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Report Highlights:

FAS Lima forecasts Peruvian mandarin/tangerine production at 545,000 metric tons (MT) for marketing year (MY) 2023/24 (March 2024 to February 2025), a decrease of one percent compared to the previous year. Lower yields driven by above average temperatures and other potential adverse weather conditions will negatively impact production and exports. Domestic consumption of fresh mandarins/tangerines is forecast at 318,000 in MY 2023/2024, a two percent decrease from the previous year. Peruvian mandarin/tangerine exports are forecast to remain at 200,000 MT. The United States will likely remain Peru's top export partner.

Table 1. Production, Supply, and Distribution

Peru: Mandarins/Tangerines, Fresh	Estimate	Estimate	Forecast
Indicator Year	2021	2022	2023
Split Year (Marketing Year – MY)	2021/2022	2022/2023	2023/2024
Peru Market year Begins	**March 2022**	**March 2023**	**March 2024**
Area Planted (HECTARES)	23,000	23,000	23,000
Area Harvested (HECTARES)	23,000	23,000	23,000
Bearing Trees (1000 TREES)	9,200	9,200	9,200
Non-Bearing Trees (1000 TREES)	0	0	0
Total No. Of Trees (1000 TREES)	9,200	9,200	9,200
Production (1000 MT)	570	550	545
Imports (1000 MT)	0	0	0
Total Supply (1000 MT)	570	550	545
Exports, Fresh (1000 MT)	220	200	200
Fresh Dom. Consumption (1000 MT)	320	320	318
For Processing (1000 MT)	30	30	27
Total Distribution (1000 MT)	570	550	545

*Note: There is a one-year lag between the Peru MY and the U.S. MY. For example, PE MY 2024/25 is equivalent to U.S. MY 2023/24. To ensure data continuity, the current Peruvian MY 2024/25 will be referred to as U.S. MY 2023/24 throughout this report.

Production:

Mandarin production in Peru is forecast to reach 545,000 metric tons (MT), for marketing year (MY) 2023/24 (March 2024 to February 2025), a decrease of one percent compared to previous year. Weather anomalies associated with the El Niño phenomenon will likely impact the coming year's productivity, especially among early-season varieties. According to the Peruvian government's El Niño monitoring system, warm conditions are likely to persist, with projections that El Niño's intensity could be strong (49%) to moderate (47%). El Niño occurrence might also impact mandarin/tangerine from heavy rainfall and potential crop area loss due to flooding.

Unfavorable weather conditions, increased rain prior to harvest, and above-average temperatures delayed production in the current marketing year. Peru experienced an unexpected warmer winter (4-5°C above average), impacting production of early varieties such as Primosoles, Clementines, and Satsumas. Mandarins need cool weather in the final stages of production to achieve the color standard needed for export quality. Expectations of late varieties (Tangelo, Tango, Orri, and W. Murcott) were high but adverse weather conditions remained and late varieties performed below average as well. The harvest season in Peru lasts from March to October, however seasonality in MY 2022/2023 was altered with a delayed start, causing less and late availability of fruit. Weather conditions were the main driver of the 10 percent decline of MY 2022/2023 exports.

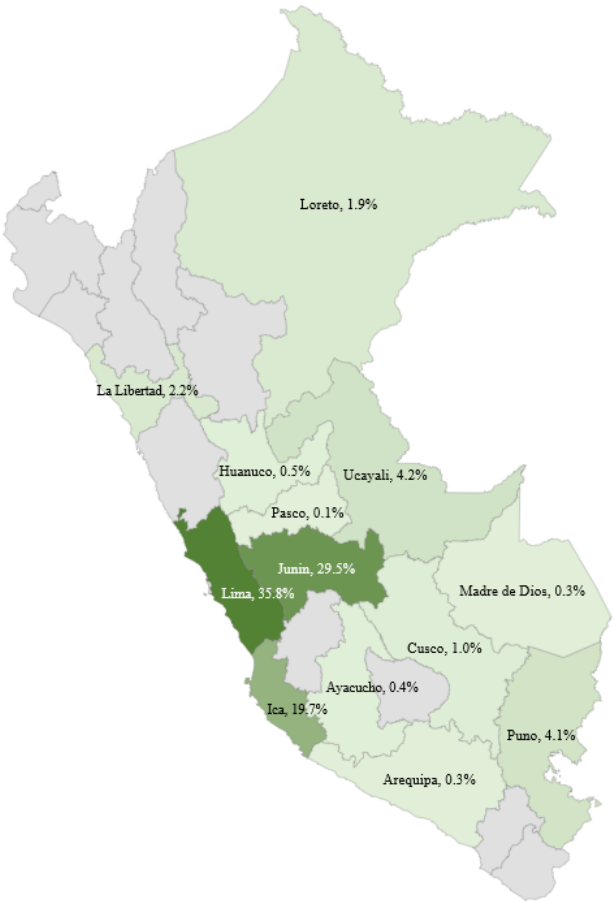
Mandarin/tangerine fields continue to face negative shocks, namely fertilizer deficit and drought from calendar year (CY) 2022, and heavy rains and a warm winter in CY 2023. This might affect tree flowering and increase the pest pressure in CY 2024, which could impact early variety productivity.

Tangelos represent 20 percent of total mandarin/tangerine area in Peru. Clementina, W. Murcott, and Satsuma are the most popular varieties in Peru.

Mandarins require an annual investment of US$5,000 to $6,000, without consideration of land costs, nor plantation cost. This is a significant financial outlay for a small-scale farmer. Currently, there is a one percent annual rate of conversion from old varieties to new, export-oriented varieties.

Mandarin/tangerine operations are established in 13 regions (see Figure 1). Coastal areas account for 60 percent of total mandarin/tangerine production and focuses on exports. Peru has semi-tropical weather with good availability of water. Production is centered in Lima (Chancay and Huaral), Junin, and Ica, where conditions are favorable for production. According to official data, there is also some mandarin/tangerine production in Ucayali, Puno, Loreto, and La Libertad for domestic markets. Tangerine production area is estimated at 4,500 hectares (HA) while mandarins and other hybrids account for 18,500 HA.

Figure 1. Peruvian Mandarin/tangerines Production by Region



Source: FAS Lima – data from PROCITRUS

According to official data, Peru has more than 3,000 small citrus producers with an average of three hectares. Practically all their production stays in the domestic market. Yields can range from 12 to 20 MT per hectare.

Production in Peru's Amazon basin and highland regions is destined for the domestic market while production in the valleys of Lima and Ica is export oriented. Production in Lima and Ica benefits both from the desert conditions (reduced pest pressure, large diurnal temperature variation) as well as close access to the major Port of Callao (Lima), as well as Pisco Port (Ica).

Peru´s mandarin/tangerine export production is predominantly done on industrial-scale farms of 50 hectares or more. They use state-of-the-art drip irrigation systems that provide the precise amount of water and nutrients to maximize production. Yields on these farms average 70 to 90 MT. Varieties are selected for high productivity and quality. Varieties in Peru include:

Satsumas (Citrus unshiu): Clausellina, Okitsu, Owari, and Primosole.

Clementines (Citrus reticulata): Clementines and Clemenules.

Hybrids: Fortuna, Kara, Pixie, and Nova.

Tangerines from Citrus reticulata and Citrus paradise: Murcott, Ortanique, and Tango.

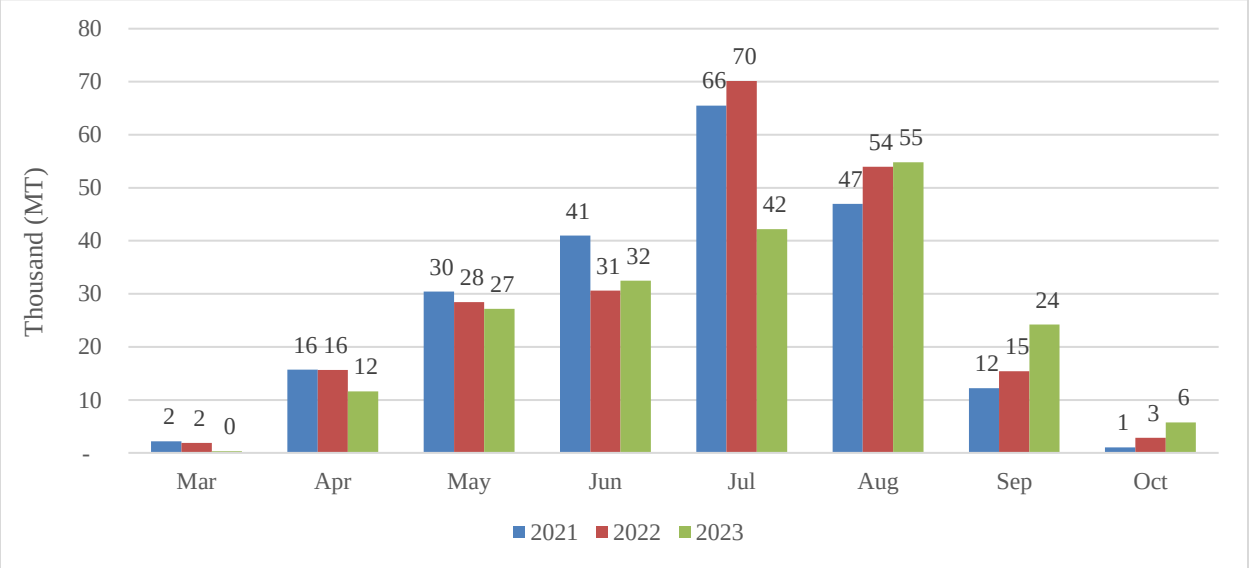
Others: Dancy and Nadorcott. Malvaceo and Rio de Oro are also popular varieties with a long history in Peru. The market for exports is dominated by easy peelers and seedless varieties including Murcott, Tango, Primosole, Clementine, and Orri. Satsumas, Primosoles, and Clementines are considered early-season varieties while Murcott, Tango, and Orri are harvested later in the season. Currently, most Satsumas are directed towards the domestic market, and Primosoles and Clementines are exported.

Figure 2. Mandarin production sites in the coastal area of Lima, Peru (Supe Valley)

Source: FAS Lima

After three consecutive years of La Nina's cooler temperatures (2020, 2021, and 2022), the weather pattern changed in 2023. A rare, long-lasting low-pressure system developed off Peru's coast in March 2023 (cyclone Yaku), unleashing torrents of rain in northern and central Peru, causing flooding and mudslides in many coastal areas. This event, coupled with above-average ocean temperatures since April 2023, resulted in no winter season in Peru. This unusual weather impacted not only the delay of early varieties but also the productivity of the overall season.

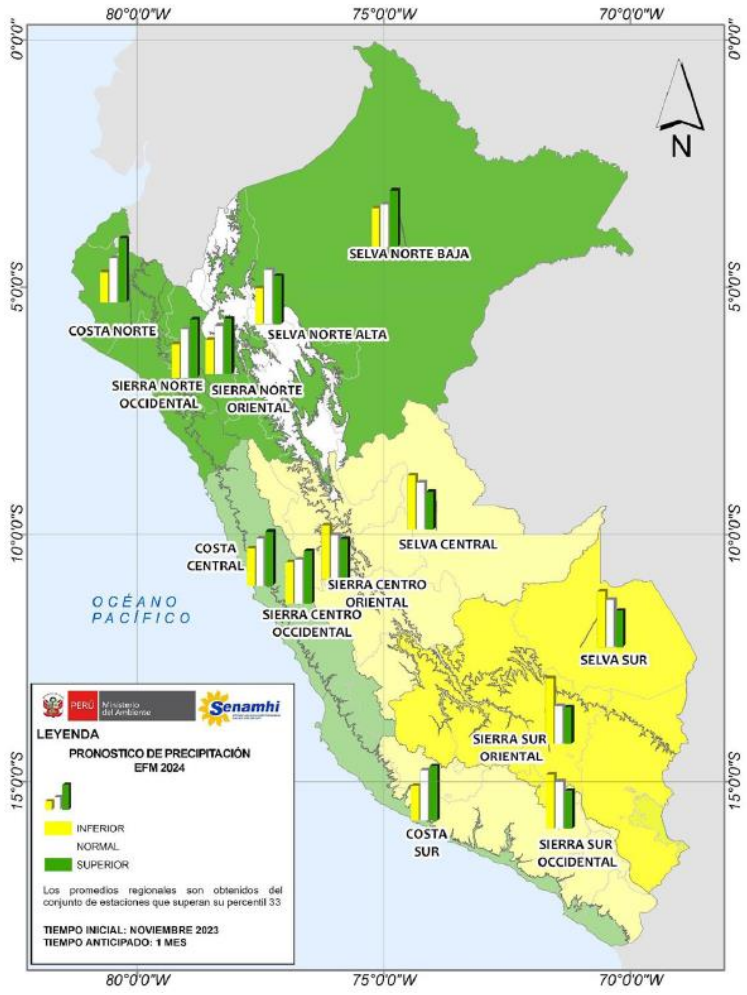
Figure 3. Peru Mandarin/tangerines Exports Seasonality by Month



Source: Peruvian Customs Service (SUNAT)

The National Service of Meteorology and Hydrology of Peru (SENAMHI) has forecasted average rainfall amounts from December to February 2024 (see Figure 4). Rains above normal ranges are expected in the throughout the coastal regions, northern highlands, and the northern jungle (in green). The areas shown in white represent average rainfall and below average rainfall is represented in yellow. According to the forecast, late-variety harvest areas are not expected face rain impacts.

Figure 4. Rainfall forecast December to February 2024



Source: SENAMHI

Consumption:

FAS Lima forecasts domestic consumption of fresh mandarins /tangerines in MY 2023/24 at 318,000 MT. Mandarins are popular in Peru for lunchboxes and between-meal snacks. Peruvian mandarin/tangerine per capita consumption is estimated at 11 kilograms (kg) (24 pounds). Mandarin juices, jams, processed foods (cookies, cakes, breakfast cereal, cereal bars), and alcoholic beverages have become popular in supermarkets and convenience stores as an innovative way to boost consumption. Four-ounce containers of cut mandarins-in-juice have increased in volume of exports from 2,000 MT in 2017 to 13,670 MT in calendar year 2022, a 46 percent average annual increase.

Satsumas and tangerines have a year-round supply in the domestic market. All other varieties are seasonal. On average, in CY 2023 (see Table 2), prices are 18 percent higher in the wholesale domestic market in comparison with last year. Rio de Oro is the variety with the highest price in the domestic market followed by satsuma and tango.

Table 2. Wholesale Average Prices of Mandarin/tangerine from January – November 2023 per Kilogram in US dollars

Clementine	Kori	Malvacea	Murcott	Nova	Pixie	Primosole	Rio De Oro	Satsuma	Tangerine	Tango
0.33	0.44	0.52	0.51	0.47	0.46	0.45	0.64	0.56	0.27	0.56

Source: Peruvian Ministry of Agriculture Prices System

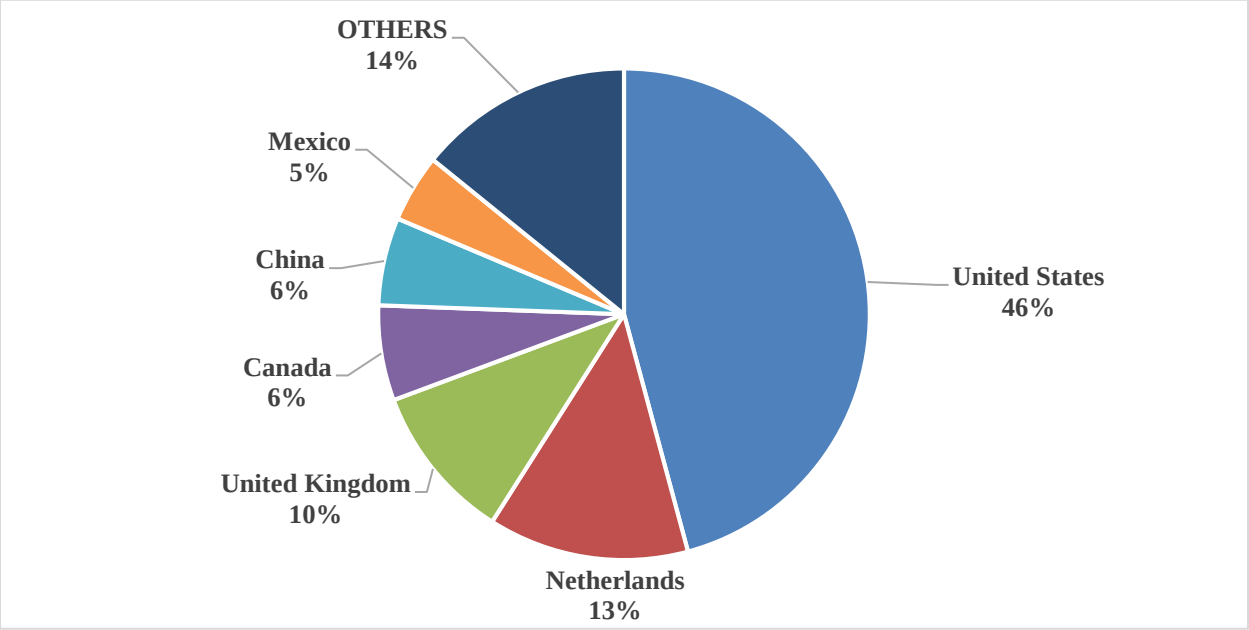
Figure 5. Mandarin Display at Local Supermarket (December 3, 2023)

Source: FAS Lima

Trade:

FAS Lima expects Peruvian mandarin/tangerine exports to remain steady in MY 2023/24 at 200,000 MT. Between January to November 2023, Peru exported fresh mandarins/tangerines primarily to the United States (46%), Netherlands (13%), and United Kingdom (10%).

Figure 6. Peru Mandarin Exports by Country (Jan – Nov 2023)

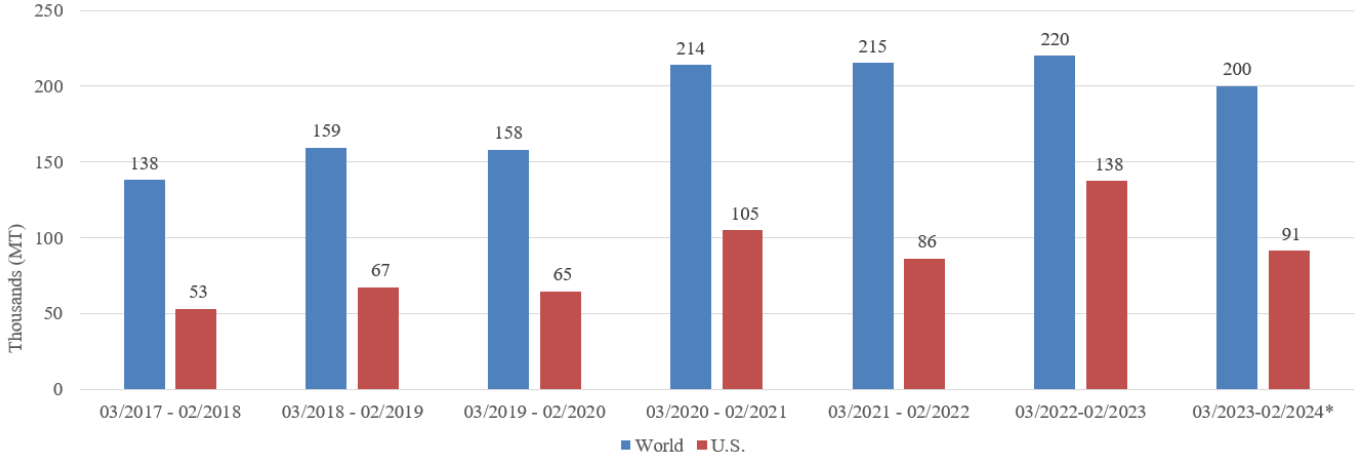


Source: Peruvian Customs Service (SUNAT)

Total fresh exports in MY 2022/23 were down 10 percent from the previous year, decreasing from 220,000 MT to 200,000 MT. In MY 2015/16, Peru exported 112,000 MT, and has shown consistent growth, nearly doubling their exports since then.

Exports to the United States have grown consistently in the last few years. However, in MY 2022/2023, exports to the United States declined 34 percent from 138,000 MT to 91,000 MT. Also, the U.S. market share decreased from 63 percent in MY 2021/2022 to 46 percent in MY 2022/2023.

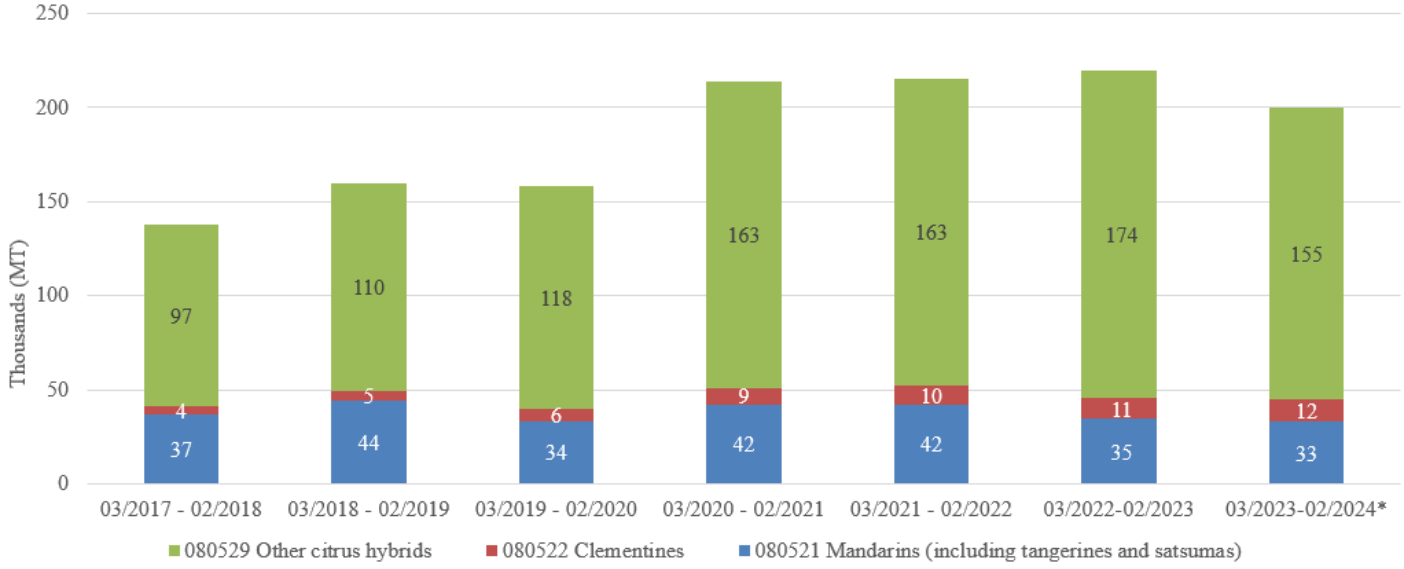
Figure 7: Peruvian Mandarin/Tangerine Exports (Thousand MT)



Data Source: Trade Data Monitor LLC

Total Peruvian mandarins/tangerines exports to the world are forecast to remain at 200,000 MT in MY 2023/24 due to lower quality fruit and smaller volumes. Hybrids typically represent 78 percent of total exports by volume.

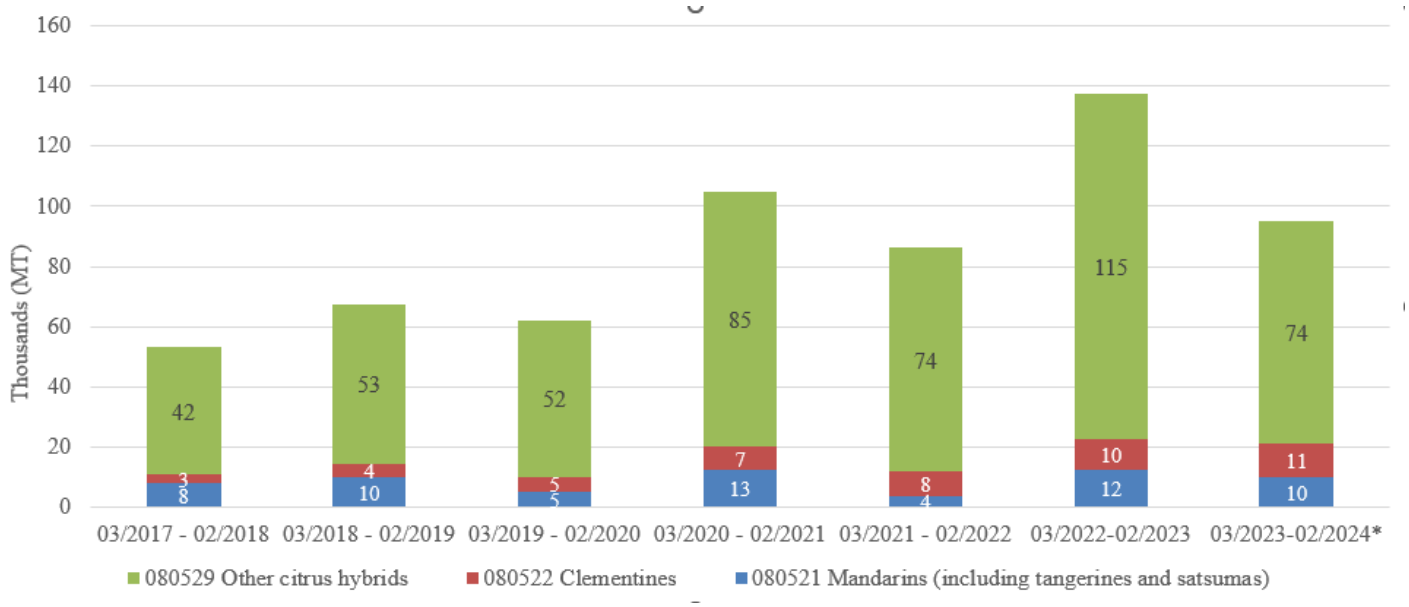
Figure 8: Peruvian Mandarin/tangerine Exports to the World by HS Code (Thousand MT)



Data Source: Trade Data Monitor LLC

In MY 2022/2023 the average price paid for "Other Citrus" hybrids by the United States was $1,189/MT while the United Kingdom paid $1,123/MT and the Netherlands $1,154/MT, representing better prices compared to MY 2021/2022. Average export prices in MY 2022/23 reached $1,134/MT, compared to $1,059/MT in MY 2022/21 and $1,063/MT in MY 2019/20.

Figure 9: Peruvian Mandarin/tangerine Exports to the U.S. by HS Code (Thousand MT)



Data Source: Trade Data Monitor LLC

Clementines have increased three-fold since MY 2016/2017 and primarily go to the U.S. market. FAS Lima expects Peruvian clementines to continue increasing in the coming years. Mandarin/tangerine exports to the United States in MY 2023/2023 are expected to increase, reaching 100,000 MT. Peru mandarin/tangerine exports to the United States sharply decreased last season from 138,000 MT in MY 2021/22 to 91,000 MT in MY 2022/23, mainly due to less availability of fruit for exports.

Policy:

Peruvian mandarin/tangerine exports have benefited from the United States - Peru Free Trade Agreement (PTPA) which entered into force on February 1, 2009. Due to the agreement, Peruvian mandarins/tangerines enter the United States tariff-free. Peru's Agricultural Sanitary Agency (SENASA) plays a leading role in the monitoring and control of fresh fruits for exports. Every harvest campaign, SENASA updates a list of registered orchards and processing plants. According to current official data, SENASA has registered 124 mandarin/tangerine production sites. In addition, 26 packing and treatment facilities have been registered.

Production orchards: Lugar de Producción Mandarina (senasa.gob.pe)
Packing & Treatment plants: Empacadora Mandarina (senasa.gob.pe)

PROCITRUS is the Peruvian citrus trade association, which represents 80 percent of the total citrus export industry. Founded in 1998, PROCITRUS leads industry efforts towards research, development, and public and private coordination. Mandarin/tangerine standards are governed by a 2014 regulation (NTP 011.023, attached) that promotes quality requirements and uniform criteria for the citrus industry. Appearance and color criteria are required for all citrus products. Juice content is 33 percent for mandarins and 45 percent for tangerines. Minimum diameter size for mandarins is 45 mm and 54 mm for tangerines. Minimum maturity requirements are listed in the following table:

Table 3. Minimum Maturity Requirements for Peruvian Citrus

Crop	Variety	° Brix (minimum)	Acidity				Minimun Ripeness Index
			Min	Max	Min	Max	
			LM	Export	LM	Export	
Mandarins & Hibrids	Satsuma	7.50	0.50	0.75	1.50	1.50	6.50
	Clementine	9.00	0.50	0.75	1.50	1.50	7.50
	Malvasio	9.00	0.50	0.75	1.50	1.50	8.00
	Dancy	8.00	0.50	0.75	1.50	1.50	7.00
	Nova	8.00	0.50	0.75	1.50	1.50	8.00
	Fortuna	10.00	0.50	0.75	1.50	2.00	6.00
	Murcott	10.00	0.50	0.75	1.50	1.50	8.50
	Others (Pixie, W Murcott, Kara, Ortanique)	8.00	0.50	0.75	1.50	1.80	7.00
Tangerines	Minneola, Orlando and others	8.00	0.50	0.75	1.50	1.80	6.00

Source: 2014 Peruvian Technical Standards NTP 011.023 (See attachment)
LM = Local Market

Attachments: NTP 011.23 2014.pdf