

California Citrus: Industry Overview, Economic Challenges, and Environmental Threats

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Introduction

The California citrus industry faces economic and environmental threats that jeopardize its long-term sustainability and profitability. As one of the state's most valuable specialty crop sectors, citrus production not only contributes significantly to the agricultural economy of California, but also plays an important role in the supply of citrus in the United States. In this research brief, we provide an overview of citrus production in California and examine the economic and environmental threats facing the industry, including labor and trade issues and pest and disease concerns.

Citrus Production

California remains the dominant producer of fresh-market citrus in the United States. In 2024, Navel oranges, Valencia oranges, lemons, and mandarins/tangerines¹ accounted for 96.36% of the state's total citrus acreage. Navel oranges represented the largest share at 41.32% (110,000 acres), followed by mandarins/tangerines at 25.54% (68,000 acres), lemons at 19.91% (53,000 acres), and Valencia oranges at 9.58% (25,500 acres) ([United States Department of Agriculture, National Agricultural Statistics Service 2025](#)).

California also accounts for the majority of U.S. citrus production for several major varieties. In 2024, California contained 55.67% of total U.S. orange acreage devoted to Navel oranges, 94.30% of lemon bearing acreage, and 91.03% of mandarin/tangerine bearing acreage (Figure 1). In contrast, California represented only 14.62% of total U.S. Valencia orange acreage because Valencia oranges are primarily grown for juice production, which remains concentrated in Florida. Despite California's dominant position, orange acreage has continued to decline. Since 2019, California's total orange acreage decreased by 5,500 acres to 135,500 acres, while total U.S. orange acreage declined by 129,300 acres to 372,000 acres.

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¹Data for mandarins and tangerines are reported jointly by [United States Department of Agriculture, National Agricultural Statistics Service \(2026b\)](#). They are defined jointly throughout this research brief.

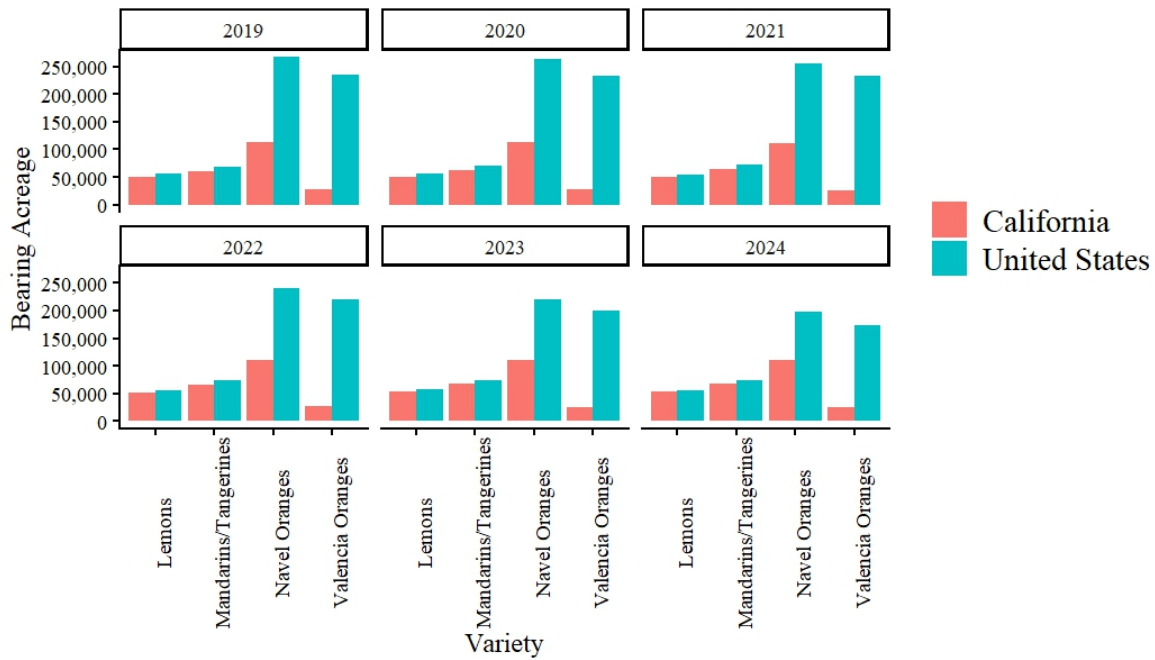


Figure 1: Bearing acreage for citrus varieties in California and the United States. Data source: <https://quickstats.nass.usda.gov>.

Bearing Acreage

Trends in bearing acreage differ considerably across citrus varieties (Figure 2). Between 2019 and 2025, mandarin/tangerine acreage increased steadily to 68,000 acres, while lemon acreage expanded to 54,000 acres. During this time period, Navel orange acreage declined by approximately 3,000 acres to 110,000 acres, and Valencia orange acreage fell from 28,000 to 25,000 acres. These patterns indicate continued expansion in specialty citrus varieties alongside a gradual contraction in orange production.

Yields

Yield trends varied across citrus varieties during the study period (Figure 3).² Navel and Valencia oranges followed similar production patterns, with yields reaching their lowest levels in 2022 at 284 and 292 boxes per acre, respectively. Valencia orange yields recovered to 365 boxes per acre in 2024 before declining to 292 boxes in 2025, whereas Navel orange yields increased steadily after 2022 to 345 boxes per acre in 2025.

Lemon yields were comparatively stable after their low of 428 boxes per acre in 2021, averaging approximately 478 boxes per acre thereafter and increasing by 14 boxes per acre between 2024 and 2025. Mandarins/tangerines exhibited the greatest year-to-year variability. Yields declined sharply to 265 boxes per acre in 2022 before rebounding to 443 boxes per acre in 2025. The decline in 2022 was largely attributed to harvest delays caused by severe flooding in California's Central Valley (Citrus Industry 2023).

²Data for prices, yields, and sales are reported in 37.5 lb. boxes.

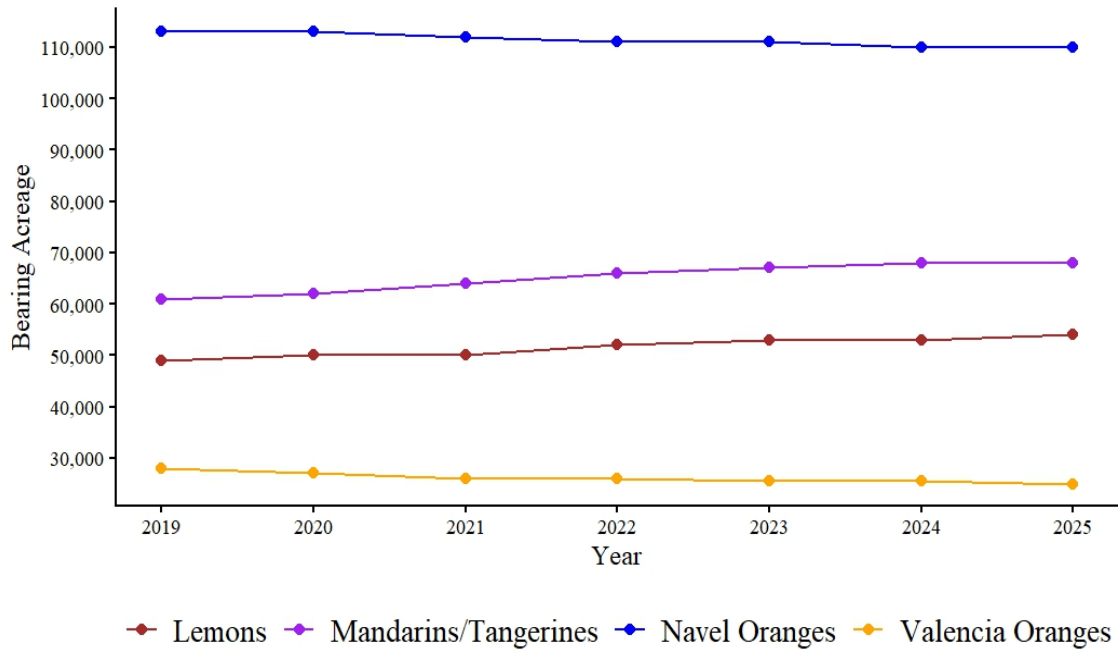


Figure 2: Bearing acreage of the top citrus varieties grown in California. Data source: <https://quickstats.nass.usda.gov>.

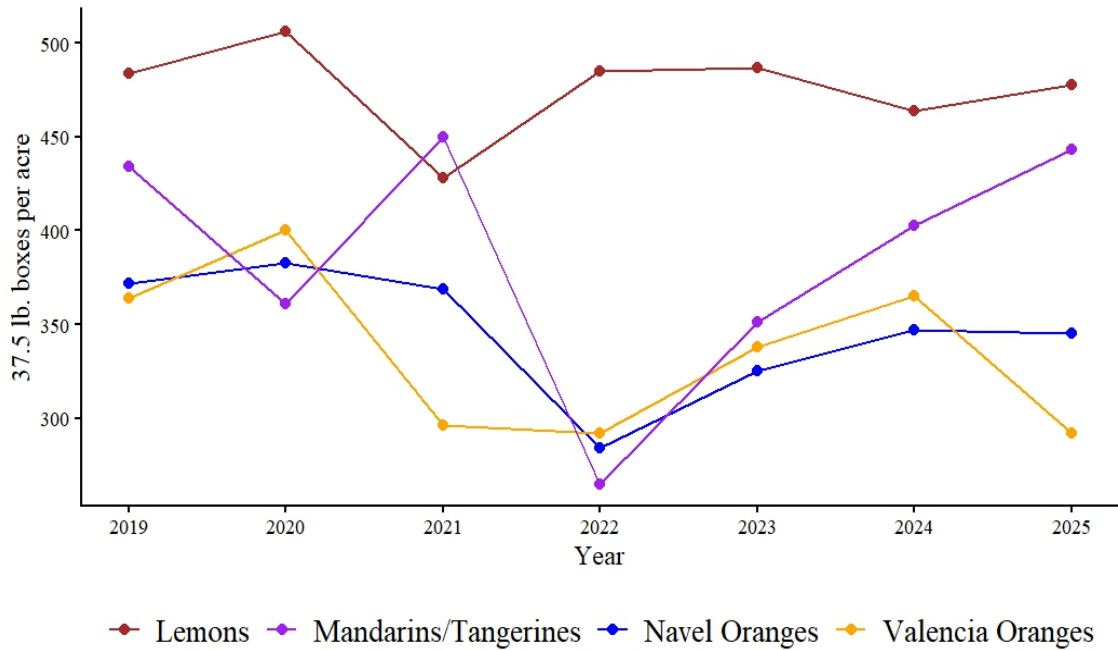


Figure 3: Yield per acre (37.5 lb. boxes) for the top citrus varieties grown in California. Data source: <https://quickstats.nass.usda.gov>.

Fresh Market Sales

Fresh-market sales generally mirrored production trends (Figure 4). Navel oranges consistently dominated California's fresh citrus market, increasing from 24 million boxes in 2024 to 29.25 million boxes in 2025. Valencia oranges maintained the smallest fresh-market presence, peaking at 8.3 million boxes in 2020 before declining to a low of 5 million boxes in 2023.

Lemon sales were the most stable among the major citrus varieties, averaging 17.57 million boxes annually. Mandarins/tangerines exhibited a similar degree of stability but demonstrated the strongest recent growth, increasing from 12.5 million boxes in 2022 to 19.6 million boxes in 2025.

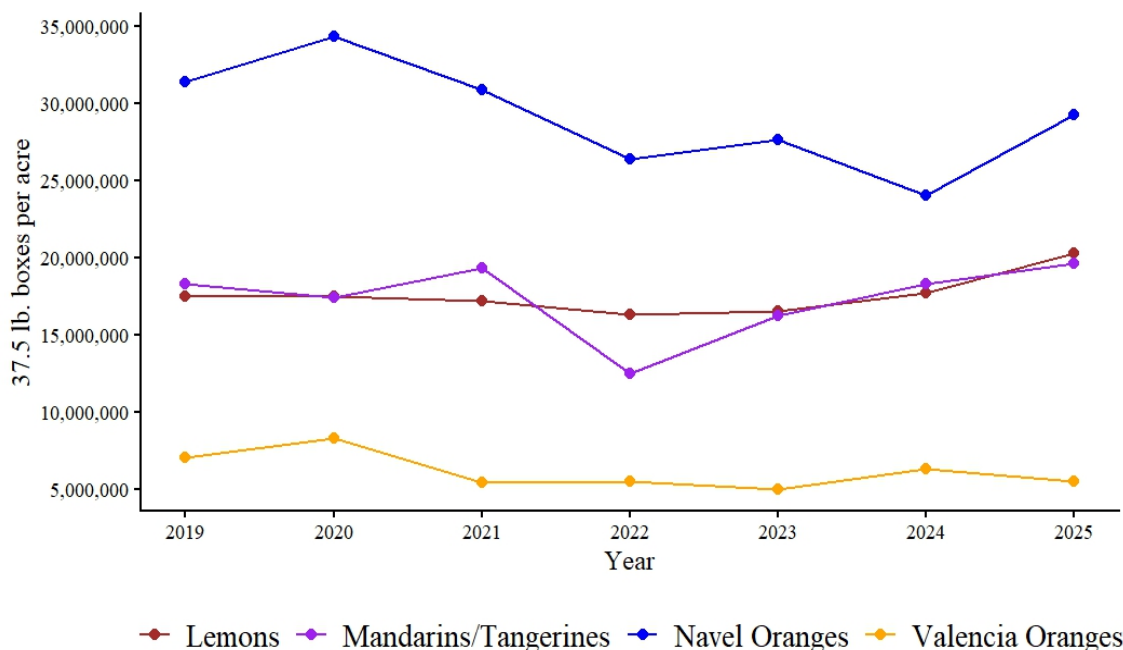


Figure 4: Fresh market sales volume (37.5 lb. boxes) for the top citrus varieties grown in California. Data source: <https://quickstats.nass.usda.gov>.

Processed Market Sales

Sales in the processed market varied more than sales in the fresh market (Figure 5). Navel oranges were the second-largest processed citrus variety, reaching 8.65 million boxes in 2025 after falling to a low of 5.1 million boxes in 2022. Valencia oranges maintained relatively consistent processed-market sales, averaging 2.37 million boxes annually and reaching their lowest level of 1.7 million boxes in 2023.

Mandarins/tangerines followed a pattern similar to Navel oranges, increasing from 5 million boxes in 2022 to 10.5 million boxes in 2025. Lemon sales followed the opposite trend, declining during years when processed sales of oranges and mandarins increased. Lemon processed sales reached a low of 4.2 million boxes in 2021 before peaking at 9.3 million boxes in 2023.

Overall, processed-market sales remained considerably smaller than fresh-market sales. In 2025, fresh-market sales exceeded processed-market sales by 20.61 million boxes for Navel oranges, 14.8 million boxes for lemons, and 9.1 million boxes for mandarins/tangerines. These differences underscore the importance of the fresh market to California citrus producers (United States Department of Agriculture, National Agricultural Statistics Service 2026b).

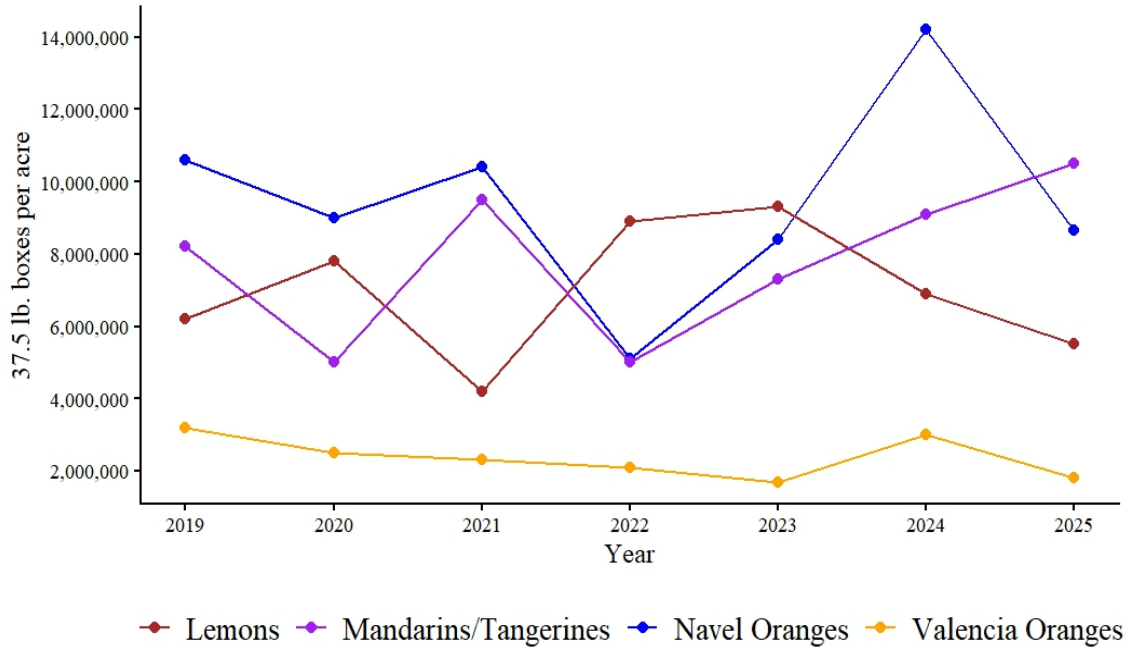


Figure 5: Processed market sales volume (37.5 lb. boxes) for the top citrus varieties grown in California. Data source: <https://quickstats.nass.usda.gov>.

Prices

Mandarins/tangerines commanded the highest prices among California’s major citrus varieties (Figure 6), except in the 2020–2021 marketing season . Average prices during the 2023–2024 marketing season reached \$36.96 per 37.5 lb. box in California and \$37.15 nationally, with peak prices exceeding \$38 per box during the 2021–2022 season.

Prices for Navel oranges, Valencia oranges, and lemons followed broadly similar trends over time. Average California prices between the 2018–2019 and 2023–2024 marketing seasons were \$17.72 per box for Navel oranges, \$17.87 for Valencia oranges, \$25.57 for lemons, and \$32.97 for mandarins/tangerines. Lemon prices generally declined over the study period, whereas orange prices remained relatively stable.

For Navel oranges, lemons, and mandarins/tangerines, California and national prices were highly similar because California accounts for a substantial share of U.S. production. Between 2019 and 2024, California averaged 46.87%, 91.79%, and 89.31% of U.S. bearing acreage for these varieties, respectively. In contrast, California accounted for only 12.29% of U.S. Valencia orange acreage during the same period. Because smaller production regions are generally more susceptible to localized supply shocks, including pest outbreaks, disease pressure, and transportation disruptions, Valencia orange prices exhibited greater differences between California and national markets (Adjemian et al. 2016; U.S. Department of Agriculture, Economic Research Service 2016).

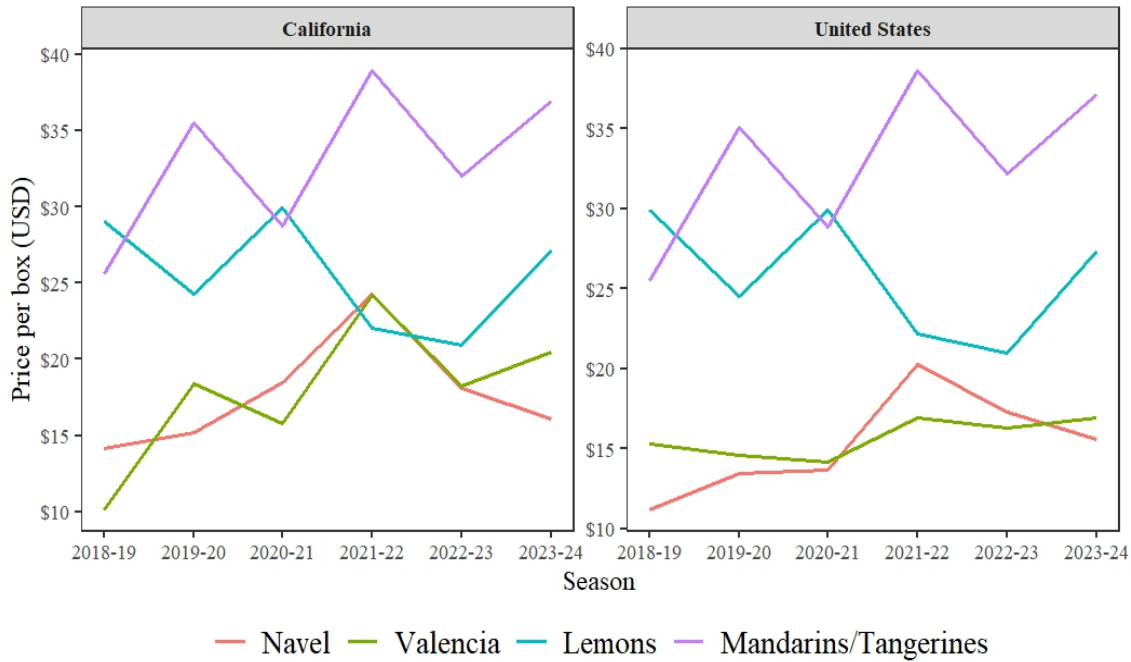


Figure 6: Prices per 37.5 lb. box for the top citrus varieties in California and the United States. Data source: <https://usda.library.cornell.edu/concern/publications/j9602060k>.

Economic Threats

In the 2018–2019 season, California’s total citrus production was valued at approximately \$2.12 billion, representing 62% of the total citrus production value of the United States. Since then, California’s share of total U.S. citrus production value has risen 87%, reaching \$2.46 billion in the 2024–2025 season (Figure 7). In contrast, the total value of citrus production in the United States has declined in recent years. By the 2024–2025 season, it had fallen to approximately \$2.84 billion, about \$558 million less than during the 2018–2019 season.

Since 2025, California’s citrus industry has faced immigration and international trade policies that have significantly affected the agricultural workforce (Charlton 2025). California’s farms have not been immune to immigration raids and their impact on farm worker communities (CalMatters 2025; Le Monde 2025). Trade policy, specifically tariffs, have also had a negative effect on California’s citrus industry.

A clear example of this effect can be observed in the immigration raids in Kern County in January 2025. The U.S. Border Patrol conducted an operation that included “dozens of agents spread out over several hundred square miles” according to Gregory Bovino, chief patrol agent of the sector at the time (Hampton 2025). After the arrests of dozens of people, this operation resulted in labor shortages for citrus production throughout the east Bakersfield area in the southern Central Valley (Hampton 2025), where a large proportion (approximately 70%) of California citrus is grown (United States Department of Agriculture, National Agricultural Statistics Service 2026a).

On trade, U.S. citrus exports face significant trade barriers, primarily in the form of retaliatory tariffs imposed during recent global trade disputes. As of December 2025, China continues to impose a 30% Section 301 retaliatory tariff on U.S. oranges and mandarins, in addition to a 15% Section 232 retaliatory tariff (USDA Foreign Agricultural Service 2025). Other trading partners have implemented similar measures. The European Union added orange juice to its list of retaliatory products in 2018 before removing it in 2021 (Tsui and Rosch 2025). Likewise, Canada imposed a 10% surtax on U.S. orange juice in July 2018, which was lifted in May 2019. Although temporary, these measures increased import costs and reduced market access for U.S. citrus products during their implementation.

Recent trade actions continue to affect U.S. citrus exports. In March 2025, Canada imposed a 25% tariff on \$30 billion worth of U.S. goods, including citrus products, resulting in canceled orders and reduced market access for California citrus exporters near the end of the navel and mandarin marketing

season ([California Citrus Mutual 2025](#)). These developments occurred at a time when China, Canada, and Mexico represented three of the largest export destinations for U.S. goods. In 2024, total U.S. exports to these countries were valued at approximately \$244.19 billion, \$463.84 billion, and \$1,033.14 billion, respectively (Figure 8).

Retaliatory trade restrictions have also affected U.S. citrus exports directly. Following China's retaliatory tariffs during the U.S.-China trade dispute, U.S. citrus exports to China declined to \$23 million in 2019, representing decreases of 56% relative to 2018 and 54% relative to 2017 ([Yoon 2020](#)). More broadly, retaliatory tariffs imposed by China reduced U.S. agricultural exports by an estimated \$14.9 billion between March 2025 and February 2026 ([Arita et al. 2026](#)). These findings illustrate the vulnerability of U.S. agricultural exports to changes in international trade policy.

Global citrus export trends further reflect these challenges. According to [United States Department of Agriculture, Foreign Agricultural Service \(2025\)](#), orange juice exports (measured in thousand metric tons at 65° Brix) from Brazil, Mexico, the European Union, South Africa, and the United States all declined between the 2019-2020 and 2024-2025 marketing years. Much of this decline has been attributed to Huanglongbing (HLB) and hurricane-related production losses. During this period, U.S. orange juice exports declined by approximately 9,000 metric tons to roughly 25,000 metric tons in the 2024–2025 marketing year.

Imports have also become increasingly important in meeting U.S. citrus demand. Since 2000, the share of total domestic citrus availability supplied by imports has increased steadily across all major citrus categories (Figure 9). In 2000, imports accounted for 3.06% of oranges (approximately 51,886 tons), 5.42% of lemons (22,823 tons), and 26.29% of mandarins/tangerines (102,013 tons). By 2023, import shares had increased to 17.96% (304,424 tons), 22.74% (95,730 tons), and 45.46% (176,351 tons), respectively, representing increases of more than 100% for each citrus category.

The empirical literature documents the broader economic consequences of tariffs and other trade barriers. [Amiti et al. \(2019\)](#) estimated that the tariffs imposed in 2018 generated approximately \$8.2 billion in deadweight losses (real income reductions) while imposing an additional \$14 billion in costs on U.S. consumers. Tariffs, however, represent only one component of trade policy. Non-tariff measures (NTMs), including sanitary, phytosanitary, and technical regulations, also create substantial barriers to agricultural trade. Using bilateral U.S. export data for 155 trading partners from 2007 to 2021, [Karagulle et al. \(2026\)](#) estimated that NTMs reduced U.S. agricultural exports by an average of 34.5%, equivalent to a 16.4% ad valorem tariff. Collectively, this evidence suggests that both tariffs and NTMs can substantially restrict agricultural trade, reduce export opportunities, and impose significant economic costs on producers and consumers.

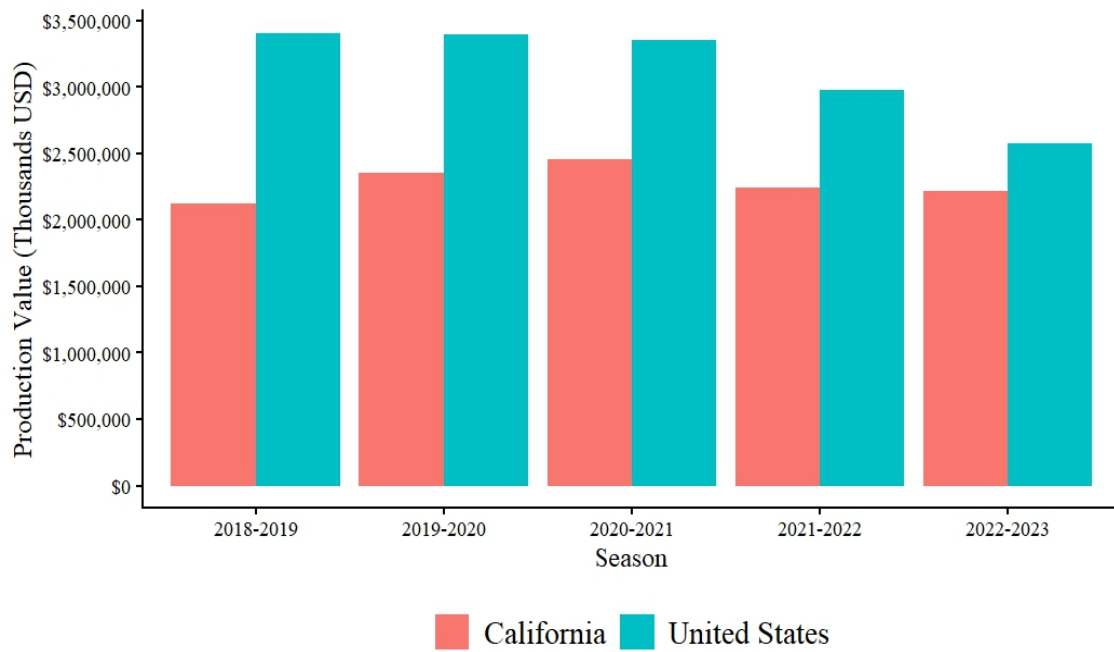


Figure 7: California and United States citrus production value (Thousands USD). Data source: <https://usda.library.cornell.edu/concern/publications/j9602060k>.

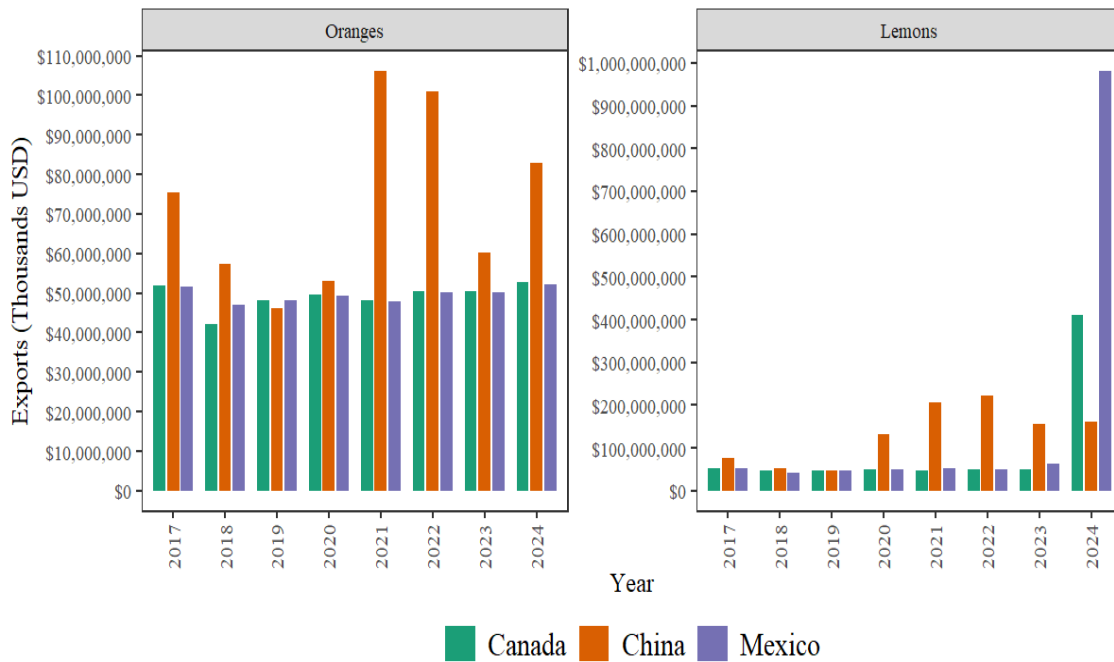


Figure 8: U.S. orange and lemon exports to Canada, China, and Mexico. Data source: <https://www.ers.usda.gov/data-products/fruit-and-tree-nuts-data/trade-and-prices-by-category-and-commodity>.

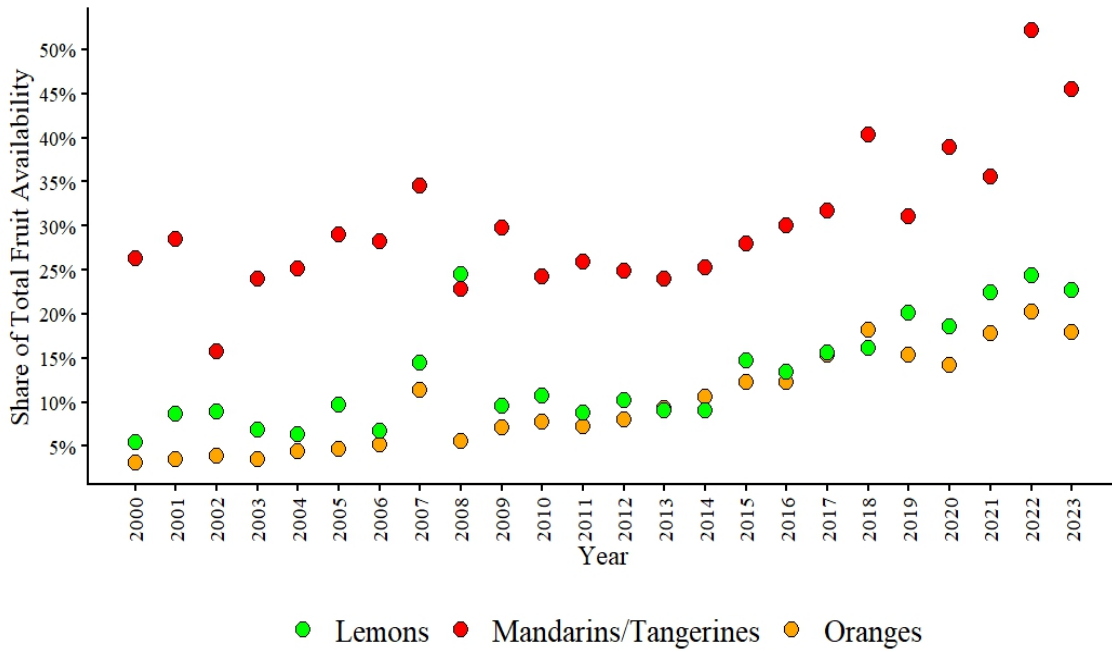


Figure 9: Import share of total fruit availability in the United States. Data source: <https://www.ers.usda.gov/data-products/fruit-and-tree-nuts-data/fruit-and-tree-nuts-yearbook-tables>.

Pests and Disease Concerns

California’s citrus industry faces persistent threats from invasive pests and plant diseases. These threats can reduce yields and fruit quality, cause premature tree mortality, increase pest-management and quarantine costs, and limit the marketability of affected fruit, particularly in the fresh market. California’s efforts to prevent and mitigate pest- and disease-related crop losses include producer outreach, surveillance, preventive regulations, eradication programs, and quarantine zones. Many of these activities are coordinated by the California Department of Food and Agriculture (CDFA) through the Citrus Pest and Disease Prevention Program (CPDPP), which was established in 2009 (California Department of Food and Agriculture 2026a; California Department of Food and Agriculture 2024). The CPDPP coordinates statewide detection, quarantine, treatment, and outreach activities, with particular emphasis on the Asian citrus psyllid (ACP), Huanglongbing (HLB), and sweet orange scab (SOS). During fiscal year 2023–2024, CPDPP expenditures totaled approximately \$36.1 million (California Department of Food and Agriculture 2025b), illustrating the scale and urgency of ongoing prevention and mitigation efforts. The following subsections describe the principal pests and diseases that currently threaten California citrus production.

Mediterranean Fruit Fly

The Mediterranean fruit fly, commonly known as the Medfly, is considered one of the most serious agricultural pests in the world due to its broad host range and its potential to cause extensive crop damage (California Department of Food and Agriculture 2026e). The Medfly can infest more than 300 economically important fruit-bearing plant species and is estimated to cause annual losses exceeding \$2 billion worldwide (Abd-Elgawad 2021). In California, the combined gross production value of fruit crops susceptible to Medfly infestation exceeded \$17.94 billion in 2021 (California Department of Food and Agriculture 2023). The U.S. Department of Agriculture’s Animal and Plant Health Inspection Service (APHIS), in cooperation with CDFA, conducts ongoing exclusion, detection, and eradication activities through the Fruit Fly Exclusion and Detection Program. The program maintains more than 63,000 detection traps throughout California (California Department of Food and Agriculture 2026b)

and supports broader federal efforts to detect and suppress fruit fly populations in the United States (United States Department of Agriculture, Animal and Plant Health Inspection Service 2025a).



Figure 10: The Mediterranean fruit fly (Medfly). Reproduced from “Mediterranean Fruit Fly,” by U.S. Department of Agriculture, Animal and Plant Health Inspection Service (2025), <https://www.aphis.usda.gov/plant-pests-diseases/medfly>.

Oriental Fruit Fly

The Oriental fruit fly (OFF) is another economically important invasive pest, affecting more than 400 fruit and vegetable species worldwide (United States Department of Agriculture, Animal and Plant Health Inspection Service 2025c). The economic consequences of OFF infestation can be substantial. In Miami-Dade County, Florida, an OFF outbreak in 2016 caused an estimated \$10.7 million in losses to citrus growers, reduced citrus output by approximately \$27 million, and resulted in the loss of roughly 334 full- and part-time jobs (Alvarez et al. 2016). OFF has also been detected in California. CDFA estimates that failure to eradicate the pest could result in annual losses ranging from \$64.24 million to \$256.96 million in 2026 dollars through crop damage, increased pesticide use, and quarantine-related costs (California Department of Food and Agriculture 2025c; California Department of Food and Agriculture 2013). As part of its continuing eradication efforts, CDFA maintained OFF quarantine zones in Riverside and San Bernardino counties as of September 19, 2025 (California Department of Food and Agriculture 2026f).



Figure 11: The Oriental fruit fly (OFF). Reproduced from “Oriental Fruit Fly,” by U.S. Department of Agriculture, Animal and Plant Health Inspection Service (2025), <https://www.aphis.usda.gov/plant-pests-diseases/oriental-fruit-fly>.

Mexican Fruit Fly

The Mexican fruit fly (Mexfly) primarily affects citrus and mangoes and has been detected in California, Texas, and Arizona (United States Department of Agriculture, Animal and Plant Health Inspection Service 2025b). To limit its establishment and northward spread, APHIS releases an average of 165 million sterile Mexflies each week in southern Texas and northern Mexico to support control and eradication efforts along the U.S.–Mexico border (United States Department of Agriculture, Animal and Plant Health Inspection Service 2025b). Federal expenditures also illustrate the scale of fruit fly prevention efforts. In 2025, APHIS allocated \$28.58 million to pest-detection activities (U.S. Department of Agriculture 2026). The potential economic consequences of Mexfly infestation are considerable. During the 2019–2020 season in Texas, the pest adversely affected commercial grapefruit and orange production, which together accounted for approximately 99% of the state’s citrus industry, resulting in estimated losses of \$5.8 million (Zapata 2022).



Figure 12: The Mexican fruit fly (Mexfly). Reproduced from “Mexican Fruit Fly,” by U.S. Department of Agriculture, Animal and Plant Health Inspection Service (2025), <https://www.aphis.usda.gov/plant-pests-diseases/mexfly>.

Citrus Canker

Citrus canker is a bacterial disease caused by *Xanthomonas citri subsp. citri*. Although the disease does not pose a risk to human health, it can weaken citrus trees and cause premature leaf and fruit drop. Citrus canker has not been detected in California’s commercial citrus groves. Nevertheless, CDFA initiated an emergency response program in 2022 after the pathogen was detected on citrus nursery stock shipped to California from South Carolina. The emergency program established surveillance and containment protocols within a 0.5-mile radius of locations in Chino and San Bernardino that had received infected nursery stock. CDFA also contacted residents within the surveillance areas to facilitate inspection and containment activities (California Department of Food and Agriculture 2022). Evidence from other citrus-producing regions demonstrates the potential cost of the disease. In Florida, annual citrus canker management costs were estimated at approximately \$214 per hectare, equivalent to roughly 3.84% of total production costs (Singerman and Burani-Arouca 2017). Earlier USDA eradication efforts conducted between 1995 and 2006 cost more than \$1.3 billion nationwide (Lowe 2009).

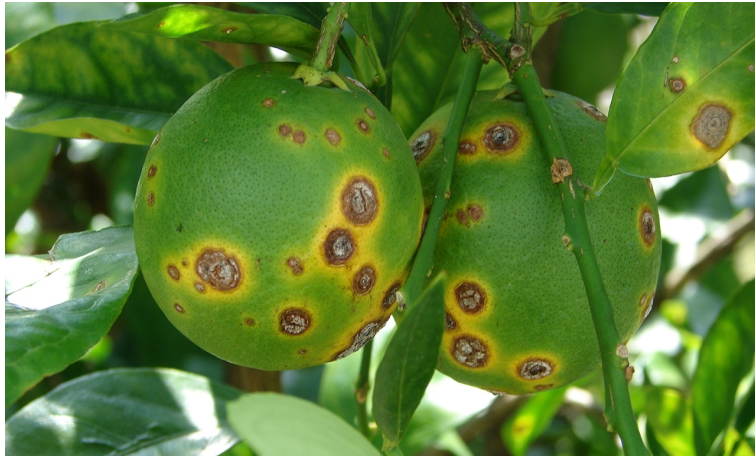


Figure 13: Citrus canker. Reproduced from “Citrus Canker,” by U.S. Department of Agriculture, Animal and Plant Health Inspection Service (2025), <https://www.aphis.usda.gov/plant-pests-diseases/citrus-diseases/citrus-canker>.

Citrus Tristeza Virus

Citrus tristeza virus (CTV) is widely regarded as one of the most destructive viral pathogens affecting citrus (Folimonova and Sun 2022). Severe strains can cause the decline of citrus trees grafted onto sour orange rootstock, yellowing in sour orange, lemon, and grapefruit seedlings, and stem-pitting symptoms in sweet oranges, grapefruit, and mandarins/tangerines. These symptoms are often associated with reduced yields and lower fruit quality (Černí et al. 2008). CTV has been detected in California citrus-producing regions. Surveys conducted between 2020 and 2022 identified the virus in Ventura, Riverside, San Bernardino, and San Diego counties, with incidence rates ranging from 6.3% to 34.9% (Yokomi and Hajeri 2023). In California, CTV is regulated under State Interior Quarantine Section 3407. The regulation restricts the movement of susceptible plants and propagative material, excluding seed, and requires permits for citrus, kumquat, trifoliate orange, and numerous related genera and hybrids. It also requires source trees to be tested and certified by the department as free of CTV (California Department of Food and Agriculture 2011).



Figure 14: Brown citrus aphid, a vector of CTV. Reproduced from “Brown Citrus Aphid,” by Lyle Buss, University of Florida (2026), https://entnemdept.ufl.edu/projex/gallery/dl/Beneficial_Arthropods_Parasitoids/TEXT/HEM_Brown_citrus_aphid_Toxoptera_citricida.html.

Sweet Orange Scab

Sweet orange scab (SOS) is a fungal disease that produces raised lesions on the surface of citrus fruit. Although the disease generally does not affect internal fruit quality, it can substantially reduce the marketability of infected fruit in the fresh market. If left uncontrolled, SOS may reduce fruit value by as much as 50%, potentially making production unprofitable (Chung 2011). APHIS uses quarantine restrictions to limit the spread of SOS and protect citrus-producing regions throughout the United States. Most recently, APHIS expanded the SOS quarantine area in the Van Nuys region of Los Angeles County by approximately 80 square miles (United States Department of Agriculture, Animal and Plant Health Inspection Service 2026).



Figure 15: Sweet orange scab. Reproduced from “Sweet Orange Scab,” by U.S. Department of Agriculture, Animal and Plant Health Inspection Service (2025), <https://www.aphis.usda.gov/plant-pests-diseases/citrus-diseases/sweet-orange-scab>.

Huanglongbing

Huanglongbing (HLB), also known as citrus greening, represents one of the most serious threats to California citrus production. The disease is transmitted by the Asian citrus psyllid (ACP), which spreads the bacterium *Candidatus Liberibacter asiaticus* (*C. Liberibacter asiaticus*, or *CLas*) among citrus trees. Infection can cause severe yield reductions, poor fruit quality, and premature tree death (United States Department of Agriculture, Animal and Plant Health Inspection Service 2007; California Department of Food and Agriculture 2026d; United States Department of Agriculture, Animal and Plant Health Inspection Service 2026). HLB has not been detected in California’s commercial citrus groves. However, experience in Florida illustrates the potential consequences of widespread infection. HLB caused annual economic losses exceeding \$1 billion in Florida and was associated with the loss of as many as 5,000 jobs between 2015 and 2019 (Li et al. 2020). Florida citrus production also declined by approximately 92% between 2003 and 2023, falling from roughly 300 million boxes to fewer than 20 million boxes (Kaplan et al. 2025). In addition to CPDPP activities, the U.S. Congress began allocating funding in 2014 to support the APHIS HLB Multi-Agency Coordination Group. To date, approximately \$64 million has been directed toward research, detection, treatment, and industry-support activities intended to combat HLB.



Figure 16: Huanglongbing (HLB) symptoms (left) and Asian citrus psyllid (ACP) infestation (right) in citrus. Reproduced from “Citrus Greening and Asian Citrus Psyllid,” by U.S. Department of Agriculture, Animal and Plant Health Inspection Service (2026), <https://www.aphis.usda.gov/plant-pests-diseases/citrus-diseases/citrus-greening-and-asian-citrus-psyllid>.

According to CPDPP, HLB infections in California have remained confined to residential citrus trees. As of April 27, 2026, infected trees had been identified in Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties (California Department of Food and Agriculture 2026c). The most recent estimates indicate that HLB had been detected in 10,565 trees, an increase of 566 trees since May 2025 (Kaplan et al. 2025). Figure 17 presents the number of infected trees by county. Orange County reported the largest number of infections, with 6,912 trees, whereas San Diego and Ventura counties reported the fewest, with 111 and 128 infected trees, respectively.

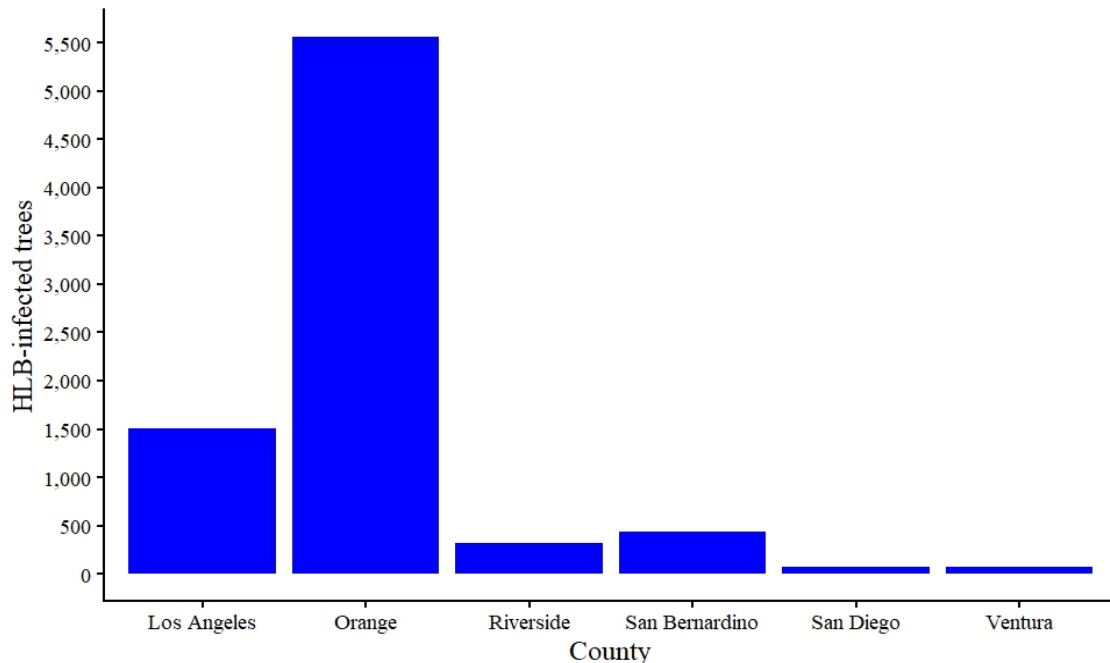


Figure 17: Number of HLB-infected residential citrus trees in affected California counties. Source: https://maps.cdffa.ca.gov/WeeklyACPMaps/HLBWeb/HLB_Treatments.pdf.

The economic exposure associated with further HLB spread varies substantially across affected counties. Los Angeles and Orange counties did not report commercial production of the major citrus varieties considered in this study: Navel oranges, Valencia oranges, lemons, and mandarins/tangerines.

In the remaining HLB-affected counties, lemons were the most important citrus variety, particularly in Ventura County, where sales reached approximately 18.60 million boxes in 2023. Ventura County lemon production was valued at \$207.54 million that year, making lemons the highest-value citrus variety produced within the affected counties. Based on 2023 production values, approximately \$382.66 million in lemon production could be exposed if HLB spreads into commercial groves in these counties. An additional \$15.60 million in Navel orange production could also be at risk. Mandarins/tangerines were produced in Riverside, San Diego, and Ventura counties and had a combined production value of approximately \$46.30 million in 2023. Across Riverside, San Bernardino, San Diego, and Ventura counties, the combined production value of Navel and Valencia oranges, lemons, and mandarins/tangerines totaled roughly \$463 million in 2023 ([United States Department of Agriculture, National Agricultural Statistics Service 2026a](#)).

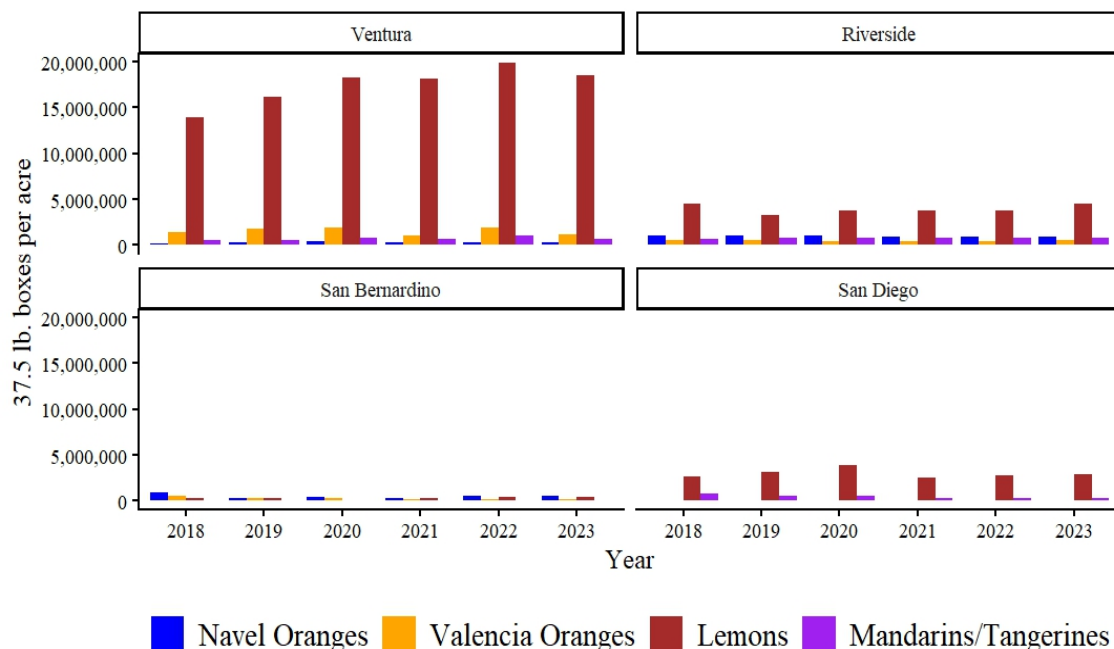


Figure 18: Sales of citrus varieties, measured in 37.5 lb. boxes, in California counties with HLB-infected residential trees. Source: https://www.nass.usda.gov/Statistics_by_State/California/Publications/AgComm/index.php.

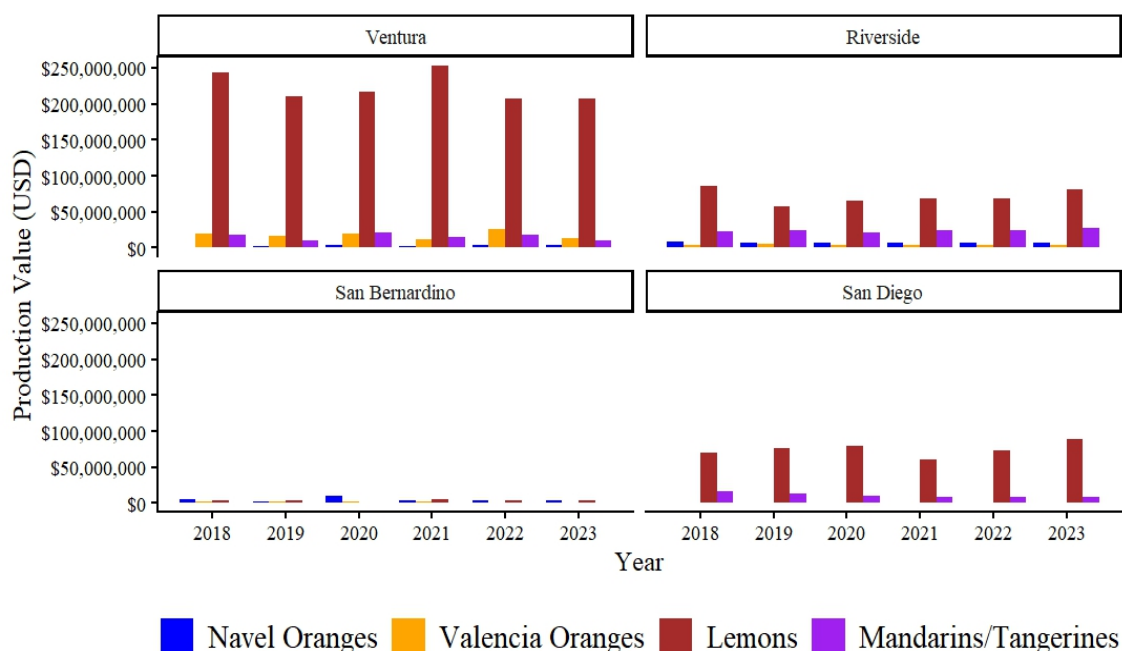


Figure 19: Production value of citrus varieties grown in California counties with HLB-infected residential trees. Source: https://www.nass.usda.gov/Statistics_by_State/California/Publications/AgComm/index.php.

Discussion

California has demonstrated resilience amid a national decline in the value of citrus production, in the form of consistent bearing acreage and a growing share of the total citrus production in the country. However, the implementation of trade barriers, particularly tariffs, has the potential to generate economic losses by reducing imports and exports. In particular, retaliatory tariffs are more likely to affect California's citrus industry, given the significant export volume of citrus. In 2024, California's exports of oranges, lemons, and mandarins/tangerines were \$555 billion, \$159 billion, and \$95 billion, respectively (California Department of Food and Agriculture 2025a).

In addition, California's citrus production is at risk from invasive pests and diseases. Due to the threatening expansion of fruit flies and HLB, citrus trees are continuously monitored, utilizing a significant amount of resources. HLB is currently the most significant threat to California's citrus production, given its rapid spread in residential areas and its potential to devastate commercial groves, as seen in Florida and Texas. Ultimately, the implementation of policies that reduce trade uncertainty and promote pest management are crucial to ensuring California's citrus industry remains productive and profitable.

Acknowledgements

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