The Continuing Decline of Florida's Citrus Industry

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Florida TaxWatch

Introduction

Florida, known as the sunshine state, is famous for its warm weather, beaches, and its citrus fruits. The orange is a part of Florida's identity in many ways; the Florida license plate dotes an orange in the middle, our official state fruit is an orange, the official state beverage is orange juice, and Florida's official state flower is the orange blossom.

Florida is the second largest producer of oranges and grapefruit in the U.S.[1] The Florida citrus industry consists of fruit production – namely oranges, grapefruits, tangerines, and tangelos, fruit juice extraction, packaging, and distribution. As of 2021, Florida's citrus industry had an impact of $7 billion on the Florida economy and created employment for more than 32,000 people across the state.[2]

Despite such an impact on the Florida economy, the citrus industry has decreased massively in scale. Until 2021, Florida was the largest orange and grapefruit producing state in the U.S. Now, it is California.[3] Florida, at present, provides 33 percent of the nation's orange production and 42 percent of the nation's grapefruit production.[4]

In the last two decades, Florida's total citrus production has decreased by more than 90 percent, from around 300 million boxes in 2003-04 to just 20 million boxes in 2023-24.[5] The 2022-23 season was the worst production season in nearly a century for the Florida citrus industry, with only 15.8 million boxes of oranges and 1.8 million boxes of grapefruit.[6]

The upcoming 2024-25 season is forecasted to be even worse. According to the U.S. Department of Agriculture (USDA) forecast, Florida's 2024-25 season is forecasted to produce only 12 million boxes of oranges and 1.2 million boxes of grapefruits, recording a 33 percent decline in both categories from last season.[7] Research shows that the main reasons for Florida's declining citrus industry are citrus diseases and hurricanes.

Citrus Diseases are the Main Culprit for the Downfall of the Florida Citrus Industry

While many diseases affect crops in Florida, citrus greening has proven to be deadly. It was first found in Florida in 2005, and since then has drastically lowered citrus production. It is a disease spread by an insect called Asian citrus psyllid—eating up all the tree's nourishment—and results in fewer and smaller fruit each time.[8] As of today, there is no cure for completely eradicating citrus greening.

A 2019 survey by the University of Florida's Institute of Food and Agriculture Sciences (IFAS) stated that citrus growers, on average, reported that 80 percent of their trees were infested with citrus greening.[9] The USDA estimated that citrus greening led to a 75 percent reduction in Florida's citrus production and more than doubled production costs from 2005 to 2015.[10] A 2015 Florida TaxWatch commentary titled "Squeezing the Greening Out Of Florida Citrus" states that Florida's economy lost $3.6 billion in revenue as of 2012 due to citrus greening.[11]

Many citrus industry entities have funded research for the eradication of citrus greening; however, none of them has been fruitful in finding a permanent solution. The University of Florida's Citrus Research and Education Center awarded grants worth $16 million for citrus-greening related projects, and the Florida Department of Citrus has spent more than $45 million on citrus diseases from 2007 to 2015.[12] Despite continuous efforts, farmers and growers still feel little or no hope for the end of citrus-greening.

1 Florida Department of Agriculture and Consumer Services, "Florida Agriculture Overview and Statistics," retrieved from https://www.fdacs.gov/Agriculture-Industry/Florida-Agriculture-Overview-and-Statistics, accessed on October 24, 2024.
2 Julio Cruz, Joao Pedro, and Christa Court, "2020-2021 Economic Contributions of The Florida Citrus Industry," 2022.
3 Ariel Singerman and Pilar Useche, "Impact of Citrus Greening on Citrus Operations in Florida," 2019.
4 Supra, footnote 1.
5 USDA NASS, "Citrus October Forecast," October 2024.
6 Jim Turner – Orlando Weekly, "Florida Citrus Industry Ends Season With Worst Numbers in Nearly A Century," retrieved from https://www.orlandoweekly.com/news/florida-citrus-industry-ends-season-with-worst-numbers-in-nearly-a-century-34622406, accessed on October 24, 2024.
7 USDA NASS, "Citrus December Forecast," December 2024.
8 Florida Citrus, "What is Citrus Greening?," retrieved from https://www.floridacitrus.org/grower/fdoc-citrus-411/what-is-citrus-greening/, accessed on October 25, 2024.
9 Supra, footnote 3.
10 SouthernAG Today, "Citrus Greening, Hurricanes, and the Decline of the Florida Citrus Industry," retrieved from https://southernagtoday.org/2024/01/05/citrus-greening-hurricanes-and-the-decline-of-the-florida-citrus-industry/, accessed on October 24, 2024.
11 Florida Taxwatch, "Squeezing the Greening Out of Florida Citrus," May 2015.
12 WLRN South Florida, "The 20-year fight against citrus greening in Florida has farmers and researchers exhausted," retrieved from https://www.wlrn.org/environment/2023-05-08/the-20-year-fight-against-citrus-greening-in-florida-has-farmers-and-researchers-exhausted, accessed on November 6th, 2024.

Florida's Citrus Industry Suffered Long Before Citrus Greening

Before citrus greening, the citrus industry in Florida was hit by two destructive diseases, leading to historical losses for citrus growers. Florida experienced frequent freezes from the late 1800s to the late 1900s killing a large number of citrus productions across the state and forcing many groves out of business. There were five major freezes in a span of 10 years.[13] The freezing in 1977 damaged 15 percent of Florida's citrus crop and the last freezing in 1989 wiped out 30 percent of Florida's citrus crop.[14]

Not long after experiencing citrus freezing, Florida's citrus industry was struck by citrus canker—a disease creating small lesions on citrus fruits leading to increased fruit drop.[15] While it was first seen in Florida in the early 1900s, an outbreak in 1995 caused a tremendous decline in citrus trees in Florida.

In 2002, a mandate for destruction of any citrus trees within a 1,900-foot radius of any diseased tree was passed. A total of 16 million citrus trees were cut down or burned as a result; however, the program was ultimately shut down in 2006 when it was deemed ineffective.[16] From 2006 to the present, the state of Florida has paid tens of millions of dollars to citrus owners in five Florida counties.[17]

Citrus canker has still not been eradicated, yet the citrus industry has survived due to decontamination efforts. Since then, the more urgent epidemic in the citrus industry has been citrus greening.

Hurricanes Leave Massive Destruction for Citrus Growers in Florida

The 2004-2005 citrus season not only had to face citrus-greening, but growers also faced tremendous losses due to hurricanes. In a span of six weeks, four hurricanes created a drop of 120 million boxes compared to the previous season (see figure 1).

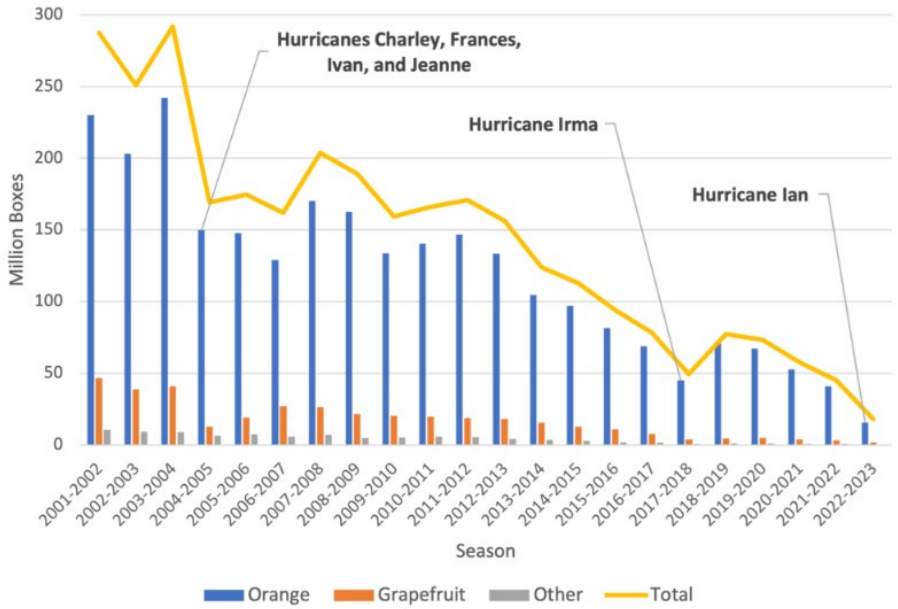
Through the years, stronger hurricanes have proven to be economically devastating for Florida's citrus industry. According to a 2023 impact analysis done by the University of Florida, Florida experienced citrus losses of $490 million in 2017 after Hurricane Irma,[18] and $247 million after Hurricane Ian in 2022.[19]

Recently, with hurricane Helene and hurricane Milton in 2024, major citrus growers like Alico in Florida stated while their groves did not experience severe flooding or tree damage after the hurricanes, the winds led to a large number of fruit drop from trees.[20] This reduces the amount of utilized production for the season.

Prior to both hurricanes in 2024, the forecast for the upcoming 2024-25 season was at 15 million boxes for oranges and 1.4 million boxes for grapefruit.[21] Hurricane Helene and hurricane Milton resulted in a forecasted drop totaling three million boxes in orange production and 200,000 boxes in grapefruit production.

13 George Yeleno Sky, "An Overview of Florida Citrus Freeze Survival," 1996.
14 Ted Burrows, "Local history: Historic Freezes Caused Havoc and Changed Florida's Agriculture," retrieved from https://www.tcpalm.com/story/news/history/2022/01/06/local-history-historic-florida-freezes-caused-havoc-and-changed-agriculture/9080923002/, accessed on November 25th, 2024.
15 FDACS, "Citrus Canker FAQ," retrieved from https://www.fdacs.gov/Agriculture-Industry/Pests-and-Diseases/Plant-Pests-and-Diseases/Citrus-Health-Response-Program/Citrus-Pests-and-Diseases/Citrus-Canker-FAQ, accessed on November 25th, 2024.
16 Alyssa Martinez, "When The Government Came For Floirda's Orange Trees," retrieved from https://reason.com/2024/06/27/floridas-citrus-slaughter/#:~:text=Armed%20with%20chainsaws%20and%20woodchippers,citrus%20tree%20infected%20with%20canker., accessed on November 25th, 2024.
17 Kirby Wilson, "Florida homeowners caught up in the fight against citrus canker finally getting millions the state owes them," retrieved from https://www.tampabay.com/florida-politics/buzz/2019/01/17/florida-homeowners-caught-up-in-the-fight-against-citrus-canker-finally-getting-millions-the-state-owes-them/, accessed on November 25th, 2024.
18 Alan Hodges, et al – IFAS, "Economic Losses of Hurricane Irma on Agriculture in Florida Counties," August 2018.
19 Christa Court, et al – IFAS, "Estimated Agricultural Losses Resulting from Hurricane Ian," February 2023.
20 Alico Inc, "Initial Assessments Indicate that Alico Inc Sustained Minimal Tree Damage from Hurricane Milton Last Week," retrieved from https://ir.alicoinc.com/press-releases/detail/1421/initial-assessments-indicate-that-alico-inc-sustained, access on October 17, 2024.
21 Marisa Zansler – Florida Department of Citrus, "Florida Citrus Outlook 2024-25 Season," October 2024.

Figure 1.
Florida's citrus production is affected negatively by hurricanes, and has decreased by more than 90 percent since 2004



Source: USDA NASS Data as presented by SouthernAG Today

Declining Citrus Production Leads to A Blended Mix of Produce

The significant decline to 13.2 million boxes of citrus production causes economic and social issues. Historically, an average of 70 percent of orange production is utilized for processing,[22] to create the nationwide loved taste of 100 percent Florida orange juice.

The company Florida's Natural, owned by a collective of citrus growers in Florida, proudly labeled their juice "100% premium Florida orange juice" for decades. Due to declining local production, Florida's Natural since 2022 uses a blend of orange juice from Mexico and Brazil. Socially, surveys have shown that consumers prefer the flavor of Florida oranges over a blended mix.[23]

While the production of citrus has declined significantly, the demand for citrus juices is not declining at the same rate. This results in the need to import citrus fruits and juices from Mexico and Chile. Over the last two decades, the U.S. imports of fresh oranges have increased four-fold, from 120 million pounds in 2002 to 510 million pounds in 2022.[24]

Moreover, the need to constantly change production style due to hurricanes and citrus-greening raises the local cost of production. With high labor costs and low yields, growers choose to exit the market and sell their land to developers, further putting pressure on Florida's already dwindling citrus industry.

22 Malek Hammami, Yi Li, and Zhengfei Guan, "The United States Orange Industry: Declining Production and Climbing Imports," June 2024.
23 WPTV – Dave Bohman, "Orange juice brands no longer making juice from 100% Florida-grown oranges," retrieved from https://www.wptv.com/news/region-indian-river-county/vero-beach/orange-juice-brands-no-longer-making-juice-from-100-florida-grown-oranges#:~:text=Then%20in%20May%202022%2C%20Florida%E2%80%99s,outside%20of%20the%20Sunshine%20State, accessed on November 5, 2024.
24 Ibid

What Can be Done to Increase Florida's Citrus Production?

Florida's citrus industry has been battling diseases and natural disasters constantly, starting with citrus freezing followed by citrus canker, mandated removal of healthy trees, citrus greening and multiple hurricane hits. In an interview, prominent citrus growers stated they are still optimistic about the future as many citrus entities are investing in the industry.[25]

There have been many short-term solutions to combat citrus greening; growing trees in giant canopies to keep insects out but still allow sunlight and rain through, developing new blight resistant citrus trees,[26] injecting greening resistant genes into the citrus,[27] and using push-pull pest management to lure away pesticides to trap crops instead.[28] A majority of researchers believe that the only long-term solution is a new variety of citrus that is resistant to disease; however, the use of genetic engineering in citrus production is still an ongoing debate in the citrus industry.

Most of these methods require a high investment, which many citrus growers in Florida cannot afford. The Florida citrus industry is at a critical period for survival, requiring strategic planting of citrus, scientific revitalization, and increased awareness of citrus production requirements.

The citrus industry is a part of Florida's identity and has been a generational business for many families. It is vital for the Florida citrus industry to sustain its efforts in mitigating higher production costs and rebuilding industry infrastructure to ensure long-term sustainability.

The Path Forward

High investment costs present a significant hurdle for many growers. To overcome these challenges, the industry must focus on:

- **Strategic planting and infrastructure rebuilding.**
- **Increased awareness of citrus production needs.**
- **Continued scientific research for sustainable solutions.**

Preserving Florida's citrus legacy demands immediate and collaborative action to balance innovation with tradition.

25 PBS News, "What's Behind A Severe Decline In Florida's Citrus Harvest," retrieved from https://www.pbs.org/newshour/show/whats-behind-a-severe-decline-in-floridas-citrus-harvest, accessed on November 4, 2024.
26 Ibid
27 IFAS, "UF/IFAS Scientist to Work with Team Developing new Greening-Tolerant Citrus," retrieved from https://blogs.ifas.ufl.edu/news/2019/02/11/uf-ifas-scientist-to-work-with-team-developing-new-greening-tolerant-citrus/, accessed on November 8th, 2024.
28 Marlowe Starling, "Florida Growers Eye Agroecology Solution to Devastating Citrus Disease," retrieved from https://news.mongabay.com/2024/04/florida-citrus-growers-hope-push-pull-agroecology-method-will-save-their-industry/, accessed on November 8, 2024.

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