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Can the United States Develop a Domestic Agave Industry?

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Agriculture across the Western United States faces an uncertain future with quickly shrinking water availability. The major reservoirs of the Colorado River Basin have fallen to historically low levels. California's Central Valley faces mandatory groundwater pumping reductions under the Sustainable Groundwater Management Act (SGMA), with some estimates suggesting that at least 500,000 acres may need to be followed by 2040 (Hanak et al., 2023).

Against this backdrop, a small but increasing number of Western growers are experimenting with cultivating agave. Agave plants, the source of the alcoholic spirits tequila and mezcal, are extraordinarily drought-tolerant, requiring roughly one-sixteenth the water of almonds. At the same time, US demand for agave spirits continues to grow with tequila overtaking American whiskey in terms of market size. In 2023, the agave-based spirit became the second most valuable spirits category domestically.

This raises a question: could these two trends support a viable domestic agave industry in the United States? In this article, I examine market dynamics, trade patterns, production economics, and the regulatory barriers with which potential US producers will have to contend. I explore some potential obstacles to domestic growth of agave, including a maturation period of up to 6–8 years, high labor costs relative to Mexico, and the challenge of marketing a product that cannot be called “tequila” due to trade agreements. However, the confluence of Western water shortages, strong demand growth, and an increasing focus on resiliency in agricultural sourcing present opportunities for potential US growers.

The US Agave Spirits Market

The United States is the largest single market for agave spirits, and domestic demand has grown rapidly. In 2024, tequila and mezcal generated \$6.7 billion in supplier revenues, making agave spirits the only category to grow amid an overall contraction in the spirits market. However, revenue fell 4.1% in 2025 to

\$6.4 billion (DISCUS, 2026). From 2019 to 2025, the sales volume of such spirits went from around 20 million 9-liter cases to roughly 31 million cases (DISCUS, 2026).

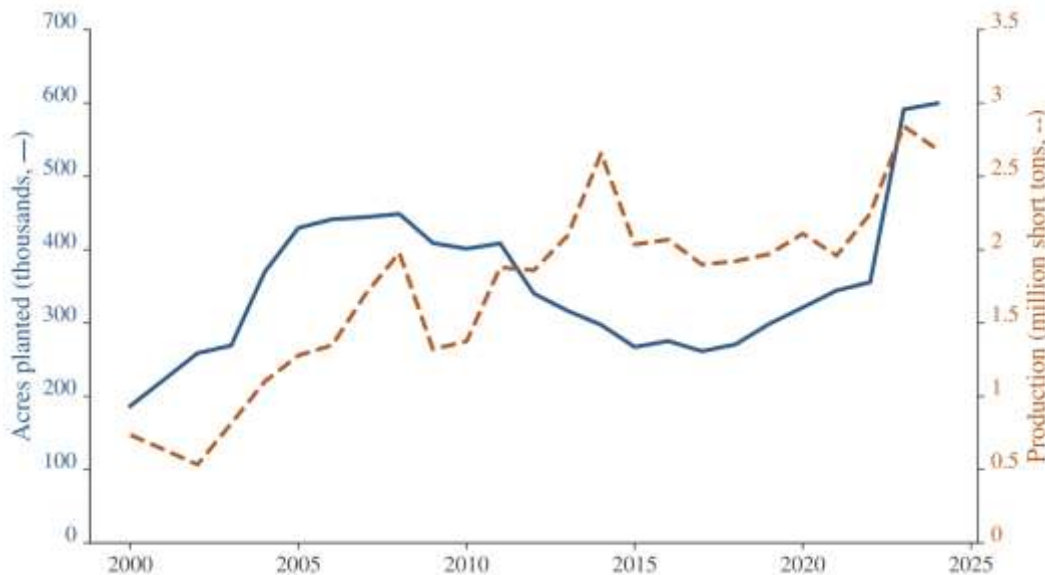
This growth has been concentrated in premium segments, reflecting increasing demand for higher quality and artisanal agave spirits. Nearly half (48%) of tequila/mezcal revenue comes from “super premium” products priced above \$250/case, with another 20% in the “high-end premium” tier (DISCUS, 2025). This premiumization is reflected in US Census Bureau (2026) trade data: The unit value of Mexican tequila and mezcal imports has more than doubled, from roughly \$9/liter in 2017 to almost \$20/liter in 2024. This trend suggests that US consumers are willing to pay for provenance and that US producers who are unlikely to compete on cost can still differentiate themselves on credence attributes such as organic or “local” production

US Imports from Mexico

Mexico supplies virtually all US consumption of agave spirits. US imports of tequila and mezcal grew from \$0.6 billion in 2010 to \$5.4 billion in 2024, an 8.4-fold increase in 14 years (Figure 1).

Processing agave into spirits requires a number of steps, including cooking the agave piñas to convert inulin to sugar, extracting the juice, fermenting, distilling, and bottling. Cooking and extracting juice is typically co-located near growing regions given the high transport costs of raw agave. Later stages of production can occur either in Mexico or the United States. About 60%–65% of tequila now enters the United States in bulk for domestic bottling, up from about 55% a decade ago (US TTB, 2024b). Existing domestic distilling and bottling infrastructure can serve US-grown agave as well, reducing the fixed costs needed to establish domestic production, leaving cooking and extracting juice as the primary processing bottleneck. Current US growers for

Figure 1. US Tequila and Mezcal Imports from Mexico, 2010–2024



Notes: Bars show total CIF import value (left axis); the line shows unit value in dollars per liter (right axis).
Source: US Census Bureau (2026).

agave destined for alcoholic spirits have relied upon local distillers, who often produce other spirits such as whiskey to distill and bottle their output. Indeed, the primary barrier to domestic production is not distillation capacity but rather the long maturation period of agave, which requires a multiyear commitment before any revenue is generated.

Mexican Agave Production

Mexico is the dominant global supplier of agave, and production has expanded dramatically over the last couple of decades. Planted area has grown from roughly 400,000 acres in 2010 to 600,000 acres in 2024, with the state of Jalisco accounting for 56% of total area planted with agave (SIAP, 2024). However, the Mexican industry is currently experiencing a sustained decline in prices. Farmgate prices have fallen from approximately US\$0.77/lb in 2021–2022 to between \$0.07–\$0.20 per pound in early 2025, a decline of 75%–90% (IWSR, 2024).

This price decline has resulted from the large expansion in supply. In particular, high prices in the late 2010s triggered substantial new plantings of agave that are now coming to market. Many of these plantings came from new entrants: The number of registered agave producers increased from 3,180 in 2014 to over 41,000 in 2023 (CRT, 2024).

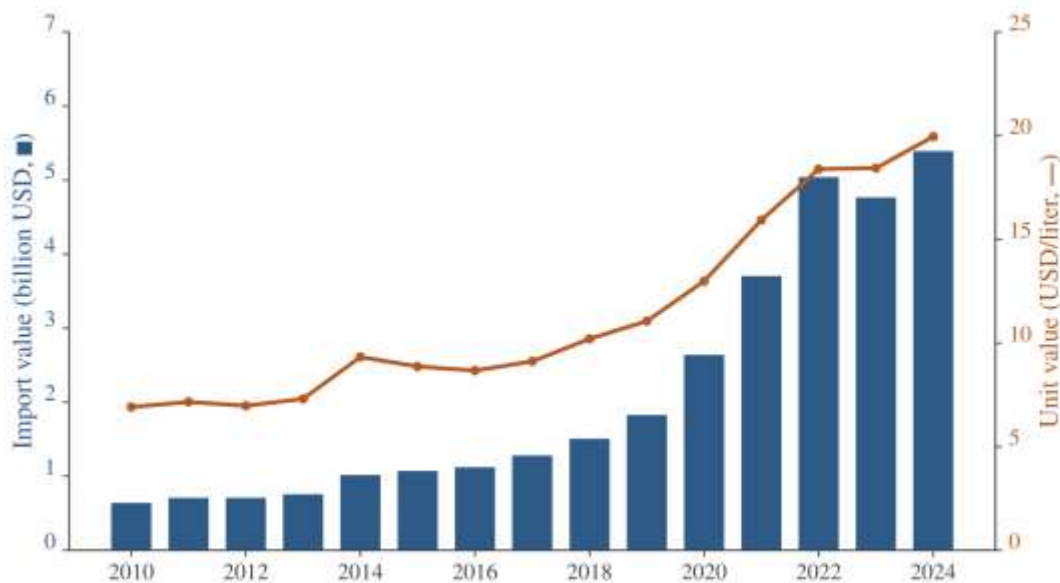
As a result, the Consejo Regulador del Tequila (CRT), Mexico's tequila regulatory body, reports a surplus of

approximately 500 million liters relative to consumption trends (IWSR, 2024). Meanwhile, US demand growth has slowed from 17% annually in 2021 to –4.1% in 2025 (DISCUS, 2026). Farmgate prices have fallen below estimated production costs of ~\$0.32/lb at the 2024 exchange rate (France 24, 2025). Some growers have begun abandoning cultivation, burning their immature plants to replant corn.

On the one hand, with Mexican farmgate prices at historic lows, fewer Mexican producers will sow agave or grow it to maturation, lessening future supply and leaving more space for domestic producers. On the other hand, if Mexican oversupply persists, this could create downward pressure on prices, leaving difficulties for higher-cost US producers to compete on price alone.

Although farm budgets do not exist for US-grown agave given its early status, production costs will be higher in the United States. The labor cost difference between the two countries is large. Mexican agricultural census data show that hired field workers (*jornaleros*) working in agave earned an average of 328 Mexican pesos per day in 2022, or approximately \$2.41/hour (INEGI, 2022). By comparison, California's agricultural minimum wage is \$16.90/hour, approximately 7 times higher. This wage gap alone makes cost competition with Mexico nearly impossible; the domestic industry's path to viability depends on premium positioning rather than undercutting Mexican prices.

Figure 2. Mexican Agave Production, 2000–2024



Notes: Planted area (solid, left axis) and total production in million tonnes (dashed, right axis).

Source: SIAP (2024).

US Production Potential for Agave

Current Domestic Production

US agave cultivation remains small but continues to grow, with California leading the way with the largest area of acres planted. As of 2026, California agave acreage is likely close to 1,200 acres under cultivation, though reliable acreage estimates are not available from common data providers, such as USDA National Agricultural Statistics Service (NASS) or the Cropland Data Layer (CDL), and this figure draws on industry reports. The California Agave Council (2026), formed in 2022, now counts 80 growers and 8 distillers among its members. The largest operation, in Fresno County, spans roughly 450 acres on previously fallowed land, with additional plantings in San Diego County (200 acres) and Yolo County, where California agave cultivation began in 2014.

The state of Texas also offers significant potential, particularly in the Rio Grande Valley, where hot, arid conditions mirror some of Mexico's northern agave-growing regions. The state's existing spirits industry and panache for local branding positions it as a natural second mover. However, Texas agave cultivation remains largely experimental, with current growers facing challenges, including crop damage from feral hogs. At least one Texas distillery produces agave spirits using imported Mexican agave while domestic plants mature. Arizona is a natural fit as well, with endemic agave species and growing zones identified across the southern part of the state, though plantings remain

small-scale. Experimental plots have also been reported in Florida and Hawaii.

California's head start stems from entrepreneurs, the state's large craft spirits industry, proximity to major consumer markets, and institutional support and research from the University of California (UC). In particular, researchers at the UC Davis Agave Center, UC Davis Water Management Laboratory, and UC Merced, sometimes in partnership with counterparts in Mexico, have been instrumental in supporting growers with early agronomic research, variety trials, and irrigation optimization. They are also researching potential uses for agave by-products, including uses for fibers or biofuels, which could help improve the economics of domestic production.

Given similarities in climate, marketing, and water restrictions, though, if the California industry continues to grow and mature, it is natural to expect that some of this learning and know-how would diffuse to growers in states such as Texas and Arizona.

Agronomic Suitability

Agave is well adapted to water scarcity. Unlike most crops, agave uses crassulacean acid metabolism (CAM) photosynthesis, opening stomata at night to minimize water loss rather than during the day (Borland et al., 2009). In Mexico, agave is typically grown without irrigation, relying on approximately 1 foot of annual rainfall. In California, with drip irrigation, growers report that agave needs only one application of water per

month after establishment, or roughly 3 inches of supplemental water annually (UC Davis Agave Center, 2023).

For comparison, tree crops such as almonds require approximately 4 acre–feet/year. This 16:1 water advantage makes agave an attractive option for farmers facing water allocation cuts or unsustainable groundwater pumping costs. In parts of California’s San Joaquin Valley, some farmers face allocation cuts of 50% or more under SGMA sustainability plans. Similar dynamics are playing out in Arizona, where groundwater depletion has prompted new restrictions.

Maturation takes 6–8 years in the United States, somewhat faster than the 7–9 years typical in Mexico, likely due to hotter summers and the use of drip irrigation. Each mature plant yields approximately 100 pounds of piña (the agave heart used in spirits production), translating to roughly 50 tons/acre at commercial density. Early California trial data suggest that piñas can reach 150 lb within 5 years at a density of 1,000 plants/acre, implying potential yields of up to 75 tons/acre. The piña accounts for only about 54% of total plant weight (Iñiguez-Covarrubias et al., 2001); the remaining biomass in leaves and fibers represents a substantial underutilized resource for by-products such as animal feed, textiles, and biofuels.

Although comprehensive farm budgets for US-grown agave do not yet exist, a comparison of key cost categories with Mexican production helps frame the economics. A study of Agave tequilana contract farming in Jalisco found total production costs of approximately \$2,350/acre over a 6-year cycle, with yields of roughly 47 tons/acre and gross revenues of approximately \$12,500/acre at a farmgate price of around \$0.13/lb (Herrera-Pérez et al., 2018). Early California experience suggests comparable or higher yields of 50–75 tons/acre, but at substantially higher input costs driven primarily by the labor gap described above. Land rents in California’s San Joaquin Valley range from \$150–\$450 per acre annually (ASFMRA, 2025), compared to \$80–\$200 per acre in Jalisco. Although water costs are much higher in the United States than Mexico, where agave is typically rainfed at no cost, irrigation costs for agave are minimal in California, using 0.25 acre–feet/year *at most*.

Looking ahead, mechanization could narrow the labor cost gap. Agave’s uniform row spacing and single-harvest cycle lend themselves to mechanical harvesting in ways that the jima, the traditional hand-harvest of the piña, does not easily permit in Mexico’s more rugged terrain. Current manual harvesting of an acre of agave requires 9–10 workers at a cost of roughly \$1,300 in labor; mechanized systems could reduce this substantially. By-product waste valorization could further improve viability: Revenue from processing the nearly half of plant biomass discarded during spirit production into animal feed, compostable fiber, or biofuel feedstock

would help offset the higher cost structure. While US per acre production costs are likely on the order of 3–5 times Mexico’s, higher expected yields narrow the per unit cost gap considerably. Nonetheless, California growers would need farmgate prices above current Mexican levels, though the premium positioning of domestic production should support higher prices.

Regulatory Constraints

US producers cannot use the names “tequila” or “mezcal.” Under the United States–Mexico–Canada Agreement (USMCA) Annex 3-C, “tequila” and “mezcal” are recognized as distinctive products of Mexico, analogous to the US protections for bourbon and Tennessee whiskey (USTR, 2020). These are legally defined geographical indications tied to specific regions. Products made outside designated Mexican regions must be marketed as “agave spirit” or similar terms. California has established standards requiring “California Agave Spirit” to be 100% California-grown with no additives, stricter than Mexican requirements (California Legislature, 2022).

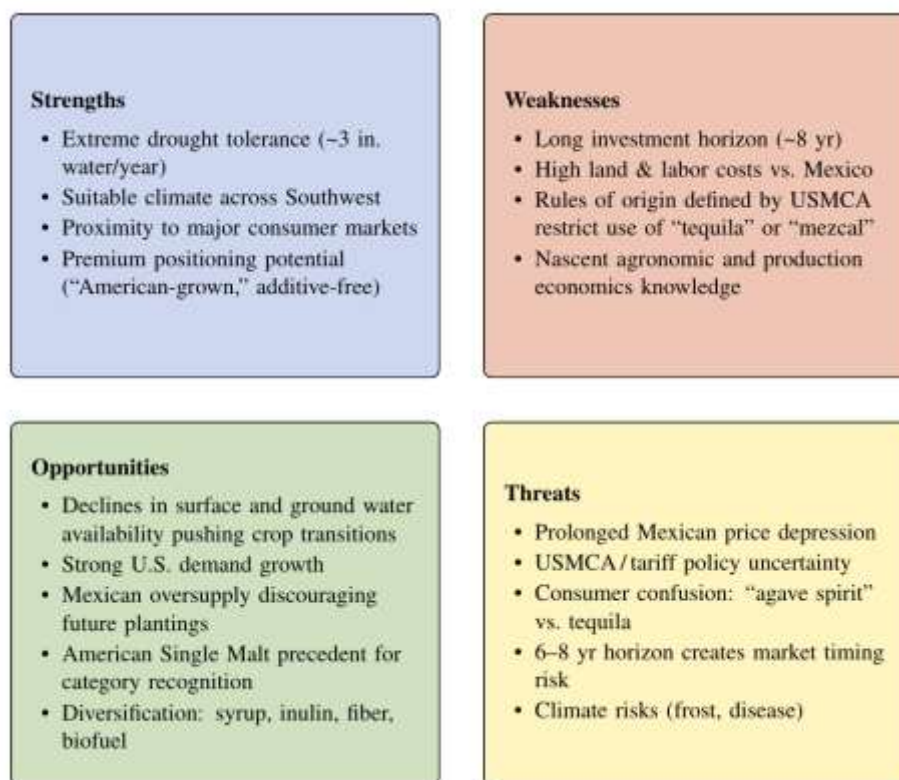
Across the agricultural sector, the upcoming 2026 USMCA joint review has introduced new sources of policy uncertainty for international supply chains. By July 2026, the three member countries must conduct a “joint review” and decide whether to extend the agreement, revise it, or allow a sunset process to begin. The review is occurring against a backdrop of trade tensions, with the current US administration having threatened 25% tariffs on Mexican imports.

For US agave producers, tariffs present a double-edged sword. Higher Mexican import prices could make domestically grown agave more competitive. But if tariffs reduce overall demand for agave spirits, the market domestic producers are trying to enter could shrink. The trade policy uncertainty compounds the already-long investment horizon: A farmer planting agave today will not harvest until 2031–2033, by which time the USMCA landscape could look very different.

The Marketing Challenge

A significant barrier to domestic agave production is what to call their products. US producers cannot use “tequila” or “mezcal,” terms that enjoy strong brand recognition built over decades, while “agave spirit” sounds generic and unfamiliar. California producers have adopted several strategies to address this issue. First, they emphasize differentiation rather than imitation. Industry participants stress they are “not trying to replace tequila” but creating a distinct category that can “sit alongside” Mexican spirits. Second, they leverage stricter quality standards. California’s requirement for 100% domestic agave with no additives is actually more stringent than Mexico’s rules, which permit up to 1% additives in tequila without disclosure, a practice that has become controversial among purists (California Legislature, 2022). Third, they build regional terroir

Figure 3. SWOT Analysis of the US Domestic Agave Industry



stories, emphasizing origins in specific counties as distinctive features rather than limitations.

There is reason for optimism that new American spirit categories can gain recognition. In December 2024, the TTB recognized "American Single Malt Whiskey" as a new category, the first since bourbon was codified in 1964, after an 8-year industry effort (TTB, 2024a). The California Agave Council is on a similar path, establishing standards and working toward formal recognition. State legislation has already codified labeling requirements; Federal recognition could follow, though likely not for several years.

SWOT Analysis

Figure 3 summarizes the strengths, weaknesses, opportunities, and threats (SWOT) for the US agave industry.

Research Priorities

Several knowledge gaps warrant attention from agricultural economists and extension agents more broadly. The nascent status of domestic agave cultivation leaves many of the agronomic, economic, and marketing questions unanswered. Addressing these gaps will be crucial for supporting potential growers and helping the industry navigate its early years.

• **Production economics:** What are true costs of production by region? No farm budgets, alternately cost and return studies, exist for domestic agave production.

- **Consumer research:** What is willingness-to-pay for American or Californian "Distilled Agave Spirit"? What marketing messages resonate with target consumers?
- **Alternate markets:** What is the demand for agave by-products, such as fiber or biofuels? Could the reproductive nature of the plants, creating many offspring plants called "pups," create an additional revenue stream through nursery sales?
- **Variety performance:** Which agave cultivars perform best in different US growing regions? Most current plantings use Mexican varieties, and more research is needed to understand and develop better adapted varieties for the United States.
- **Climate mapping:** Beyond California, where exactly in the US Southwest is agave cultivation agronomically and economically feasible?

Conclusion

As the Western United States faces increasing water scarcity, opportunities may lie in crops like agave which use one-sixteenth the water of almonds. The climate of

the US Southwest is suitable for its production with early California trials showing yields of 50–75 tons/acre, above the roughly 47 tons/acre typical in the Mexican state of Jalisco. With an existing \$6.4 billion US agave spirits market, domestic producers could use new US production to target this segment.

While promising, domestic producers will face challenges, such as a 6–8 year wait to first harvest, per acre costs 3–5 times higher than Mexico's, and a product they cannot call "tequila." Higher US yields narrow the per unit cost gap, and by-product valorization, which would convert the nearly half of plant biomass discarded during spirit production into feed,

fiber, or biofuel, could close it further. Still, domestic producers are unlikely to achieve cost parity with Mexico; the domestic industry must compete on quality and provenance, not price.

For growers in water-constrained regions, agave is worth evaluating as a crop that can provide long-term diversification if they can absorb the upfront capital commitment and secure market access before harvest. A domestic agave industry is feasible, but not inevitable, and continued research into production economics, varietal performance, and consumer demand will be important in shaping its successful development.

For More Information

- American Society of Farm Managers and Rural Appraisers (ASFMRA), California Chapter. 2025. "Trends in Agricultural Land and Lease Values, 2025." Available online: <https://calasfmra.com/ag-land-trends/>
- Borland, A.M., H. Griffiths, J. Hartwell, and J.A.C. Smith. 2009. "Exploiting the Potential of Plants with Crassulacean Acid Metabolism for Bioenergy Production on Marginal Lands." *Journal of Experimental Botany* 60(10):2879–2896. <https://doi.org/10.1093/jxb/erp118>
- California Agave Council. 2026. Available online: <https://californiaagave.org/>
- California Legislature. 2022. *Assembly Bill 2303: Agave Spirits: Labeling, Chapter 694, Statutes of 2022*. Available online: https://leginfo.ca.gov/faces/billStatusClient.xhtml?bill_id=202120220AB2303
- Consejo Regulador del Tequila (CRT). 2024. "Estadísticas." Available online: <https://www.crt.org.mx/EstadisticasCRTweb/>
- Distilled Spirits Council of the United States (DISCUS). 2025, February 11. *Annual Economic Briefing*. Available online: <https://distilledspirits.org/news/distilled-spirits-council-annual-economic-briefing-2025/>
- . 2026, February 5. *Annual Economic Briefing*. Available online: <https://distilledspirits.org/news/annual-economic-briefing-2026/>
- France 24. 2025, February 14. "After the Party, Mexican Agave Farmers Face Tequila Hangover." Available online: <https://www.france24.com/en/live-news/20250214-after-the-party-mexican-agave-farmers-face-tequila-hangover>
- Hanak, E., A. Ayres, C. Peterson, A. Escrivá-Bou, S. Cole, and Z. Joaquín Morales. 2023. *Managing Water and Farmland Transitions in the San Joaquin Valley*. Public Policy Institute of California. Available online: <https://www.ppic.org/publication/managing-water-and-farmland-transitions-in-the-san-joaquin-valley/>
- Herrera-Pérez, L., E. Valtierra-Pacheco, I. Ocampo-Fletes, M.A. Tornero-Campante, J.A. Hernández-Plascencia, and R. Rodríguez-Macías. 2018. "Esquemas de Contratos Agrícolas para la Producción de *Agave tequilana* Weber en la Región de Tequila, Jalisco." *Agricultura, Sociedad y Desarrollo* 15(4):619–637.
- Iñiguez-Covarrubias, G., R. Díaz-Teres, R. Sanjuan-Dueñas, J. Anzaldo-Hernández, and R.M. Rowell. 2001. "Utilization of By-Products from the Tequila Industry. Part 2: Potential Value of *Agave tequilana* Weber azul Leaves." *Bioresource Technology* 77(2):101–108. [https://doi.org/10.1016/S0960-8524\(00\)00167-X](https://doi.org/10.1016/S0960-8524(00)00167-X)
- Instituto Nacional de Estadística y Geografía (INEGI). 2022. *Censo Agropecuario 2022*. Available online: <https://www.inegi.org.mx/programas/ca/2022/>
- International Wine and Spirit Research (IWSR). 2024, March 4. "How Will the Agave Price Crash Impact Tequila?" Available online: <https://www.theiwsr.com/insight/how-will-the-agave-price-crash-impact-tequila/>
- Mexico, Government of, Servicio de Información Agroalimentaria y Pesquera (SIAP). 2024. *Anuario Estadístico de la Producción Agrícola*. Available online: https://nube.agricultura.gob.mx/cierre_agricola/
- US Alcohol and Tobacco Tax and Trade Bureau (TTB). 2024a, December 18. "Addition of American Single Malt Whisky to the Standards of Identity for Distilled Spirits." Final Rule. *Federal Register* 89:102726. Available online: <https://www.federalregister.gov/documents/2024/12/18/2024-29938/addition-of-american-single-malt-whisky-to-the-standards-of-identity-for-distilled-spirits>
- . 2024b. "Distilled Spirits Statistics." Available online: <https://www.ttb.gov/regulated-commodities/beverage-alcohol/distilled-spirits/statistics>
- US Census Bureau. 2026. *USA Trade Online: International Trade Data*. Available online: <https://usatrade.census.gov/>
- US Trade Representative (USTR). 2020. "Chapter 3 (Agriculture), Annex 3-C (Distinctive Products)." *United States–Mexico–Canada Agreement*. Available online: https://ustr.gov/sites/default/files/files/agreements/FTA/USMCA/Text/03_Agriculture.pdf

University of California, Davis, Agave Center. 2023. *Guidelines for Agave Selection and Production in California*. Available online:
https://watermanagement.ucdavis.edu/application/files/5616/9263/8368/Guidelines_for_selection_and_production_of_Agave_in_California_V5.pdf

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