



November 2018

# Domestic Orange Juice is Squeezed and Imports are Filling the Void

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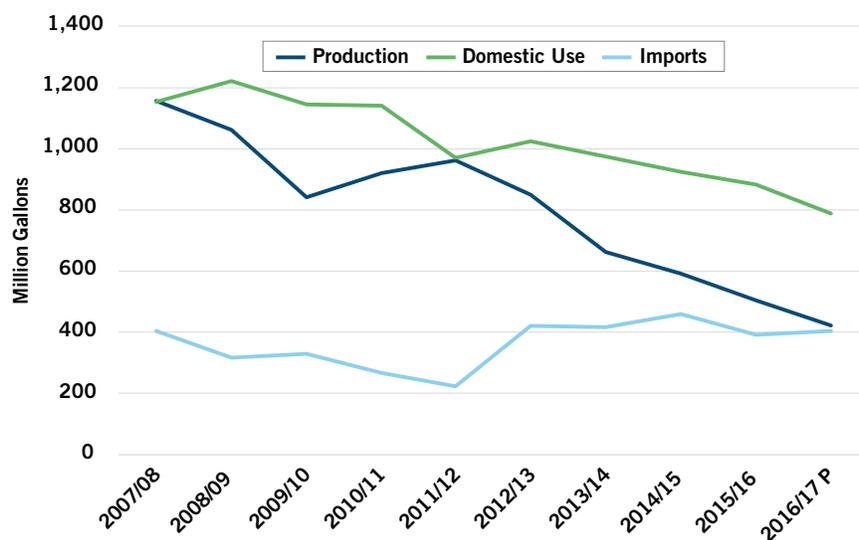
## Key Points:

- U.S. juicing orange production has been declining steadily over the last two decades with citrus greening being the leading cause of the slide in acres and productivity. Barring a sudden drop in production from weather events like hurricanes or frost, a steady decline in Florida orange production is expected to continue over the next three years as old groves are gradually replaced and new ones come into production.
- While orange juice (OJ) supplies have been falling domestically, so too has the domestic demand for it. The decline in production, however, has been far more pronounced than the drop in consumption.
- With the gap between domestic production and consumption widening, imports have increased to boost dwindling domestic OJ supplies.
- The U.S. sources virtually all its OJ imports from Brazil and Mexico, with Brazil accounting for 66 percent of imports in 2017. While dependence on Brazilian imports could pose supply risks, falling global demand for OJ and a strong U.S. dollar relative to the Brazilian real limits the risk for U.S. orange processors.
- Until a solution is found for citrus greening, imports will be key to keeping Florida’s citrus industry afloat in the years ahead with Brazil shouldering the burden of meeting U.S. demand in the future.

## Introduction

Domestic orange production has been declining steadily over the last two decades, driven largely by dwindling crops in Florida. Since 2005, Florida has been battling Huanglongbing, also known as HLB or citrus greening – an incurable bacterial disease spread by the Asian Citrus Psyllid insect that lowers production via premature fruit drop and smaller, bitter half-green fruit as the tree slowly dies. Hurricane Irma, which hit Florida in 2017, further exacerbated the supply crunch, slashing Florida’s citrus crop by about 50 percent. While Florida growers have been adopting new production methods and technologies to boost production, OJ supplies have continued to be squeezed. As such, processors have turned to imports to maintain supplies. Brazil in particular will be shouldering a greater burden of meeting OJ demand in the U.S. in the future.

## EXHIBIT 1: U.S. OJ Production, Use and Imports



Source: USDA-ERS

replanting groves with uninfected trees, increasing the density of plantings, and protecting new groves under netting (citrus under protective screen, or C.U.P.S.) to prohibit the psyllid fly from transmitting the citrus greening disease. On the processing side, the three largest processors have instituted incentive programs to spur the replanting of orange groves. Despite these measures, the decline in production has been far more pronounced than the drop in consumption as the replanting rate lags the attrition rate. Processors have adapted by importing more juice to augment supplies.

### Supply Squeeze

Domestic orange acreage is down almost 40 percent from the high of 20 years ago. Florida, the nation's orange juice engine, has seen the biggest acreage decline. In California, orange acreage has declined as growers switch to more desirable easy-peeler varieties for the fresh market. Citrus greening in Florida, though, has been the leading cause of the slide in orange acreage in the U.S. and diminished OJ production. (See Exhibit 1.)

Although Florida growers are implementing a variety of strategies to stay in the game and bolster orange production, the situation remains challenging. And with no fix to citrus greening in sight, domestic fruit and juice supply pressures will continue in the near-term. Projections by the Florida Department of Citrus suggest that production is expected to decline modestly over the next decade as tree mortality rates continue to exceed replanting rates.

Florida growers and processors have been employing a number of different strategies to adapt to shrinking crop production and maintain the livelihood of the industry. Growers' efforts to improve productivity include

### Declining Demand for OJ

While OJ supplies have been shrinking, so too has domestic demand for the juice. Consumption has been declining steadily for the past two decades and continues to fall. Current consumption of 2.4 gallons per capita is less than half of the peak of nearly six gallons per capita in the late 1990s. This consumption trend is a function of several factors:

- *Shifting consumer preferences.* Increased awareness about the sugar content of drinks, including juices, means that consumers are drinking less OJ. There is a generational aspect as well. Younger Americans eat breakfast less often and thus have fewer occasions to drink OJ.
- *Competition.* As incomes have grown, consumers have diversified their beverage selections. OJ is not the staple that it once was.
- *Increased prices.* Reduced availability of OJ has resulted in a 20-percent jump in retail OJ prices over the last decade. (See Exhibit 2.)



While the slump in OJ consumption is concerning, it has not been all bad for Florida's beleaguered citrus industry. Higher prices have helped to offset the negative impact of lower yields caused by disease for growers. The simultaneous decline in demand and supplies has limited the juice deficit, thus curbing the run-up in prices.

### Increased Imports

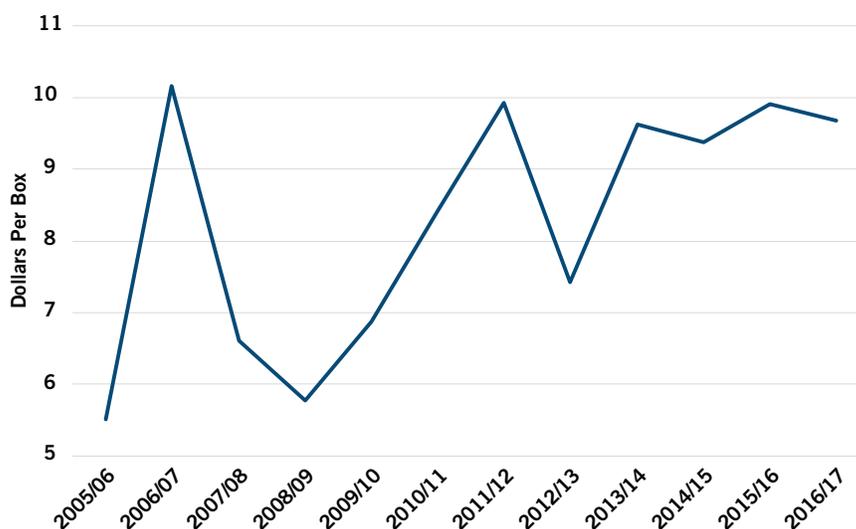
Orange imports are increasing for both fresh and juicing varieties. Fresh imports are entering the U.S. counter-seasonally to meet demand over the summer months. While fresh orange imports have more than doubled from 2008 to 2017, they have not had a negative effect on the domestic orange industry. In fact, in some years imports have been good for domestic growers as higher prices of imported fruit raised domestic prices. On the juicing side, there has been a huge spike in imports of both juicing oranges and not-from-concentrate (NFC) OJ this season versus previous years to make up for the production losses caused by Hurricane Irma.

Barring another hurricane or other major weather event in 2019, Florida citrus production is expected to post a significant rebound over last year's hurricane-damaged crops. While new technologies and production practices will likely help reduce the impact of citrus greening long term, imports will continue to serve an important role in meeting U.S. demand.

The U.S. sources most of its imported OJ from Brazil, the world's largest producer and supplier of OJ. Mexico is the other major supplier of OJ to the U.S., but Mexican juice

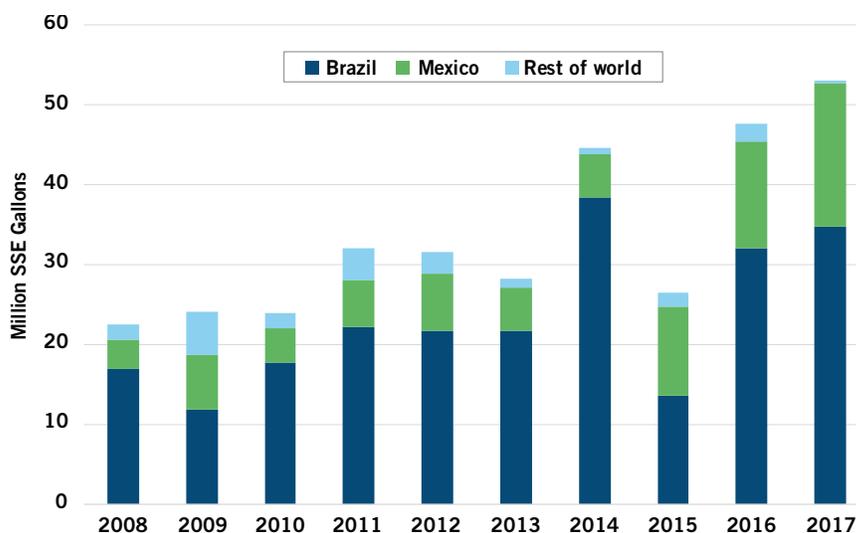
volumes are significantly smaller. (See Exhibit 3.) In 2017, the U.S. imported 34.8 million and 17.9 million single strength equivalent (SSE) gallons of OJ from Brazil and Mexico respectively, accounting for 99.3 percent of OJ imports. With so much juice being imported and only two countries accounting for virtually all imports, supply risks

#### EXHIBIT 2: Florida All-Orange Grower Prices



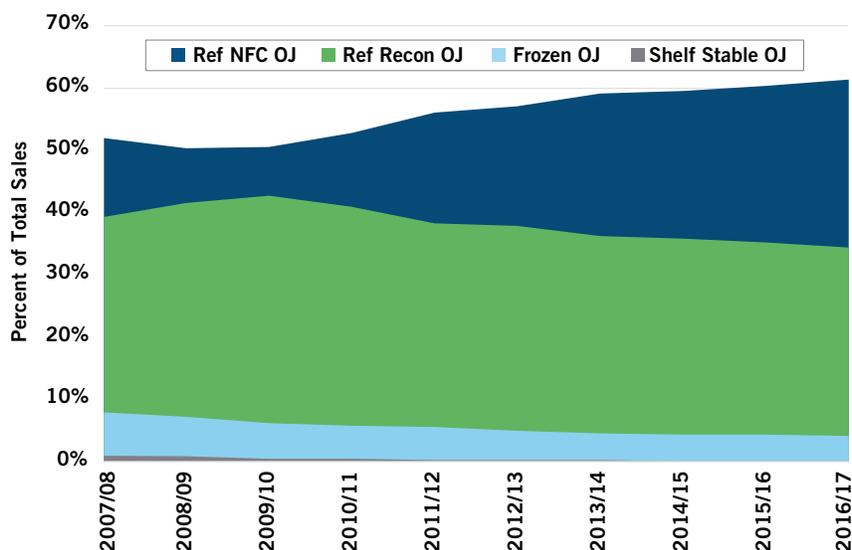
Source: USDA-ERS

#### EXHIBIT 3: U.S. OJ Imports



Source: Florida Dept. of Citrus

## EXHIBIT 4: OJ Sales by Category



Source: Nielsen

can be of greater concern than sourcing domestically. Importers must also juggle transportation costs, foreign exchange rates, and political trade risks in addition to production risks in exporting countries.

### Brazil and Mexico

Despite the U.S.'s heavy dependence on Brazilian oranges with about 90 percent of imported NFC OJ coming from Brazil, the U.S. market is relatively small for Brazil. The European Union is Brazil's largest export market, accounting for 65-70 percent of the OJ they produce. Declining consumption in the European market, though, has made supplies available for export to the U.S.

Consumer trends in the U.S. are also shifting. A shift in consumer preferences has boosted sales of NFC OJ at the expense of all other OJ categories, especially frozen, concentrated OJ. (See Exhibit 4.) While the demand for OJ has been sliding steadily, there has been an increasing need for NFC OJ imports to fulfill demand.

However, it is not easy to move NFC OJ from Brazil to Florida. Importing NFC OJ essentially involves transporting large volumes of water and is thereby costlier. Good, quality juice can be imported duty-free into the U.S. But, two obstacles prevent larger imported volumes from Mexico. First, cross-border shipments into Texas via truck are higher cost than ocean-freight vessels into the U.S. Gulf from Brazil. Second, Mexico's limited production capacity cannot supply the volume nor the varietal needs for the U.S. market. For importers, Brazil will continue to grow in its role as the main source of OJ in the future:

- The Brazilian industry is five times larger than the Mexican industry, which means that it produces far more juice than Mexico.
- About 70 percent of Mexican grown oranges are consumed fresh. Depending on the fresh market, there can be large swings in the availability of processed fruit year-over-year.
- Mexico's production, processing and export infrastructure is not as developed or efficient as Brazil's.
- OJ imports from Mexico consist largely of concentrate. NFC OJ makes up less than 10 percent of the total volume of juice imported from Mexico.

And, while the U.S. is the biggest market for Mexican OJ, three factors create unease about OJ supplies from Mexico in the long-term:

- The Mexican industry is made up of many small growers, creating issues with reliability of supply and consistency of product.



### EXHIBIT 5: Brazilian Real vs. U.S. Dollar



Source: Bloomberg

- Mexico doesn't have the protocols in place to defend against citrus greening. If/when the disease takes hold, the Mexican industry will likely be hit hard. Mexico, though, has a much larger area suited to citrus production than in Florida. Additionally, the area in which the majority of the processed oranges are currently grown in Mexico is very mountainous. These mountains provide natural barriers that have slowed the spread of the disease.
- Mexico recently received duty-free access to the European Union market. This could result in increased product flow to Europe and less fruit (and less juice) available for the U.S. market. Any adverse changes to USMCA – or if tariffs were to be imposed on Mexican imports - trade flows to the U.S. could be adversely affected.

To be clear, there are no indications of an imminent reduction in U.S. imports of Mexican oranges or OJ. But, there is reason to believe the U.S. will likely rely more heavily on Brazil for imported OJ in the future, which

may be a positive for U.S. importers. Brazil is a major OJ processor, Brazil has ample fruit volumes, and its three major processors are well-capitalized and able to withstand prolonged economic shocks. And while Florida's fruit quality has historically been higher than that of Brazil, citrus greening has narrowed the gap in quality.

Although citrus greening is present in Brazil, its impact on the Brazilian industry has been less severe than in Florida. The differences in industry organization have benefitted Brazil in its battle against citrus greening. The geographic area suitable for citrus production in Brazil is much larger

than in Florida, which enables growers there to move away from the disease. Brazil also has more large growers. Brazilian growers have had greater success in controlling populations of the psyllid insect because they have more contiguous acres that allow for more consistent and uniform management of psyllids. Growers have also been vigilant with checking and controlling psyllid populations. New groves have also been transitioned to irrigation over the last 10 years, aiding in overall productivity.

A further plus for sourcing OJ from Brazil is the currency exchange rate with the real. The real weakened amid Brazil's political and economic struggles. Of late, the real has strengthened as presidential elections progressed with voters backing a pro-business candidate who has proposed privatizing state assets and giving the Central Bank of Brazil full independence. Persistent strength in the U.S. economy and the value of the dollar (USD) and doubts of material changes to the Brazilian economy, though, are raising questions on the longevity of the real's renewed strength. (See Exhibit 5.)

## Conclusion

While processors would choose cheaper locally grown fruit over imported oranges or juice, Florida juice processors will continue to be challenged by the shortage of U.S.-grown fruit. As Florida's orange crops have dwindled, imports have increased to boost OJ supplies. This additional supply benefits processors and consumers, and protects the future of the industry in Florida.

Citrus greening will remain a long-term threat to Florida orange production in the next 3-5 years despite growers' efforts to curb the impact of the disease. A disease-resistant tree is in development, but it will be several years before such a tree will be available commercially.

Even though there is no magic bullet, Florida growers are starting to figure out what they need to do to mitigate the effects of the disease. Replanting and improved mitigation practices are lifting expectations that production will stabilize and may even increase once new groves come into production. In the meantime, processors will continue to import oranges and juice to meet U.S. consumer demand. Barring catastrophic weather events in Brazil, imports will likely increase as U.S. growers continue to search for a greening cure. ■

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<sup>1</sup> USDA-FAS, various reports

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