



THE US MARKET FOR FRESH PASSION FRUIT

Market Brief #16

INTRODUCTION

Native to Brazil, passion fruit (*Passiflora edulis*) is widely enjoyed in producing countries in Africa, Latin America and Asia, where the fruit is commonly processed into juice and other products. Passion fruit may be eaten fresh, but mostly the pulp is extracted and preserved by heating or cooling. Typical processed products are ice cream, sherbet, nectar, juices, concentrate, jams and jellies. In addition, *Passiflora* plants are often cultivated as ornamentals for their showy flowers.

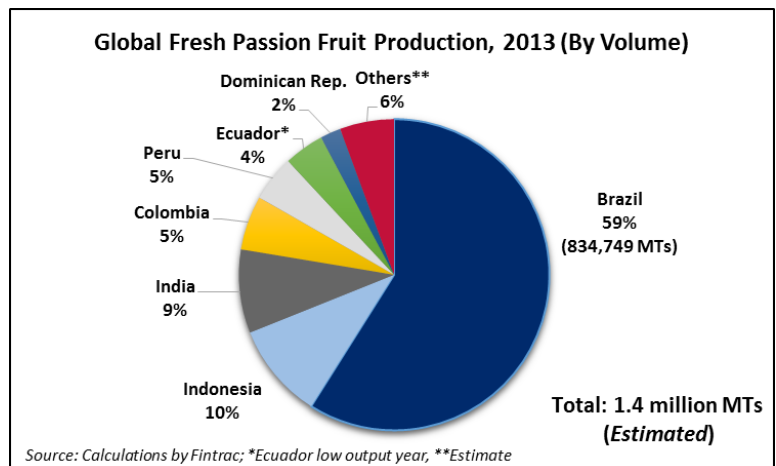
The two most widely grown passion fruit varieties are the standard purple variety and the yellow variety distinguished as *P. edulis f. flavicarpa*. The yellow fruit generally has larger fruit than the purple, while the pulp of the purple is less acidic, richer in flavor and typically has a higher proportion of juice. Yellow passion fruit is more widely grown, though most producing nations grow both varieties. In general, the yellow variety is used for juicing or processing, while the purple variety is traded in its whole fresh form.



Purple Passion Fruit

PRODUCTION

According to calculations made by Fintrac, approximately 1.4 million MTs of fresh passion fruit¹ was produced in 2013. Brazil was the largest producer at 834,749 MTs or 59% of global output. Indonesia and India were the next largest producers at 141,190 MTs (10% of output) and 122,630 (9% of output), respectively. Ecuador, the second largest producer in 2010, had fallen to sixth place globally by 2013. The decline began in 2011 when farmers decided to not replant vines, causing a significant drop in 2012, which continued on into 2013. Other producing nations include Kenya, Vietnam, Thailand, Venezuela, Malaysia, Zimbabwe, Israel, South Africa, Philippines, Sri Lanka, Pakistan, Suriname, and New Zealand produced an estimated 80,000 MTs (based on 2005 to 2010 FAO data).



Brazil is the largest producer of *maracujá* or passion fruit in the world, but is not an exporter of significance due to the high percentage of domestic consumption. According to the Instituto Brasileiro de Geografia e Estatística (IBGE, Brazilian Institute of Geography and Statistics), in 2013, the country produced 834,749 MTs of passion fruit in 2013, with Bahia State accounting for 42% of total output. In general, Brazilian peak harvest season occurs in April, then again from October to November.

¹ USITC harmonized schedule (HS) classification of “fresh fruit, not elsewhere specified” (HS Code: 0810.90.4500 and 0810.90.4600), which includes a variety of exotic fruit such as passion fruit, jackfruit, lychees, carambola (e.g. starfruit), and pitahaya (e.g. dragon fruit).

Indonesia is a major producer of fresh passion fruit or *markisa* as it is locally known. According to Indonesia's Basisdata Statistik Pertanian (Database of Agricultural Statistics), in 2013, the country produced 141,190 MTs of passion fruit, an increase from 2012 (134,527 MTs) and 2011 (140,895 MTs). Passion fruit is generally harvested from July to August and from December to February.

India is a large producer of fresh passion fruit. According to India's National Horticulture Board, during the 2013-2014 production season, India produced an estimated 122,630 MTs of passion fruit, which was an increase from the 2012-2013 (100,510 MTs) and 2011-2012 (97,396 MTs) seasons. The northeastern state of Manipur (bordering Burma) was the country's largest producer and accounted for 82% of production during the 2013-2014 season.

Ecuador is a large producer of fresh passion fruit (aka *parchita* or *maracuyá*), but the industry suffers from a 'boom and bust' production cycle resulting from farmers deciding to either pull or replant passion fruit vines depending on prices. As Ecuador is the world's largest exporter of passion fruit juice, high international prices generally cause farmers to replant or expand production, while low prices have the opposite effect. Unlike corn or rice which can be planted and harvested in the same year, passion fruit orchards generally take 18 months from planting to bear fruit and another 18 months (i.e. three years after planting) to reach their peak productivity (e.g. highest yield).

From 2010 to 2011, international prices for passion fruit juice declined, which in turn motivated Ecuadorian farmers to ramp down production. According to Ecuador's Instituto Nacional de Estadística y Censos (National Institute of Statistics and Censuses), in 2013, the country produced 59,000 MTs of passion fruit, its lowest total in over 15 years and a major decline from 2011 when output reached approximately 300,000 MTs. Most of Ecuador's production goes into juice processing. In 2011, 240,000 MTs of passion fruit was destined for juice processing (export market) while the remaining 60,000 MTs was sold within the domestic market. In general, peak harvest periods occur from March to April and from November to December.

The **US** is a minor producer of passion fruit (purple variety) and has an estimated output of 1,000 MTs per year. US production is based in Hawaii, California, and Florida, with Hawaii consuming all of its own production locally.

US MARKET

US import of fresh passion fruit is restricted to a small number of countries owing to phytosanitary concerns. According to the USDA's Animal and Plant Health Inspection Service (APHIS), as of early 2015, only New Zealand, Tasmania (only region of Australia granted permission), Chile, and Bermuda are allowed to supply fresh passion fruit to the US market. Among these four, only New Zealand and Bermuda (a marginal producer) are granted unfettered access to the US market. Chilean fresh passion fruit exports must undergo additional pest-treatment (soapy water immersion and wax coating) and be pre-cleared by a local APHIS official before being shipped to the US. As for Tasmania, each consignment of fresh passion fruit as well as each shipping container it is shipped in must be certified as having originated from Tasmania. As a result of these additional barriers, Bermuda's miniscule output, and its fruit fly free status, the US only imports fresh passion fruit from New Zealand. This distinction was confirmed by a US industry representative, a New Zealander industry representative, and by the USDA's Agricultural Marketing Service (AMS).

According to an industry representative from New Zealand, New Zealand generally exports approximately 35 to 40 MTs of passion fruit to the US annually, or roughly 27% to 30% of the country's output. The representative noted that, in 2014, New Zealand exported 63 MTs owing to a spike in production. This production increase was attributed to higher yields and new growers entering the market. However, New Zealand's exports in 2015 are expected to be lower and comparable to 2013 levels due to declining yields.

SEASONALITY

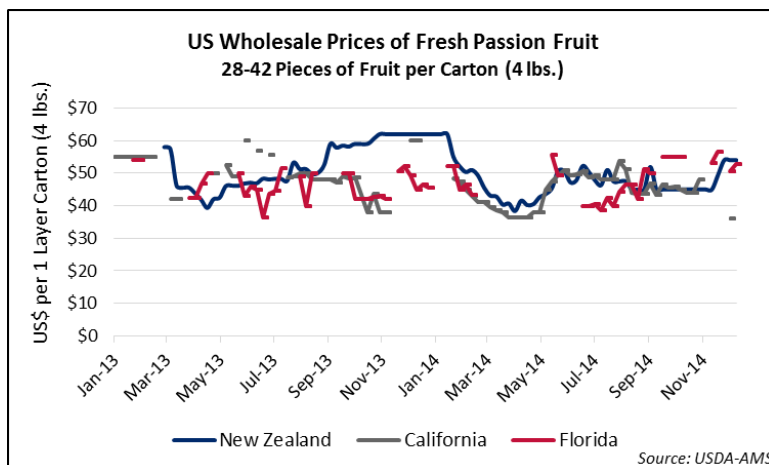
US imports of passion fruit match New Zealand's peak seasonal production months. According to the USITC, from 2009 to 2014, small quantities are imported in January and February, while peak imports occur in March. After March, imports progressively decline from April to August. US domestic production occurs from May to August.

PRICES

US wholesale prices for fresh passion fruit are priced in units of single layer tray cartons (4 lbs.) that generally have 28 to 42 pieces of fruit, with the majority containing 36 to 39 pieces of fruit.

From January 2013 to December 2014, prices for New Zealand's passion fruit ranged from a low of US\$38 per carton (April 2014) to a high of US\$62 per carton (November 2013 to January 2014). Overall, prices averaged US\$50 per carton.

From January 2013 to December 2014, prices for Californian passion fruit ranged from a low of US\$36-US\$37 per carton (March to April 2014, December 2014) to a high of US\$60 per carton (June 2013 and December 2013). Prices for Floridian passion fruit ranged from a low of US\$36 per carton (June 2013) to a high of US\$57 per carton (November 2014). Overall, prices for Californian and Floridian passion fruit averaged US\$47 per carton.



STANDARDS, LAWS AND REGULATIONS

Tariff and Trade: US fresh passion fruit imports have a 2.2% Normal Trade Relations (NTR) duty rate. New Zealand exports fall under the NTR rate. Countries that fall outside of the NTR (e.g. Cuba, North Korea) have a 35% duty rate. Honduras would qualify for a 0% duty rate owing to the Dominican Republic - Central American Free Trade Agreement (DR-CAFTA).

Grades and Standards: Established by USDA-APHIS, all fruit exports to the US must meet the "General Requirements for all Imported Fruits and Vegetables" (§319.56-3²). As the sole foreign supplier of fresh passion fruit, the standards adopted by New Zealand growers can act as a guide for countries who wish to export to the US. According to the New Zealand Passion Fruit Growers Association³ passion fruit must have a "full and even" color (i.e. ≤ 1.0 sq. cm colored blemish maximum) and not have a green appearance. The fruit should be free of defects including sunburns, brown spots, cuts, splits, and bruising. The fruit cannot be misshapen or wrinkly (sign of low moisture). Lastly, the fruit cannot be contaminated with any foreign substance including chemical spray residues.

Packaging: Fresh passion fruit should be packed in strong, well-ventilated containers capable of being stacked without damaging the fruit. The fruit surface should be free of moisture before packing. In addition, only fruit of the same size category and stage of ripeness should be packed in the same carton. New Zealand individually labels each passion fruit with a price look-up (PLU) code, which is a voluntary system (i.e. not government mandated) that allows supermarkets to better manage their inventory and track purchases.

Post-harvest Handling: Harvested passion fruit is typically washed, sorted, and packed for export, or transported to the processing plant where it is inspected and cleared for the juice extraction process.

OUTLOOK

The US market for fresh passion fruit remains relatively undeveloped. Despite the low levels of current consumption buyers are increasingly interested in the product because consumers are requesting the fruit at the retail level. Domestic production and imports remain relatively insignificant (e.g., imports of approximately 50 MTs annually) and complicated by the fact that strict phytosanitary requirements limit trade to all but one source (New Zealand). Although not officially

² USDA-APHIS, §319.56-3 "General requirements for all imported fruits and vegetables": http://www.ecfr.gov/cgi-bin/text-idx?SID=47a454365a7bf38a8e5d923611d3f04b&node=se7.5.319_156_63&rgn=div8

³ NZ Passion Fruit Growers Association, "Grades and Standards"

<http://www.passionfruit.org.nz/Facts-Info/Passionfruit-Grade-Standards/Passionfruit-Grade-Standards>

mandated by government, the US Food and Drug Administration asks New Zealand's exporters to label each piece of fruit with a PLU code so that the fruit can be tracked by retail outlets. Despite regulatory challenges, industry experts express optimism that US demand is beginning to outstrip New Zealand's capacity to supply the market. At the moment, the US only imports the purple variety, with all shipments destined for the fresh market and none for the juice industry. With growing demand and New Zealand's supply capacity limited, exporters with the capacity to comply with strict phytosanitary protocols may be able to take advantage of the strong demand for previously unknown tropical fruits.

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