New Mexico, but even in 1929 "demands from adjoining states are increasing and some orders have been received from Mexico."²¹⁵ Within a few years the association had helped New Mexico growers develop a regional market for more modern, commercially oriented, certified germ plasm. As El Paso became the market hub for cotton, Las Cruces became the research and germ plasm hub for cotton and other major regional crops.

²¹³ Smith and Cothren, eds., *Cotton*, 149–54.

²¹⁴ See *New Mexico Crop Improvement News* 1, no. 2 (1 September 1938), in folder 1, box 20, Ms 246, Francis G. Tracy Papers [hereafter FTP], NMSUL.

²¹⁵ "New Mexico Farmers Produce Good Seed," 30 August 1929, *Lincoln County (N.Mex.) News*, 7.

The rise of southern New Mexico as a borderlands seed hub owed to strong state support, widespread grower cooperation, and climatic advantages. By the onset of the second world war, state college-bred Acala cotton largely defined the cotton-growing region of New Mexico and far West Texas. “I combine West Texas and New Mexico irrigated cotton,” Louis Ivey explained to lawmakers in 1945, because “both use identical cotton variety [acala], depend upon the same source for planting seed and use the same seed breeders, which are directed by the A & M college of Las Cruces, New Mexico, [... both] have identical soils and water, practically the same elevation and climatic conditions...” These climatic conditions--particularly aridity and high elevation—resembled Acala, Chiapas, which not only helped account for Acala’s acclimation and exceptional performance in Southwestern cotton fields, it also made climatically similar cotton districts throughout Mexico potential markets for the improved strains.²¹⁶ Further, the shared isolation of these one-variety districts from other cotton districts allowed growers to avoid unwanted cross-pollinization and maintain seed purity. “Our farmers believe in the one variety crop principle and adhere to it more closely than do the farmers in any other area in the United States,” Ivey further explained. “Our area being isolated its cotton does not become mixed through pollinization [sic] as does cotton in the rain-grown area where hundreds of different varieties are planted in close proximity.”²¹⁷ O. F. Cook in part corroborated this boast. Soon after the USDA introduced Acala to growers throughout the US, “the usual mixing with other varieties took place, and seed stocks

²¹⁶ “Little difficulty was encountered in the acclimatization of cotton in the United States,” explained Cook in 1927, in part because a “similarity of conditions in the Acala districts in Mexico to those of Texas.” O. F. Cook and C. B Doyle, *Acala Cotton: A Superior Upland Variety from Southern Mexico* (Washington DC: USDA, 1927), 10.

²¹⁷ “Testimony read, and discussed, into the record by Louis J. Ivey of El Paso Texas as a witness before Senate Sub Committee on Irrigation and Reclamation,” 5 and 6 April 1945, Washington DC, folder 1, box 62, sub. ser B, ser. 2, EBID, NMSUL.

were allowed to deteriorate,” Cook explained in 1932. “At that stage the variety might have been discarded completely if it had not been adopted in some of the irrigated districts of the Southwestern States. One-variety communities for Acala cotton [...] made it possible for the seed to be kept pure. With supplies of pure seed available [...] Nearly 900,000 acres of cotton were planted in the irrigated valleys in 1929, and a large proportion of this was Acala.”²¹⁸

As Las Cruces established itself as a research hub and “seed center,” Acala cotton made its way back to Mexico. While cotton fiber seldom crossed the border due to tariff restrictions, cottonseed both for planting and for oil did.²¹⁹ The homogenized cotton landscape extended across the border into Mexico and, increasingly, Juárez valley growers sought the well-adapted Acala seed for their fields. Juárez growers first produced commercial cotton in the early 1920s. Water scarcity defined agricultural choices for Juárez growers throughout this period, particularly in the 1930s when drought and disputes with the US regarding flows from Elephant Butte intensified.²²⁰ “We were forced to grow cotton because of lack of water,” one Juárez Valley farmer explained in 1954, “Before Elephant Butte and Caballo Lakes were constructed on the American side, there was enough water and were able to grow corn, wheat, beans and alfalfa as well as cotton.”²²¹ Nonetheless, by 1939, the Juárez valley was among the leading cotton supplying districts in northern Mexico with 20,000 acres of land that produced, according

²¹⁸ O. F. Cook, *Cotton Improvement through Type Selection, with Special Reference to the Acala Variety*, USDA Technical Bulletin 302 (Washington DC: USDA, 1932), 6.

²¹⁹ “Hundreds of bales of Juarez Valley cotton” entered El Paso for eastern US markets briefly in 1950, which was the “first large amount of cotton ever to pass through El Paso from the Juarez Valley.” “Juarez Valley Cotton Flows to U.S. Ports,” *El Paso (Tex.) Herald Post*, 30 October 1950, 1.

²²⁰ Samuel N. Dicken, “Cotton Regions of Mexico,” *Economic Geography* 14, no. 4 (October 1938): 363-71; and Lorene A. Garloch, “Cotton in the Economy of Mexico,” *Economic Geography* 20, no. 1 (January 1944): 70-77.

²²¹ “Juarez Valley Does Not Fear Cotton Sale,” *El Paso (Tex.) Herald-Post*, 31 May 1956, 17.

to one economist, the “best quality cotton in Mexico.” Officials with the Mexican National Department of Agriculture urged Juárez Valley farmers to fight insects and drought by planting only “fumigated, certified” Acala seed in their fields,²²² which the NMCIA was more than willing to provide. In 1947, the NMCIA sold 280 tons of cotton planting seed to “various interests in Mexico including the Department of Mexico,” who, according to an NMCIA treasurer J. T. Stovall, were “extremely anxious to plant our New Mexico acala 1517 cotton.”²²³ Demand is high, Stovall explained, because “Mexico’s climatic soil and cultural conditions are so nearly the same [as New Mexico] that our cotton is particularly suited for the production of cotton from New Mexico Acala cotton.”²²⁴

Reorientations of Industrial Cotton

Between the world wars, the global empire of industrial cotton spread into newly irrigated lands of southern New Mexico and far west Texas and reshaped regional cultural, socio-economic, and environmental connections. Recent transplants from further east, enticed by the glint of white gold, settled in the region and bought up newly reclaimed lands and older farmlands alike. With the new tide of cotton-driven migration, agricultural labor systems and cultural associations of the Old South arrived as well. As cotton acreage grew, so too did regional grower cooperation and a reliance on migrant

²²² “CC Committee Encouraged by Nation’s Chief,” *El Paso (Tex.) Herald-Post*, 18 May 1939, 10.

²²³ J. T. Stovall to Dennis Chavez, 5 March 1947, folder 2, box 208, DCP, CSWR; and J. T. Stovall to Alton N. Porter, 14 March 1947, folder 2, box 208, DCP, CSWR.

²²⁴ J. T. Stovall to Alton N. Porter, 14 March 1947, folder 2, box 208, DCP, CSWR. Stovall explains in this letter that restrictions on export licenses could potentially mean that “only about one-third as much seed will move into the Juarez area *as normal*” (emphasis mine), indicating that the association had regularly sold planting seed to buyers in Mexico by this time.

labor; cotton bound not only the region's growers but also the laborers—from Mexico and later from the US South—that followed the cotton harvest. Cotton shared climatic preferences with the arid Southwest and Mexico that also bound those regions in new ways. The cotton culture of New Mexico, enmeshed in a regional cotton culture that extended from Oklahoma and Texas to California to points throughout Mexico, became a highly organized but never fully homogenized cotton-growing region unique to its position in the borderlands.

The new cotton landscape of interwar New Mexico reveals changing ideals of industrial agriculture. Made possible by major reclamation projects, cotton played a significant role in the agricultural industrialization of southern New Mexico. Growers organized around single varieties, collaborating with USDA and state college experiment stations to develop, maintain, and disseminate highly productive and profitable strains of cotton. Although these efforts encouraged a radical new level of crop homogeneity within the emerging ideals of industrial efficiency, early calls for such highly managed cotton culture also made room for crop diversification, small-scale yeomanly self-sufficiency, and varied approaches to managing labor. The process of industrialization in New Mexico's cotton fields followed a winding and contingent path.

4.

Diversification, Paternalism, and the Transnational Threads of Cotton in Southern New Mexico

The Industrial Ideal at Work at Stahmann Farms, 1926-1970

“If the farmers back home in Vermillion County could see what I’ve seen today,” the Pulitzer Prize–winning reporter Ernie Pyle wrote enthusiastically in 1939, “they’d swear the age of miracles was here.” Pyle had just visited Stahmann Farms, a 4,000-acre farm twenty-five miles north of the Mexican border in New Mexico’s Mesilla Valley. To contemporary observers such as Pyle, the farm defied easy categorization: it was at once a cutting-edge and trend-setting modern wonder of technological innovation, but also a nostalgic throwback to a diversified, non-mortgaged family farm. It was immense but non-corporate, far-sighted but profitable, diversified but efficient. It was a place where a blond-haired farm owner sang Mexican songs in Spanish, where the workers earned pensions, and where large profits came from products as familiar as cotton and as strange as goose feathers, chicken manure, and an obscure nut that most Americans weren’t sure how to pronounce. Despite all its oddities, the formula seemed to work. Deane Stahmann, Pyle concluded, “makes money like Henry Ford, and he does it by the same formula—mass production and brains... He’s looking forward farther than any man I’ve ever written about.” All added together, Pyle declared, Deane Stahmann “is probably the outstanding farmer in the Southwest.”

Over the course of roughly four decades, from the founding of the farm in 1926 to the farm's last cotton crop in the early seventies, Stahmann Farms gained success by embracing a diversified crop regime and paternalistic labor structure that upended simple narratives depicting agricultural industrialization as a linear path toward monoculture and evermore exploitive labor practices. Cotton, perhaps the quintessential symbol of monoculture, became a somewhat unlikely linchpin for the success of the Borderlands farm. Even as the farm diversified, it continued to grow vast acreages of the fiber crop and developed a far-reaching cotton-breeding program. Following Deane Stahmann's death in 1972 and the maturation of large numbers of pecan trees, the farm phased cotton out of its rotation and with it an era of paternalism and diversified industrial agriculture.

Stahmann Farms succeeded not only because of its efficient multi-crop designs, but also from its ability to effectively navigate geopolitical and cultural borders. The borderlands farm benefitted from its proximity to Mexico by gaining access to a reliable workforce and having a market for products; and, in turn, a thread of *Mexicanidad* wove through the fields and culture of the farm. The farm was not simply a remote workspace where power brokers in distant cities created forces that shaped the landscape. Rather, it was a site of homespun, intricate, interwoven connections—at once transnational and local—that facilitated the cotton economy in southern New Mexico and shaped the borderlands in ways that no distant financier or politician could have anticipated. These connections not only illuminate the greater economic and cultural fabric of the borderlands, they also demonstrate the important but often overlooked roles of non-industrial traditions in modern agricultural industrialism. Like many large twentieth-century farms that sought a more modern, efficient, profitable business, Stahmann Farms

succeeded only through cultural negotiations and adaptations by farmer and farmworker alike. In its embrace of an industrial ideal that imagined perfect efficiency, Stahmann Farms relied on agricultural traditions born far from the imaginings of industry.

Mid-Century Diversification and the Modern Goose

No farm in the Southwest embraced the interwar industrial ideal of crop diversification more, and no farm carried that ideal further into the postwar twentieth century, than the 4,000-acre Stahmann farms. Deane Stahmann and his father W. J. Stahman, a Wisconsin buggy maker who had had over a decade of success raising cotton, tomatoes, and honeybees near Fabens, Texas, bought the Santo Tomas land grant in 1926 and founded Stahmann Farms. The farm instantly became one of the largest cotton farms in the entire region.²²⁵ A decade later, the farm purchased 1,100 neighboring acres known as Snow Farm, perhaps an apt name for a landscape that would soon flurry with the residue of snowy white cotton in its late autumn breezes.

Like elsewhere throughout the southern reaches of the irrigated Southwest in the 1920s and early 1930s, cotton, initially, was king. The farm built its own gin and press, and regularly had over 1500 acres in cotton.²²⁶ Yet, over the course of four decades, King Cotton bowed to a plurality of other crops on the farm as it became one of several key parts to an innovative, diversified system that successfully blended modern industrial and re-tooled pre-industrial methods. The farm shifted its crop regimes from the early thirties

²²⁵ Theresa Hanley, "The Stahmann Farms Migrant Community," (master's thesis, New Mexico State University, 1991), 24–25.

²²⁶ "Valley Man Grows Cotton All Winter," *El Paso (Tex.) Herald-Post*, 17 November 1941, E-6.

through the late sixties—ranging from sugar beets to cantaloupe, alfalfa to sorghum, and livestock such as sheep, Hereford cattle, and chickens. The crops that worked best with each other, and that proved most profitable, were cotton and cottonseed, alfalfa, geese, and pecans.²²⁷

In addition to growing large acreages of cotton, the farm diversified its income stream by developing a highly intensive cotton-breeding program. The cotton-breeding program began around 1937, when Stahmann became frustrated with state college research that he felt prioritized selecting for disease or insect resistance or for glandless varieties, rather than for qualities such as uniformity, length, or fiber strength that mill owners desired. He later explained, too, that his cotton-breeding efforts were a way to combat “foreign varieties” and synthetics such as rayon, which many cotton growers considered an existential threat to the industry.²²⁸ By 1941 Stahmann was selling one thousand tons of cottonseed to cotton farms throughout the region.²²⁹ Using Acala 1450 cotton bred at the state college, Stahmann developed two lines of cotton, Mesa Acala and Mesilla Valley Acala, the latter which he subsequently developed into Del Cerro, a strain grown throughout the irrigated west for much of the twentieth century.²³⁰

²²⁷ Luis Sánchez, interview by Jane O’Cain, 3 August 2001, New Mexico Farm and Ranch Heritage Museum Oral History Program, transcript, p. 4 [tape 1, side A], New Mexico Farm and Ranch Heritage Museum, Las Cruces, New Mexico [hereafter LS-NMFRHM]; and Consuelo Márquez, interview by Jane O’Cain, 12 December 1997 and 16 January and 17 March 1998, New Mexico Farm and Ranch Heritage Museum Oral History Program, transcript, p. 117, New Mexico Farm and Ranch Heritage Museum, Las Cruces, New Mexico [hereafter CM-NMFRHM]. Stahmann purchased an additional nearby 1,100 acres, known as Snow Farm, in 1936.

²²⁸ “Breeder Seeks Cotton Suited for Mill Needs,” *Las Cruces (N.Mex.) Sun-News*, 29 November 1967, 8.

²²⁹ Valley Man Grows Cotton All Winter,” *El Paso (Tex.) Herald-Post*, 17 November 1941, E-6.

²³⁰ Smith and Cothren, eds. *Cotton*, 150–51. The Del Cerro strain contained parentage from Watson Acala, Triple Hybrid, Hopi Acala, and Sealand. See “Breeder Seeks Cotton Suited for Mill Needs,” *Las Cruces (N.Mex.) Sun-News*, 29 November 1967, 8.

Cotton breeding requires patience and long-term vision. The breeder must wait a full growing season to see how each plant performs before selecting seed. To partially overcome this hurdle, Stahmann employed a few of the most modern available technologies—greenhouses and airplanes—to develop strategies for obtaining two cotton-growing seasons per year instead of one. He began, in 1941, by constructing, according to one report, “probably the first cotton greenhouse on a southwestern farm,” that he hoped would double the number of grow-outs per year.²³¹ When this effort proved insufficient, Stahmann decided to expand his experiments into warmer countries where he could grow out a generation of cotton during the winter. In addition to maintaining an experimental plot on his farm and eventually developing a 384-acre isolation plot west of Hatch, New Mexico²³², Stahmann opened a research farm for cotton breeding in southern Mexico in 1949²³³ and later bought 435 acres of farmland in Jamaica to breed cotton. Stahmann built an airstrip on the farm and eventually converted a B-26 bomber for inter-farm transport. Heavy rains (and fears of Fidel Castro shooting down his planes), however, led him to abandon his breeding project in Jamaica and instead grow bananas, coconut, cacao, and sugar cane; by 1965, still committed to breeding a better cotton variety, Stahmann had shifted his breeding efforts to farms in Peru and Ecuador.²³⁴

Stahmann’s cotton-breeding efforts in southern Mexico represented a homecoming of sorts for the Acala cotton he experimented with. Four decades after O. F. Cook’s first expedition to the village of Acala in Chiapas, Stahmann decided to grow out

²³¹ Valley Man Grows Cotton All Winter,” *El Paso (Tex.) Herald-Post*, 17 November 1941, E-6.

²³² “Breeder Seeks Cotton Suited for Mill Needs,” *Las Cruces (N.Mex.) Sun-News*, 29 November 1967, 8.

²³³ “Stahmann Farms, Inc.: ‘Diversified Farming,’” advertisement, *El Paso (Tex.) Herald-Post*, 28 April 1956, D-11.

²³⁴ “Irrigated 4000-acre N.M. Farm Demonstrates Values in Agricultural Diversion,” *Albuquerque (N.Mex.) Journal*, 6 October 1965, D-4.

the progeny of that seed, which had been manipulated for forty generations by USDA and state college researchers, in the region in which it had evolved. It was then ironic that Stahmann, a year after he began his operations in Mexico, explained his breeding efforts as a way of combating “foreign varieties.”²³⁵ This effort against “foreign varieties” involved using Acala strains bred for centuries in Mexico, and then breeding them elsewhere (including back in Mexico). The fight against “foreign varieties” relied on foreign ecosystems.

As much as cotton and cotton breeding were central to Stahmann Farms, cotton hardly became a monocultural tyrant. Even as early as 1932, as cotton prices sharply fluctuated and the government officials discussed (and soon passed) measures such as quotas on cotton acreage and stabilize prices, Stahmann became nervous about relying on a single commodity. He searched for a long-term solution; his gaze fell on a little-known nut tree that Dr. Fabián García had recently reported with cautious optimism might do well for growers in southern New Mexico. Although scattered seedling varieties of pecans had grown in southern New Mexico for several decades, García published the results from the first state college experiments with commercial pecan varieties in 1924. In line with the interwar industrial ideal that viewed diversification as concomitant to modernity and agricultural progress, García viewed the pecan as potentially valuable addition to diversified farms: “Naturally, as the agriculture of the State becomes more highly developed and farming operations more extensive, the more diversification in

²³⁵ “Deane Stahmann Develops Better Variety of Cotton,” *El Paso (Tex.) Herald-Post*, 11 September 1950. Stahmann told the paper: “I want to develop a cotton of high spinning and high yielding qualities so we can produce a cotton that will compete with synthetics and the foreign varieties.” Many in the cotton industry considered synthetics, such as rayon, an existential threat to the industry. The cotton industry thus has had to balance an embrace of modern technology while insisting the older technology of natural fiber remains superior.

agricultural activities will have to take place.” In a major underestimation of the tree’s future success, García concluded, “It is quite likely that the pecan will never become as important a crop in New Mexico as in its native states, but there is no reason why trees of the better adapted varieties should not be more widely planted.”^{236 237}

Stahmann took an even more optimistic view. Stahmann purchased the farm’s first pecan trees in 1932, inter-planted them among the cotton, and immediately became the first large-scale commercial pecan grower in the region. Stahmann’s interest in the pecans lay not simply in recently successful experiments in New Mexico, but also in their perennial nature. In Stahmann’s words, it “looked like the country was going socialistic” and he feared the US government would break up large farms and adopt land policies similar to post-Revolution Mexico. Hoping the principle of Mexican agrarian law that forbid subdivision of land planted in fruit or nut trees would similarly catch on in the US, Stahmann decided to “get out of the cotton raising business and begin raising pecans.”²³⁸ Stahmann’s pecan trees, rooted in the turbulent political atmosphere of the Dust Bowl thirties and the aftermath of post-Revolution Mexico, thus stand as quiet reminders of Mexico’s often surprising influence on the New Mexico landscape.

Similar to cotton breeding, pecans required long-term vision. While they begin to fruit after seven years, the trees reach their production peak only after fifty years. Thus the decision to grow pecans involved a plan to continue growing annual crops such as cotton, between the young trees, for decades. Stahmann’s bet on pecans also required a

²³⁶ Fabián García and A. B. Fite, “Preliminary Pecan Experiments,” Bulletin 145, NMCAMA, AES (Las Cruces: January 1945), 3–5.

²³⁷ Fabián García, “Pecan Experiments,” Press Bulletin 467, NMCAMA, AES (Las Cruces: 4 December 1924).

²³⁸ “Irrigated 4000-acre N.M. Farm Demonstrates Values in Agricultural Diversion,” *Albuquerque (N.Mex.) Journal*, 6 October 1965, D-4; and “Mesilla Valley Nuts Famous Throughout Entire Country,” *Albuquerque (N.Mex.) Tribune*, 1 January 1959, 6.

long-term marketing plan to transform American palates to include the previously fringe nut. Like his apple-growing counterpart to the north, James Webb Young, Stahmann understood that aggressive marketing and advertising were crucial to a modern farm's success. Un-fazed by the pecan's lack of popularity, Stahmann planned—as Ernie Pyle wryly reported in 1939—to “advertise, propagandize, beat the drums, and turn us into a nation of pecan eaters whether we like it or not.”

By the late 1940s, however, Stahmann had some persistent problems on the farm that even advertising could not fix. One was soil fertility. He was purchasing the entire manure stockpile from nearby Ft. Bliss for an annual bill of \$30,000.²³⁹ Horse manure, however, often contained weed seed and rocks that clogged machinery, and was relatively low on key nutrients such as phosphorus and nitrogen, thus representing an expensive investment on a merely adequate product.²⁴⁰ Another problem was labor. Despite its diversification, the farm still had seasonal fluctuations in labor demands that, much to Stahmann's chagrin, made hiring temporary laborers necessary. He searched for ways to create work during the off-season to maintain a permanent labor supply that could handle all the farm's work and obviate the need for additional workers during seasonal rushes. For both problems, Stahmann found a surprising solution in an 8,000 year-old technology: the Chinese weeder goose. Stahmann's addition of this heirloom goose to the farm in 1948 drastically reduced fertilizer costs and labor expenses to weed, and created year-round work for both men and women that proved essential to maintaining a year-round workforce of families.

²³⁹ Ernie Pyle, “Rambling Reporter,” *The Pittsburgh (Penn.) Press*, 12 December 1939, 25.

²⁴⁰ “Irrigated 4000-acre N.M. Farm Demonstrates Values in Agricultural Diversion,” *Albuquerque (N.Mex.) Journal*, 6 October 1965, D-4.

Chinese weeder geese love to eat most young tender plants. One of the few exceptions is cotton, which they avoid as they chomp the surrounding herbage. To take advantage of these dietary preferences, workers at the farm would round up the geese to one side of the field, and place large tanks of water on the opposite end of the fields. Attracted to the water, the geese made their way across the fields, weeding and fertilizing as they went, until they reached their mobile watering holes. Working with the ornery geese was few workers' favorite task, but it only took a few people instead of scores to weed acres of cotton. By some estimates, two geese could easily weed an acre, replacing the work of twelve laborers.²⁴¹ The geese became so popular throughout the cotton growing south over the course of the following two decades that one Louisiana cotton grower and geese-breeder estimated that over a million geese were put to work in the fields in 1963. That same year, the University of Tennessee published a report in 1963 that concluded that using geese to weed saved a cotton farmer \$21 per acre compared to using herbicides and \$26 per acre compared to weeding by hoe. As one former bracero remarked, "it's a sad thing to be replaced by a machine, but to be replaced by a goose is even worse."²⁴²

To Stahmann, the value of the birds went beyond their work in the fields. By the end of the decade, Stahmann had become the largest goose meat processor in the country. Although national goose sales had been falling, Stahmann developed a strategy to market the fowl as "junior geese," which proved popular with "food editors and housewives."²⁴³

²⁴¹ "The Man with a Hoe Gives Way to Geese in Nation's Cotton Fields," *The Whitewright (Tex.) Sun*, 7 March 1963, 8.

²⁴² Ernie Pyle, "Rambling Reporter," *The Pittsburgh (Penn.) Press*, 12 December 1939, 25.

²⁴³ "Cotton, Geese, Pecans Occupy Stahmann Farms," *El Paso (Tex.) Times*, 29 April 1956, reprinted 4 May 2012 in "Tales From the Morgue: El Paso History is Never Dead," accessed 18 September 2016, <http://elpasotimes.typepad.com/morgue/2012/05/geese-cotton-pe.html>.

Reviving an old tradition of a “Christmas goose,” Stahmann again fused older, nostalgic notions of American agriculture with modern, industrial methods. He advertised his geese throughout the nation. “The goose will hang high this holiday season,” one article in the special Christmas edition of an Illinois newspaper read, “if a New Mexico farmer can convince American housewives.” Assuring the readers that Stahmann’s geese were not the “overfat bird of yesteryear,” the article explained that Stahmann was employing modern techniques—including modern, balanced diet full of vitamins and giving them an “airconditioned [*sic*] hotel”—in his effort “to stage a comeback for a one-time favorite table treat.”²⁴⁴ The effort proved successful; by 1954, the farm was annually selling nearly 200,000 birds nationwide.²⁴⁵

In addition to meat, geese provided other income streams. Stahmann built hatcheries and a processing plant capable of dressing and freezing 2,000 geese a day. To keep this processing plant running at maximum capacity, Stahmann developed another income stream. He sold and “rented” geese to farmers both within the region and throughout the US South, who had taken note of Stahmann’s success with the fowl. For those nearby, he sold goslings to the farmers, who fattened them up on their weeds, then sold them back to Stahmann ten to twelve weeks later. In addition to the meat, Stahmann sold goose down to pillow factories; sold quills to pen factories; and, according to some accounts, the “honk” to Walt Disney.²⁴⁶ The goose business became so successful that,

²⁴⁴ Sanky Trimble, “Cooking Your Own Goose,” *Mt. Vernon (Ill.) Register News*, 24 November 1954, 17.

²⁴⁵ “Cotton, Geese, Pecans Occupy Stahmann Farms,” *El Paso (Tex.) Times*, 29 April 1956. See also John M. White, “Cotton, Geese, and Pecans,” *New Mexico Magazine* (April 1960): 13.

²⁴⁶ Sánchez, 15 August 2001, transcript, 71 [tape 3, side B], and 60 [tape 3, side A], LS-NMFRHM; and Theresa M. Hanley, “The History of Stahmann Farms, 1926-1990,” *Southern New Mexico Historical Review* 9, no. 1 (January 2002): 40. A former bracero working on a 180-acre cotton farm in Fabens, Texas, for example, recalled how his farm began using geese as weeders after noticing the method developed at Stahmann’s farms. See Richard Baquera, “Raymundo Villa,” in Bracero History Archive, Item #81, <http://braceroarchive.org/items/show/81> (accessed 24 September 2017). According to Sánchez, cotton

according to a *Life* article in 1954, Stahmann began to consider planting only weeds on his 4,000 acres. “We hope he doesn’t,” concluded the *Life* editorialists, “Even if he could make more money that way, business’s gain would be art’s loss.”²⁴⁷

Geese were not the only animals on the farm. During the 1940s, the farm raised Herefords and sheep; and it began raised chickens for eggs and fertilizer from 1955 to 1977. By 1965, the farm was gathering and selling 124,000 eggs daily, which he sold to local markets and, via his aircraft, to distant buyers. To feed both geese and chickens, Stahmann built a feed mill and manufactured fourteen types of poultry feed based on “formulas set by computers.”²⁴⁸ Though he continued to raise chickens, Stahmann quit raising geese in the late 1960s; around the same time the farm shifted away from raising cotton.²⁴⁹ Stahmann’s use of modern technology to efficiently make use of chicken manure (in lieu of synthetic fertilizer) and weeder geese (bred over several millennia by Chinese peasants), again illustrates a diversified farming model rooted firmly in both modern scientific and in non-industrial methods.

“Futuristic” Paternalism

Stahmann diversified in part to solve the “labor problem” that plagued cotton growers throughout the country. Stahmann’s geese, chicken, and pecan operations helped

growers from across the region, and even across the South, visited Stahmann’s farm specifically to buy goslings for their farms. Sánchez, 15 August 2001, transcript, 67–68 [tape 3, side B], LS-NMFRHM. Stahmann filled three railcars with goose down for pillow factories in 1955; “Cotton, Geese, Pecans Occupy Stahmann Farms,” *El Paso (Tex.) Times*, 29 April 1956.

²⁴⁷ “The Shmoose,” *Life*, editorial, 16 February 1953, 30.

²⁴⁸ “Irrigated 4000-acre N.M. Farm Demonstrates Values in Agricultural Diversion,” *Albuquerque (N.Mex.) Journal*, 6 October 1965, D-4; and “Unique Industrial Farm Attracts Many Visitors,” *El Paso (Tex.) Herald-Post*, 4 August 1962, 2.

²⁴⁹ Hanley, “The Stahmann Farms Migrant Community,” 31.

spread out labor demands and provide year-round jobs for the farm's permanent workforce, both men and women. Men worked in the fields and did farm-related tasks, such as machining, blacksmithing, plumbing, and carpentry; women worked in the plants that processed the pecans, geese, and chickens.²⁵⁰ Fewer men were needed to weed in the summer, and more women were needed to help process the geese throughout the year. The result was a more gender-balanced workforce that allowed Stahmann to hire entire families, who were much more likely to stay than single workers. "Deane Stahmann... intended to keep his workers busy all the time," former farm manager Luis Sánchez later explained, "so he had to use his system of diversifying his farm into crops that rotated. They were year round, for the purpose of keeping his people busy... he tried to keep his people and keep his people's people employed all the time."²⁵¹

While diversifying crops spread out labor requirements year-round, Stahmann still had the large task of attracting families to the rural and isolated farm and then retaining their labor year after year. Over the course of Deane Stahmann's life, Stahmann tried many strategies to secure labor. In Tornillo, Stahmann one year attempted sharecropping, a system he came to adamantly deplore. He later relied on and advocated for government subsidies for labor during the thirties; employed POWs in the forties and braceros in the forties and fifties, and vociferously supported looser border policies for Mexican

²⁵⁰ Hanley, "The Stahmann Farms Migrant Community," 33.

²⁵¹ Sánchez, 3 August 2001, transcript, p. 6 [tape 1, side A], LS-NMFRHM.

workers.²⁵² Reliance on itinerant labor, however, proved costly and inefficient for Stahmann.²⁵³

Stahmann sought to circumvent itinerant labor by developing a paternalistic company town that provided housing, a pension plan for all workers, and a range of services that included a church, a school, a power plant, a health clinic, a commissary, and blacksmith and machine shops. The paternalistic model largely achieved the desired result; many workers stayed at the farm year after year, and even workers' children sometimes eventually made careers for themselves on the farm. Adapted over the years, the paternalistic model lasted only as long as crop diversification on the farm. Stahmann's paternalism contains echoes of southern plantation-era paternalism, as well as Mexican patronage systems, yet neither can adequately explain the emergence of his brand of paternalism in the mid-twentieth century. This was an outcrop of the modern

²⁵² At a Meeting of the Doña Ana County Agricultural Labor Committee at the Temple of Agriculture in 1945, Stahmann motioned that "a telegram be dispatched to 8th Corps Area Headquarters asking that the prisoner of war allotment be increased promptly to 1050 and that all prior promises made by the army regarding prisoners of war be carried out without delay. This motion was approved unanimously." Minutes of Meeting of the Dona Ana County Agricultural Labor Committee at the Temple of Agriculture, Las Cruces, New Mexico, 31 May 1945, folder 4, box 10, Ms 50, Wendell Phillips Thorpe Papers [hereafter WPTP], NMSUL. A few months later, Stahmann joined other cotton growers in a round of protests over restrictions on POW labor imposed by the Army. The group of farmers also agreed to lobby congress to so relax immigration laws "to the extent of providing a means of obtaining seasonal labor for this area from Mexico at appropriate times." All the growers got together to fix the wages for the year (\$2.00 per pound in 1946). Minutes of Meeting of the Dona Ana County Agricultural Labor Committee at the Temple of Agriculture, 17 August 1945, folder 4, box 10, WPTP, NMSUL. Stahmann strongly supported the Anderson Bill for a white crossing card for Mexican farm workers in 1949 (5 April 1949). The bill by New Mexico senator Clinton Anderson called for "'an open border' and virtually unrestricted recruitment from Mexico." David Gregory Gutierrez, ed., *Between Two Worlds: Mexican Immigrants in the United States*, Jaguar Books on Latin America No. 15 (Wilmington, Del.: Scholarly Resources, 1996), 57.

²⁵³ Stahmann ran into trouble with the Department of Labor in the late fifties over "leasing" braceros from other farmers. When the pecans reached maturity and the farm phased out cotton in the late fifties, the farm no longer had an adequately large year-round workforce and had to rely more heavily on seasonal and migrant labor. In 1961, Stahmann hired 253 braceros during the pecan harvest. Stahmann faced scrutiny from the Department of Labor because he hired workers loaned to him from other farms. Stahmann did not have adequate housing for the braceros. This lending of braceros, a violation of the law, illustrates the lack of legal protections braceros faced. See John E. Gross to Doña Ana County Farm and Livestock Bureau, 24 August 1961, Denver, Colorado, folder 4, box 168, DCP, CWSR.

industrial ideal—built on diversification and vertical integration—that emerged in twentieth century. This was driven by modern industry, yet incorporated elements of a non-industrial past. As Douglas Flamming argued about Southern mill-village paternalism in the twentieth-century, this type of paternalism was a response to early twentieth century labor trends; it “was not a throwback to the past but a manifestation of regional modernization.”²⁵⁴

Workers welcomed many of the farm town’s features, which were essential to making habitable an area with poor roads and few nearby services. Stahmann began building homes, which he provided rent-free for workers, in the 1930s, and continually built new ones more modern than the previous ones. Initial homes were simple two-room adobes with electricity but without bathrooms; subsequent homes had three rooms, a bathroom, a sink and gas stoves. The farm encouraged a family-based workforce and housing for single men, such as braceros, provided much less space; braceros typically shared a room with up to four other workers. The farm also built a commissary, a schoolhouse, and medical clinic. When the polio vaccine came out in the early 1950s, a mobile vaccination truck drove to each farm colonia.²⁵⁵ Like company towns throughout the nation, the farm had its own baseball team.²⁵⁶

While providing workers with housing and services such as a commissary were not unique to Stahmann’s farm among large cotton growers in the region, the scale of the town and its breadth of services certainly were. Yet most unique to the farm were not the

²⁵⁴ Douglas Flamming, *Creating the Modern South: Millhands & Managers in Dalton, Georgia, 1884-1984* (Chapel Hill: University of North Carolina Press, 1992), xxvii.

²⁵⁵ Hanley, “The Stahmann Farms Migrant Community,” 29, 33, 57; and Sánchez, 15 August 2001, transcript, 87 [tape 4, side A], LS-NMFRHM

²⁵⁶ “Irrigated 4000-acre N.M. Farm Demonstrates Values in Agricultural Diversion,” *Albuquerque (N.Mex.) Journal*, 6 October 1965, D-4.

brick-and-mortar services, but rather Stahmann's development of a pension plan for workers beginning in 1945. "In 1945, whoever would have thought of a hired hand doing menial laborer type work of chopping cotton being involved in something like that [pension program]?" later recalled former farm manager Luis Sánchez. "It was unheard of. [In] organized labor, perhaps. But in a farming operation...it just wasn't done." Indeed, it wasn't; it in fact came thirty-four years before United Farm Workers developed the Juan De La Cruz pension plan, which is often incorrectly labeled the "first and only functioning pension program for farm workers in the United States."²⁵⁷ Under the plan, workers initially agreed to contribute to a retirement fund that would provide workers over 65 with \$45/month. This plan then developed into a system where workers invested in the farm with any amount they could afford, and received their payments back plus interest, which increased to ten percent after four years and up to thirty percent after several more years, whenever they decided to leave. A few years later, Stahmann developed a cash bonus system based on the farm's yearly profits. To workers like Luis Sánchez, such a system represented a forward-thinking approach to labor. "Deane Stahmann... [was] extremely ahead of his times," explained Sánchez, "He was a man who saw a pension plan in 1945. That's very futuristic. For back in those days. Even today."²⁵⁸

Stahmann's workplace incentives constituted an innovative, far-sighted, and progressive approach to agricultural employment that led many workers to describe their experiences on the farm in a positive light. Yet the paternalistic model nonetheless remained at its core non-egalitarian, with a racialized hierarchy that left workers at times

²⁵⁷ "JDLC Pension Plan," accessed 3 August 2017, ufc.org/jdlc/.

²⁵⁸ Sánchez, 3 August 2001, transcript, p. 8 [tape 1, side A], LS-NMFRHM.

suspicious, resistant, and even defiant. Despite a workforce that was nearly entirely Mexican or Mexican American, non-Hispanic white men comprised the farm's "upper management."²⁵⁹ On the management hierarchy directly below Deane Stammann—himself a blond-haired man with northern European ancestry—and his family, were four non-Hispanic white men who served as overall farm supervisors to the largely Mexican workforce of managers and workers. In addition, non-Hispanic white men also occupied other key roles on the farm, such as commissary manager and payroll manager. Suspicion among farmworkers of upper management was exacerbated by a lack of financial transparency at times. For example, workers received certain benefits only if they left "under honorable conditions," which were determined by the controller. As one worker explained, "it was hard to know exactly what was taking place because John Chandley was the controller and he handled all this.... If John Chandley didn't think it was a good idea, it wouldn't be done."²⁶⁰

Stammann's paternalism ultimately derived not from charity but pragmatism; he strove to control his workforce with the same attention toward efficiency that he treated his cropped fields. The workers, however, found ways to negotiate the terms, mold their town to their liking, and at times offer subtle resistance to some of the farm's most controlling features. A significant degree of this agency came from workers' strong sense of community. The Stammann community, as other historians have noted, became not just a company town but also an ethnic community. Nearly all the workers were Mexican or Mexican American, speaking Spanish exclusively, and ties to communities in Mexico

²⁵⁹ For "upper management," see Sánchez, 29 August 2001, transcript, p. 131 [tape 5, side B], LS-NMFRHM.

²⁶⁰ Sánchez, 29 August 2001, transcript, p. 153 [tape 6, side A], LS-NMFRHM.

were strong. Workers described feeling at certain times like “we were living like we were living in a small town in Mexico.”²⁶¹ A closer look at the diet and fiestas of farmworkers helps illustrate the significance of this shared sense of community and how the cultural negotiations and subtle threads of resistance wove through the borderlands farm.

Food, Fiestas, and the Transnational Threads

The Stahmann Farms’ commissary, far from the stereotypical predatory “company store” of Ernie Ford fame, provided staple food and goods with little mark-up and offered a lenient “revolving credit deal” to workers. “This was not a boutique,” recalls Sánchez of the store, but it provided rice, beans, chile, and corn—essential fuels for a hard-working labor force. Though useful, not all workers were satisfied with a diet consisting of only commissary goods. While scant sources exist, a few oral histories suggest that workers augmented their diets in ways that subtly defied the farm’s efforts at controlling its cultural landscape. Whether to avoid the commissary on the larger cotton farms or simply to augment their diet with foods their paychecks alone could not afford, farmworkers brought nutrition into their lives through procuring their own food in the wild and in their gardens. One of the best sources comes from Consuelo Márquez, a Stahmann employee and daughter of a farmworker, who offers a small glimpse into the diets, and dietary changes, mid-century New Mexico farmworkers experienced. The dietary portrait she paints begins, surprisingly, over two thousand miles away in the Sargasso Sea.

²⁶¹ Hanley, “The Stahmann Farms Migrant Community,” 82.

Even by the midpoint of the twentieth century, the American Eel could still go west, as it had for millennia, to grow up with the country. Born in the Sargasso Sea two hundred miles off the Atlantic Coast, American eels begin their lives traveling through the ocean to freshwater inlets where they swim upstream in search of food. From the rivers of Maine to the Rio Grande, the American Eel was endemic throughout the United States east of the Continental Divide. The construction of Elephant Butte Dam in 1916, however, ended the historic migration of eels to the northern reaches of the Rio Grande in New Mexico and Colorado; and the construction of Avalon Dam in 1954 and later the Amistad Dam in 1970 downstream in Texas signaled the end the eel in the far western waters of the Atlantic watershed. Except for a few older adults, who could live fifty years, few eels were spotted in New Mexico in the sixties and seventies and none thereafter. The American Eel, a longtime western migrant and resident, became a victim of dams built for irrigation, flood control, and power.

The end of one migration coincided with the birth of others. As Elephant Butte dam shut off the eel's access to its traditional waters further north, farmers "reclaimed" former desert into 86,000 new acres of agricultural land. As noted earlier, the favored crop, nearly from the get-go, was the highly lucrative but labor-intensive cotton plant. With rich soil and abundant sun, frost-free days, and water, all the growers needed were laborers. Initially they looked south to Mexico, then to the east as dust-bowl migrants poured across the state en-route to California, then briefly to Italian and German POWs during the second World War, and finally back south as the US instigated a guest worker program for Mexican braceros from 1945 to 1964. Briefly, the divergent paths of the vanishing eels and the agricultural migrants met. When farmworkers caught and ate the

American Eel, the world experienced the irony of one migrant of industrial agriculture gaining sustenance from the last generations of another migrant doomed, not by farmworkers' hands, but by the same industrial forces that compelled the farmers to seek workers from elsewhere.

Originally from Chihuahua, Consuelo Márquez's parents lived in Arizona before settling in the Mesilla Valley in the years following the construction of Elephant Butte Dam. When her father first arrived in New Mexico, orchards and vegetable farms still predominated, and he managed to work on farms in exchange for the right to grow and sell food from a small plot on the farm. Márquez explained how, in addition to the food her father grew and raised, their family ate many wild foods. "My father...put it in his feet... [and] put a string in his way," Márquez explained about the river turtles (*ecotejas*, as she called them) her father would catch. "When [the turtle] came out with his neck to see who was there, my daddy caught the neck." Her father then roasted the turtle in the oven, shell and all, and scooped out the flesh for his family. It had "good meat," Márquez remembered, "a little sweet and a little vinegar." Her father also caught and roasted mesquite worms that burrowed by the roots. "They had beautiful meat, too," Márquez remembers. Her father dug "wild potatoes" that were "very tasty." "And fish," Márquez remembered, "all the time." She remembers making fish stews, often with the fish heads to increase flavor. When her father caught elvers, or *anguias*, their name for the eels, he roasted them in the oven and cut them into small chunks. Those who fished for eels, Márquez explains, benefitted from the irrigation needs of agriculture. "Every time they stop the water from the rivers, they're are those eels." Trapping the eels via dam meant a brief short-term gain for anglers and, of course, the long term doom of the eels. "So you

see how people lived long ago,” Márquez concluded with an emphasis on the healthiness of the food: “[the food] was clean of everything.”²⁶²

The meals of Márquez’s childhood reveal a rich cultural diversity within farm fields in 1920s southern New Mexico and an intimate knowledge of the landscape. Foods such as American eels, mesquite worms, turtles, and wild potatoes—hardly traditional mainstays of the dominant cultures of the region—reveal an importation of food knowledge that derives from diverse cultural backgrounds. Traditionally, mesquite worms, for example, are a delicacy from the Huasteca region of Mexico and are little known beyond that region; whereas the tradition of elvers is more firmly a European one, with deep roots in places such as Basque Country. The Márquez family diet reveals how a new place-based diet developed that was influenced by diverse cultural traditions yet wholly unique to the local landscape.

The meals also reveal an ability to carve out independence amid the industrializing landscape of southern New Mexico that, over the course of Márquez’s early childhood and early adulthood, changed with the widespread adoption of cotton. As Márquez raised her own family at Stahmann Farms, she lived more firmly in the wage economy of industry and less in the barter economy her father had raised her in. She found that Stahmann discouraged workers to procure their food independently; workers could not raise livestock larger than chickens and, except for victory gardens during WWII, did not have access to garden space. Occasionally, one of the farm’s supervisors raised a dairy cow, and would offer workers milk for a “nickel a quart.”²⁶³ Otherwise, the farm provided food only through the commissary. “Stahmann Farms gave us a loan and

²⁶² Consuelo Márquez, transcript, pp. 147–57, CM-NMFRHM.

²⁶³ Sánchez, 3 August 2001, tape 2, side A, LS-NMFRHM.

we couldn't buy anything [not from] his store," Consuelo Márquez explained. "We had to [buy at] the commissary. [Stahmann] didn't like for us to go outside of his town and get what we wanted... He got mad with us."

Despite such discouragement, Márquez explains that workers nonetheless managed ways to procure their own food and shared knowledge that allowed them to circumnavigate the commissary. "When I was living at Stahmann farms, the people that came with Stahmann from Mexico...taught me many things...so we really didn't need many stores," Márquez explained. "We could live by the land. Everything."²⁶⁴ Márquez's account reveals a thread of resistance to the controlled landscape of the farm. These acts of resistance, even as subtle as pooling community knowledge to "live by the land," reveal how the industrial farm contained critical spaces of non-industrial agriculture. In this case, the food that literally fueled the farmworkers—themselves essential fuel for the industrial project—derived from local, uncontrolled spaces rooted in non-industrial traditions.

While diet represented a daily form of cultural negotiation, agricultural fiestas marked the calendar with days that provided workers space to celebrate their work and lives in ways largely independent of Stahmann's project. At Stahmann Farms in the mid-twentieth century, worker celebrations of San Isidro, as well as the annual harvest fiesta, Christmas, and Mexican and US Independence day, exposed the cultural bounds of Stahmann's paternalistic efforts at workforce control and the subtle merging of non-industrial traditions into the life of the industrial farm.

²⁶⁴ Consuelo Márquez, transcript, pp. 125, 157, CM-NMFRHM.

The largest festival days were for San Ysidro (May 15), the Harvest fiesta, and Christmas. The celebrations of San Isidro, the patron saint of farmworkers who represented an alternative work ethos and agricultural ideal to the mythic yeoman of Anglo American traditions, illustrate how farmworkers celebrated their work on their own terms. A priest came for San Ysidro, and festivals in the early years of the farm centered around the dance of the *matachines*. The *matachines* dances were often “strictly a dance,” facilitated by the colonia’s mayordomos and performed by a group dressed in costumes that traveled to each colonia. The dancers were all farm laborers, asking for a good crop, and a “good time.” “It wasn’t really a fiesta like we have now,” Sánchez recalled, “There wasn’t a meeting of all these people eating food and everything else. They called them *matachines*.... It was an event that was as much Catholic as it might have been Native American.... A festival in the form of a dance, much like they do in Tortugas. But this was asking for a good crop.”²⁶⁵ Though early fiestas featured mostly *matachines*, later fiestas became more involved with food and invited guests, and expanded to include celebrations for the sixteenth of September (Mexican Independence Day) and the fourth of July.²⁶⁶ Farmworkers recall occasional visits during fiestas from movie stars from Juárez.

The festivals grew out of farmworker culture but nonetheless required Stahmann’s involvement. Stahmann often “organized” them, sometimes hosted them, and always tried to dictate the terms. “Mr. Stahmann didn’t like parties at his farm,” one former farmworker recalled, “When he made some type of party, he would make it for us, but he

²⁶⁵ Sánchez, 29 August 2001, transcript, p. 162 [tape 6, side B], LS-NMFRHM. See also C. Medina interview, quoted in Hanley, “The Stahmann Farms Migrant Community,” 82–83.

²⁶⁶ Sánchez, 29 August 2001, transcript, p. 165 [tape 6, side B], LS-NMFRHM.

didn't like for us to make some for ourselves. He had everything in his store except beer or any other type of liquor."²⁶⁷ Luis Sánchez explained further. "The parties that Mr. Stahmann would allow on the premises were not parties that would be rowdy. Not parties that would be extra loud. Not parties that were involving and possibly creating problems because we all had to work together."²⁶⁸ To Sánchez, Stahmann "allowed" the fiestas not because he "liked parties," but because the celebrations were effectively a right of the worker. "[Stahmann] let those people exercise their rights or their desires to do so in this very small way," Sánchez explains, "And it was a small way. It wasn't big. It wasn't what they call *fandango*, which we call in Mexican, a big to-do... It was just something that was tradition."²⁶⁹

The Contingent Ideal

By the mid-sixties, despite the general post-war national trend away from diversification, Stahmann's vertically integrated, closed-loop system of diversified farming remained efficient and profitable. As the farm continued to use chickens to fertilize and geese to weed the cotton between the pecan trees, it had grown into the state's largest chicken farm, and the world's largest goose farm and pecan producer. The pecan grove yielded up to eight million pounds of nuts a year; yearly cotton production, though diminished, averaged five hundred acres; and the farm's breeding efforts had expanded to Peru and Ecuador. Nearly five hundred employees continued to live

²⁶⁷ C. Medina interview quoted in Hanley, "The Stahmann Farms Migrant Community," 80.

²⁶⁸ Sánchez, 29 August 2001, transcript, p. 166 [tape 6, side B], LS-NMFRHM.

²⁶⁹ Sánchez, 29 August 2001, transcript, p. 167 [tape 6, side B], LS-NMFRHM.

permanently at the farm, and each year several workers cashed out comfortable pensions. All the while, the farm had become a “target of nationwide interest in its unusual diversified agriculture,” and had begun to attract over a thousand visitors annually for those who, as one newspaper put it, wanted to witness “one of the prime examples of successful diversified farming in the country.”²⁷⁰ Yet change was in the air.

The sixties marked a turbulent moment for both nation and farm in the former Santo Tomás land grant. Building on his father’s outspoken contempt for leftist politics, Deane Stahmann’s son, Deane Jr., vowed to leave the country if Lyndon B. Johnson became president. When the moment came, he moved to New South Wales, Australia, to build a pecan empire down under; Stahmann Farms spanned two hemispheres. Meanwhile, life was changing on the New Mexican farm as the pecan trees began to reach full maturity and Deane Stahmann’s health began to fail. He died in 1970, and shortly thereafter and a new generation of managers sought to cease cotton production, phase out the seed-breeding and nursery business, and sell the poultry flocks to focus the farm’s operations more solely on the lucrative nut.²⁷¹ The end of diversification coincided with the dissolution of many of the farm’s worker services and its pension plan, and the gradual end of organized agricultural fiestas.²⁷² Paternalism gave way to a wage system for workers largely living off the farm; the change signaled an end of a strong farm-based community.

²⁷⁰ “Unique Industrial Farm Attracts Many Visitors,” *El Paso Herald-Post*, 4 August 1962, 2; and “Irrigated 4000-acre N.M. Farm Demonstrates Values in Agricultural Diversion,” *Albuquerque (N.Mex.) Journal*, 6 October 1965, D-4.

²⁷¹ Donald L. Stepp and Ruth Vise, “Stahmann Farms Produce Pecans in Both Hemispheres,” *Borderlands* 28 (2010): 9, 15, <http://epcc.libguides.com/content.php?pid=309255&sid=2891582>.

²⁷² While the agricultural fiestas that centered on matachines ceased by the end of the cotton era, smaller fiestas, largely created for the purpose of reunions with workers who had left the farm, continued on the sixteenth of September and fourth of July continued after Stahmann’s death. See Sánchez, 29 August 2001, transcript, p.165 [tape 6, side B], LS-NMFRHM; and and Márquez, transcript, p. 162, CM-NMFRHM.

The history of Stahmann's cotton era helps underscore the fluidity and contingency of the industrial ideal of mid-twentieth century agriculture. Seemingly incongruous ingredients—diversification, paternalism, and industrialism—fit into a successful formula for one of the region's largest and most innovative farms of the twentieth century. From the onset, the farm's embrace of diversification and paternalism echoed the interwar industrial ideal as it strove to create a more modern agricultural business. The farm became a marvel of modernity that—from its fleet of aircraft to crop-dust and transport goods, its air-conditioned chicken houses and computer-generated feed formulas, its multinational cotton-breeding greenhouses—continually embraced the latest scientific and technological advances in the name of profit, control, and efficiency. "His success can be largely attributed to having everything under control," Ernie Pyle remarked after his 1939 visit. "He controls the moisture, the fertility of the soil, all diseases. Everything is right under his thumb. Practically nothing is left to the whims of nature."²⁷³

Yet, as this chapter has shown, modern methods alone do not fully explain the success of the industrial farm. Even deploying the latest and most expensive technologies, Stahmann's efforts at controlling both the landscape and workforce faced limitations. Stahmann's industrial dream required negotiations with the workforce and natural landscape that often produced solutions rooted in non-industrial agricultural methods. Whether it was the army of weed-eating geese, the huge flocks of soil-building chickens, seed originally bred in southern Mexico, or the matachines dancing for San

²⁷³ Ernie Pyle, "Rambling Reporter," *The Pittsburgh (Penn.) Press*, 11 December 1939, 25.

Ysidro, the modern farm relied on elements of non-industrial agricultural traditions that, though seemingly antithetical to the industrial project, found new life at the farm.

Chile

5.

Crossing Chiles, Crossing Borders

Dr. Fabián García, the New Mexican Chile Pepper, and Modernity in the Early Twentieth-Century US-Mexico Borderlands

New Mexico's official state question—"Red or Green?"—inquires tongue-in-cheek about chile preference to celebrate one of the state's leading crops and economic engines. Implicitly, the question also signals pride for New Mexico's Hispanic and Native cultural heritage. This official display of pride came roughly a century after New Mexican politicians and other territorial elites debated, in explicitly racist terms, whether New Mexico was modern and white enough to become fully incorporated into the union.²⁷⁴ As these elites sought to distance New Mexico's population from its indigenous heritage and its neighbors to the south, a Mexican-born horticulturalist at New Mexico's land grant college, Dr. Fabián García, bred a new chile variety that embodied an alternative vision of modernity for New Mexico. The new chile pepper encouraged a more industrialized, more culturally inclusive borderlands and set the course for an industry that would eventually define the state's cultural identity.

García held an important position on the US-Mexico border as a cultural and agricultural intermediary that shaped his work with the iconic chile. As horticulturalist at

²⁷⁴ For examples of scholarship on race, modernity, and New Mexico statehood, see Charles Montgomery, *Spanish Redemption: Heritage, Power, and Loss on New Mexico's Upper Rio Grande* (Berkeley: University of California Press, 2002); John Nieto-Phillips, *The Language of Blood*; Robert Larson, *New Mexico's Quest for Statehood* (Albuquerque: University of New Mexico Press, 2013); and David Holtby, *Forty-Seventh Star: New Mexico's Struggle for Statehood* (Norman: University of Oklahoma Press, 2012).

New Mexico College of Agriculture and Mechanical Arts (NMAM), later New Mexico State University (NMSU), in Las Cruces, New Mexico—positioned more squarely in the borderlands than any other Land-Grant college in the United States—García helped disseminate cultural and agricultural change in all directions in early twentieth-century New Mexico. The number 9 chile, as García called the new variety, was more than simply the first scientific and industrial chile pepper; it embodied a pan-Hispanic and nationally inclusive vision for New Mexico that encouraged cultural transformations both within and beyond the borderlands. García’s efforts transformed more than the chile’s genetics; his efforts represented the first major step in producing a modern crop that the nation as a whole could more readily consume. Perhaps better than any other single crop variety, the number 9 chile reveals the intersections among modernity, race, and nation within the wider economic and cultural network of the early twentieth-century US-Mexico borderlands.

García was “born of humble parents” in 1871 in Chihuahua, Chihuahua. His grandmother, after his parents died, brought him to the mountains of southern New Mexico two years later, where as a boy he recalled being terrified by encounters with Apaches. His grandmother eventually landed a job in Las Cruces with the prominent Casad family, who treated him “as a member of the family, in all respects,” and sent him to grade school and then NMAM, which they had helped found. García became a naturalized US citizen in 1889, graduated from NMAM’s inaugural class of 1894, and shortly thereafter joined the faculty as a horticultural assistant. He worked on a wide range of projects at the college (particularly with fruit trees), spent a year of graduate work at Cornell University in 1899-1900, and in 1907 married Julieta Amador, whose

family had deep-rooted business and social connections with Mexico. His disparate experiences and connections from an early age cut across cultural, class, and geo-political lines.²⁷⁵

When he began his seed trials in 1907 as the college's newly appointed horticulturalist, García sought to transform the chile pepper from a regionally significant crop into a national one. Already the most culturally and commercially significant crop for many Hispanic farmers throughout the state, the chile pepper, García believed, could be improved. He bred for a more consistent, narrower, fleshier, and more peelable chile for canning purposes. He also sought a milder pepper to appeal to people elsewhere in the country unaccustomed to pungent flavors.²⁷⁶ Such transformations in the chile would require hard work on his part, but would also require a transformation on the part of the farmers who grew the crop and the consumers who bought it. Farmers needed to be more diligent seed savers and embrace a scientific approach to agriculture, he argued. He believed people outside the Southwest had to “educate” themselves about traditionally Hispanic foods of Mexico and the US Southwest in order to embrace the chile. Cultural changes, within and outside the Southwest, came part and parcel with agricultural ones.

Hispanic farmers throughout New Mexico grew the chile pepper more than any other non-grain crop, and regarded it as a symbol of their heritage. In 1848 topographical

²⁷⁵ “Biographical File,” folder 1, box 1, and “Correspondence, 1940-1948,” folder 3, 5ox 5, UA 011, Fabián García Papers, Records of the College of Agriculture and Home Economics, Hobson-Huntsinger University Archives, New Mexico State University, Las Cruces, N.Mex. [hereafter FGP]. For biographical sketches of Fabián García, see Kent Paterson, *The Hot Empire of Chile* (Tempe, Ariz.: Bilingual Press/Editorial Bilingüe, 2000), 15–26; Carmen Padilla, *Chile Chronicles: Tales of a New Mexico Harvest* (Santa Fe: Museum of New Mexico Press, 1997), 6–7; and Rick Hendricks, “Fabián García, Biographical Sketch,” at <http://newmexicohistory.org/people/Fabián-García-biographical-sketch>.

²⁷⁶ Fabián García, *Improved Variety No. 9 of Native Chile*, Bulletin 124, New Mexico College of Agriculture and Mechanic Arts, Agricultural Experiment Station [hereafter NMCAMA, AES], (Las Cruces: Rio Grande Republic, 1921), 3, 4, 16; and Fabián García, *Chile Culture*, Bulletin 67, NMCAMA, AES, (Albuquerque, N.Mex.: Albuquerque Morning Journal, 1908), 12.

engineer William Emory described the chile pepper as “the glory of New Mexico,” and a food that “the Mexicans considered the chef-d’ouvre of the cuisine, and seem really to revel in it.”²⁷⁷ Forty years later, 1884 *Rio Grande Republican* article reaffirmed *chile colorado* as the “national dish” of the “native” population in Las Cruces, and several generations later, further north, Fabiola Cabeza de Baca reflected, “When we think of New Mexican foods, naturally the chile dishes come first.” The chile pepper—growing in the field, drying by the house, and simmering in the pot—provided a defining mark on the cultural landscape of New Mexico and a source of collective pride. “Unless one has watched the farm families as they weave and string the chile pods,” Cabeza de Baca explained, “one has missed a delightful work of art and skill.”²⁷⁸

Throughout much of New Mexico during the late nineteenth and early twentieth centuries, chile peppers were just as important commercially as they were culturally. The *Rio Abajo (Albuquerque) Press* reported on 2 February 1863 that Congress took “fifty thousand dollars out of the pockets of the people of the United States to make us good roads for intercommunication and the transportation of chile colorado to market.” Several decades later, the rail connection between Santa Fe and Colorado had gained the nickname “Chili Line,” by many accounts because of the loads of chile peppers it carried out of the state. While chile production had peaked in some northern New Mexico counties by the turn of the century, chile production in other northern areas was still

²⁷⁷ William Helmsley Emory, *Notes of a Military Reconnaissance From Fort Leavenworth, in Missouri, to San Diego, in California, including parts of the Arkansas, Del Norte, and Gila Rivers* (New York: H. Long and Brother, 1848), 51.

²⁷⁸ Fabiola Cabeza de Baca Gilbert, *The Good Life* (Santa Fe: Museum of New Mexico Press, 2005; 1st ed. 1949) 45; and Fabiola Cabeza de Baca Gilbert, “Chile,” p.1, folder 15, box 1, Fabiola Cabeza de Baca Gilbert Papers, Center for Southwest Research, University Libraries, University of New Mexico [hereafter FCBGP]. Also, “Las Cruces: Manners and Customs of the Native Population as Described by Jimmy McCarthy in the Denver Tribune,” *Rio Grande Republican* (Las Cruces, N.Mex.), 26 July 1884, 4.

increasing as late as 1924. In that same year, García estimated that growers exported seventy-five percent of the crop grown in Santa Fe county out of state.²⁷⁹

In the southern part of the state at the turn of the century, commercial production was more limited. García neither mentions chiles in his lengthy 1903 summation of horticulture in the state nor in an updated report to the National Irrigation Congress in 1908. Only in 1910 did his revised report include the chile, describing it as principally a crop grown by “Mexican farmers.”²⁸⁰

Nonetheless, García explains in his 1908 *Chile Culture* that “the use of chile in the United States is increasing every year; the American people are beginning to cultivate a taste for it, and thus a greater demand is being created for this vegetable.”²⁸¹ The increasing popularity of canned green chile provided the most promising development for the chile industry. Canneries in both Los Angeles and Las Cruces had begun canning green chile, mainly for local and regional consumption. Theodore Rouault started a canning business in Las Cruces in 1896, and grew the majority of the vegetables for it. Business thrived. In 1903, he saw no need to ship any canned goods east because he had “a ready market in New Mexico, Texas, and Arizona for the product of my cannery and,

²⁷⁹ “New Mexico: End of the Chili Line,” *Time Magazine*, 15 September 1941; “Embudo Rock Pile Monument to Old Chile Line,” *Albuquerque (N.Mex.) Journal*, 1 September 1941, 8; and Fabián García, “Report on Horticulture,” 1924, folder 4, box 5, FGP. Hugh G. Calkins, “Handling of a Cash Crop (Chili) in the Tewa Basin,” USDA Soil Conservation Service Southwest Region Bulletin 46, Conservation Economics Series no. 19 (July 1937), 4, describes chile in northern New Mexico in the 1930s as a critical cash substitute in the region’s economy, making it “the important commercial crop in the area...[and] the principal means by which flour, beans, lard, sugar, coffee, and clothing become available to the Spanish-American agriculturalist.”

²⁸⁰ *Report of the Governor of New Mexico to the Secretary of the Interior* (Washington: Government Printing Office, 1903), 314–17; Fabián García, “Horticulture,” 1908, and “Fruits and Vegetables in the Mesilla Valley,” 14 April 1910, folder 4, box 5, FGP.

²⁸¹ García, *Chile Culture*, 4. He uses the old agricultural use of the term “culture” here, which refers to the conditions and practices required for successful cultivation.

indeed, I can not meet the demand, especially for the canned green chili. The greater portion of my goods find a market right here in New Mexico.”²⁸²

García saw great potential in this emergent canning industry and sought to develop a chile specifically suited for it. He later recalled that the success of the canning industry, along with the difficulty of peeling and processing native chile, led to the initial experiments. García explained in 1934: ““the old native pods formerly used in the green chile industry were usually quite wrinkled, with a sunken shoulder and a thin flesh. In peeling the pod, if it had a sunken shoulder, the women who used to do the peeling had first to get the skin from inside the stem and as it went over the ridge from the stem end it would break off. Since millions of pods had to be handled in this way, we felt that a variety easier to peel would be an economical development for the industry.”²⁸³ By principally breeding for traits that would transform the chile into an efficient, cannable export crop that could be grown and processed on larger scales, García bred the first chile variety to be eaten primarily green and year-round for markets near and far. A chile bred to be canned green not only helped make the future state question possible in any season of the year, it suggests that the question of Red or Green is also a question of more traditional versus more modern.²⁸⁴

García bred the chile by methodically crossing and selecting for desirable traits among fourteen strains over several successive seasons. He planted each strain in small

²⁸² *Report of the Governor of New Mexico to the Secretary of the Interior* (Washington: Government Printing Office, 1903), 42.

²⁸³ Fabián García to Bonney Youngblood, 10 January 1934, p. 2, Bonney Youngblood Papers, Herbert Hoover Presidential Library, West Branch, IA [hereafter, BYP, HL].

²⁸⁴ The advent of widespread refrigeration and freezing in the 1950s helped make year-round green chile even more ubiquitous. The question of traditional or modern along the lines of red and green chile remains relevant today. Most landrace chile in New Mexico continue to be grown in small acreage primarily to be dried and eaten as red chile; most green chile derives from meatier varieties developed by NMSU for industrial growing and processing.

test plats, recorded their performance under a variety of controlled conditions, and within a few years began discarding ones that performed poorly. After several seasons of initial selecting, he sent the seeds of the most promising strains to “collaborators”—farmers throughout New Mexico—who grew them and reported how they performed under a variety of conditions. After roughly a decade of such careful and methodical experiments, strain number 9 emerged as the most desirable for industry purposes. It possessed the smoothness, fleshiness, and sloping shoulders that processors desired. It was also less pungent than landrace chile and, as a side effect of selecting only healthy plants in the trials, was more resistant to chile wilt.²⁸⁵

García approached the chile with a faith that it could be continually perfected through modern science and the progress of civilization. “Naturally, after the Spaniards came across and found that this vegetable [the chile pepper] was being eaten by natives... no doubt because of their higher civilization, they developed more palatable dishes. I believe that the present [chile] recipes... have been improved upon by the Spanish conquistadores,” he began a historical account of the chile in 1934. “Naturally, with highly developed civilizations and home economics developments, the old native methods of preparing these [chile and frijol] dishes have been materially improved upon...” Such improvements include enhancing the enchilada with an “egg that is fried and placed on top of the tortillas after you have put the cheese and the onions on them. It has been stated that the idea of using an egg with the enchilada originated with the [largely Anglo] miners in and around Pinos Altos and Silver City, New Mexico, back in

²⁸⁵ García, *Improved Variety No. 9 of Native Chile*, Bulletin 124, NMCAMA, AES (Las Cruces, N.Mex.: Rio Grande Republican, 1921). Of the fourteen strains of chile García used, twelve were of the *pasilla* variety, one was *colorado*, and one *negro*.

the early 80's." For García, technological change drives this teleology of improvement upon the foodways of the native crop. Chile grinders were a "material improvement," he emphasized, over grinding by hand; and careful, methodical breeding outperformed the ways of early "New Mexico tribes [who] naturally, had no idea about plant breeding and plant improvement."²⁸⁶

A vision of a more inclusive borderlands shaped García's project of modernizing the Chile. He believed in a unified Hispanidad that stretched across the US-Mexico border. Many intellectuals and elites in northern New Mexico in the early twentieth century deemphasized historic ties to Mexico, choosing instead to highlight their whiteness through their Spanish roots and perpetuating what John Nieto-Phillips has called the "White Legend."²⁸⁷ Hispanic elites of southern New Mexico and elsewhere in the US-Mexico borderlands, though at times employing a similar strategy of claiming whiteness, more often promoted a "pan-Hispanic" ideology that emphasized Mexican rather than Spanish symbolism and a bi-national ethnic solidarity among Mexicans and Mexican Americans on both sides of the border. La Alianza Hispano-Americana, a mutual aid society founded in late nineteenth-century Tucson, helped develop and spread this ideology.²⁸⁸

²⁸⁶ García to Youngblood, 10 January 1934, pp.1-3, BYP, HL.

²⁸⁷ John Nieto-Phillips, *The Language of Blood: The Making of Spanish-American Identity in New Mexico, 1880s-1930s* (Albuquerque: University of New Mexico Press, 2008).

²⁸⁸ On La Alianza in New Mexico and its regional variations, see Olivia Arrieta, "La Alianza Hispano-americana, 1894-1965: An Analysis of Collective Action and Cultural Adaption" in *Nuevomexicano Cultural Legacy: Forms, Agencies, and Discourse*, ed. Francisco A. Lomelí, Víctor A. Sorell, and Genaro M. Padilla, *Pasó Por Aquí* series, (Albuquerque, University of New Mexico Press, 2002). On the La Alianza more broadly, see Eduardo Cadava, *Standing on Common Ground: The Making of a Sunbelt Borderland* (Cambridge, Mass: Harvard University Press, 2013); Eric V. Meeks, *Border Citizens: The Making of Indians, Mexicans, and Anglos in Arizona* (Austin: University of Texas Press, 2007); and Manuel G. Gonzales, "Carlos I. Velasco," *Journal of Arizona History* 25 (Autumn 1984): 265. Charles Montgomery argues that Hispano claims to whiteness in northern New Mexico differed from similar claims elsewhere in the US-Mexico borderlands primarily due to class. While the White Legend extended to *paisanos* of all classes in northern New Mexico, elsewhere only wealthy Mexicans and Mexican-

García paid dues to La Alianza for much of his career and, though hardly outspoken about his Mexican heritage, embraced the organization's bi-national message and his Mexican roots. Alfredo Levy, general attorney of La Alianza in Mexico City, described García in 1930 as a "Mexican" who represented "a pride for our race." In 1943, a federal education inspector in Ciudad Juarez told García that he was "a great friend of the Mexicans because he was born in Mexico [and] is of our race."²⁸⁹ García freely acknowledged his Mexican roots, and kept a copy of the national anthems of both Mexico and the United States in his desk. While some La Alianza members at times claimed whiteness, García did not. He instead claimed a pan-Hispanic Nuevomexicano identity and proudly declared that the blood of "the native New Mexican runs through my veins."²⁹⁰ Perhaps the most explicit indication that García did not claim whiteness comes from a letter from Bonney Youngblood, a USDA Experiment Station official and longtime friend. He wrote to García in 1944: "I recall you are part Yaqui and part Spanish... Perhaps you know that the people of Mexico are much prouder nowadays at least of their Indian than of their Spanish origin, and from the way you have talked with

Americans (while still embracing a *Mexicanidad*) tended to make this claim. See Montgomery, *Spanish Redemption*, 15–17.

²⁸⁹ Letter from Alfredo Levy, Apoderado General en la Republica Mexicana de la Alianza Hispano Americana, to Jose Gonzales, presidente de la Logia #22 (AHA in Las Cruces), Mexico City, 26 July 1930. The original reads: "Efectivamente, hombres de la talla del hermano Fabián García, son un orgullo para nuestra raza y representan lo que el mexicano puede hacer cuando la voluntad y la cultura se unen en ellos." Also, Prof. R. Ramón Espinosa Villanueva to García, Ciudad Juárez, Chih., 27 June 1943, FGP. The original, in part, reads: "El Dr. García es un gran amigo de los mexicanos porque nació en México, de raza nuestra, que al oír español se emociona como un niño."

²⁹⁰ For claims of whiteness among members of La Alianza, see Meeks, *Border Citizens*, 97, 115. For quote, see Fabián García, undated speech (pre-1912), p. 4, folder 1, box 6, FGP. García showed skepticism for the term "Spanish American," at one point referring to the "Mexicans and the so-called Spanish Americans" of New Mexico. See García to Youngblood, 10 January 1934, p. 1, BYP, HL.

me in the past, I imagine you are of the same opinion. Am I correct?”²⁹¹ García’s reply, unfortunately, is lost to the historical record.

La Alianza formed in part as a response to pervasive racial discrimination throughout the borderlands. As the country witnessed a rising tide of nativist sentiment during the first decades of the twentieth century, racial tensions in places like Las Cruces only increased. The Ku Klux Klan, while not nearly as prevalent in New Mexico as it was in neighboring Colorado and Texas, nonetheless had a brief but active presence in southern New Mexico in the 1920s that centered in Las Cruces.²⁹² García likely gravitated to the organization in part because of discrimination he felt as the only Mexican American faculty member at the college. One particularly explicit example of direct racism toward García came when he applied for a horticulturalist position at the San Juan, Puerto Rico experiment station. According to a colleague who supplied a “recommendation letter” for the job, “[García] is a thoroughly honest and conscientious worker and is quite industrious but being a Mexican he shows rather less initiative than would be expected of a white man of equal mental ability.”²⁹³

Racial bias even tinged some of García’s closest relationships with white colleagues. His friendship with USDA Experiment Administrator Bonney Youngblood, for example, speaks both to García’s ability to bridge cultural borders and the subtle limitations of those efforts. After various visits from Youngblood to New Mexico, the two men developed a close relationship that lasted García’s lifetime. In a particularly inspired letter from Youngblood that opened with “Muy Distinguido Don Fabián Mio”

²⁹¹ Youngblood to García, Washington, D.C., 26 September 1944, FGP. Also, García to A.J. Cook, 7 March 1913, folder 5, box 4, FGP.

²⁹² David Correia, *Properties of Violence*, 80.

²⁹³ John D. Tinsley to Frank Gardner, 9 September 1901, folder 5, box 4, FGP.

and closed with “your hand is kissed by an humble Texan who prides himself in being your friend,” Youngblood expressed clear admiration, respect, and affection for García:

Having bedded down at night on the deserts in the days of your youth with your ovejas hombres and mujeres (secretos) with no canopy above you but the stars in the heavens; no music to lull you to sleep but the wail of coyotes or the bleats of hungry borregos y borregas; and with nothing between you and the mujeres secretos y señoritas to signify mutual protection and continence, you have imbibed the beauties of the desert landscape. Living in the midst of natural loveliness and grandeur, you have acquired a depth of thought and aspiration which New Mexican society could ill do without.²⁹⁴

García, even in such poetic praise from a close friend, can nonetheless not quite escape Youngblood’s tendency to *guisar* the chile breeder’s story with racialized sexual stereotypes and clichés of the Wild West. Years later, requesting from García a biographical sketch for a USDA publication, Youngblood perhaps revealed his own desires when describing those of the editors: “They want your story to be as pungent...as your peppers themselves.”²⁹⁵

García envisioned not only an inclusive borderlands but also a more scientific and industrial one. He believed that New Mexicans—Hispanic, native, and otherwise—should embrace science, and that non-natives and non-Hispanics in New Mexico and

²⁹⁴ Youngblood to García, 13 December 1935, folder 1, box 2, FGP.

²⁹⁵ Youngblood to García, 26 September 1944, folder 3, box 5, FGP.

throughout the nation should welcome Hispanic culture. In a 1928 speech to the Mesilla School, García relates this attitude in a story about “a friend of mine who was connected with the Department of Agriculture [and] has accepted a very responsible position from the United Fruit Company.” García explained that the friend had recently asked if he could “recommend a young man, preferably [*sic*] a Latin American, who was properly trained in agriculture and could give instruction in Spanish.” If not, his friend asked if he could recommend a “North American who could speak Spanish.” Regrettably, García explained, he could not recommend anyone to his friend, and a “wonderful opportunity was lost.”²⁹⁶ More than simply asking Hispanic students to modernize; García expressed a vision for a modern United States that accepted and embraced its Hispanic population and neighbors.

García’s work in Mexico also reflected his broader vision for the borderlands. Throughout his career, García frequently visited Mexico, informally advised Mexican farmers, occasionally met with high-level Mexican officials throughout the country, and even served as a guest lecturer in Mexico in 1930 for a course on agricultural research and education sponsored by the Department of Agriculture.²⁹⁷ His particular influence on Mexican agriculture was apparent as early as 1906. In that year, the newly founded Juarez Experiment Station’s inaugural report listed various fruit trees that Experiment Stations in Arizona, Texas, New Mexico, the Juarez Station, and “catalogs,” had recommended. While the report used the abbreviations “Ariz.,” “Tex.,” and “E.” for Arizona, Texas, and Juarez, respectively, the abbreviation for New Mexico was simply

²⁹⁶ Fabián García, “The Value of an Education,” 24 May 1928, folder 1, box 6, FGP.

²⁹⁷ “Member of A & M staff since Graduation 52 Years Ago, Fabián García is Retired,” *Las Cruces (N.Mex.) Sun-News*, 22 April 1945.

“G.,” which “represents that this variety has been recommended by el Sr. D. Fabián García, expert arboriculturist and member of the New Mexico Agricultural Experiment Station.”²⁹⁸ By 1910, García’s work in Mexico had extended to high levels of development. In that year García visited with the Mexican Minister of Foreign Relations (and former governor of Chihuahua), Enrique Creel, in Mexico, “in search of further information in the development of his work.” The Mexican Revolution seems to have halted momentum on such “development,” though eleven years later, the governor of Chihuahua requested García join him on a trip to view “the same farms that will be irrigated by the Conchas, so that [the farmers] will be better able to appreciate your instructions.”²⁹⁹

García also had a hand in Mexican agriculture through his ongoing relationships with former students either farming or working on agricultural policies in Mexico. For example, Arnulfo Landaverde, a former NMSU student who had recently accepted a post in the Mexican Department of Agriculture, wrote to thank García for sending him copies of the college catalog and to ask García whether he would look over the statement he was to read to the Department of Agriculture regarding Rambouillet sheep. He expressed his “high affection and gratitude for the different ways in which [the college] deigned to help me during my stay in this State [California] and outside it, deeds that are already well known by the leadership of agriculture [Dirección de Agricultura] of my country.”³⁰⁰

²⁹⁸ “Variedades de Arboles Frutales propios para la parte norte de la mesa central,” Buletin numero 22, (Ciudad Juárez, Chih.: Estacion Agricola Experimental de Ciudad Juárez, 1906), 9.

²⁹⁹ Governor to García, 3 December 1921, Chihuahua, Chih., folder 1, box 5, FGP.

³⁰⁰ Arnulfo Landaverde to Agricultural Experiment Station, 24 December 1925, San Francisco, Calif., folder 1, box 5, FGP.

García's influence more often came through casual advice to Mexican farmers. Reynaldo Talavera, a former student of García's living in Chihuahua, Mexico, wrote to García seeking copies of university bulletins on the "tomatoe, potatoe, onions and especially beets for feeding cows or what we call here 'remolacha forrajera'" In García's reply, in which he stated that he would "be glad to discuss all the problems that you have on your mind on the growing of onions, tomatoes, chile, beets and potatoes," he also mentioned that "the last time I saw you was on the trip to Chihuahua to discuss the building of the highway between El Paso and Chihuahua."³⁰¹ Here, García reveals not only his influence over farmers in Chihuahua, but also hints at larger connections such as a highway project that would significantly open up agricultural markets throughout the borderlands.

Mexican government officials and farmers were not the only ones to approach García about Mexican agriculture. In 1920 William S. Myers, who had telegraphed him nine years earlier as a representative of Texas-based Mexican Land & Colonization Co., wrote to him, in light of the Mexican Revolution, that "recent changes in Mexico suggest the possibility of our opening an office in that country." Specifically, Myers inquired whether he, or someone he could recommend, would be willing and able to "[carry on] experiments and demonstrations, and generally [be] diplomatic and able to conduct a Propaganda Office" in Mexico. Myers sought an agricultural expert to report on "the big money crops of Mexico, and [give] us some intelligent idea as to whether the growing of these crops is going to expand and whether it would be free from political interference in the future. In other words, is Agriculture going to progress and develop in Mexico, or

³⁰¹ Reynaldo Talavera to García, 11 December 1944, Chihuahua, Chih, folder 3, box 5, FGP; and García to Talavera, 25 November 1944, Mesilla Park, N.Mex., folder 3, box 5, FGP.

not?”³⁰² García served as a mediator, both formally and informally, between US agriculture and Mexican agriculture on several levels: he informed Mexican officials and educators, farmers on both sides of the border, and perhaps even US investors.

His chile-breeding work represents yet another level of mediation. The number 9 had genetic roots throughout the borderlands. García wrote in his *Chile Culture*, “The common strain of Mexican chile that has been grown in this section for a number of years... is being replaced in the Mesilla Valley by other better varieties that have been introduced in late years.” He used those varieties—the *negro* and *colorado* chiles, along with twelve strains of the *pasilla* chile (then quite popular in Chihuahua)—to develop the number 9. His Chihuahuan *chile pasilla* seeds were brought to him by Carlos Romero, an agricultural student from Chihuahua who later returned to farm in Chihuahua. The *chile negro* seed he used were from an undisclosed location in Mexico, brought to him by New Mexican farmer, Francisco Rivera. The *chile colorado* seed came from California, secured by local businessman Theodore Rouault, though it also may have had recent New Mexican origins.³⁰³ Emilio Ortega, who founded a cannery in Los Angeles also in 1896 and is responsible for the term “Anaheim pepper,” apparently visited New Mexico sometime in 1890 and brought back seed. As the travel log of these chiles suggests, the number nine drew its genetic base from throughout the US southwest and Mexican North.³⁰⁴

³⁰² “Mexican Land and Colonization Co. telegram,” 14 November 1911, folder 4, box 1, FGP; and William Myers to García, 8 June 1920, folder 1, box 5, FGP.

³⁰³ García, *Chile Culture*, 29–30.

³⁰⁴ For more on Ortega, see www.ortega.com/history; *Sunset*, vol. 6, Passenger Dept., Southern Pacific Co., 1901; “Fruit Interest,” *Corona (Calif.) Currier*, 16 December 1899; and “Hundreds of People See Pure Food Display and Get Samples,” *Oxnard (Calif.) Currier*, 22 April 1910, 7.

The strains used for the experiments were themselves shaped over many generations by farmers and gardeners throughout the Southwest, working under a variety of environmental conditions and agricultural systems. These years of labor are embedded, so to speak, in the genes of the chile. The number 9, derived from these experiments, was thus a consolidation of geographical areas across the borderlands. Considering this consolidation of past and distant labor in the genome helps illustrate how the land-grant school facilitated a region-wide interchange of knowledge and material resources.

Professional and university breeders, García included, commonly sourced seeds locally, regionally, and globally to breed modern industrial varieties.³⁰⁵ As simultaneously a strictly regional and a transnational crop, the number 9 chile differed from most university breeding projects in its reliance on local connections on both sides of the international border. Common intermediaries such as seed catalogs, professional plant hunters, or the USDA seed introduction program were simply not useful. This was a local crop that needed a local border crosser to successfully transform it into a more industry friendly, nationally digestible crop.

It needed, too, an intermediary to encourage changes in both farmer and consumer. García understood the new variety would be a valuable resource only if farmers collaborated in the process by taking on a more diligent and systematic approach to seed selection. “There are always some plants in the field which tend to revert back,” García wrote in his bulletin on the pepper in 1921, “consequently, it is very necessary to

³⁰⁵ García bred onions, for example, with seed mostly supplied through seed companies such as W. A. Burpee in Philadelphia and Barteldes Seed Company in Lawrence, Kansas, the latter once provided him a particularly early maturing strain of Grano from Valencia, Spain. For examples of major university breeding projects involving foreign germplasm from the USDA introduction program, see Noel Kingsbury, *Hybrid: The History and Science of Plant Breeding* (Chicago: University of Chicago Press, 2009), 148.

select seed in the field.”³⁰⁶ This ongoing process required a transformation within the farmers themselves. “As a matter of fact,” he wrote in his 1908 *Chile Culture*, “our New Mexico chile growers do not pay any attention to the selection of the seed, and as a result of this we are producing a very variable product.”³⁰⁷ Indeed, throughout his tenure García appealed to farmers to share his strong faith in science. In a lecture based off an 1898 US government publication on hybrids, García repeated the authors’ claim that “scientific investigations have shown clearly that the possibilities in the improvement of our useful plants are almost unlimited,” but added in his own words that farmers and gardeners frequently miss the opportunity for such improvements because “selection is not made very systematically, perhaps on account of a lack of knowledge on the subject on the part of the operator.”³⁰⁸ The modern, scientifically derived chile, García believed, came part and parcel with more modernized and scientific farmers.

García joined other Experiment Station scientists and extension specialists in various trips throughout the state to spread the gospel of science. His audience received him with both enthusiasm and, occasionally, disdain. In 1923, Bonney Youngblood and García traveled up the Rio Grande together, stopping at various pueblos. One pueblo, however, tried to “run [them] off the reservation.”³⁰⁹ Years later he wrote Youngblood, “I wish I could repeat [that] trip that you and I made,” and recalled how “we got into the

³⁰⁶ Fabián García, “Improved Variety Number 9 of Native Chile,” Bulletin no. 124, NMCAMA, AES (Las Cruces, N.Mex: Rio Grande Republic, 1921), 16.

³⁰⁷ García, *Chile Culture*, 19.

³⁰⁸ García drew heavily from Walter T. Swingle and Herbert J. Webber, “Hybrids and their Utilization in Plant Breeding,” in *Yearbook of United States Department of Agriculture. 1897* (Washington, D.C.: Government Printing Office, 1898), 383–420. At times, García lifts entire passages from this early resource on the science of hybridization. See, Fabián García, “Variation and the Improvement of Agricultural Plants,” undated lecture, folder 4, box 5, FGP.

³⁰⁹ Youngblood to García, 27 April 1934, BYP, HL.

Indian dance and feared for our scalps.”³¹⁰ In a letter to García eleven years later relating to a possible project in Navajo country, Youngblood remarks, “I’ll not ask you for a letter of introduction to the Navajos, since I already know from experience what at least one group of Pueblo Indians think of you!”³¹¹ A year later, Taos pueblo elders objected to a county extension garden project, on the grounds that “anything that had been recommended by the Government had usually been an expensive habit, and that they had found themselves poorer after trying out these things than they had originally.” Despite the complaints, the elders were eventually persuaded and García sent up seed from Las Cruces.³¹² Whether García sent up his newly released number 9 or not, it is clear that García, as with the extension agents throughout the state, experienced a mixed reception depending on the audience and the context.

García’s vision for the chile pepper required not only a transformation among those that grew it, but also those who ate it. Though he bred primarily for traits that would allow for more efficient canning, García also selected for mildness—presumably to appeal to Anglo consumers throughout the country—and understood that non-Hispanic consumers in the Southwest and beyond needed to develop a taste for the pungent fruit if the industry were to take off. While a less pungent chile would certainly help the pepper’s marketability, so too would a change of taste among consumers. “Some of our New Mexico people are becoming quite interested in the use of some of these native products [tortillas, frijoles, and chile],” he wrote to Bonney Youngblood in 1934, “and I only wish it were possible for a national educational campaign to be started to get people to eat

³¹⁰ García to Youngblood, 28 September 1945, folder 2, box 2, FGP.

³¹¹ Youngblood to García, 9 April 1934, BYP, HL.

³¹² “Club Work at the Taos Pueblo in Taos County for Year 1924,” folder 4, box 5, FGP.

these products more than they are doing.”³¹³ In the context of prevalent anti-immigration sentiment—often expressed through food and diet campaigns—in the United States during García’s trials and the first decades of the number 9’s introduction, García’s wish for a “national education program” reflects the subtle challenge of normative U.S. tastes inherent to his work with the chile.

The number 9 never became a fully dominant variety among New Mexican chile growers. While it became quite popular in the southern and central parts of the state, many farmers in the north, where landrace varieties proved hardier, did not grow the variety. In 1924, García reported that production had recently increased 300% in Santa Fe county, but growers there were planting landrace varieties, not the number 9, because it was too hot (this indicates that while García may have bred for mildness, the final result missed the mark). Further south, it gained wide popularity but never entirely replaced other varieties. A Las Cruces grower remarked in 1921 that while the number 9 performed well in the field, “we find that the small native chile sells the best... We wish the No. 9 was of the smaller size, as the native people prefer the small hot chile to the mild large variety.”³¹⁴ Later, in 1934, García wrote that the number 9 was widely used in New Mexico, but because it ripened late, was especially “an excellent variety for the warmer sections.”

Despite its limitations, many New Mexicans throughout the state embraced the project of improving the chile pepper. Fabiola Cabeza de Baca, the famed champion of

³¹³ García to Youngblood, 10 January 1934, p. 4, BYP, HL. See also, Danise Coon, Eric Votava, and Paul W. Bosland, “The Chile Cultivars of New Mexico State University Released from 1913 to 2008,” Research Report 763, New Mexico State University, Agricultural Experiment Station, Las Cruces, New Mexico. Youngblood alludes to García’s work toward making the chile more appealing to non-Hispanic tastes, when he states that García has “added vigor and *palatability* to the life-giving mais, chile, frijoles, and uvas...” (emphasis mine) in Youngblood to García, 13 December 1935, FGP.

³¹⁴ Percy W. Barker, Mesilla Park, N.M., in García, *Improved Variety No. 9 of Native Chile*.

northern New Mexico foodways, exemplifies this cultural acceptance. In an undated speech (likely from the forties), she explains that, “The chile grown, even 50 years ago, in the northern counties, was a small pepper and very hot. Horticulturalists, from our College of Agriculture, conducted experiments in crossing the early varieties with less pungent, better size and quality chile, which resulted in the improvement of the product.”³¹⁵ Her approval of the scientifically “improved,” and more easily canned, number 9 chile points to an acceptance of new technologies we see in other facets of her work, such as her Spanish-language bulletins that advocate home canning.³¹⁶ In this sense, such an openness toward the reworked culturally iconic crop confirms how Cabeza de Baca, in the words of historian Virginia Scharff, “worked to venerate and preserve a more mixed and dynamic New Mexico heritage [and] reworked the world in which she moved, with an eye on both the past and the future.”³¹⁷

The creation and popularity of the number 9 chile helps illuminate how the greater borderlands shaped this “more mixed and dynamic New Mexico heritage.” Cabeza de Baca and García, who knew each other well and developed a deep mutual respect after traveling on a farm demonstration train together throughout northern New Mexico in 1930, wrote extensive, often affectionate, letters to each other until García’s death. “There isn’t a person in this country who I admire more...than you,” Cabeza de Baca wrote him in 1943. She continued, “I believe that every *hispano* should feel honored that we have one of our own blood who was able to lift himself to such an

³¹⁵ Fabiola Cabeza de Baca Gilbert, “Chile,” folder 15, box 1, FCBGP.

³¹⁶ See Fabiola Cabeza de Baca Gilbert and Veda A. Strong, *Boletín de Conservar*, Extension Circular 135 (Las Cruces: New Mexico State University, 1935).

³¹⁷ Virginia Scharff, *Twenty Thousand Roads: Women, Movement, and the West* (Berkeley: University of California Press, 2002), 118. See also, Tey Diana Rebolledo, “Narrative Strategies of Resistance in Hispana Writing,” *The Journal of Narrative Technique* 20 (Spring 1990): 142.

elevated position.”³¹⁸ Cabeza de Baca certainly drew lines to emphasize the distinctness of Nuevomexicano culture in her writing: she insisted that “one must use New Mexican products” to get a “genuine” New Mexico taste and used cookbooks to distinguish “New Mexican” from both “Mexican” and “American” foodways.³¹⁹ Yet, her relationship to García and her support of the number 9 suggest she understood such lines to be more blurred than strictly defined. More broadly, her relationship with García and the number 9 offers an important window into how influences from southern New Mexico and the larger borderlands region informed the intellectual, agricultural, and cultural identity of northern New Mexico.

The number 9 represents an important chapter in the history of chile pepper industry in New Mexico and New Mexico’s relationship to modernity and nationhood. The number 9 served as one of the genetic strains for the Sandia variety, which was developed in the 1950s and remains an important variety for the New Mexican chile industry. Its significance, however, stretches far beyond its genetic legacy; the development of the number 9 represented a fundamental shift in the idea of the chile. No longer bred primarily for local and seasonal consumption, the scientific chile crossed geopolitical, seasonal, and cultural borders. García’s work, as Carmella Padilla states in her 1997 *Chile Chronicles*, “laid the groundwork for turning a regional food into a national food [and] above all... made chile into a science.”³²⁰ Such change reverberated

³¹⁸ Cabeza de Baca to García, 9 May 1943, Box 2, Folder 2, FGP. In another example of their affectionate correspondence, García sent Cabeza de Baca lyrics to a song he wrote about their travels on the demonstration train in 1930. García to Cabeza de Baca, 1 May 1930, folder 4, box 5, FGP. “Las recuerdos del tren agrícola me gustan mucho...” she responded in Fabiola Cabeza de Baca to García, 27 May 1930, folder 1, box 2, FGP. A second letter attached from her adds, “Thanks a lot for the poem. It is very sweet and it brings back dear memories of you. I had not written because I wanted to try and write you an answer in poetry. No creo que jamás olvide aquello. –Fabiola.”

³¹⁹ Cabeza de Baca Gilbert, *The Good Life*, 45.

³²⁰ Padilla, *Chile Chronicles*, 7.

well beyond the agricultural fields of New Mexico. Bred for a more modern and inclusive region and country, this physically and culturally reworked chile forged new paths of agricultural and cultural exchange both within and beyond the borderlands.

6.

The Evolution of a Modern Pod

The Industrial Chile and Its Storytellers in New Mexico

“Chile is my legacy,” famed Las Cruces–writer Denise Chávez wrote in 1996, “so is the hot pungency of this southern land, the miles of earth tilled and seeded, yielding crops valuable and cherished.” In the five decades between Fabián García’s death in 1946 and Chavez’s words, chile had grown from a relatively small and local crop in Chávez’s hometown to one of its chief export crops.³²¹ Along the way, it had become a powerful cultural symbol throughout the state and, for many, a legacy nearly synonymous with a people and a landscape.

The chile industry in New Mexico owed its growth to a strong collaborative public-private effort among chile producers, processors, and the land-grant university that extended from breeding to branding. One hundred years after the first chile experiments began at the small land-grant college, the work of researchers at NMSU extended beyond selectively breeding the pepper to selectively rewriting its story. These efforts helped growers and processors scale up production and compete in national and international markets. They also helped propel the chile pepper as a symbol of New Mexico identity that provided a source of pride and unity, but also exposed cultural divisions and tensions surrounding modernity. As the industry worked hard to shape the story of the pepper, and

³²¹ Denise Chavez, “Scenes of Home and a Dream in Green,” *New Mexico Magazine* (February/March 1996): 38. In Doña Ana county, in southern New Mexico where the industry’s growth was most concentrated, the number of acres in chile jumped roughly sixteen-fold over between 1949 and 1978. *United States Census of Agriculture, 1950*, vol. 1, part 30, New Mexico and Arizona, county table 5, chapter B, statistic for counties, (Washington D.C.: Government Printing Office, 1952), 66; and *United States Census of Agriculture, 1978*, vol. 1, part 31, New Mexico, county summary data, Table 31, (Washington, D.C.: Government Printing Office, 1980), 145.

as many in New Mexico offered counter-narratives, the chile itself continued to evolve with the changing landscape. Within its fiery heart, the chile contains a distinctive set of genes and stories that speak to a diversity of cultural identities and values within the state. And the stories, like its genes, keep changing.

The Growth of an Industry

Beginning in the early seventies, the chile industry began to boom. A crop that had previously been grown by small-scale farmers throughout the state, now became the focal point of a major new industry in the Mesilla Valley of southern New Mexico. Many factors contributed to this shift, including access to nearby and relatively cheap labor from Mexico, and a large and growing international demand for peppers that foreign and domestic growers elsewhere struggled to meet.³²² Breeding efforts at NMSU and other universities throughout the southwest also proved significant to the industry's growth as Fabián García's successors at NMSU continued to breed chile specifically suited for industrial production.

Breeding developments began in 1950 when NMSU breeder Dr. Roy Harper released the New Mexico No. 6, which derived from an "undetermined varietal origin" and was milder, higher yielding, shorter, more uniform in color, and faster maturing than the no. 9.³²³ This pepper, "particularly well-suited for the processing industry and for producing green chile for the fresh market," helped facilitate the beginning of a significantly scaled-up industry with its labor-saving qualities such as concurrent

³²² Paterson, *Hot Empire of Chile*, 5.

³²³ Roy E. Harper, "An improved Variety of Chile for New Mexico," Press Bulletin 1041, NMCAMA, AES, (NMSU Cooperative Extension Service and Agricultural Experiment Station Publications: April 1950), 1.

maturation and easy de-stemming. The no. 6, bred to be milder and renamed the No. 6-4 in 1957, remained an important staple variety for the industry throughout much of the twentieth century. Harper's successor, Dr. Roy Nakayama, later emphasized how much mildness contributed to the new variety's success. "The big difference, actually, way back then- even prior to 1955- was that about the only variety available here was a real hot chile. Too doggone hot for most," Nakayama recalled in 1976, "most of it was native chile, with some New Mexico No. 9. That No. 9 was larger-bodied, but it was too hot... We couldn't sell it outside the state." These new varieties aided the transition from a statewide to national market, marking a "transition from a cash crop for producers with small acreages to an attractive, high income crop in modern irrigated agriculture."³²⁴

Subsequent varieties developed at NMSU had less impact on the industry. In 1974, Roy Nakayama released the NuMex Big Jim, which grew nearly a foot long and was by most accounts the largest chile variety known. Crossing a small Peruvian variety with an "Anaheim," native Chimayó and other New Mexican varieties, Nakayama bred for pods that "mature concurrently, making machine picking—and thus greater acreage—possible." Though the chile never became a staple variety among processors, it became "a favorite of home gardeners and chefs for making chile rellenos."³²⁵ Despite the Big Jim's limitations for wide-scale production, the industry had promotional use for the new pepper and its breeder. Gaining the moniker "Mr. Chile," Nakayama served as the official

³²⁴ "Chile is 'Hot' on the National Market," Agri-Search pamphlet by the NMSU, Agricultural Experiment Station, winter 1981, 2; and Donald Cotter, "A Review of Studies on Chile," bulletin 673, NMSU agricultural experiment station, 4.

³²⁵ John Crenshaw, "Chile Man- Roy Nakayama" *New Mexico Magazine* 54, no. 5 (May 1976): 37; Cotter, Donald J. "The Scientific Contribution of New Mexico to the Chile Pepper," in *Southwestern Agriculture: Pre-Columbian to Modern*, ed. Henry C. Dethloff and Irvin M. May, Jr. (College Station: Texas A&M Press, 1982), 21; and Coon, Votava, and Bosland, "The Chile Cultivars of New Mexico State University Released from 1913 to 2008."

judge at chile cook-offs and competitions and became a local celebrity as part of a larger campaign to promote the chile. Nakayama became an icon when the industry, increasingly becoming non-local and faceless, needed a face.³²⁶

Though locally developed varieties played a significant role in the industry's growth, New Mexico growers also adopted varieties of peppers from elsewhere that had never before been commercially produced in the state. Pioneers of the chile industry, Emma Jean and Orlando Cervantes, for example, helped built the state's chile industry by growing Tabasco and cayenne peppers largely to be processed into Louisiana-style hot sauce. In search of a new crop, Orlando Cervantes began growing cayenne peppers in 1972 for a Cincinnati-based hot sauce company with processing plants in Louisiana. He soon began producing the peppers for other Louisiana hot sauce producers in New Iberia.³²⁷ In 1973, he began growing Tabasco peppers for the McIlhenny Company in New Iberia, Louisiana.³²⁸ "One day I saw a bottle of Tabasco sauce at the supermarket and thought maybe we could grow them," Orlando Cervantes explained a few years later. He contacted McIlhenny's, who decided the hurricane-free, beetle-free irrigated desert of New Mexico offered a good opportunity for the company. The company agreed to provide all the seeds, which were propagated in a Texas greenhouse and then shipped to the New Mexico farm to be planted. Within three years, the Cervantes's farm were harvesting one hundred acres of the specialty crop, mashing it on site and shipping it back to Louisiana in white oak barrels to finish fermenting (for three years) and to be

³²⁶ William Carleton, "The Expansion of a Hot Commodity," (master's thesis, University of New Mexico, 2011), 29.

³²⁷ Marvin Tessneer, "Producer Highlights Ag Labor Problems," *Las Cruces (N.Mex.) Sun-News*, 15 December 1974, 12.

³²⁸ Marvin Tessneer, "Louisiana Hot Peppers Tested Here," *Las Cruces (N.Mex.) Sun-News*, 14 October 1973, 11.

bottled.³²⁹ By the nineties, the Cervantes's farm was focusing primarily on cayenne peppers for Louisiana-style hot sauce, and shipping their peppers internationally as far as Saudi Arabia.³³⁰ In addition to New Mexico-grown peppers, the Cervantes's operation expanded into Mexico. In 1987, the Cervantes's farm began growing some of their chile in Mexico (Jalisco, Flores Magon, Delicias, Ascensión, Obregón, and Chihuahua), and by 1996, Mexican-grown chile comprised half of their operation. From Mexico to New Iberia, from New Mexico back to Mexico, the Tabasco and cayenne peppers' journey highlights the regional binds of agriculture in the Southwest that extended into both Mexico and the US South.

As the example of the Cervantes farm suggests, new chile varieties developed at NMSU, although instrumental in the industry's rise, did not alone facilitate the chile industry's boom. Seeds developed elsewhere and processors such as the hot sauce companies in Louisiana that Cervantes worked with, along with local processors of New Mexico green chile proved essential to the industry's initial success. In 1959, for example, a local cannery bought all the available seed of the newly developed 6-4 variety to distribute to contracted growers; by 1977, there were at least seventeen major processors in the southwest. The development of more easily peeled varieties, along with emergence of widespread refrigeration, also gave rise to a wholly new product, frozen green chile, the specialty of processors such as Encanto Foods (later Bueno Foods).³³¹

³²⁹ Jeanne Gleason, "Tabasco Thrives in Las Cruces," *Albuquerque (N.Mex.) Journal*, 9 November 1975, G-4.

³³⁰ Emma Jean Cervantes, interview by Jane O' Cain, 9 July 1996, tape 1, side B, and Emma Jean Cervantes, interview by Ashley Granados et al, 23 July 1997, New Mexico Farm and Ranch Museum Oral History Program, New Mexico Farm and Ranch Heritage Museum, Las, Cruces, New Mexico [hereafter EJC-NMFRHM].

³³¹ Cotter, "The Scientific Contribution of New Mexico to the Chile Pepper," 20; and Carleton, "The Expansion of a Hot Commodity."

Promotional Stints and “A New Cuisine for ‘Modern Civilization’”

Processors played an important role not only in purchasing chile from farmers, but also promoting the chile. Mountain Pass Cannery (the producer of Old El Paso salsa in Anthony, Texas since 1918 who had been purchased by Pet Food, Inc. in 1968), led the effort by underwriting chile research at NMSU during the industry’s initial growth years and sponsoring events such as a “green chile recipe fiesta” and green chile cook-off at NMSU in 1972.³³² These events, along with the creation of the Hatch chile festivals in 1971 and the passing of a bill in the New Mexico legislature in 1965 to make chiles and pinto beans the state’s “official vegetables,” represented the bulk of early promotional efforts surrounding the chile pepper industry.³³³ In 1973, however, NMSU propelled promotional efforts by funding its own chile promotional group. Convinced that a “promotional stint involving the chile might be good for the university,” university president Gerald Thomas set aside funding to create the International Connoisseurs of Green and Red Chile, which soon became the biggest promotional group for the chile in the state with a membership of over three thousand by 1977. Mountain Pass, like several

³³² Mountain Pass delivered a \$5884 grant to NMSU for chile research in 1976, for example, and wrote a \$1000 personal check to Roy Nakayama in 1974, who commended the “industry’s interest in chile research and that extra money has been added beyond state appropriations as incentives for researchers.” “Grant Aids Chile Production,” *Las Cruces Sun-News* 4 March 1976, 19; and “Society Given Promotion Check” *Las Cruces Sun-News*, 25 December 1977, 32.

³³³ House Bill 24 in the 1965 New Mexico state legislature was introduced by Arcenio Gonzales of San Miguel, New Mexico. A history teacher who had promised a former student, Helen Lueras, that he would follow her recommendation to propose the bill, Gonzales presciently noted that “chile has caught fire in the state of New Mexico.” See “Chili Bill Passes,” *Las Vegas (N. Mex.) Daily Optic*, 3 February 1965, 1; and “Chili, Frijoles to Share State Vegetable Role,” *Albuquerque (N. Mex.) Journal*, 4 February 1965, 2.

processors, helped fund the effort. By taking the lead on the industry's promotional work, the university's collaboration with the industry had extended from seed to sales.³³⁴

The connoisseurs employed various strategies for chile promotion. They published cookbooks, staged chile cook-offs, sent "care packages" of chile seeds to far corners of the globe, and put on conferences. They even helped escalate a "Great Chile War" in the U.S. Congress in 1974, by providing New Mexican chile products and an NMSU cookbook to seven non-New Mexican congressional members who had reportedly claimed the superiority of their state's chile. In addition to the chile products they sent, they also offered to stage a chile cook-off in New Mexico with none other than Roy Nakayama as presiding judge.³³⁵ Engaging the power of celebrity, in fact, proved a successful and lasting strategy for the group. In addition to boosting membership rolls with the obvious candidates such as processors, growers, and restaurateurs, the group worked hard to secure memberships from celebrities such as Bob Hope, Vickie Carr, Paul Harvey, and Lawrence Welk.

Following the dissolution of the Connoisseurs in the early eighties, new public-private promotional efforts took hold. Entrepreneur Dave Dewitt, a former radio host from Boston who moved to New Mexico in the seventies, took a prominent lead in chile promotion and worked closely with the university. Dewitt published *The Fiery Cuisines* in 1985 and soon went on to co-author several works with Dr. Paul Bosland. In 1987, he founded *Chile Pepper Magazine* in 1987, and a year later started a chile-industry trade

³³⁴ "This Week is Hatch Third Chile Festival" *Las Cruces (N.Mex.) Sun-News*, 25 August 1974, 9. Mountain Pass wrote a check to the group for \$3000 in 1974 and a \$4000 check in 1977. "Society Given Promotion Check" *Las Cruces (N.Mex.) Sun-News*, 25 December 1977, 32. See, too, Carleton, "The Expansion of a Hot Commodity."

³³⁵ International Connoisseurs of Green and Red Chile advertisement. *Las Cruces (N.Mex.) Sun-News*, 29 July 1977; "Last of the Red Hot Lovers? No Such Thing..." *Las Cruces (N.Mex.) Sun-News*, 11 August 1977, 17; and "Society Enters 'Great Chile War,'" *Albuquerque (N.Mex.) Journal*, 27 February 1974, 22.

show, the National Fiery Foods Show. In addition, NMSU, working closely with growers and processors who continued to help fund chile research and promotion, helped start the Chile Pepper Institute in 1992. With an educational and research-based mission that included publishing newsletters and books on peppers, sponsoring an annual conference, conducting pepper research, and serving as a seed bank and as an “international clearinghouse and archives for information related to Capsicums,” the institute in part aimed to “solidify the Institute’s and NMSU’s position as the national leader in Capsicums research and education.”³³⁶

The New Mexico chile industry grew alongside changing national tastes for hot peppers and, from the beginning, the industry’s chile promotional efforts played off a broader cultural movement surrounding chile peppers. Partly because of breeding efforts by Fabián García and his successors, consumers throughout the nation had become increasingly aware of chile-based foods, most commonly in hot sauce and regional variations of “chili.” As popularity for hot foods increased, a subculture of chile “aficionados” emerged around the country that centered on chile cook-off competitions, tongue-in-cheek bravado, and fierce claims, via the hot pepper, to regional superiority. The Chili Appreciation Society International (CASI), which formed in 1967 after an infamous chili cook-off, began staging regional chili cook-off competitions throughout the country. Winners convened for an annual national cook-off, which raised money for local charities and offered a fun celebration of local folk cuisine.

The culture of the CASI events shaped the promotional strategies of the Connoisseurs. The Connoisseurs' name not only matched the tongue-in-cheek rhetoric of

³³⁶ The Chile Institute Strategic Management Plan (Draft), prepared by John R. Van Ness, 11 October 1995, pp. 2–3, 6, folder 19, box 23, Ms 484, Dave Dewitt Collection [hereafter DDC], NMSUL.

the national cook-off culture, it also directly played off the word “international” in CASI. The invocation of “international” served to re-center Las Cruces as a hub of Capsicums and move the image of the industry away from solely local or regional markets. As “connoisseurs,” the group also cast the chile as a high-class vegetable. This promotional tactic of up-classing the chile, complete with global celebrities on their membership role, seemed to work. Chile Farmer Ray Enriquez, who in 1976 was growing over 600 acres of chile, attributed the growing chile industry not only to an increased number of processors, but also for an expanding taste for New Mexican food beyond New Mexico. Part of this newfound appreciation for the chile, he explained, was in how it was perceived. “When I was a kid this kind of food was considered poor Mexican dishes. People would get together and plant one acre of chile that would take care of four or five families. Now chile dishes are considered gourmet food.”³³⁷

Yet the work to promote the chile involved more than simply presenting the chile as a classy, more palatable vegetable for the broader US public, it ironically also involved rhetoric, often heavily tinged with machismo and racial stereotypes that tapped into deeper underlying tensions with elitism and modernity.³³⁸ In “The Great Chili Confrontation,” H. Allen Smith recounts the first chili cook-off in 1967. Smith, a

³³⁷ “Chile Growing Booms, Future Bright” *Las Cruces (N.Mex.) Sun-News*, 22 February 1976, 4.

³³⁸ In New Mexico, racialized and gendered connotations with the chile pepper has come in many forms. The term “chile” has long been a phallic symbol in parts of New Mexico. There is an old New Mexican joke, for example, about a cold evening at a crowded New Mexico bar. Two men, one Anglo and one Hispanic New Mexican, step outside to urinate. As they relieve themselves, the Anglo man says, “Pretty chilly, huh?” The other man responds, “Thank you.” See Joe Davis, interview by Audilio Miranda, 1970, track 9, CD 182, box 2, MSS 892 BC, Ruben Cobos Collection of Southwest Folklore and Folk Music, CSWR. For other phallic imagery and responses to it, see Bruce “Pacho” Lane, *The New Mexico Chile Film* (1989), accessed 15 January 2017, <http://docfilm.com/site/the-new-mexico-chile-film/>. Gendered and racialized connotations abound in New Mexico cook-off culture. A chili cook-off in Socorro in 1979, for example, featured staged gunfights and “a lynching,” and a Ute man from Gallup won the national chile competition with a recipe dubbed “Indian’s revenge.” “Chili Cook-off Slated,” *Clovis (N.Mex.) News Journal*, 20 May 1979, 27; and “Gallup Indian Wins World Chili Contest,” *Santa Fe New Mexican*, 25 October 1976, A12.

northerner who had taunted nearly all Texans with his published declaration that “nobody knows more about chili than me,” faced off against a Texan in Terlingua, Texas. Smith wrote in jest to his counterpart prior to the competition that “it must surely be the case that you have strong currents of northern blood coursing through your veins; it seems to me that, even though you might not know it yourself, when you were an infant you were kidnapped somewhere in the Middle West or East and spirited off to Texas, possibly by Kickapoo Indians or Canary Islanders [whom Smith had elsewhere claimed had invented chili]. It is simply impossible that you could be an unsullied Texan, else you would not be able to carpenter up such a fine dish of chili...”³³⁹

The macho and race-laden rhetoric revealed deep regional tensions and anxieties surrounding modernity. As historian David Scofield Wilson argues, “the great chili cook-off phenomena of the post-Johnson era has its origins” in an old American populist literary genre—best characterized by Mark Twain—that mocked the stuffy, elitist, “seaboard Brahmin” culture of the upper classes. Additionally, these cook-offs, Wilson writes, “are high-spirited affairs, featuring a good deal of light-hearted self-mockery and playful showing off,” that typically included a healthy dose of “posturing and bombast [that] radiates a mock-macho air and turns on putting women and children out of the picture.” The cook-offs highlighted manly self-sufficiency (winning chili recipes often contained meats such as rattlesnake, raccoon, or porcupine), and the pepper itself was at times used as a symbol of masculinity. Yet, in the culture of chili cook-offs, behind the self-mockery lay a more serious criticism of modernity. “Hot peppers mark a new cuisine for ‘modern civilization,’” Wilson argues, “but a ‘civilization’ not too ‘sissy’ or

³³⁹ H. Allen Smith, *The Great Chili Confrontation: A Dramatic History of the Decade’s Most Impassioned Culinary Embroilment, With Recipes* (New York: Trident, 1969), 42.

childish; in short, a ‘natural, manly’ civilization.” To Wilson, the chile cook-offs “flaunt chili or chiles as signs of their self-conscious distinction from whatever they take to be ‘mainstream’ American life.”³⁴⁰ And here, with an appropriation of a critique of modernity for the purposes of a modern industry, lies a recurring irony of modern agriculture. The Connoisseurs’ cook-offs promoted the chile pepper in an effort to make it more mainstream, in part, by appealing to popular disdain for the mainstream. Just as James Webb Young had instinctively understood as he donned the Old Jim Young persona, the appeal to the anti-modern could itself be a vital part of the modern industry’s toolkit. The transformation of the chile pepper from a regional ingredient of “poor Mexican dishes” into a modern food with widespread popularity thus required an inventive promotional strategy that tapped into existing anxieties surrounding modernity. Such a strategy proved successful; by 1997, Dr. Paul Bosland could proudly claim that “chile has transcended an esoteric crop and become has become part of mainstream America and the world.”³⁴¹

The Evolution of the Modern Pod

The promotional strategies of the industry included subtle ways to craft a narrative of the national pepper industry that placed New Mexico at the center. One strategy was as basic as standardizing the spelling of the pepper nationwide to conform to New Mexico’s traditional, Hispanized “chile.” Neither the word chile, which derives

³⁴⁰ David Scofield Wilson, “Hot Peppers,” in *Rooted in America: Foodlore of Popular Fruits and Vegetables*, ed. David Scofield Wilson and Angus Kress Gillespie (Knoxville: University of Tennessee Press, 1999), 106–108.

³⁴¹ “*Martha Stewart Living* Gets a Taste of New Mexico,” *Chile Pepper Institute Newsletter* 6, no. 2 (Summer 1997): 3.

from the Nahuatl word, *chilli*, nor the word chili, which is in turn an Anglicized form of chile, constitute an original spelling of the fiery fruit. Yet, languages continually evolve and spellings change. For most of the twentieth century, the pungent pepper was most often spelled chile in New Mexico and chili elsewhere in the country. As Dr. Benigno Villalon of Texas A&M explained to Dave Dewitt in 1987, “The term chili pepper should be avoided completely [and] the word chile outside New Mexico has very little meaning.” Instead, Dr. Villalon advised, “introduce the word capsicums as a periodic substitute for ‘peppers’ [,] this is universal.”³⁴²

Even researchers and writers at NMSU up until the early seventies at times used the two spellings interchangeably in official publications.³⁴³ For example, in 1973 NSMU published cookbook on “prize-winning” green chile recipes from the contest the University hosted in conjunction with Mountain Pass Cannery. The cover of the cookbook reads “Green Chili Recipe Fiesta,” while the introduction spells the title of the cookbook, “Green Chile Recipe Fiesta.” Within the cookbook, in fact, the authors explain that while they prefer the Spanish spelling of “chile” (the apparent typo on the cover notwithstanding), a “chile is a chili is a chilli.”³⁴⁴ Yet as the New Mexico chile industry’s branding efforts took off, a chile was no longer a chili. By the late seventies, the Connoisseurs made a concerted effort to insist on “chile” as the only proper spelling of the hot pepper; this work was continued by Dave Dewitt and Paul Bosland into the

³⁴² Dr. Benigno Villalon to Dave Dewitt, 30 June 1987, folder 4, box 1, DDC, NMSUL.

³⁴³ For “chili,” see, for example, “Fruits and Vegetables,” Circular 25, NMCAMA, AES (Las Cruces: November 1917), 4; “Growing the Home Garden,” Circular 96, NMCAMA, AES (Las Cruces: May 1928); “Judging for Home Economics 4-H Clubs,” Circular 11B, NMCAMA, AES (Las Cruces: May 1932), 22; and “Home Vegetable Gardening,” December 1958, Circular 287, NMSU Cooperative Extension Service and Agricultural Experiment Station Publications.

³⁴⁴ “Green Chili Recipe Fiesta” (Las Cruces: NMSU Cooperative Extension Service and Agricultural Experiment Station Publications: July 1973).

eighties and nineties.³⁴⁵ As Dave Dewitt later explained, “nomenclature” had become important. “One thing that Paul Bosland and I did [was] to get newspapers to change the spelling,” Dewitt explained, “We got the *Dallas Morning News* to change it to an ‘e’. We got the *El Paso Times* to change it, we got the *Washington Post* and the *New York Times* to change.... We got the *AP Stylebook* to say both were permissible...that’s what I call a positive thing toward standardizing nomenclature.”³⁴⁶ Standardizing nomenclature, however, was just one small part of a larger effort by those involved in the New Mexico chile industry to solidify New Mexico’s place as a central player in the evolving narrative of the chile pepper. Another facet of this effort involved retelling the story of New Mexico’s “patron saint of chiles.”

The historical record is clear: Fabián García did not become the state horticulturalist until 1906 and, as he made unmistakable in his writings, his “preliminary work” of breeding chile did not begin until the spring of 1907.³⁴⁷ For over a century, these basic facts shaped the story of the chile. Ruth Sneed, as just one of many examples, published a brief history of chile for the Extension Service in 1960 that explained that “it all started back in 1907, when Fabián García selected and planted the seeds of three varieties of chile.”³⁴⁸ In 1988, Bosland, citing García, writes that “Fabián García, the

³⁴⁵ For examples of insistence on spelling, see John Crenshaw, “New Mexico’s Fiery Soul,” *New Mexico Magazine* (May 1976): 34; Jeanne Croft, “Adoration of a Fiery God,” *New Mexico Magazine* (October 1981): 67; and Jeanne Croft, “Chile!” *New Mexico Magazine* (March 1984): 40.

³⁴⁶ Dave Dewitt, interview by Donna Wojcik, 20 May 2016, New Mexico Farm and Ranch Heritage Museum Oral History Program, transcript, p.33 [tape 1, side B], New Mexico Farm and Ranch Heritage Museum, Las Cruces, New Mexico [hereafter DD-NMFRHM].

³⁴⁷ García, “Improved Variety No. 9 of Native Chile,” 4.

³⁴⁸ Ruth Sneed, “Chile,” Circular 309, NMSU Cooperative Extension Service and Agricultural Experiment Station Publications (August 1960), 2. Several other historians repeated this fact. See, for example, Terrence W. Haverluk, “Chile Peppers and Identity Construction in Pueblo, Colorado,” *Journal for the Study of Food and Society* 6, no. 1 (Winter 2002): 46; and Rick Henricks, “New Mexico’s Chile Kings: Fabián García and Roy Nakayama,” *Tradicón* (October 2012): 111.

first chile pepper researcher, began in 1907 to investigate ways in which to improve chile pepper production methods and cultivars for New Mexico,” and repeated this assertion in 1993.³⁴⁹

A few years later, however, a new narrative emerged. Bosland wrote in 1996 that “The New Mexican pod-type was developed in 1894 when Fabián García at New Mexico State University began improving the local chiles grown by the Hispanic gardeners around Las Cruces, New Mexico.”³⁵⁰ This uncited claim, which Bosland has repeated over the course of two decades, not only pushes the date of García’s initial experiments up thirteen years, it falsely claims that the peppers used in García’s experiments were all local when in fact, the *chile negro* came from Mexico and the *chile colorado* from

³⁴⁹ Paul Bosland, “Pepper Breeding and Genetics at New Mexico State University,” *Tomato and Pepper Production in the Tropics*, Proceedings of the International Symposium on Integrated Management Practices Tainan, Taiwan, 21–26 March 1988 (December 1989), 51, http://pdf.usaid.gov/pdf_docs/PNABG557.pdf; and Dave Dewitt and Paul W. Bosland, *The Pepper Garden: How to Grow Peppers from the Sweetest Bell to the Hottest Habanero* (Berkeley, Calif: Ten Speed Press, 1993), 15–16.

³⁵⁰ Paul W. Bosland, “Capsicums: Innovative Uses of an Ancient Crop” in J. Janick, ed., *Progress in New Crops* (Arlington, Virg.: ASHS Press, 1996), 479–87.

California.³⁵¹ Meanwhile, Bosland’s colleague, Danise Coon, similarly began to tell a new story, claiming García began his experiments in 1888.³⁵²

Given Bosland’s intimacy with García’s writings and his previously published accurate portrayal of the historical facts, it is difficult to imagine that this new narrative was simply a research error or typo. More likely, the altered historical dates helped bolster the university’s new, industry-friendly claim that the “New Mexico” pod type originated solely in New Mexico. Around the same time that Bosland stopped using the accurate 1907 date for García’s initial trials, he also had stopped using the term “Anaheim type” in favor of “New Mexico type.”³⁵³ Bosland eventually insisted that “all New Mexican type chile peppers grown today gained their genetic base from cultivars first developed at New Mexico State University”; that “Anaheim is a cultivar within this pod type [and its seed] originated in New Mexico;” and even that “the ‘Anaheim’ seed originated from ‘New Mexico No. 9’ grown in New Mexico and was brought to

³⁵¹ Bosland repeats this assertion in 2000, in Paul W. Bosland and Eric J. Votava, *Peppers: Vegetable and Spice Capsicums* (New York: CABI Publishing, 2000), 32–33; and again in 2009, stating that “the modern New Mexico pod type was developed beginning in 1894 when Fabián García at New Mexico State University started improving, through selection and crossbreeding, the local chile peppers grown by Hispanic gardeners around Las Cruces.” See Paul Bosland and Dave W. Dewitt, “The Complete Chile Pepper Book: A Gardener’s Guide to Choosing, Growing, Preserving, and Cooking,” (Portland, Ore.: Timber Press, 2009), 53. In 2015, Bosland repeated this claim, stating that “Fabián García began developing his new pod-type around 1894 by collecting 14 chile pepper accessions growing in backyards in the Las Cruces area. The chile pepper accessions belonged to three pre-Columbian pod-types, “*chile colorado*,” “*chile negro*,” and “*chile pasilla*.” Paul W. Bosland, “The History, Development, and Importance of the New Mexican Pod-Type Chile Pepper to the United States and World Food Industry,” *Plant Breeding Reviews* 39 (2015): 283–324 (291 quoted). In a rare exception that only adds to the confusion, in 2008, Bosland in a published report on the chile cultivars of NMSU seems to imply García’s initial experiments indeed began in 1907, when his report states that García’s decision to use a *chile colorado* in his initial breeding experiments to develop a New Mexico pod-type was “fortuitous to New Mexico, because 100 years later, chile (paprika) [...] has become an important part of the New Mexico chile industry.” See Coon, Votava, and Bosland, “Chile Cultivars of New Mexico State University,” 1.

³⁵² Rotary Club of Las Cruces, “2011-03-30, Danise Coon, NMSU Chile Pepper Institute,” blog, 30 March 2011, <http://www.lascrucesrotary.org/2011-03-30>.

³⁵³ For an example of Bosland using the term “Anaheim-type,” see Paul Bosland, “Pepper Breeding and Genetics at New Mexico State University,” 51.

California in 1896.”³⁵⁴ A few correctives to this statement are in order. First, because we know that landrace chile long preceded NMSU cultivars and that germ plasm from landrace chile in fact went into developing several NMSU cultivars, it is incorrect to simply give credit to the University and not the many generations of farmers in New Mexico who developed those landrace varieties over centuries of growing seasons in a short-season, arid climate. Second, Ortega’s business began over a decade before García began his experiments to improve the chile in New Mexico (and, needless to say, the Number 9 chile, which was released in 1921, could not have made its way to California by 1896).³⁵⁵ Yet, if García began his seed trials in 1894, as Bosland's new story goes, then perhaps Emilio Ortega’s founding of a chile business in Anaheim in 1896 would not threaten New Mexico’s claims as the sole fountainhead of a new pod-type and its industry.

Despite irrefutable evidence in the historical record to disclaim a pre-1907 chile trial in New Mexico, this new narrative has caught on and even grown. In a 2014 lecture to the Los Alamos Historical Society entitled “Chile—New Mexico’s Hottest Harvest,” Dr. Stephanie J. Walker of NMSU reiterated the claim. With her own embellishments to the story, she made it difficult to mistake that New Mexico’s claim to chile originality was at stake:

³⁵⁴ Dewitt and Bosland, *The Complete Chile Pepper Book*, 53; and Bosland, “The History, Development, and Importance of the New Mexican Pod-Type Chile Pepper to the United States and World Food Industry,” 294.

³⁵⁵ Bosland writes that the seed Ortega brought back from New Mexico was Number 9 chile seed. Bosland, “The History, Development, and Importance of the New Mexican Pod-Type Chile Pepper to the United States and World Food Industry,” 294. For more on Ortega, see Jean Andrews, *Peppers: The Domesticated Capsicums* (1984, repr.; Austin: University of Texas Press, 1995), 93.

If anyone ever calls these fruit Anaheim-type, as proud New Mexicans you need to correct this, OK? The only reason we have Anaheim chile is because a gentleman named Mr. Ortega visited Fabián García while he was doing his genetic research. ‘Wow this is great stuff you have here, Fabián. I’m going to take some of these seeds back with me to California.’ So he did. He started his own selective breeding program there, and developed what we like to say [is] the nice mild, kind of wimpy Anaheim cultivar. So basically the Anaheim-type is an offshoot of New Mexico type. So it’s really a New Mexico pod-type or long green chile. Anaheim is just a cultivar that was basically kind of ripped off from New Mexicans.³⁵⁶

On the surface, the university’s constructed narrative of the chile might seem like an oddity that hardly merits much attention. Yet the evolution of a new history to the chile pepper points to several larger trends in the history of industrial agriculture in New Mexico. First, the effort to rewrite certain elements of the crop’s history illuminates the extent to which the public university’s goals had grown to match those of the industry. Second, and more broadly, the new narratives point to a powerful and essential, though too often forgotten, force in modern industrial agriculture: storytelling. In this case, the role of breeder extended beyond the physical plant to include the stories it embodies. Dr.

³⁵⁶ Stephanie J. Walker, “Chile - New Mexico’s Hottest Harvest,” YouTube video, 13:49, from a talk given to the Los Alamos History Society, November 2014, posted by “LosAlamosHistory” 17 November 2014, <https://www.youtube.com/watch?v=NJukFa&c1z4>.

Fabián García began the groundwork for the modern chile with his seed trials in 1907; Dr. Paul Bosland, by inventing a new origin myth that set García's trials back to 1894, helped complete the process. Just over a century after García's initial seed trails, the chile pepper, enshrouded in myth and laden with new stories designed to boost sales and serve industry, had become fully modern.

The Fire of Rebellion

Yet as the New Mexico chile industry endeavored to solidify New Mexico's chile superiority in relation to other states and regions in the country, within the state new narratives emerged that challenged the industrial chile developed at NMSU. In 1984, Jeanne Croft reported that "While chile's gastronomic delights are celebrated, it also serves as a catalyst for occasional combat. It's not surprising that any substance capable of commanding such affection also has the power to evoke considerable controversy. From the chile-producing areas in the foothills of the Sangre de Cristo Mountains in the north to the lower reaches of the Hatch/Mesilla Valley in the south, New Mexico chile growers and chile lovers argue over whose chile is best."³⁵⁷

Although chile growers in southern New Mexico had long tended to grow different varieties of chiles than those in the north, based primarily on differing lengths of growing seasons, an open disdain for the other's chiles did not emerge until the rise of a large-scale chile industry in the seventies. Only rarely did commentators mention the differences among chiles in the north and south prior to the industry's boom. "It's a commentary on the Anglicized tastes of the southern part of the State that a milder *chile*

³⁵⁷ Jeanne Croft, "Chile!" *New Mexico Magazine* (March 1984): 40.

is more popular,” one writer declared in 1958, “while north of Socorro into Albuquerque, Santa Fe, Taos, and small northern villages they like their *chile* as hot as possible. No doubt that’s one of the reasons more *chile* of the native variety is grown in the northern areas.”³⁵⁸ Though such writers used ethnic differences to explain the differences in chile varieties grown north and south, little animosity surrounding the differences emerged in the written record until the emergence of a large-scale industry in the south.

As the chile industry began to swell in the south, to many in the north the northern New Mexico chile became a symbol of racial pride, anti-modern sentiments, and even rebellion. Historian fray Angélico Chávez in 1974 illustrated a growing urge to associate the chile pepper not with science and emerging industry of southern New Mexico, but rather with the valleys of the north, *mestizaje*, and general Nuevomexicano resilience. Invoking the story of Bonnie Prince Billy, Chávez’s rendition of the chile makes it solidly a folk creation bred to serve the villagers of the north, not industrialists of the south. With no mention of Dr. Fabián García or other individual seed breeders, Chávez’s story ascribes agency to the chile, and the landscape that shaped it:

You might regard me as a Bonnie Prince Chile..., even if
I’m not a Briton or a Scot... Neither am I a Spaniard, as so
many of my dear subjects think when they class me among
‘Spanish foods.’ Am I Mexican then? It all depends on
breeding and certain attitudes. First of all, I am genuine
American by birth and blood—Indian if you will. Actually,
an Aztec demi-god originally. I was then called *Chili* or *Axi*

³⁵⁸ Margaret Page Hood, “Some Like it Hot,” *New Mexico Magazine* (November 1958): 22.

in my very first native land. My temper then was so infernally hot that, whether I was dressed in summer green or autumn red, those people worshipped me like a god. So fierce was I that they had to marry me to a mild princess called *Tomatl*, showering us with fragrant flowers and sweet spices in order to withstand my divine anger... But ages ago when I moved up here, to the high narrow valleys of Alcalde and Embudo, of Santa Clara and Cochiti and other such enchanted places, a great change came over me. I turned from a fierce vengeful god into a jolly mellow prince while keeping my sharp wit. Whereas I once had been adored with some dread for my pugency [*sic*], I was now loved for my flavor. It was this enchanted land that did it, her short hot summers and crystal sunshine caressing my shoulders while cool mountain waters bathed my feet, and then her nipping but still clear-aired autumns vesting me with handsome vigor. No need of bedding me down with tomatoes or burying me in spices. Here I am loved for myself. In this way I am really Spanish here, pure *castizo*, for being taken purely for what I am. I am Spanish and Pueblo New Mexican, to be more exact, as I keep on

warming the cockles of the heart with princely flavor and
adorning the home with necklaces of coral.³⁵⁹

By the end of the century, northerners expressed a more explicit break from the industrial chile. “Down there in the south, a lot of those chiles area as big as a banana, but they taste like cardboard, no flavor at all,” explained El Guique chile farmer Orlando Casados, Sr., “This is the best place for growing chile in the whole world.” Some writers went even further, directly setting the northern chile in opposition to its intra-state neighbor to the south with a spirit of proud anti-industrialism. “Rebellion in in our blood here in the north where Reies López Tijerina’s Courthouse Raid of 1967 was only one in a long series of uprisings against governments, corporations and individuals that attempt to usurp our rights and curtail our proud lifestyle,” Jim Segal declared in 1996, “Our northern chile is just that rebellious. Gnarled and twisted, it refuses to lie flat on the grill for roasting. Likewise, it is not as readily ‘stuffed’ as the Big (and more obedient) Jims.”³⁶⁰

For many, the chile stood as a proud metaphor for the greater culture of northern New Mexico that seemed set on a different course than its southern counterpart. “Northern New Mexico may be one of the few places left in the country where a quasi-indigenous agriculture is still practiced,” Stanley Crawford wrote in 1997, “Few other areas of the country have so successfully resisted or deflected or transformed the cultural flood tide of Anglo-European culture. The state forms the center of a culinary bioregion,

³⁵⁹ Fray Angélico Chávez, “New Mexico’s Bonnie Prince Chile,” *New Mexico Magazine* (May/June 1974): 31.

³⁶⁰ Jim Sagel, “Chile del Norte,” *New Mexico Magazine* (February/March 1996): 30–31; and Padilla, *The Chile Chronicles*, 48.

with chile at its flaming heart.” For Crawford, like Chavez and other writers before him, the northern chile was wholly separate from, and even categorically opposed to, the university-bred industrial chiles; it was a proud, racially charged symbol of resistance against the forces of modernity that had shaped the irrigated valleys to the south.

Crawford explained that “some crops lure a person, or a people, into projecting their desires and hopes upon them, and gradually they yield to the human imperative to become what is desired. Difficult, stubborn, attractive, fiery, chile is one of those [crops], perhaps best of all.”³⁶¹

Yet, taking to heart such a sharp North-South narrative misses much of the nuance surrounding the diversity of opinions in the state and the varying approaches to modernity in all corners of New Mexico. Northern growers, in fact, have continued to grow university varieties, including the “Espanola Improved” and its derivatives that blended the Sandia (itself a derivative of the no. 9) and northern landrace chiles. Meanwhile, in southern New Mexico the chile has signified more than the industry-driven narrative. Las Cruces–writer Denise Chávez, for example, recalled in 1996 how her experiences with chile in southern New Mexico, both before and after the industry’s rise, did not fully equate with modernity. Her freezer full of green chile, for example, felt “un-American” to her as a child. In a recollection of Fabián García, she asserted her own meaning to the man and the crop that had had shaped her valley. “Each land has its patron saints. I remember my mother, Delfina Rede Chávez, talking about Dr. Fabián García... The Father of Chile, she called him.” In a testament to García’s respect among the community, Chávez continues, “She was someone who knew the value of genius, and to

³⁶¹ Stanley Crawford, foreword to Carmella Padilla, *The Chile Chronicles: Tales of a New Mexico Harvest* (Santa Fe: Museum of New Mexico Press, 1997), vii.

her, he was a man unlike any other. She recalled visiting him at McBride's Hospital in Las Cruces, where he lay on his deathbed, alone, nearly forgotten. 'He was a great man, *pobrecito*,' she lamented, 'only his own hometown didn't know it.'"³⁶²

A Twentieth-First Century Pepper: Hatch, Chile Nativo, and the GMO that Wasn't

"Over the past few years here in California, the Hatch chile craze has been building up to a crescendo," syndicated columnist Gustavo Arrellano remarked in 2013, "Every year, El Rey Farms holds a massive Hatch chile roast at La Puente High School [in La Puente, about 20 miles from Los Angeles]... [W]hen it comes down to flavor and sense memory, rest assured that transplanted New Mexicans are on guard. They know their Hatch, and they want it to be genuine."³⁶³ Indeed, La Puente, California has not been the only place far from the Land of Enchantment where green chile roasters have recently sprouted up in grocery store parking lots, farmers markets, and celebratory events. Nearly ninety years since Fabián García expressed a wish for a "national education program" on chile-based cuisines, the smell of roasting green chile has wafted its way from coast to coast. As Arrellano's statement attests, the recent nationwide enthusiasm for green chile has often centered on a desire for chile grown in the small town of Hatch in southern New Mexico. The town's marketing success has brought awareness of New Mexico's chile industry to a wide swatch of the national population and helped bolster New Mexico's brand as the epicenter of chile cuisine. Yet with its

³⁶² Denise Chavez, "Scenes of Home and a Dream in Green," *New Mexico Magazine* (February/March 1996): 32, 35.

³⁶³ Gustavo Arellano, remarks from "The Big Debate: Local Ingredients, Foreign Chefs, and the Question of Culinary Cannibalism," panel presentation at FUZE.SW Food and Folklore Festival, November 2013, quoted in Rob DeWalt, "Chile Wars: Is That Green Chile On Your Plate from Hatch? And How Much Does it Matter?" *Santa Fe (N. Mex.) Reporter*, 26 August 2014

successes have come concerns that once again reveal New Mexico's fraught relationship with modernity.

The small town of Hatch on the northern end of the Mesilla Valley, like others around it, had witnessed many crops—apples, cotton, and chile among them—in its fields since its founding in 1851. But it wasn't until the town threw its first chile festival in 1971, when a crowd of 1,500 threw horse shoes, drank beer, crowned the state's first "Chile Queen," and awarded blue ribbons for green chiles, that the identity of the place began to squarely align with the fiery vegetable.³⁶⁴ The town soon thereafter declared itself the "chile capital of the world," and, since then, as the popular festivals have continued and as processors such as the Hatch Chile Company have spread the Hatch name, chile eaters far beyond New Mexico's state lines have developed strong associations between the small town and New Mexico chile. The associations have become so deep that name "Hatch chile," which refers to chile grown in the town of Hatch and not a particular variety of chile, has become nearly synonymous with New Mexico chile in many parts of the country. The success of the town's reputation as the epicenter of chile production and its iconic status as a near synonym with New Mexico chile peppers can largely be attributed to the town's chamber of commerce, but also more broadly benefitted from early promotional efforts of groups such as the Connoisseurs and, later, the work of Paul Bosland and Dave Dewitt, among a host of other writers, to promote the chile pepper and, especially, the New Mexican chile pepper grown industrially in the state's southern irrigated valleys.

³⁶⁴ Padilla, *The Chile Chronicles*, 110–11.

With the success of the Hatch name, came concerns and criticisms from both within and outside the New Mexico chile industry. One industry concern was that out-of-state and foreign farmers and marketers were labeling chile grown elsewhere as “Hatch chile.” Drawing from these concerns, in 2011 the state passed the New Mexico Chile Advertising Act, which made it illegal for someone to mislabel a chile as New Mexico-grown. The Act also made it illegal to label a chile as coming from a particular town, such as Hatch, unless it had been certified through the state to have been grown there. A separate concern among some within the industry was that the Hatch brand was beginning to subsume the broader New Mexico brand of chile. Dave Dewitt, for example, argued that the marketing tactics of Hatch producers and boosters deceived the public at the expense of the broader New Mexico brand. The “Hatch thing [is] a major con....You’re fooling people,”³⁶⁵ Dewitt explained:

What the growers have done is take Hatch and turn it into a trademark...they’re trying to make Hatch synonymous with New Mexico chile.... And so they’ve got Texans saying Hatch chile, instead of New Mexico chile, and they have now invented a new valley. They’ve invented the ‘Hatch Valley,’ which is only the northern half of the Mesilla Valley. You can’t just arbitrarily go around inventing a valley... I talked to the Sun-News reporter who was writing about this, and I said, ‘You can’t do that.’ And he said,

³⁶⁵ Dewitt, 20 May 2016, transcript, 51–52 [tape 2, side A], DD-NMFRHM.

‘Well, everybody calls it the Hatch Valley.’ I mean, you
can call a dog a cat. It doesn’t make it one.³⁶⁶

Yet, as the story of the Champagne apple suggests, it might not make it a cat but, with the right branding strategy, hardly anyone will know the difference. Ironically, Dewitt, himself a successful marketer and storyteller who played a large role in garnering national popularity for New Mexico (Hatch included) chile peppers, grasped to control a story he helped gain prominence.

As the Hatch chile became a household name throughout the country, tensions among New Mexicans over the “genuine” identity of the New Mexico chile came to a fore. The *chile nativo* (native chile), most often associated with the small town of Chimayó in northern New Mexico, became a local foil for the industrial chile. Chile nativo refers to landrace chile varieties that have developed in local valleys over the course of centuries without the use of modern agricultural science or breeding methods. These varieties—the same hard-to-peel, variable, and inconsistent peppers Dr. Fabián García and his successors sought to improve—are well-adapted to local environments and, as often is claimed by their advocates, taste better than industrial-bred chile. While there are many landrace chile varieties, often named after the valleys or towns where they developed—Escondido, Jemez Pueblo, Velarde, and Santa Domingo Pueblo, to name only a few—by far the best known is the variety from Chimayó, often portrayed as a holdover of traditional agriculture resisting a death at the hands of industrial agriculture.³⁶⁷

³⁶⁶ Dewitt, 20 May 2016, transcript, 32 [tape 1, side B], DD-NMFRHM.

³⁶⁷ See Stephanie Walker and Charles Havlik, “The Landrace Chiles of Northern New Mexico,” Circular 679, NMSU Cooperative Extension Service (Las Cruces, N. Mex.: June 2016): 1–8. See also, for an

Previous divisions surrounding chiles grown in New Mexico only deepened in recent years. One source of deepening divisions came with a proposed bill in the state legislature that earmarked money toward developing a genetically engineered (GE; or, alternatively, GMO, short for genetically modified organism) chile pepper at NMSU. General anti-GE sentiment had already been growing in the state, where in 2006 a group of Pueblo farmers and a group of predominantly Hispano farmers and their advocates co-drafted a “declaration on seed sovereignty” that emphatically stated that “genetic modification and the potential contamination of our landraces by GE technology [is] a continuation of genocide upon indigenous people and [are] malicious and sacrilegious acts toward our ancestry, culture, and future generations.”³⁶⁸ Learning of the proposed bill in 2008, a small group of citizens and small-scale agriculture advocates swiftly mobilized to fight the plan. The group introduced a Farmers Liability Act that aimed to protect farmers from being sued if patented genes from GE chile cross-contaminated their fields. Though it never passed, the proposed act struck a fearful chord with many small farmers, gardeners, and consumers that the GE chile was not a mere annoyance they could live with, but rather an existential threat to the very soul of the chile pepper and its farmers’ livelihoods. The chorus of protest gained luster through the voices of prominent

example of the Chimayó chile’s fame, Nina Bunker Ruiz, “A Passion for Peppers: The Movement to Save New Mexico’s Treasured Chiles,” *Yes! Magazine*, 14 February 2014, <http://www.yesmagazine.org/issues/education-uprising/a-passion-for-peppers-the-movement-to-save-new-mexico-s-treasured-chiles>

³⁶⁸ See “A Declaration of Seed Sovereignty: A Living Document for New Mexico,” 11 March 2006, accessed 10 September 2017, <http://www.lasacequias.org/food-and-agriculture/seed-alliance/seed-declaration/>. A slimmed down version of this declaration was passed in both the House and Senate of New Mexico in 2007. A Joint Memorial Recognizing the Significance of Indigenous Agricultural Practice and Native Seeds to New Mexico's Cultural Heritage and Food Security,” introduced by Carlos C. Cisneros, 2007, Senate Joint Memorial 38, 1st sess. 48th legislature, New Mexico.

global activist Vandana Shiva and local intellectuals, such as University of New Mexico folklorist Dr. Enrique Lamadrid.

For Shiva and Lamadrid, the threat went deep. “Vandana Shiva tells us that one of the most cynical strategies of the Second Green Revolutions [sic] is to desensitize people by targeting their most culturally iconic plants, such as Eggplants in India and Chiles in New Mexico,” Lamadrid explained, “If people accept the ‘genetic engineering’ of their signature cultural crops, then they will not notice or complain when the Big Four move in—corn, soybeans, cotton, and canola.”³⁶⁹ Although this analysis presupposes a grand “strategy” by an unnamed “they” in vague terms (and also seemingly ignores the reality that genetically engineered cotton had already been well-established in the fields of New Mexico), the statement illustrates how much the industrial chile had become perceived as a corporate evil and an existential threat to the agricultural, cultural, and personal health of New Mexicans. To further develop this point, Lamadrid took to an old form of storytelling in collaboration with local historian Estevan Arrellano and New Mexican folk musician Cipriano Vigil. The three men composed a creative commentary on the GE chile debate through the form of a traditional *corrido*, or ballad, that pitted the *Chile Chimayoso* (Chimayó chile) and against a hypothetical genetically engineered chile they dubbed Chile Numero 10. In the *corrido*, the two chiles trade verses, duking it out for chile supremacy in the state. At stake, the authors make clear, is not just the soul of the chile, but the souls of the New Mexican people; “the chile and its seeds belong to our state,” they exclaim, “if we lose them completely, we’ll be sent to hell.”

³⁶⁹ Enrique Lamadrid, “*La guerra de los Chiles: A Poetic Defense of Biodiversity, Seed Sovereignty, and Chile*,” (2009), accessed 20 July 2017 at <http://www.savenmseeds.org/index.php/nm-chile-nativo>.

In contrast to the Number 9 and the imaginary Number 10, the chile nativo in the corrido is delicious and strong, piquant and rooted, divine and heroic. “From my test tube I have come to defeat your people,” the newfangled chile sings. The modern chile is soulless, “motherless,” sterile, sinister, bland, preferred among “capitalists,” and, ultimately weak. Throughout the corrido, the authors mark a clear distinction between the rational science of the industrial chile and the non-modern religiosity of the native chile with roots in Catholic and Native religious traditions. Harkening back to the language of Fray Angélico Chávez roughly fifty years earlier, the poets write that the native chile was “born of water and sun and only seek peace from God,” and was “born in Teotihuacan and am of divine origin... I was reborn in the floating gardens, of the Red Earth Mother, son also of Tlaloc, Lord of water and rain. I am also god son of Lady Chicomecoatl, mother of nourishment.” With no mention of breeders, the native chile sings “God raised me.” As the corrido ends, the native chile calls the modern chile a “sickly,” “lazy rubber chile... born in a laboratory. I will never, never permit that you injure my people.” With that proud and unequivocal rebuke of modernity, the native chile claims a triumphant victory.

The corrido is ripe with sharp dichotomies and simplifications that mask the nuanced history of the chile. The corrido does not, for example, address the limited embrace of Fabián García’s number nine chile among many throughout the north and his continued legacy there. After all, today some of the most celebrated farmers in northern New Mexico grow chiles that derive part of their genetics from the Number 9.³⁷⁰ Yet,

³⁷⁰ One of the region’s most successful growers today, Matt Romero, for example, grows an “Alcalde Improved” variety, which derives from the Espanola Improved, an NMSU variety with genetic roots in Number 9. See Carlos Andres Lopez, “As Chile Season Reaches Its Peak, Culinary Pros Laud Heritage of State’s Official Vegetable,” *Santa Fe New Mexican*, 20 September 2011.

although Lamadrid concedes that the Number 9 is of “more honorable stock” than the hypothetical Numero 10, he firmly places the Number 9 in the lineage of modern chiles that stands against the native chile. “The staple of the chile revolution of the twentieth century,” Lamadrid writes in his introduction to the corrido, “Chile Number Nine gave birth to all the modern varieties such as Big Jim.” (This claim, in fact, is only true if taken figuratively; the Big Jim, like all NMSU varieties except the Sandia and its derivatives, does not contain genes from the Number 9 line). “But,” Lamadrid continues, “as connoisseurs can attest, complexity and flavor were sacrificed to achieve size, uniformity, and dependability.”

Despite, or perhaps because of, its portrayal of sharp dichotomies, such storytelling within the campaign against the GE chile proved effective. Although the industry strategized “to promote GMO as environmentally-friendly [sic] agriculture” and develop “GMO market-friendly packaging” as early as 2003, the consumer pushback against the idea of GE chile proved too great to overcome and, largely for that reason, no GE chile as of yet exists in commercial production.³⁷¹ Nonetheless, though the rhetorical battle over a proposed GE chile has somewhat subsided in recent years, animosity from northern, small-scale chile growers toward the chile industry has continued. The most recent issue surrounds the NM Chile Advertising Act (2012) and its amendment, “Expanding the Violations of the NM Chile Advertising Act” (2013), which made it illegal for a grower to use the name of a town, river, or any other geographic feature without first registering with the state. This regulation, opponents argued, would hurt

³⁷¹ 2003 Chile Marketing Summit Draft, 25 September 2003, Las Cruces, New Mexico, p. 12, folder 10, box 8, DDC, NMSUL. The campaign against the GE chile took a variety of forms beyond the corrido, including the work by the Albuquerque-based nonprofit, *savenmseeds.org*, and Christopher Dudley's documentary film, *Genetic Chile* (2010).

small-scale northern New Mexican farmers growing seeds named after their towns or valleys, such as Chimayó. As one chile nativo grower declared, the burdensome regulation “threatens the local autonomy of seed and food sovereignty.”³⁷² With advertising squarely at the fore of the debate, the fight over the chile had firmly become a fight over its story.

The Ever-evolving Pod

“As any self-respecting chilehead knows,” wrote journalist Kent Paterson in 1999, “New Mexico is the center of the U.S. chile universe.” Such a statement testifies to nearly three decades of concerted efforts within the industry to promote the state’s chile-growing status. In the nearly two decades since Paterson wrote these words, however, the state’s chile production has declined and its centrality in the “chile universe” has been challenged by growers elsewhere.³⁷³ The industry has suffered to competition from Mexico, China, India, Peru (all of whom produce far more chile than growers in the Land of Enchantment) and, to a smaller extent (but especially irksome to New Mexicans), Colorado.³⁷⁴ Despite this competition and the state’s decline in actual production, the cultural weight of the New Mexico chile pepper’s stories, far more than the sheer weight

³⁷² Paul Romero, quoted in “Press Release to Oppose New Mexico Certified Chile Trademark Program,” 19 August 2014, SaveNMSeeds Coalition, <http://www.savenmseeds.org/index.php>.

³⁷³ Chile production in New Mexico generally declined in the twenty-first century. Acreage in chile dropped from nearly 30,000 acres in 1990 to under 10,000 by 2016. See “2010 New Mexico Chile Production,” New Mexico Department of Agriculture publication, https://cpi.nmsu.edu/wp-content/uploads/sites/60/2016/06/nm_stats_2010.pdf; and “USDA 2016 State Agricultural Overview—New Mexico,” accessed 3 August 2017, https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=NEW%20MEXICO.

³⁷⁴ See, for example, Joseph Kolb, “Imports, Small Harvest Hit Famed New Mexico Chile Peppers,” *Reuters*, 7 September 2014, accessed 3 August 2017, <http://www.reuters.com/article/us-usa-new-mexico-chile-idUSKBN0H20ES20140908>; and Logan Hawkes, “Green Chile Competition Heats Up With New Colorado Peppers,” *Southwest Farm Press*, 4 September 2015, accessed 3 August 2017, <http://www.southwestfarmpress.com/vegetables/green-chile-competition-heats-new-colorado-peppers>.

of its actual harvests, continue to contribute to the state's outsized position in national and international chile landscape.

The industrial chile has many legacies in New Mexico. From north to south, and encompassing a diversity of opinions throughout, the rise of the industrial chile has brought forth new narratives and counter-narratives about the people of New Mexico who, like no other population in the nation, cherish the fiery vegetable. The industrial chile pepper has left a profound mark on the cultural landscape of New Mexico. Like cotton and apples before it, it has brought with it hopes of economic gains, inspired popular festivals, and sparked migrations of people that have in turn influenced the culture of the place. As Kent Paterson writes, "In southern New Mexico, chile... helped change the demographic and social makeup of the southern counties, drawing in a new wave of Mexican immigrants..."³⁷⁵ Yet, the industrial chile had a unique impact that goes beyond dreams of wealth, celebrations, and demographic shifts, which, as I show elsewhere in this dissertation, had followed previous industrial crops into the region. What the chile did, and that previous industrial crops did not, was to bring that industrialization into the heart of New Mexico cultural identity. For the first time, New Mexicans, throughout the state, associated their very culture with a crop that was industrially produced.

With that change came a level of both pride and conflict. As the industry boomed and New Mexico chile became more prominent nationwide, the pepper became even more laden with rich, and often conflicting, narratives about the people who grow, depend on, and cherish it. The new narratives that emerged for the chile pepper fell in

³⁷⁵ Paterson, *The Hot Empire of Chile*, 4, 6.

line with a long tradition of “invented traditions” in American agriculture. From grand narratives such as Jefferson’s mythic yeoman farmer to small tales such as Old Jim Young’s Champagne apple, the agricultural history of the nation is rife with stories that stretch the truth to project a more marketable image of American farm life. These stories fall into a broad category of invented traditions that, in the words of Chris Wilson, “rework serviceable fragments from our regional, family, and ethnic traditions, mixed with borrowings from other times and peoples, and leavened by pure invention.”³⁷⁶ Such traditions, Wilson explains, often tap into a growing, popular anxiety over modernity; they are modern tools designed to mask their very modernity.

In the case of New Mexico and its famed chile pepper, inventions ranged from new narratives about the origin of the first scientific chile to new mythologies of a native chile, complete with a divine voice that spoke for a people rejecting many of the tenets of modern agribusiness. On one end of the spectrum, these inventions bolstered New Mexico’s claim to a central place in modern agriculture; on the other end, they bolstered its claim as a site of resistance to modern agriculture. In all cases, the stories attached to the chile pepper reveal not only the prominence of storytelling in American agriculture, they reveal how New Mexicans celebrated and contested the greater project of modernity in their fields and with their pens.

³⁷⁶ Chris Wilson, *The Myth of Santa Fe*, 4

Conclusion

The history of a people is intricately entwined with the history of the plants they grow, consume, and, sometimes, celebrate. This history of three of New Mexico's most important crops in the twentieth century—apples, cotton, and chile—brings to light these entwined relationships and helps illustrate how the region's agricultural past fits into the broader social, cultural, and environmental history of the Southwest and the nation. Their histories in twentieth-century New Mexico explain migrations of plants and people; reveal the contingencies of industrialization and the contestations surrounding modernity; and underscore the powerful cultural effects of agriculture.

Migrations have been a continual theme to these stories. Agriculture, though often associated with farmers deeply rooted on a single farm in a single place, is a dynamic process that encourages relocations of many sorts. "I think it's indisputable," syndicated columnist Gustavo Arellano concluded as he mused on a New Mexico green chile roast at a Los Angeles-area event in 2013, "that genuine New Mexican food finds its roots in relocation and migration."³⁷⁷ With roots that stretch back through the twentieth century to Fabián García's work as borderlands intermediary who bridged cultural divides and sourced seeds from throughout the greater Southwest, the New Mexico chile's appearance in Los Angeles represented an ironic homecoming in a long history of agricultural migrations that have defined the agriculture of the region. Whether it has been the growers and workers who all brought diverse cultural customs, or the seeds and plants that came laden with embedded labor, stories, and (sometimes) pests, New

³⁷⁷ Gustavo Arellano, remarks from "The Big Debate: Local Ingredients, Foreign Chefs, and the Question of Culinary Cannibalism," panel presentation at FUZE.SW Food and Folklore Festival, November 2013, quoted in Rob DeWalt, "Chile Wars: Is That Green Chile On Your Plate from Hatch? And How Much Does it Matter?" *Santa Fe (N. Mex.) Reporter*, 26 August 2014.

Mexican agriculture in the twentieth century has witnessed constant migrations of plants, insects, and people that have had a significant impact on the physical and cultural landscape of the region.

These migrations, born out of desires to industrialize the agriculture of the region, point to a broader history of modernity and agriculture in New Mexico. These histories of apples, cotton, and chile all offer an illustrative view into the relationship between agriculture and modernity in twentieth-century New Mexico. Each crop has brought with it modern technologies and innovations—from pesticides and spray laws to innovative advertising, from highly organized seed districts to greenhouses, from scientifically bred seeds to carefully crafted stories about those seeds—that have led to new agricultural possibilities and broader cultural change. Yet, as a swell of modernity has unfurled in the region’s agricultural landscape, farms became the site of resistance and contestation to modernity, as well. Whether it was a small-scale apple grower protesting spray laws, a group of workers at Stahmann’s organizing matachines dances, or writers and scholars creating counter-narratives to entrenched stories of the modern chile, seemingly small moments in the state’s agricultural past have added up to a sustained challenge to rethink the course of agricultural industry.

This course of agricultural industry, we have seen, has been non-linear, conglomerate, and highly contingent. For all those concerned with current problems surrounding industrial food production, the contingencies of the industrial past may provide a hopeful reminder that change in course is possible. This non-linear history of agriculture also points to myriad ways agricultural industry has relied on various “non-industrial” forms of agriculture. Upon close examination, a binary consisting of two

wholly separate agricultural systems gives way to a more nuanced portrait of countless agricultural approaches interconnected in many and often surprising ways. Whether it has been industrial seed, such as Acala cotton or Sandia chile, with a genetic legacy shaped by countless generations of farmers developing the seed in small-scale diversified systems, or whether it has been Chinese weeder geese cultivating thousands of acres of cotton, old technologies born far from industry have helped industrial growers succeed. Beyond the physical technologies, modern agriculturalists have also often employed imagery of non-modern traditions to help sell their products, such as in the cases of boosters using the *manzanas mejicanas* to promote New Mexico's apple industry, or James Webb Young employing the yeoman myth to sell apples to New Yorkers. Industrial agriculture is a malleable set of systems that, in many ways, has relied on traditional forms of agriculture.

As this dissertation has focused heavily on the cultural side of agricultural industrialization, we have seen that storytelling is not an afterthought to modern agriculture, but rather is a central component. From mythical origins of the Manzano apple orchard to James Webb Young's Champagne apples, from the early cotton festivals to Stahmann's "junior geese" and pecans, and from Fabián García's musings over a national education program surrounding chile to recrafted narratives of Fabián García himself, storytelling has been a common thread of efforts to bring success to agricultural industry in the state throughout the twentieth century. Yet, as the example of the chile nativo and the successful effort to generate a public outcry about a GE chile highlights, stories have also been central to efforts to resist facets of industrialization. The integral nature of storytelling to both agricultural industrialization and its counter-movements

provides a potential lesson for all those interested in seeing changes in agriculture or agricultural policy: it may be just as useful to take hold of pen as it would a hoe.

Stories of crops, like the seeds of the crops themselves, continually evolve. Similar to seeds that have been bred and manipulated to suit the needs of growers or an industry, stories about crops reflect a people's deeper cultural values. Also like seeds, whose genetics continually adapt to their climate, stories of plants change with the changing cultural and social landscape they live in. Just as breeders cannot easily maintain a seed's genetics after it leaves their test plots, storytellers cannot easily claim a final word on the story of any plant. Crops and their stories co-evolve, shaping each other in ways that no single person could easily predict. This dissertation, an investigation on the co-evolving relationship between crops and their stories, ultimately is itself another story in the long, ever-evolving, and continually contested history of agriculture of the region.

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