

other officials who have reenvisioned what pragmatic and equitable water distribution should look like in the Colorado River Basin in the twenty-first century.

Todd Luce

TODD LUCE is an environmental historian with a PhD from the University of California, Riverside, whose work focuses on Southern California. He is currently working on a resource study of homesteading and land use in Joshua Tree National Park and an environmental history of the Salton Sea. When not researching and writing, he teaches English composition at the University of California, Riverside.

Adam M. Romero. *Economic Poisoning: Industrial Waste and the Chemicalization of American Agriculture*. Oakland: University of California Press, 2022. 270 pp. Paperback \$29.95.

Without meaning to, we often accept—unquestioningly—existing frameworks that organize our knowledge of the past. Unless or until there is the type of paradigm shift famously described by Thomas Kuhn, these frameworks blind us to other interpretations. Geographer Adam Romero offers readers the opportunity for a dramatic paradigm shift in regard to the growth of industrial agriculture from the nineteenth into the twentieth century. In *Economic Poisoning: Industrial Waste and the Chemicalization of American Agriculture*, he argues that the most important driver of agriculture's chemicalization was not the need to grow more affordable food for a growing population, but the desire to find a use for otherwise unprofitable industrial wastes.

Romero's thesis is dramatic, but it is not simplistic. He does not argue that the *only* reason for the use of toxic inputs in agriculture was to dispose of waste from various industries. Instead, he describes increasing synergies between industrial production and agriculture, and presents a proliferation of examples in which the drive to dispose of waste was more important than increased agricultural output. That the story Romero tells here is an economic one is made clear by the book's title. His use of the formerly prevalent term *economic poison* emphasizes that regardless of their chemical characteristics, pesticides were used *only* if they were beneficial economically. His use of *sink* throughout the book is also deliberate—this environmental term describing a place that absorbs or dilutes poisons is fitting, he explains, since chemical pesticides became both an environmental and an economic sink for various industries.

Rethinking the spread of economic poisons also forces readers to grapple with a common observation about American agriculture whose meaning has often been ignored. Although most histories of agriculture and the development of pesticides include some acknowledgment that *abundance* was the sector's most persistent and serious economic problem, few scholars address the implications of this truism. If abundance was so harmful, why do many accept at face value the idea that pesticide use was motivated by the desire to increase output? Romero's thesis provides an explanation for this contradiction.

The book's short yet deeply researched narrative (143 text pages) is divided into five chapters that highlight distinct but interrelated developments in the chemicalization of agriculture. Chapter 1 begins with a detailed discussion of arsenic, used in agriculture from the 1860s to the 1940s. Romero explains that its use as a pesticide skyrocketed (peaking in 1944) because it was plentiful and cheap, not because any crop shortages necessitated higher yields. The story of arsenic illustrates many of the arguments woven throughout the book: requiring management as a toxic byproduct of the copper smelting industry, arsenic could be usefully directed at killing agricultural pests; however, its toxicity did not disappear or remain in place but left a wide, persistent trail of contamination. Thus, "the arsenic waste problem was never solved; instead copper companies just displaced it onto new lands and new bodies" (19).

Romero turns to the commercialization of another common contaminant, cyanide, in chapter 2. In addition to detailing the trial and error of various inventors seeking a process to apply the poison effectively (and the infighting about what was and was not patentable), the chapter focuses on the cultural foundations that led many to embrace pesticides as a regular part of agricultural practice. Romero finds that the idea of an unavoidable "war" against pests was widespread and predated the development of chemical weapons in World War I, as highlighted by historian Edmund Russell.

In chapter 3, the narrative shifts to the development of pesticides derived from petroleum. Examining manufacturing experiments in some detail, Romero also focuses on the pioneering entomologist William Volck, whose legacy includes not only technological advances in the agricultural use of petroleum and a major role in helping transform the California oil industry, but also his influence on the increasingly cooperative relations between USDA experiment stations and private companies. Romero describes the importance of government funding for private profits: "It was in publicly funded laboratories and on publicly funded research fields that new poisons would be discovered and where the toxicological rules for the widespread poisoning of agriculture would be developed" (97).

In chapter 4, Romero further explores the idea of the public-private partnership in American agriculture with the land-grant universities as linchpin. In particular, he develops the argument that what began as a true partnership, with sharing of research between government and commercial institutions, has devolved into an unbalanced relationship in which the public pays for private developments. By the 1930s and '40s, land-grant universities were "the place for chemical companies to get their promising and proprietary chemicals tested" (119).

Finally, in chapter 5, continuing his discussion of the oil industry's singular importance in the spread of chemical agriculture, Romero highlights the role of Shell Oil and its creation of soil fumigants, especially a product known as DD, whose ingredients, which came to be used in other products and brands, unleashed a revolution in industrial agriculture. Fumigating or "cleaning" the soil chemically eliminated the need to rotate crop fields, an essential but problematic advancement in post-World War II industrial agriculture.

Romero ends on a pessimistic note, arguing that "we have gotten farther and farther away from the possibility of an agricultural system not built on the assumption of

widespread chemical control” (142). Having highlighted the cultural embrace of pesticides over many decades in my own work, I share his pessimism. In addition to the cultural factors, *Economic Poisoning* clearly lays out the economic and technological underpinnings that continue to make pesticides ubiquitous.

Michelle Mart

MICHELLE MART is an associate professor of history at Penn State University, Berks, and author of *Pesticides, A Love Story: America's Enduring Embrace of Dangerous Chemicals* (2015). She is currently at work on a study of the intersections of food, the environment, and culture.

Rebecca DeWolf. *Gendered Citizenship: The Original Conflict over the Equal Rights Amendment, 1920–1963*. Lincoln: University of Nebraska Press, 2021. 350 pp. Paperback \$30.00.

We already have a number of excellent works on the so-far-unsuccessful fight to secure ratification of the Equal Rights Amendment. Some books focus on the spark plug of the movement, National Woman's Party founder Alice Paul, some on the events leading up to the creation of the pathbreaking Presidential Commission on the Status of Women in 1961, and some on the failure to ratify the ERA in the late twentieth century. The great contribution made by Rebecca DeWolf in *Gendered Citizenship: The Original Conflict over the Equal Rights Amendment, 1920–1963* lies in the granular detail she provides about the way the amendment evolved in the early 1920s and why it took the shape it did. With an impressive array of sources, she teases out the constitutional and real-world implications of the earlier Nineteenth Amendment and delineates how the dawning realization that it was only part of the solution to women's unequal citizenship rights played out for a number of different organizations and individuals.

Particularly helpful in sorting out the players are the categories she sets forth. There are the emancipationists, who endorsed the concept of an ERA more or less from the start. Then there are the liberal protectionists, women and men drawn from the ranks of the labor movement and, in the 1930s, from New Dealers, people who supported women's rights but wanted to maintain special protection for women workers and feared that this protection would be undermined by the ERA. Finally, there are the conservative protectionists who opposed the amendment because their highest priority was maintaining traditional gender roles.

A key issue—one still with us in the battle to protect voting rights now, given that the Supreme Court has weakened the Voting Rights Act of 1965—was the matter of which jurisdiction, the individual states or the federal government, should specify the exact rights to which women were entitled after the ratification of the Nineteenth Amendment. Yes, women could vote on the same basis as men in every state, but their right to serve on juries, for example, varied widely, depending on the state in which they lived. And many a southern politician worried that if rights for women were made uniform, that might