

THE TREASURE OF THE SONORAN DESERT:
CULTURAL HEGEMONY AND THE CASE OF THE JOJOBA PLANT

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Colonizers shaped the natural landscape of Sonora in Mexico and parts of the United States, both intentionally and unintentionally, introducing flora and fauna and overlooking many native species. First, Spanish colonizers and their missionaries imposed their ideas of religion, medicine and lifestyle on the natives they encountered, reshaping the landscape and ignoring the agricultural knowledge of the people already living there. In their quest for known, valuable commodities, the colonizers brushed off information about local botanical treasures previously unknown to them. In later years, the US did the same, further marginalizing native peoples and showing a disdain for the history of the land with damaging chemicals from industrialization. A deep look at the human history of the Sonoran region through the case study of one of its native resources as an “overlooked treasure” can highlight this history of cultural imperialism. The jojoba plant of Sonora produces a pure, natural oil. The non-indigenous colonizers and settlers of the Sonoran lands failed to recognize or capitalize on the potential uses of jojoba due to attitudes of ecological ableism and cultural hegemony.

Scholars of environmental history such as David Lentz and Rick Lopez have written on the precolonial and colonial environment and agricultural practices of natives of Latin America. Lentz indicated that the level of sophistication in terms of use of irrigation and controlled

burning by the indigenous have long been underestimated.¹ Many scholars have produced works about the Jesuit priests and about the Spanish colonizers in Latin America with foci on narrow regions such as Tumacacori or Opata or on only the reactions of the native people upon their arrival.² There have also been many scientific articles about the plants of the Sonoran desert, particularly in the 1970s.³ However, this article must combine these various insights and draw from them all to present an argument about the way colonizers shaped the environment with their biases, using the case study of the jojoba plant.

Jojoba is a type of bush which grows in desert terrain, low to the ground, only three to twelve feet tall. It has grayish-green leaves and produces medium-sized, brown, fruit-like nuts. The jojoba oil, which comes from the fruit, has similar properties to whale oil and, had circumstances played out differently, the jojoba oil could have been used for similar purposes, although it would be a stretch to suggest it could have replaced the whale oil industry. Whale oil was used for lamps, religious ceremonies and soap making from the 16th century through most of the 19th century and the Empire had not started to search for alternatives. Today the jojoba oil is used in cosmetic products, such as creams and ointments.⁴ In the last few years, the discussion of the uses of the jojoba plant have gained some traction as a potential alternative energy source.⁵

¹ David L. Lentz, "Introduction: Definitions and Conceptual Underpinnings," In *Imperfect Balance: Landscape Transformations in the Precolumbian Americas*, edited by David L. Lentz (New York: Columbia University Press, 2000), 23. Web.

² David Yetman, *The Ópatas: In Search of a Sonoran People* (Tucson: University of Arizona Press, 2010).

³ William H. Brooks, "Jojoba—A North American desert shrub; its ecology, possible commercialization, and potential as an introduction into other arid regions," *Journal of Arid Environments* 1, no. 3 (September, 1978): 227-236.

⁴ Marcos Sanchez, Mangesh R. Avhad, Jorge M. Marchetti, Mercedes Martinez, and Jose Aracil, "Jojoba oil: A state of the art review and future prospects," *Energy Conversion and Management* 129, no. 1 (December): 293-304.

⁵ "With 7.5% CAGR, Global Jojoba Oils Market Size Projected to Hit USD 270.81 Million By 2032," Polaris Market Research, GlobeNewswire, 2023, <https://www.globenewswire.com/news-release/2023/06/07/2683794/0/en/With-7-5-CAGR-Global-Jojoba-Oils-Market-Size-Projected-to-Hit-USD-270-81-Million-By-2032-Polaris-Market-Research.html>.

The Sonoran region where the jojoba plant grows hosted indigenous agriculturalist societies at least as far back as 500 AD, with the Hohokam (or Huhugam) people.⁶ By 1450 AD the Hohokam society had given way to that of the Pima native peoples. Later, the Spanish colonized the region, which then became Mexican territory and then, after the Mexican War and the 1854 Gadsden Purchase that area was split between Mexico and the United States. Historical Sonora covered northwestern Mexico east of the Colorado River and what is now southern Arizona and southwestern New Mexico. The Sonoran desert, which features in this article, covered an expanse of 310,000 square kilometers.⁷

The region shows ample evidence of civilizations using the land over time, prior to colonization. Yet, by the time the Spanish explorers arrived, disease had spread faster than the humans, leaving the area sparsely populated.⁸ The remaining people in the region spoke many languages. Among them, scholars have identified four language groups: Cahita, Opatan, Seri and Pima. This encompassed the indigenous people: Mayo, Yaqui, Euduve, Opata, Jova, Seri, Nebome, Sobaipuri, Papago and Tohono O’odham. Yet there were likely many more and they may have called themselves by different names over time.⁹ The Tohono O’odham and their predecessors, having lived on the land for approximately four thousand years, used water harvesting methods, canal construction and strategies surrounding desert rainfall patterns and washes to survive.¹⁰

The introduction of Europeans to the area exacerbated the native groups’ differences as space and agricultural resources dwindled. The original people living in Sonora did not leave

⁶ Suzanne K. Fish, “Hohokam Impacts on Sonoran Desert Environment,” In *Imperfect Balance: Landscape Transformations in the Precolumbian Americas*, edited by David L. Lentz (New York: Columbia University Press, 2000), 275. Web.

⁷ Suzanne, “Hohokam Impacts on Sonoran Desert Environment,” 276. Web.

⁸ Lentz, “Introduction: Definitions and Conceptual Underpinnings,” 26. Web.

⁹ John Schmal, “Indigenous Sonora at Contact (Part 1) — Indigenous Mexico,” *Indigenous Mexico*, 2023.

¹⁰ Sunaura Taylor, *Disabled Ecologies: Lessons from a Wounded Desert* (Oakland: University of California Press, 2024), 37.

many written records. In addition, warfare, disease and exploitation by the colonizers resulted in many of the people passing away and losing the collective memory of their past. The people lived on combinations of foraged plants and wild game. The landscape was desert-like, with low shrubs such as mesquite, ocotillo, various cacti, including the saguaro, and of course, jojoba. The name jojoba comes from the Tohono O’odham native word *jojowi* which was then converted to jojoba by the Spaniards.¹¹ Due to the harsh climate and the geographic distance from more populous areas, this region was one of the last that the Spaniards colonized.

The first Spanish colonizers to traverse the area mostly passed through in the mid-1500s. Francisco Hernández de Toledo made a sponsored expedition in Mexico in 1570 to 1577 to document botany for King Philip II. He did not reach the furthest regions of Sonora on his journey, however his efforts provide useful background to the history of this tale. Hernández stood out as unusual in his openness to native science, compared to others of his era.¹² He wanted to return his findings to the indigenous from whom he had gathered it, upon publication. This alarmed the King who locked up his works and forbade similar expeditions in a decree of 1582.¹³ However in 1787, King Charles authorized the Royal Botanical Expedition.¹⁴ The new Spanish research team sought to recreate Hernández’s work but cultivate it for an elite garden. They did not share his views on native knowledge and buried all evidence of gaining information from them, calling the native traditions “backwards.”¹⁵ In addition, the practice of the time involved meticulous recording of the plants themselves but no notes on the places in which they had been located, other than in “New Spain.” This marks an imperialist view on the research, as the end

¹¹ Brooks, “Jojoba—A North American desert shrub.”

¹² Rick A. López, *Rooted in Place: Botany, Indigeneity, and Art in the Construction of Mexican Nature, 1570–1914* (Tucson: University of Arizona Press, 2025), 32.

¹³ López, *Rooted in Place*, 61.

¹⁴ *Ibid.*, 70.

¹⁵ *Ibid.*, 72.

goal was not so much about the knowledge itself, as much as to make a brag.¹⁶ The second expedition worked to align the taxonomies using the Linnaean tradition, rather than names given by the natives.¹⁷ It was likely at this time that jojoba received its scientific name: *simmondsia chinensis*.¹⁸ The great environmental historian Kathleen Cruz Gutierrez pointed out that naming conventions such as these continued a hegemonic tradition of overwriting or discounting previously existing native names.¹⁹ Ironically, in 1671, a fire swept through the palace in Spain, destroying the original writing of Francisco Hernández de Toledo. The writings and drawings of the second expedition disappeared in the chaos of the Napoleonic wars.²⁰

When the Spaniards did settle down in the Sonoran area, they sent German-speaking Jesuit priests to convert the natives. One scholar suggests that there was a shortage of Spanish priests to oversee the missions and the Jesuit organization was best-suited due to their centralized command structure and funding.²¹ The Jesuits who arrived in Sonora came from colder regions than Spain (Moravia or the Austro-Hungarian Empire) and had a better ability to brave the elements for their missions. The Jesuit priests often received religious training from a university in Germany called Ingolstadt, prior to arriving in Mexico.

The Jesuits' methods of conversion sought to honor the natives' way of being (although from a Euro-centric perspective), and they reported back directly to the Pope, rather than to Spanish bureaucrats. This independence unsettled the Spanish crown. The Jesuits had slightly different approaches to conversion techniques, letting them come and go and have more

¹⁶ Ibid., 75.

¹⁷ Ibid., 224.

¹⁸ Heba A. Gad, Autumn Roberts, Samirah H. Hamzi, Haidy A. Gad, Ilham Touiss, Ahmed E. Altyar, Osama A. Kensara, Mohamed L. Ashour. Edited by Bramasta Nugraha, "Jojoba Oil: An Updated Comprehensive Review on Chemistry, Pharmaceutical Uses, and Toxicity," *Polymers (Basel)* 24, no.13 (11, 2021):1711. <https://pmc.ncbi.nlm.nih.gov/articles/PMC8197201/>.

¹⁹ Kathleen Cruz Gutierrez, *Unmaking Botany: Science and Vernacular Knowledge in the Colonial Philippines*, (Durham: Duke University Press), 2025.

²⁰ López, *Rooted in Place*, 144.

²¹ Yetman, *The Opatas*.

self-governance than the Spanish deemed prudent. In 1767, the Spanish Crown expelled the Jesuits from the Empire. In the Sonoran region, the Franciscan friars who replaced the Jesuits were not welcomed by the natives. Father Garcés was murdered by the Yuma in 1781 whilst trying to make a mission on the Colorado river.²² The Franciscans generally suffered from the climate and under-funding, often leaving their posts to oversee from a distance. However, the story of the Franciscans exodus cannot be simplified down to laziness and the difficult environment. Money and politics as well as economic difficulties for the Spanish also contributed to the fall of mission towns.²³ The missionaries often moved from village to village as they were still short-staffed, trying to convert many natives who spoke multiple unique languages. This constant roll-over and periods of no contact left little room for insight into native plants and their potential uses. Yet the Spanish Empire and local missionaries did not focus on jojoba as a potential resource. Instead they introduced wheat, cattle, and other European crops and livestock.

A closer look at the German-speaking Jesuit priests who worked on missions between 1683 and 1767 can offer valuable insight into this story. The Jesuits kept written records of the people and landscape. The most famous of these priests was Father Eusebio Francisco Kino.²⁴ Others followed; Ignacio Xavier Keller, Ignaz Pfefferkorn, Philipp Segesser, Adamo Gilg, and more. In order to understand the part the Jesuit missionaries played in history, and therefore in the reception of the jojoba plant in the “old world” it is useful to inspect their letters and travelogs. What follows is a closer look at what the Jesuit priests saw and experienced, how they

²² Winston P. Erickson, *Sharing the Desert: The Tohono O'odham in History* (Tucson: University of Arizona Press, 2003), 55.

²³ Jose De la Torre Curiel, *Twilight of the Mission Frontier: Shifting Interethnic Alliances and Social Organization in Sonora, 1768-1855* (Redwood City, CA: Stanford University Press, 2013), 302. Web.

²⁴ Herbert E. Bolton, *The Padre on Horseback: A Sketch of Eusebio Francisco Kino, S.J., Apostle to the Pimas*, (Chicago: Loyola University Press, 1986).

perceived their surroundings and what effects their presence may have had on the native people and environment.

Father Kino was born in Italy but spoke Italian, German, Spanish and Latin. He was by far the most famous of the missionaries in Sonora, and the first to chronicle his experience there in his memoir of 1707.²⁵ Father Adamo Gilg, born in Romderstadt, Moravia,²⁶ and Father Ignacio Xavier Keller from what is today Olomouc, Czechia followed after.²⁷ Father Philipp Segesser, born in Switzerland, came to Sonora in 1733, with knowledge of German, Latin and Spanish.²⁸ Yet another Jesuit, Father Ignaz Pfefferkorn followed him in 1761, and he showed a strong interest in botany.²⁹ He was born in Germany, in Mannheim, in 1726.

More so than the Spaniards, the Jesuits fought for the natives' rights, arguing that they were being exploited and attempting to learn their local dialects. At the same time, the Jesuits expected the natives to plant crops, build churches and welcome them as peaceful missionaries. The reception the Jesuits received varied. In the early days of the missions, in 1695, the Tohono O'odham killed one Jesuit named Father Saeta.³⁰ Despite the unfortunate outcome of his predecessor's stay, Father Kino managed to accomplish many things in Sonora. His achievements include his definitive research and detective work which established that California was not an island. He also founded a church called San Xavier del Bac, which, after

²⁵ Francis O'Brian, and Rosarito V. Joffroy, "Eusebio Francisco Kino," Tumacácori National Historical Park, U.S. National Park Service, 2015. <https://www.nps.gov/tuma/learn/historyculture/eusebio-francisco-kino.htm>.

²⁶ Charles C. Di Peso, Daniel S. Matson, and Adamo Gilg, "The Seri Indians in 1692 as Described by Adamo Gilg, S. J." *Arizona and the West* 7, no. 1 (1965): 33–56.

²⁷ "Ignacio Xavier Keller," Tumacácori National Historical Park, U.S. National Park Service, 2020, <https://www.nps.gov/tuma/learn/historyculture/ignacio-xavier-keller.htm>.

²⁸ Philipp Segesser, *A Jesuit Missionary in Eighteenth-Century Sonora: The Family Correspondence of Philipp Segesser*, Edited by Raymond H. Thompson, translated by Werner S. Zimmt and Robert E. Dahlquist (Albuquerque: University of New Mexico Press, 2014).

²⁹ Ginny Sphar, "Ignacio Pfefferkorn," Tumacácori National Historical Park, U.S. National Park Service, 2015, <https://www.nps.gov/tuma/learn/historyculture/ignacio-pfefferkorn.htm>.

³⁰ "La Purísima Concepción de Caborca," Tumacácori National Historical Park, U.S. National Park Service, 2020, <https://www.nps.gov/tuma/learn/historyculture/la-purissima-concepcion-de-caborca.htm>.

being rebuilt, is still in use in Arizona today.³¹ The scholar Eugene Bolton wrote extensively about Father Kino and painted him as a champion of the native cause.³²

Father Kino brought in cattle in order to help the native people sustain themselves and have a means of income. However, the natives were not interested in eating beef, at least at first, so his motives may have been more self-serving in providing himself with the meat.³³ In addition, the introduction of non-native cattle necessitated bringing in hardy grass which transformed the landscape and consolidated nutrients. Some say the Duffel grass in the Sonoran desert today came over inadvertently with the slave ships from Africa. Whether intentional or not, in the centuries after, the natives of Sonora would come to rely on the cattle for income. The indigenous people would fight ongoing battles with nature and with the United States government to gain enough land on which their cattle could graze.

The colonizers and missionaries who introduced non-native cattle were likely introduced to native plants and wildlife at the same time. Indeed, the Jesuit priests mentioned the jojoba plant in their memoirs and letters, in passing. Father Eusebio Francisco Kino wrote in 1707 “They also have bezoar, the medicinal fruit called *jojoba*, blankets, cotton fabrics, curious and very showy baskets or pitchers, macaws, and feathers; and further inland there must be other means, advantages, and conveniences.”³⁴ Father Kino simply added this plant to a list, not significant except in the modifier “medicinal.” Jojoba did not come up again in the written record until 1725 when Ignaz Pfefferkorn wrote:

³¹ Albrecht Classen, *Early History of the Southwest Through the Eyes of German-Speaking Jesuit Missionaries: A Transcultural Experience in the Eighteenth Century* (Lexington Books, 2012).

³² Bolton, *Padre on Horseback*.

³³ Yetman, *The Opatas*.

³⁴ Kino, *Kino's Historical Memoir of Pimería Alta*, 93. Originally written in Spanish and translated by Eugene Bolton.

On the mountains near the villages of Imuris and Santa Magdalena, growing to about two ells in height, are numerous shrubs which bear the jojoba fruit. In size, taste, and color, the fruit pretty nearly resembles the hazelnut. It is not enclosed in a hard shell, however, but is covered only with a tender little skin, and is thinly furrowed lengthwise. Since it is not pleasant to eat, it is more popular as a mild and good remedy for stomach aches, being especially helpful in cases where the stomach has been chilled. It must be taken rather sparingly, however, because it is hot and too much is constipating. This same fruit is very useful also in cases where a swelling becomes hardened, because of cold or other cause, and will not burst open or resolve itself. The jojoba is roasted and ground up to make it yield an oil, which would not be displeasing even on foods. The oil thus procured is spread on the swelling, which is relieved more quickly in this way than by application of the aforementioned pasmo herb.³⁵

Father Pfefferkorn's description of the jojoba explains in more detail how it was used.

A third mention of jojoba can be found in Father Philipp Segesser's letter back home, written in 1731:

There is in these regions a fruit that is very useful for various medicines called *gogofen*; it has a shape similar to acorns although not as round. It has the taste of a hazelnut and is very oily. A merchant has much urged me to collect this fruit because there is a great demand for it among some priests in Rome.³⁶

Father Segesser spelled the plant name *gogofen*, however other sources do not use that spelling.

Each of these individuals learned of jojoba in their own way and wrote of it with no knowledge

³⁵ Pfefferkorn, *Sonora: A Description of the Province*, 65. Originally written in German and translated by Theodore Treutlein.

³⁶ Segesser, *A Jesuit Missionary in Eighteenth-Century Sonora*, 132. Originally written in German and translated by Werner S. Zimmt and Robert E. Dahlquist.

of one another's encounters with it. The lack of unified communication and knowledge sharing can be attributed to how these priests relied on letters and oversaw remote areas. Father Segesser's writing about the merchant hints that in some way Europe had become aware of the properties of jojoba. However, no further evidence of a jojoba trade from Sonora to Rome has emerged. The Jesuits observed and reported on jojoba and the ways native peoples used it, but the Spaniards did not act on this knowledge. The colonizers overlooked the jojoba plant, and likely other valuable resources, due in part to a narrow focus on building wealth through known commodities. The Spanish Empire sought familiar, valuable, and useful commodities during conquest such as sugar and silver. The missionaries sent to Sonora had taken a vow of poverty and did not seek to obtain wealth (although they certainly obtained power), through gaining trust and influence with the natives.

Cultural biases may have been in play in the reception of the jojoba plant and its oil. The European settlers' prejudice against native people and their cultural traditions may have pushed jojoba oil aside, writing it off as a non-scientific medicinal option. Many Europeans held a widespread belief that the types of food consumed could shape the body, or even cause harm to those who were not suited to it.³⁷ In keeping with this philosophy, Father Kino insisted on familiar food. He wrote in his journals and letters about his reception from the natives in each village about the wheat and other crops the natives had planted "for the father whom they hope to receive."³⁸

The natives of the Sonoran region viewed jojoba as a medicine rather than a food source. They used the oil to help with dry skin, stomach ache, burns and to heal wounds. As so often we see throughout historical accounts, the interlopers, in this case the Spaniards and

³⁷ Linda Alvarez, "Colonization, Food, and the Practice of Eating," Food Empowerment Project, <https://foodispower.org/our-food-choices/colonization-food-and-the-practice-of-eating/>.

³⁸ Kino, *Kino's Historical Memoir of Pimería Alta*, stated in variations on pages 189, 209, 233, 243, 255, 258, 353.

German-speaking Jesuit missionaries, largely ignored traditional medicines of the locals. In fact, the process of colonization and conversion included supplanting medicinal practices and replacing them with European practices.³⁹ A fear of the unknown or un-Christian religious practices of the locals shows up again and again in primary source accounts. For example, one Jesuit priest claimed a shaman cursed him as explanation for his mysterious illness.⁴⁰ Following similar patterns years later, the US government attempted to prevent native peoples from performing rain dances. The colonizers associated indigenous medicinal practices with spiritual beliefs and therefore saw them as threats to the Catholic church. This likely contributed to the relegation of jojoba oil in the colonizer's perspective, as an oddity rather than a resource.

The land on which the indigenous groups relied, where the jojoba plant grew naturally, has a much longer history than can fit in these pages. In 1750, a revolt called the Pima Uprising pushed the missionaries and Spaniards out of the area.⁴¹ Nevertheless the Spaniards returned a few years later, bringing intellectuals to catalog the botany, as mentioned before. These "men of science, as well as soldiers, colonists, and missionaries, were in truth entangled within local politics and practices, and lived and worked by transcultural means."⁴² All this historical background came prior to where most US textbooks begin the history of the area: with the Mexican war (1845-1848). By 1848, the United States gained control over the upper half of the land, in what is now New Mexico and Arizona.

By the 1850s Mexican mainstream intellectuals had begun the process of reclaiming the botany of the country as their own, which of course still overwrote the experiences of the

³⁹ Margarita Kay, 1987, "Lay theory of healing in Northwestern New Spain." *Social Science & Medicine* 24 (12): 1051-1060.

⁴⁰ Thomas E. Sheridan, *Landscapes of Fraud: Mission Tumacácori, the Baca Float, and the Betrayal of the O'odham* (Tucson: University of Arizona Press, 2006), 43.

⁴¹ Lynda Romero, "Pima Uprising of 175," Tumacácori National Historical Park, US National Park Service, 2020. <https://www.nps.gov/tuma/learn/historyculture/pima-uprising-of-1751.htm>

⁴² Lance C. Thurner, "Botanizing the borderlands: the limits of scientific indigeneity in late colonial New Spain," *Colonial Latin American Review* 30, no. 1 (2021): 110.

indigenous Mexicans.⁴³ In 1857, when the US government sent John Walker to the Sonoran desert in Arizona to negotiate with the native people, Walker distributed tools and food. “He did not understand the means of desert survival that the O’odham had developed through many years, and he thought they were starving.”⁴⁴ After the Civil War, American settlers started to mine for copper in Ajo, further north. The mine necessitated a railroad, and the settlers diverted the rivers, making it difficult for the natives in Sonora to grow their few crops. Colonizers viewed resources such as aquifers in terms of monetary value.⁴⁵

In 1912, Arizona became an official state.⁴⁶ Four years later, President Woodrow Wilson set aside a 2.75 million acre area of southern Arizona for the Tohono O’odham reservation.⁴⁷ Non-native settlers fought this ruling and took part of the land for themselves again. The settlers also made the argument that the reservation should include surface rights, since the natives only needed the land for grazing, thus protecting the white people’s resource rights for potential minerals under the land. In World War I the O’odham agreed to grow cotton to support the US and the government publicly recognized them for their service. Later, during World War II the O’odham donated some land for use as landing strips for pilots in training, although they may have had little choice in the matter. Their land was used for many purposes, none of which included cultivating the native, wild jojoba.

The industrial developments of the World War II era marked another significant show of disregard for local land and cultures. In 1942, the Vultee Aircraft company, commissioned by the government during the war, built three hangars and began polluting the area. In 1951, the Hughes Aircraft Company, a defense contractor, started dumping chemical wastewater into lagoons in the

⁴³ López, *Rooted in Place*, 174.

⁴⁴ Erickson, *Sharing the Desert*, 76.

⁴⁵ Sunaura Taylor, *Disabled Ecologies: Lessons from a Wounded Desert* (Oakland: University of California Press, 2024), 90.

⁴⁶ Taylor, *Disabled Ecologies*, 92.

⁴⁷ Erickson, *Sharing the Desert*.

Tucson area in earnest. The worst of the chemicals in the mixture was called trichloroethylene (TCE), an industrial solvent.⁴⁸ The Tohono O’odham raised alarms and by the 1970s their cattle had died as well as local vegetation and citizens of Tucson began suffering from lupus, testicular cancer, brain tumors, leukemia and more.⁴⁹ It was not until 1977 that the Hughes Company finally installed a wastewater treatment plant, by which point approximately 1,250,000 gallons of chemical water had already dispersed into the groundwater.⁵⁰

At the same time the Hughes Aircraft Company moved into the edge of the Sonoran region, in the 1950s, jojoba started to gain attention as a potentially lucrative plant crop. Researchers published a number of scientific articles highlighting the unique properties of the oil and its potential for cosmetic products. The US government offered subsidies to the native people remaining, to see if jojoba could grow into an economic asset. In 1985 the National Research Council published a book, which highlighted the “previously unknown” plant, and claimed that in the last ten years growers had invested about \$200 million in jojoba growing in the Sonoran region.⁵¹ The National Research Council suggested that not only jojoba oil, but also jojoba wax could offer uses (“polishing wax for cars, floors, furniture and shoes”).⁵² This began a jojoba boom in which non-indigenous farmers joined. However, the initial studies of jojoba proved imprecise in their temperature measurements and estimates of yield.

It is now known that the jojoba plant lives for 150 to 200 years, which meant the full life-cycle had not been properly observed. There are separate male and female jojoba plants, requiring a balanced crop. In addition, the fruits mature at staggered rates, making it necessary to handpick the harvest. Frost can kill the plants, and pollination is dependent on a good wind. A

⁴⁸ Taylor, *Disabled Ecologies*, 6.

⁴⁹ *Ibid.*, 9.

⁵⁰ *Ibid.*, 43.

⁵¹ National Research Council, *Jojoba: New Crop for Arid Lands, New Raw Material for Industry* (DC: National Academy Press, 1985), 1. Web.

⁵² National Research Council, *Jojoba*, 2.

boom in jojoba cultivation eventually proved too much for the water irrigation required to get the farms through the tenuous planting process in Sonora.⁵³ To add to that, by the 1940s, years prior to the push to grow jojoba, the groundwater tables had dropped due to overuse by the settlers.⁵⁴ Archeological evidence suggests that in the precolonial time period in which the Hohokam curated and cultivated local plants, the Sonoran desert had more wetland areas.⁵⁵ Whether this had to do with their system of rockpiles for irrigation remains a point of speculation. “In ableist ecologies, abandonment is the commonsense response to ecological disablement.”⁵⁶ The white settlers for the most part gave up on cultivating jojoba and left and the government stopped incentivizing the indigenous peoples to do so.

The jojoba boom of Sonora largely fell flat, however today people cultivate jojoba around the world, in places with similar arid landscapes as the Sonoran desert. In 1980, a petroleum company named Delek brought jojoba to Israel, where they carefully studied it for its oil properties and it is now grown successfully.⁵⁷ Jojoba has also been successfully transplanted to countries such as Argentina, India and more. The stock for jojoba continues to rise, due to the impending shortage of other oils, and the search for renewable energy.⁵⁸

Meanwhile, in Sonora, by the 1980s many residents had banded together to seek justice for the unremedied chemical pollution by the Hughes company. In town hall hearings US government officials suggested that the non-white complainants had made themselves ill by “eating chilis and beans”. This is an example of environmental racism, closely tied to practices

⁵³ Elizabeth Pennisi, “Jojoba Growers Struggling: Dreams of Desert Miracle Crop Spoiled,” *Los Angeles Times*, November 27, 1988.

⁵⁴ Taylor, *Disabled Ecologies*, 290.

⁵⁵ Fish, “Hohokam Impacts on Sonoran Desert Environment,” 278. Web.

⁵⁶ Taylor, *Disabled Ecologies*, 26.

⁵⁷ “The Discovery of Jojoba Oil,” Jojoba Haterim, The Golden Secret, November 8, 2023. <https://www.jojobahaterim.com/en/85/10>.

⁵⁸ “With 7.5% CAGR, Global Jojoba Oils Market Size Projected to Hit USD 270.81 Million By 2032,” Polaris Market Research, GlobeNewswire.

of cultural hegemony.⁵⁹ Taylor pointed out in her book *Disabled Ecologies*, that “the disproportionate level of ecological and social risk that poor and racialized communities face in both the US and globally, is suffused with histories of imperialism and colonialism.”⁶⁰ Today, the Tohono O’odham Nation consists of an estimated 24,000 people living on four sections of land with a combined total of 2.7 million acres.⁶¹ For context, Arizona alone contains approximately 72 million acres of land.

The jojoba plant offers a case of a resource which conquering empires overlooked during colonization, a physical example of one of the many effects of cultural hegemony. The Spaniards kept their eyes trained for resources they would recognize such as copper, or salt, as a means of increasing revenue and expanding the empire. They worked to incorporate newly “discovered” plants into the Euro-centric taxonomies and remove evidence of indigenous knowledge. The German-speaking Jesuits who first reached Sonora, focused mainly on bringing religion to the locals. The later interactions with the US government for the people and ecology of the region left even more of a desert wasteland, with limited water and an abundance of chemical pollution, foiling the last-minute attempt to capitalize on jojoba oil as a commodity. Had any of these populations been more willing to listen and learn from the natives, and less focused on proselytizing, dominating and exploiting the land and people, they may have gained an upper hand in world economics, or at least added to their resource riches. Undoubtedly, there are other such lost opportunities written in history as empires used their power to expand and disseminate their own culture, transplanting civilizations, and reshaping the environment as they went. The US did not adopt jojoba as an important source of oil until well after the colonial era, and even

⁵⁹ Taylor, *Disabled Ecologies*, 10.

⁶⁰ *Ibid.*, 16.

⁶¹ “Tohono O’odham Nation,” San Xavier del Bac Mission, Tohono O’odham Nation. <https://sanxaviermission.org/tohono-oodham-nation>.

today its uses have not been fully realized. The divisions of the land, from the early colonization to the split border between the US and Mexico, and most recently the border wall of the Trump era has further disrupted indigenous migration rituals but also the flow of water and wildlife, causing irreparable damage.⁶²

⁶² Taylor, *Disabled Ecologies*, 92.

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