FRuiTROP
MAGAZINE
MARCH-APRIL 2022
N°280

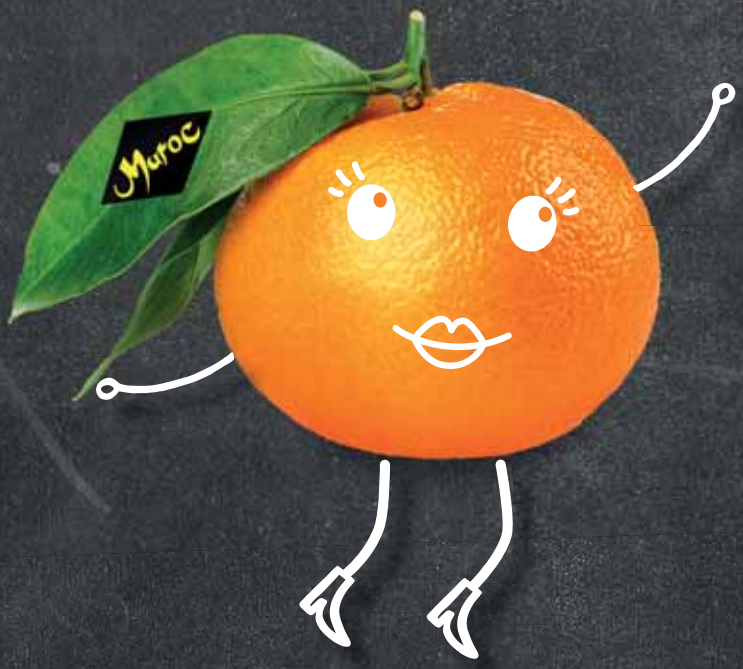
THE MANGO MARKET

BRAZIL AND PERU ABOUNDING

fruitrop.com

Nadorine
— Naturally Low Seed —

Naturally Low Seed, Sweet & Select



NATURALLY LOW SEED

The Nadorine (®) mandarin is a Nadorcott produced in 100% isolated and regularly controlled orchards. This isolation ensures the natural self-sterility of the fruit by preventing cross-pollination by other citrus varieties, and therefore avoids having a large number of pips in the fruit, without genetic manipulation.

www.nadorine.com

Editorial

From wonderful globalisation to deadly globalisation

Bewitchment has given way to profound unease. I will not be talking as a geopolitical expert on the Russian State's attempt to wipe Ukraine from the map, simply for having freely chosen democracy. Other more finely-honed minds are handling this job, if you wish to make the effort to sort through the avalanche of disparate and sometimes sickening information vomited out by our "infobilical cords", by which I mean the networks – often antisocial – or the non-stop news streams. A democratic state is being attacked by a tyrannical state. This stark contrast is sometimes needed to rule out any recourse to the handy yet craven rhetorical formula "yes, but…": which enables us to find excuses for all sorts of abominations, and in the end avoid choosing a side. But let's get back to the sense of unease – that of the West, prevented from acting. True, the sanctions are powerful, massive and above all have been decided on collectively. If we look at the European project alone, Russian absolutism has moved things forward more in the space of a few weeks' war than over the past few decades of squabbling between Member States. But the exercise has its limits… those that European democracies have created for themselves over the years: the deadly interdependence of economies. A former director of the WTO, whose name I will omit to avoid doing him the honour, continues to fill the airwaves with praise for the winning specialisation of economies which trade what they are able to produce more efficiently. Shame on those who see the world as an earthly paradise, while reality is being bombed flat in front of our eyes. Gas, oil, wheat, sunflower, barley, fertiliser, etc., there is a long list of products, too long to be able to take clear and definitive action. Interdependence, the fruit of wonderful globalisation, has insidiously turned into the dependence of a junky on their dealer. The Russian invasion of Ukraine provides the final nail in the coffin of enchanted globalisation. What an unforgivable collective political error that it has taken the death-knell of an entire people for the powers-that-be to finally become aware of the situation.

Denis Lœillet

cirad
AGRICULTURAL RESEARCH FOR DEVELOPMENT

Annual subscription: EUR 360 pre-tax / www.fruitrop.com / info@fruitrop.com
1 subscription = 2 sources of information
FruiTrop Magazine: 6 issues, paper and .pdf editions
+ FruiTrop online: forecasts, reviews, and news

Publisher: CIRAD, TA B-26/PS4, 34398 Montpellier cedex 5, France; Tel: 33 (0) 4 67 61 71 41; Contact: info@fruitrop.com; website: www.fruitrop.com
Publishing Director: Eric Imbert; **Editor-in-chief:** Denis Loeillet; **Editor:** Catherine Sanchez; **Computer graphics:** Martine Duportal;
Website: Actimage ; **Advertising Manager:** Eric Imbert ; **Subscriptions:** www.fruitrop.com ; **Translators:** James Brownlee and Tradeasy;
Printed by: Impact Imprimerie, n°483 ZAC des Vautes, 34980 Saint Gély du Fesc, France

ISSN: French: 1256-544X; English: 1256-5458; **Separate** French and English editions;

Cover design: J'articule

Contents

THINK
RESPONSIBLE
FARMING

THINK
ETHICAL
ORIGINS

THINK
INNOVATION
FROM PIP
TO PLATE

THINK
INTEGRATED
SUPPLY CHAIN

THINK
WESTFALIA FRUIT

westfalia fruit™

THE LEADING
#AVOEXPERTS

Avocado consumption on the main world markets: mixed picture for 2021.

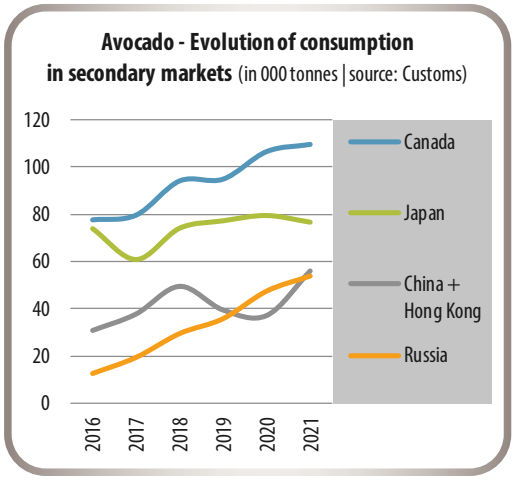
Avocado consumption on the main world import markets exhibited an extremely variable trajectory in 2021. The USA and Canada registered relatively moderate growth, of 4 % and 3 % respectively. This modest performance should not indicate the consumption dynamic running out of steam. On the one hand, the Covid pandemic has continued to weigh down on the market. The OOH segment, which is a big deal on the other side of the Pond (approximately 30 % of sales) continued to idle for the first part of the year. Most of all, the Mexican supply was limited in the second half, with production levels lower than predicted in both Michoacán and Jalisco. It was also probably the lack of and high cost of Mexican fruit which aggravated the listlessness of the Japanese market. Practically paralysed since 2016, it even registered a 4 % downturn in 2021. Conversely, the bloc comprising the EU27 and other West European countries continued to exhibit a fine dynamic (+ 8 %). Conversely, this growth was largely built on a considerable fall in prices, and had one notable exception (4 % downturn in Germany, the main driving force of the market in recent years – see FruiTrop 279). Russia also confirmed a growing interest in the avocado, with a 14 % rise in consumption in 2021, quadrupling since 2016. Finally, Chinese import figures, still preliminary, seem to be pointing to an awakening of this high-potential market (rise of more than 50 % in 2021!). Nonetheless this growth should be put into perspective, since with 56 000 t, imports did no more than regain a level close to 2018 (approximately 50 000 t).

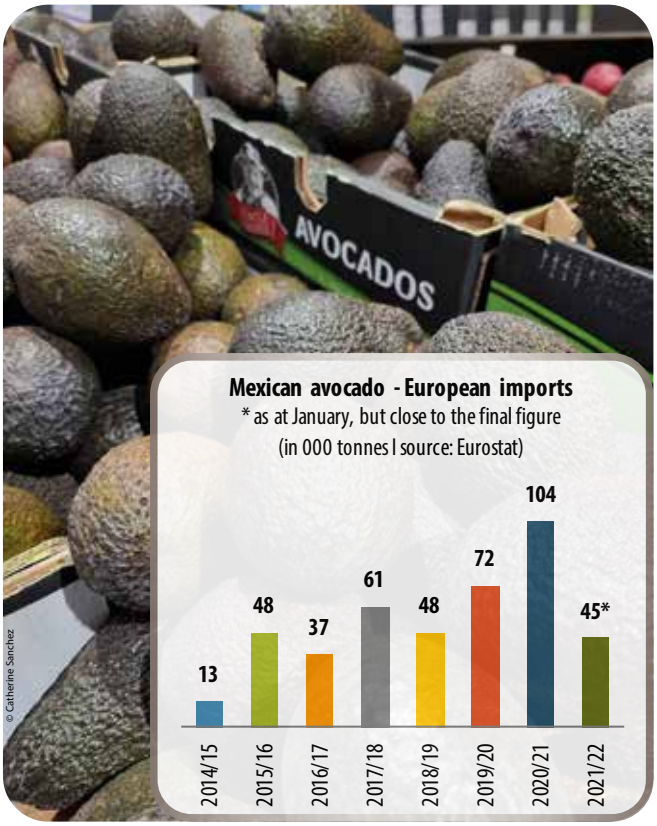
Source: Customs

Avocado – Consumption on the main world import markets in 2021

Consumption in tonnes	2021	2021 compared to		Cons. in kg/ capita
		2020	5-year average	
USA	1 326 000	+ 4 %	+ 29 %	4.02
EU27 + UK + Norway + Switzerland	764 390	+ 8 %	+ 63 %	1.48
Canada	109 507	+ 3 %	+ 41 %	2.87
Japan	76 694	- 4 %	+ 4 %	0.61
China + Hong Kong*	55 998	+ 51 %	+ 82 %	0.04
Russia	53 641	+ 14 %	+ 338 %	0.37

* provisional data, based on customs data from countries exporting to China and Hong Kong | Source: Customs





Mexican avocado: a dark year in Europe.

The 2021-21 Mexican avocado campaign can be regarded as finished in Europe, with incoming shipments at a standstill from the beginning of January, and the prospects for recovery very limited given the market context. This is a highly atypical situation, with Mexican fruit normally maintaining a big presence from January to March. The preliminary review is as surprising as it is bad. In the very likely hypothesis that incoming shipments do not resume, the combined volumes shipped to the EU27+UK should be around 45 000 t in 2021-22, as opposed to more than 100 000 t in 2020-21 (with approximately 24 000 t for Jalisco, as opposed to 46 000 t in 2020-21). This collapse is due both to the production level, considerably lower than expected, in both Michoacán and Jalisco, and of course to the diametrically opposite price trajectories in the USA and Europe (rates soaring on the other side of the Atlantic, compared to the worst winter campaign for many a year on the Old Continent). It marks a clean break in Mexico's comeback trend on the EC market observed since 2019-20.

Professional sources, Eurostat

AVOCADO LOVERS

DELIVERING EXCELLENCE

import@aguacateradelsur.com
+34 952 650 823

Banana market: impact of the Russo-Ukrainian conflict.

Since breaking out on Thursday 24 February, the Russo-Ukrainian conflict has greatly destabilised the world banana market. The main disruptions were initially due to the merchandise being unable to access its destination markets in Eastern Europe. On the one hand, the bombardment of the port of Odessa from week 9 resulted in the closure of the Ukrainian market. The implementation of sanctions against Russia thereafter led to the suspension of numerous shipping lines to Russian ports. Hence Ecuador was the main origin which from one day to the next found itself deprived of two outlets which on their own represent 20 % of its exports, i.e. nearly 2 million boxes of bananas per week. So some of the merchandise already in transit to its destination had to be urgently to other ports, such as Istanbul in Turkey and European ports. Hence spot supplies started to appear, especially in Romania and Slovenia from week 10. Nonetheless, the quantities remained moderate. Not all of the volumes bound for Ukraine and Russia possessed all the certificates required to be placed on the EU market, and some batches arriving in loose form, especially to Russia, apparently required repacking, which generated additional costs. Subsequently, shiploads to Russia started to slow down because of the collapse of the rouble, suspension of SWIFT international payments and a further increase in freight costs (rise in oil and insurance prices). While the reduced shiploads will avoid batches roaming the high seas, this will inevitably bring about an unprecedented crisis, especially for Ecuadorian growers, which will no longer find takers for their produce. Furthermore, it has to be observed that the ongoing conflict is contributing to aggravating a historic inflation crisis which began in 2020, and which has led to a generalised explosion in the costs of energy, agricultural inputs and transport.

Professional sources

Banana – EU27+UK – Supply in 2021*

000 tonnes	2019	2020	2021	2021/2020	
				in %	tonnes
Total imports	**6 510**	**6 740**	**6 679**	**- 0.9 %**	**- 61**
Dollar	4 790	5 059	4 963	- 1.9 %	- 97
ACP	1 095	1 046	1 078	+ 3.0 %	+ 32
EU production	624	635	638	+ 0.6 %	+ 4
Re-exports	3	4	7	+ 72.7 %	+ 3
Total consumption	**6 506**	**6 736**	**6 673**	**- 0.9 %**	**- 64**

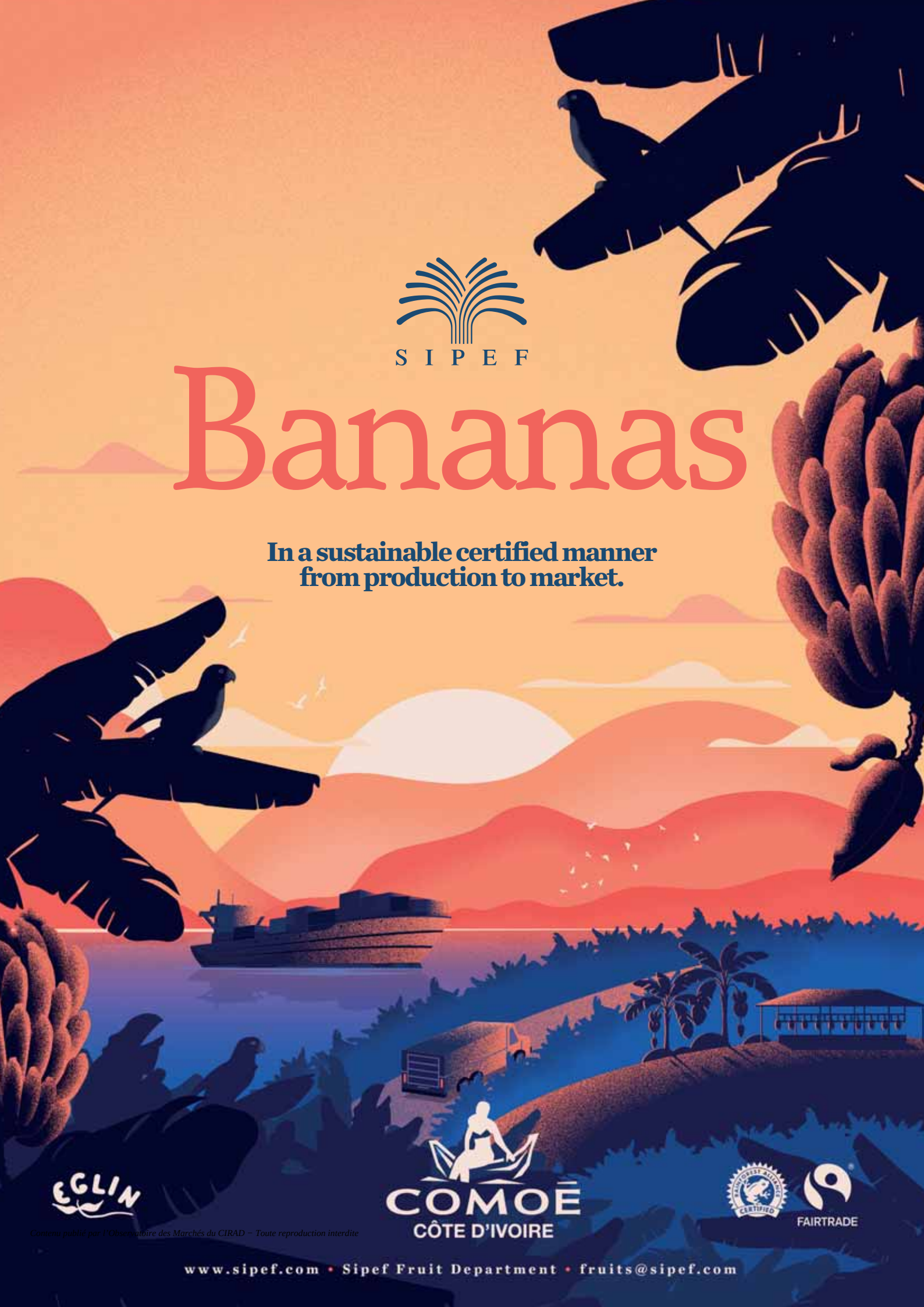
* update: 1st April 2022 | sources: Eurostat, European Commission, Cirad

© Catherine Sanchez

European banana consumption in 2021: a market dependent on the dollar supply.

That is the lesson from our analysis of the supply to the EU-27+UK banana market for 2021. Last year, the 28 countries registered a consumption of 6 673 000 tonnes, i.e. 64 000 tonnes less than in 2020. Over the last decade, on a constant basis, the market has registered a rise of 9 %, i.e. a gain of 562 000 tonnes. The highlight in 2021 was the 1.9 % downturn in the dollar supply, which dipped back to slightly below 5 million tonnes. Ecuador, the number one supplier, easily outperformed the market (+ 3.6 %). Conversely, some origins favoured the North American market in their trading strategy, compensating for the partial absence of Honduras and Guatemala due to the cyclones in late 2020: which explains the overall downward trend in the dollar supply. The ACP origins group enjoyed a really fine year, with a 3 % gain. There was heavy involvement from African suppliers, with 4.5 % growth. European production picked itself up a little with a modest rise of 0.6 %. French production in Guadeloupe and Martinique bounced back, while in the Canaries and Madeira production was down considerably. The dollar banana captured 74.3 % of European demand, as opposed to 16.1 % for the ACPs and 9.6 % for EC production. Given the demographic growth, the overall stability of the supply meant a fall in consumption of 150 g per capita per year, dropping to 12.9 kg after its 2020 peak of 13.1 kg.

Sources: Eurostat, Cirad



Organic lemon: a market on the rise in France.

1 in 5 lemons purchased by French households comes from organic agriculture! There has been considerable growth in recent years, driven by the surge from Spain, the main organic and conventional lemon supplier to the French market during the winter season. According to Ailimpo, the Spanish organic lemon planted area had reached 8 300 ha in 2020, i.e. 14 % of the total. And growers are not about to stop there, with Ailimpo reckoning on a quarter of the planted area being converted to organic cultivation in the medium term. Italy, the other major grower of this citrus, has reportedly already exceeded this figure, with a 30% organic cultivation area in 2019, i.e. approximately 7 000 ha. The Southern Hemisphere (mainly South Africa and Argentina), which supplies the market during the summer season, seems quite well behind, with the generally wetter cultivation conditions being less favourable for conversion to this production mode. France consumed just over 130 000 t of lemons in 2020 (conventional and organic), a figure corresponding to approximately 2.0 kg/capita.

Sources: Cirad, Eurostat, Ailimpo, Ismea

Orange – Argentina – Exports

in tonnes	2017	2018	2019	2020	2021
World, of which	**79 983**	**60 042**	**85 127**	**82 763**	**79 314**
Russia	3 182	2 104	3 575	9 728	16 212
Ukraine	348	-	-	1 636	539
Total Russia + Ukraine	**3 530**	**2 104**	**3 575**	**11 364**	**16 751**
% total exports	4 %	4 %	4 %	14 %	21 %

Source: Trademap

Orange – South Africa – Exports

in tonnes	2017	2018	2019	2020	2021
World, of which	**1 170 813**	**1 278 935**	**1 186 426**	**1 259 670**	**1 295 734**
Russia	79 234	87 147	71 665	79 404	86 289
Ukraine	4 864	3 686	3 772	6 722	6 470
Total Russia + Ukraine	**84 098**	**90 833**	**75 437**	**86 126**	**92 759**
% total exports	7 %	7 %	6 %	7 %	7 %

Source: Trademap

Orange market: impact of the Russo-Ukrainian conflict.

While international sanctions have heavily restricted access to the Russian market (closure of shipping lines, devaluation of the rouble and lack of foreign currency liquidity), could the volumes of oranges normally imported by Russia swell the European market? There are no signs that it will. The Mediterranean season is already well advanced. The Turkish season (98 000 tonnes imported by Russia in 2020-21) and Moroccan season (10 400 tonnes in 2020-21) have practically finished. Egypt, which remains Russia's top trading partner with 262 000 tonnes of imports over the 2020-21 season, normally completes 70 % of its campaign before March. Regarding the summer season, the volumes in play in 2021 represented 83 000 tonnes for South Africa, and 16 600 tonnes for Argentina. However, the issue of certification level, quarantine diseases and pesticides may arise, since Russia and the European Union have different standards.

Professional sources

Producer country file

The organic banana in Peru

Carolina Dawson and Thierry Lescot, CIRAD
carolina.dawson@cirad.fr
thierry.lescot@cirad.fr

Exporting approximately 14 % of world organic banana volumes, i.e. 210 000 tonnes, Peru's young export banana industry remains modest in size. The 10 000 or so micro-growers, concentrated in the north of the country, have managed to develop one of the world's leading organic and Fairtrade certified banana export centres, thanks in particular to the absence of black sigatoka. However, the sector's strong growth dynamic, taking root in the early 2000s, seems to have disappeared. While the market demand remains, growers are now faced with increasing problems of water management, soil biological fertility, as well as new sanitary stresses such as the arrival of TR4 since 2021. On top of these are problems of profitability in the face of stiffening international competition, with new, more efficient producer countries coming into their own, and in an increasingly competitive market context.


© Thierry Lescot

Weekly banana market report

Comprehensive and relevant European market monitoring

- Production trends
- Detailed review of the main European markets
- Detailed import prices for each market
- Supply levels

Annual subscription price: €3 000 pre-VAT

(approx. 48 editions per year)

E-mailed out on Thursdays

Contact: info@fruitrop.com

or www.fruitrop.com/en/ciradshop/subscribe

FRuiTROP weekly

Organic Banana
Peru

History

Young sector on a dizzying ascent since the 2000s

The banana is a traditional crop in Peru, where the local population consumes 80 % of the two million tonnes produced, mainly in the large Amazonian zone, and in particular in the Departments of Loreto and Ucayali. The export industry is relatively recent. The first developments go back to the 1980s. This profitable crop won over many small growers on the country's northern coast, which were left in deep poverty after the failed attempt to establish a cooperative system, following the agricultural reform of 1969, and the establishment of irrigation networks in this big desert zone.

The first banana plantations were established by the Querecotillo-Salitral smallholders' community, on the right-hand bank of the River Chira. However, for lack of experience and structure, the industry found itself overly dependent on Ecuadorian exporters, which viewed it as merely a top-up supply.

A decisive turning point toward banana specialisation in the region was taken in the mid-1980s, after the ravages caused by El Niño and the "pink worm" epidemic which decimated the last cotton plantations. The governmental support programmes in terms of credit access and technical support, in particular to organic banana production, as well as the economic liberalisation policy implemented in the 1990s, helped the export industry take off. The sector gradually organised around several foreign companies, which set up in the zone from the mid-1990s. Dole Food Company, via its subsidiary Copdeban, set up in 1994 as an exporter, and contributed in particular to improving quality, by supplying technical support to the growers. Others followed, such as Exbanor, based on Peruvian and Ecuadorian capital, in 2000, and Agrofair via the purchase of Bioorganika/Hualtaco in 2001. Thirty or so smallholders' associations were created. Supported by NGOs, they sought to better defend their interests by turning toward Fairtrade. From the 2010s, thanks to their reinforcement and professionalisation, growers' organisations embarked into exports, thereby emancipating themselves from foreign exporters. National and sometimes international agro-exporter groups also launched into export banana cultivation, but with at times mixed results.


© Carolina Dawson

Organic Banana
Peru

Location

Within the 190 000 ha banana planted area across all the varieties present in the country, the export organic banana extends over only 11 000 ha, in the far north of the country, close to the border with Ecuador, in the Departments of Tumbes, Piura, La Libertad and Lambayeque. 85 % of export organic bananas are now produced in the Department of Piura, in former cotton planting zones. The nearly 9 500 ha banana planted area located in this Department and certified organic is very much in the minority against the 60 000 ha of rice present in the zone, and coexists with new ventures for the export markets, such as the mango (11 000 ha), grape (9 000 ha) or blueberry.

Situated north of the Sechura desert, within the carob zone which covers practically the whole coastal region of northern Peru, the Piura region enjoys particularly favourable pedoclimatic conditions for organic banana production. Its climate is dry tropical, with temperatures varying from 15°C to 34°C, and a high sun exposure level. It gives this zone a major asset: the absence of black sigatoka, due to the low rainfall (<100 mm/year). The alluvial-rich soils have a naturally good quality, despite their low organic matter content. The irrigation water is 85%-90 % derived from a vast network of channels, carrying water from the Poechos reservoir collecting the Andean rains.

The remaining surface areas (15 %) are situated primarily in the River Tumbes valley, in the province of the same name. The phytosanitary conditions there are a little less favourable because of a slightly wetter climate (periodic presence of black sigatoka). Exports of production from this department was halted in 2010 due to loss of organic certification (problems with anti-thrips treatment, and pollution of the irrigation water by the mining industry) and recurrent flooding from the River Tumbes. There are also plantations further south, in the departments of Lambayeque (500 ha in the Olmos zone) and La Libertad, though their share remains marginal.

Organic Banana
Peru

Production zones

Three organic banana production zones situated in the Department of Piura

Valle del Chira

This valley extends along the River Chira, from the Poechos dam to the edges of the city of Sullana. It is irrigated by water from the Poechos dam, which collects the rains falling on the Andes on the Ecuadorian side. This water is routed via the Miguel Checa canal, built in the 1970s, which supplies a vast network of canals. With approximately 7 000 ha of banana plantations, this zone is the cradle of the export organic banana, cultivated primarily by very small-scale growers over an average of 1 to 5 hectares. The alluvial soils are good-quality, and water is available at low cost. However, the flow is increasingly irregular because of the ageing reservoir (high sedimentation) and years of low rainfall (El Niño/La Niña), which can lead to restrictions in the face of stiff competition from the other predominant crops in the zone, such as rice. Furthermore, the cropping methods remain highly traditional: irrigation is applied by flooding, with prolonged periods between each watering of between 2 and 5 weeks; the plant stock (primarily Cavendish, plus the Valéry variety among small growers) is derived from non-certified shoots; the plantations have an average age of twenty years, there are no soil analyses and organic fertilisation management is complicated (high cost of imported or domestic organic inputs such as guano, few local alternatives from livestock farming). Hence yields are low, often less than 30 tonnes/ha (1 200 to 1 500 boxes/ha), and sorting discards high, representing up to 20 % of production (small fruit).

Valle del Alto Piura (Morropón)

This zone, around the districts of Morropón, La Matanza and Buenos Aires, cultivates approximately 2 000 ha, divided between small and medium-scale growers, with some companies reaching up to 100 ha. While the water also comes from irrigation channels, it is 10% to 15% topped up by underground water, though at a higher cost generated by the energy requirements for pumping. Due to the use of selected plant stock (Cavendish Williams) and higher-tech irrigation, certain growers can achieve yields of up to 40-50 t/ha. The plantations are gradually obtaining Fairtrade certification (e.g. AgroPacha, Frutas de Piura, Anabanana, AltoPiura).

Cuenca del Medio Piura

This is a more recently developed 500 ha zone (since 2011) located on the outskirts of the city of Piura, on the right-hand bank of the River Curumuy. It is above all large companies which have set up in this desert zone, with sandy soils less favourable for the crop. The water comes from the Poechos dam and also wells, though the zone is more vulnerable to water stress due to its remoteness from the central canal. Inkabanano, AgroPiura, Bananica and Oro Verde (a Guatemalan group with approximately 210 ha in production) are present there. Some big companies established in this zone, with its particular soil and water conditions, have scaled back their ambitions because of profitability problems (especially high costs of organic fertilisation and unfavourable economic returns, in particular since 2018). Others, drawing on experience in various export ventures, are converting to currently more profitable crops, such as the blueberry or grape.

© Denis Loeillet

Organic Banana
Peru

Photos © Carolina Dawson

Organic Banana
Peru

Production system

A highly traditional production system subject to growing stresses

Organic banana production for export made big progress until the mid-2010s, when a certain irregularity in the production/export dynamic could be observed. On the one hand, while overall productivity remains around normal for a traditional organic system (approximately 30 t/ha), it is highly heterogeneous and increasingly affected by the recurrence of extreme El Niño/La Niña phenomena, which cause flooding, droughts or drops in temperature. Water availability is also affected by the irregular rainfall pattern, the poor condition of the irrigation infrastructures, competition from other crops and the highly traditional irrigation techniques employed (flooding) – the small-sized fruit which results is left for the local market (sorting discards around 20 %, or even 30 %). On the other hand, fertilisation management remains difficult in a context of micro-plantations. Given the lack of livestock farming zones and the impossibility of applying crop rotation, growers are dependent on increasingly scarce and costly organic inputs (e.g. chicken droppings, guano or imported organic fertilisers). Furthermore, suspensions of certification for 4 or 6 months have been recorded for some growers, due to breaches of the organic specifications (in particular with regard to anti-thrips treatment), which has contributed to limiting volumes and discouraging certain international purchasers. Fragmentation of plantations due to successions is further shrinking plantations which were reportedly barely profitable as they were. Hence on top of profitability problems, recent years have also brought low and variable productivity not offsetting the increased costs in certain cases, as well as export prices under pressure. While the crop remains interesting for small growers thanks to the stable annual price guaranteed by Fairtrade, some medium and large-scale growers have reportedly started a conversion shift toward other, more profitable crops for export.

Diseases

Despite the absence of black sigatoka in the main cultivation zone, the country is facing major sanitary problems such as banana streak virus (BSV). Poor management of planting stock seems to have been behind the introduction of the virus from Ecuador, and its spread. Management of banana rust thrips, which have become the main sanitary stress in recent years, seems to be improving thanks to fieldwork and systematic use of sheaths to protect the clusters. The irrigation methods, besides being uneconomic with the resource (flooding), are reportedly aggravating the banana rust thrip problem. The arrival of Fusarium oxysporum cubense (TR4) in 2021 marked a new turning for an already weakened sector.

Photos © Carolina Dawson

Organic Banana
Peru

TR4 in Peru, a major challenge for the sector

In April 2021, Peru became the second country in the Americas, after Colombia, to be contaminated by *Fusarium oxysporum* f. sp. cubense (TR4). The initial detection came on a half-hectare plot, belonging to a small grower based in Querecotillo district, Department of Piura. By August 2021, six centres had been officially recorded in the region, over an affected area of around a hundred hectares.

While the origin of the initial introduction of the fungus is yet to be confirmed, the main suspect is imported plant stock planted on a medium-sized plantation (50 ha) in the Santa Rosa zone, very close to the Poechos reservoir and upstream of the River Chira, where shoots were reportedly taken by labourers for use on their family smallholdings. Genetic studies conducted by researchers from Agrosavia and Exeter University (https://doi.org/10.1101/2022.01.17.476647) in late 2021 demonstrated that the TR4 strain detected in Peru was different to that in Colombia, pointing to two independent introductions of TR4 to the Americas.

To date, management of the disease in the zone remains highly complex due to the characteristics of Peru's production sector. Given their very small size, it is practically impossible to enclose infested plots to prevent circulation of people and animals. Similarly, certain practices which are potential vectors of the disease, and therefore to be prohibited, are strongly rooted in the sector's habits, such as use of shoots for replanting, irrigation by flooding, sending banana leaves to other zones (for preparing traditional dishes such as tamales and juanes), and pooling of harvesting and packing systems between micro-growers. Finally, eradicating infested plots and setting up safety areas create major social issues, given the crop's importance as a source of income for thousands of families. So the international eradication and quarantine protocols, passed on by the various world plant health protection bodies, seem hard to apply in this highly particular context.

Photos © Carolina Dawson

Players

A highly fragmented production and export sector

Approximately 8 000 ha are in the hands of 10 000 small growers owning less than 5 hectares, and producing 60 % of volumes. While the living conditions for the growers often remain tough, the rise of the crop has helped numerous families to emerge from a state of extreme poverty. There are more than 80 growers' associations, and the number has risen over the past five years, not due to growth of the sector, but rather through fragmentation of the association system. The lack of coordination can weigh down on trade negotiations. The remaining 1 500 ha belong to primarily national companies, running on average 50 to 100 hectares, and to a few foreign-owned groups (Chilean, Guatemalan). The marked development of the companies since the early 2010s seems to have stabilised or even slipped backward.

The export sector has split up, with sixty or so primarily national exporters. A turning point was observed in the 2010s, when growers' organisations became exporters, such as APPBOSA, CAPEBOSAN, Asociación Valle del Chira, APOQ, APBOSMAM, which are the main ones.

Agrofair, a historic player in the sector, created at the initiative of the NGO Solidaridad for marketing Fairtrade bananas, and Port International, are among the main exporters to the European market. While the US multinationals are absent from the production system, they are among the main purchasers. This is the case with Dole, a pioneer in the sector, which also supplies agricultural inputs (boxes, phytosanitary products, etc.), despite a declining presence in Peru due to the change of its worldwide procurement strategy. Chiquita, which procures in the country for the US market, stepped up its presence in particular in 2021.

The sector is supported by the INIA (National Institute for Agriculture Innovation), which conducts agricultural research and provides technical assistance to growers. SENASA, the national plant health protection authority, assists the sector, especially in terms of raising grower awareness in order to contain FOC-TR4. The Mesa técnica del Banano is a local concertation group bringing together various players (growers, associations, NGOs, technical institutes, etc.) to discuss various issues facing the sector. The NGO Solidaridad, behind the creation of the Fairtrade concept, and its historic partner Agrofair, are very active in supporting the production sector, in combating FOC-TR4 (TR4 aerial imaging project), and with the launch of a plastic sheaths recycling project. They were behind the creation of Cluster Bananero, the objective of which is to coordinate sector activities, raise funds for international projects and represent the sector internationally. CLAC (Coordinatora latinoamericana y del Caribe de pequeños productores y trabajadores del comercio justo) represents and promotes the interests of Fairtrade-certified small growers' organisations.

Finally, ARD (Agencia regional de desarrollo) comprising the Regional Government of Piura (GORE), the University of Piura (UP), the National University of Piura (UNP), the Chamber of Commerce, and with the support of German cooperation (GIZ), the EU and Spanish cooperation (AECID), is an inter-sectoral and inter-governmental coordination and structuring body, which develops public-private concertation forums (private company, university, the State in its three levels, and civil society), based on the priorities of a specific territory.


© Carolina Dawson

Organic banana – Peru – Main exporters and market share of export volumes in 2021

	Exporters	Market shares in 2021
1	Agronegocios Los Angeles	11.9 %
2	Cooperativa Agraria APPBOSA	9.4 %
3	Andean Natural Products Export Import (ANPRO)	7.4 %
4	Pronatur	5.1 %
5	CAPEBOSAN-JIBITO	4.2 %
6	IREN PERU	3.8 %
7	Asociacion Valle del Chira	3.6 %
	Others (53)	50.33 %

Organic Banana
Peru

Outlets

Exports losing momentum

Although the Peruvian export banana sector is a recent one, it has made dazzling progress thanks to its strategic positioning on the organic and Fairtrade segments. With a level still below 10 000 tonnes in the early 2000s, exports reached 230 000 tonnes at their peak in 2018, before dropping thereafter to stabilise at around 210 000 tonnes since 2020.

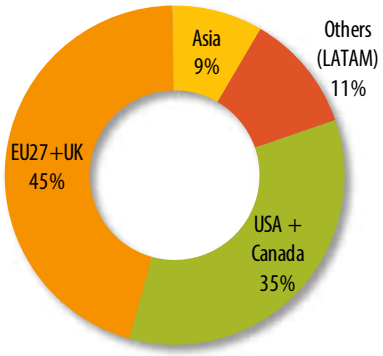
With a high season in March, followed by a trough during winter in July/August, the production/export calendar is in step with the seasonality of demand in the importer countries. Absorbing 45 % of tonnages in 2021, the European Union and the United Kingdom remain the major outlet for Fairtrade certified Peruvian organic bananas. Germany, Belgium and the Netherlands are the main entry points for volumes into the EU. Peru enjoys special access to the European market in accordance with the provisions of the EU-Andean Pact agreement. The current customs duty has stabilised at €75/tonne since 2020. Switzerland also takes in large volumes to feed its market, primarily comprising organic/Fairtrade bananas, where Peru reigns supreme thanks to a Customs duty exemption.

While exports to the USA, which represent 35 % of outlets, had progressed from 2013 onwards, the brakes were slammed on in 2018 by growing competition from nearby suppliers, especially Mexico. Peruvian volumes, which were mainly aimed at the West Coast States (Californian ports), were rerouted to the East Coast (Philadelphia and Miami), so underwent a cost increase due to transiting the Panama Canal. While this outlet remains lucrative (customs agreements, favourable exchange rate, relative proximity), the non-recognition of Fairtrade certification all the same makes it less attractive than the European market, especially for small growers.

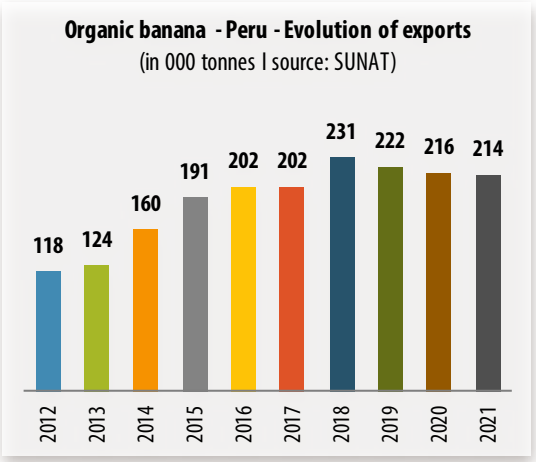
Restricted and stable volumes are shipped to Asia (Japan, South Korea), representing less than 10 % of exports.

Sorting discards (estimated at approximately 20 % of production) are placed on the local market, especially in the Department of Lima where interest for the organic banana is growing, and where upselling is being observed on the market, with the development of ripening centres.

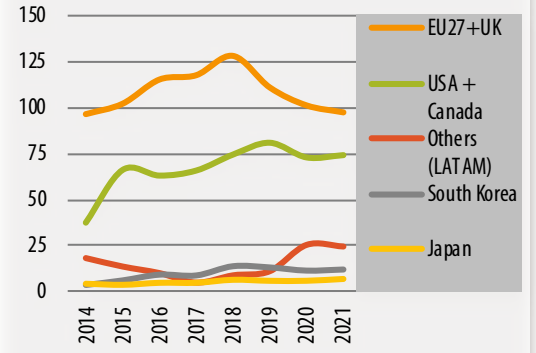
Organic banana - Peru - Main outlets in 2021 (source: Customs)



Organic banana - Peru - Evolution of exports
(in 000 tonnes I source: SUNAT)



Organic banana - Peru - Exports by destination
(in 000 tonnes I source: Customs)



Logistics

The fruit is shipped from the historic port of Paita, situated 80 km from the banana plantations. It is loaded into refrigerated containers and transported by traditional shipping lines. The voyage takes approximately 13 to 17 days to the USA, and 19 to 26 days to the European Union (Rotterdam). The main logistical and financial constraints are having to transit the Panama Canal, as well as the long distance compared to competing suppliers on the US and European markets.

dossier

Mango

2021 review

© Denis Loeillet

Mango
European market in 2021

Market holding up and progressing

Pierre Gerbaud, consultant
pierregerbaud@hotmail.com

© Catherine Sanchez

Though still affected by the Covid-19 health crisis, the international mango market is holding up well to its multiple consequences, with an ongoing rise. The main trends still relate to the two main consumption centres, namely North America and Europe. While the North American market growth has seen a slight downturn, the European market is continuing to make progress. The gap between these two centres is actually tending to narrow. It was just over 100 000 tonnes in 2021, down by 20 000 tonnes from the previous year.

LilotFruits

A NATURAL WEALTH OF TASTE

BY CAPEXO

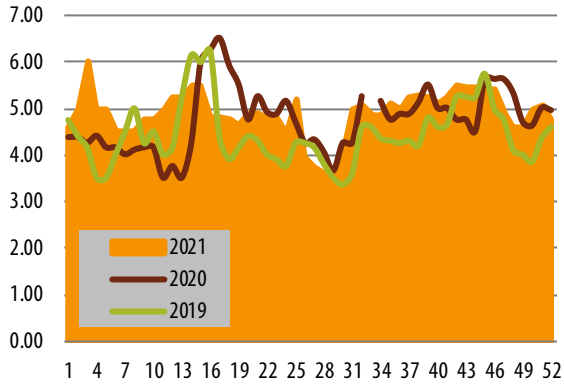
The taste of trust

MANGO

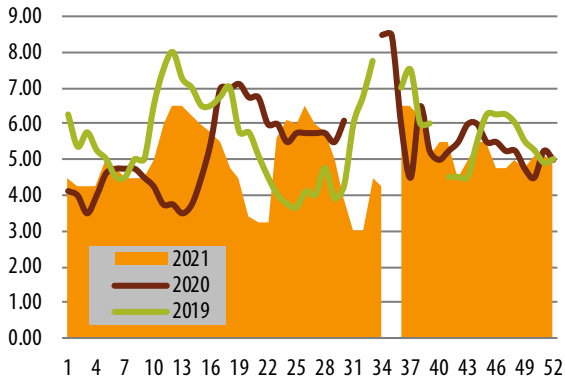
As well as providing its tender, juicy, sweet or sour flavour, the mango is bringing the world together. It has strengthened our ties with our trusted growers, as we continue to work actively alongside them despite the international health crisis that has hit us all. Together, we have managed to maintain our level of requirements, to deliver you the quantities and quality you expect, while maintaining our relationships, know-how and mutual commitments. Together, we have been able to continue working with the passion that drives us all, to bring you the most delicate tastes, now more than ever.

CAPEXO . +33(0) 1 41 73 23 00 . contact@capexo.fr . www.capexo.fr

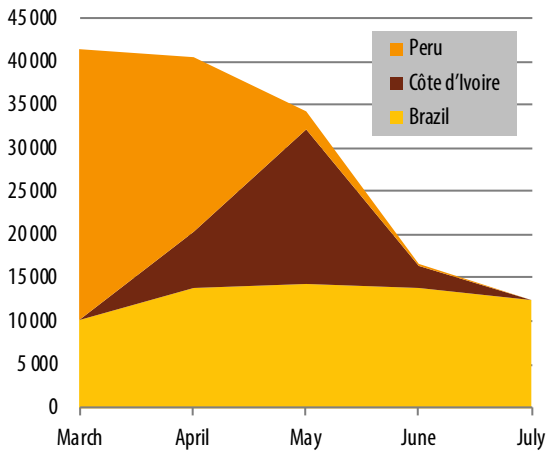
Air-freight Kent mango - France - Weekly average import price (in €/kg | source: Pierre Gerbaud)



Sea-freight Kent mango - France -Weekly average import price (in €/box | source: Pierre Gerbaud)



Mango - Ivoirian volumes versus competitors on the European market in 2021 (in tonnes | source: Pierre Gerbaud)



Growth different from 2020

With more than 484 000 tonnes, European mango imports registered a rise of 56 000 tonnes in 2021 from the previous year. And this was without including Spanish volumes, which with 31 000 tonnes, took this total above 500 000 tonnes. 2021 was characterised by a dip by the two biggest market suppliers: 5 000 tonnes for Brazil and 10 000 tonnes for Peru. Other origins, especially West African, also saw their exports slump, such as Mali (- 2 600 t) and Burkina Faso (- 800 t), though this was readily offset by the increase in shipments from other supplier countries. Côte d'Ivoire regained export levels of above 30 000 tonnes, and the summer origins saw a distinct rise in their sales, like Senegal (+ 8 800 t), the Dominican Republic (+ 6 600 t) and Israel (+ 3 700 t). The average price level of sea-freight Kent, across all origins, was lower in 2021 than in 2020, with a downturn of around €0.30/box. Price variation periods were not the same year to year. Hence the spring, which registered a peak in 2020 in the midst of the severe restrictions due to Covid, conversely had a particularly low price phase in 2021 (€3.25/box as opposed to €7.00/box). Conversely, the March and June 2021 periods proved more favourable, with prices of €6.00 to €6.50/box as opposed to €3.50/box and €5.50/box in 2020. For Q4, prices were comparable over the past two years, though with a drop in average price in 2021 confirming the fall in interest in the product during the end-of-year festivities, often a period of abundant supply.

The average price of air-freight mangos exhibited a steadier evolution, with indeed an increase of a few eurocents per kilogram in 2021 compared to 2020. This slight gain should certainly not be linked to invigoration of the air-freight fruit market, but rather to a rise in cost price of the mangos, swollen considerably by increased freight and transit rates.

A three-horse race

The stand-out trajectory over the past few years is the increasing hold of the Peruvian and Brazilian export calendars on the European market supply. The relative supply trough in April, between the end of the Peruvian campaign and the start of the West African campaign, especially from Côte d'Ivoire, seems to have encouraged the top two suppliers to Europe to step up their presence in this market window. The pressure increases with every passing year, with the Peruvian campaign now extending into June. True, Peruvian volumes at the end of the campaign are subsiding, but the origin has a very real presence. Among purchasers who prefer the continuity of an origin rather than frequent changes, the trend is appreciated as long as the fruit exhibits satisfactory quality. Brazil is also rushing into the slot, albeit with a varietal handicap compared to Peru and West Africa. At this period, it is only mainly offering Palmer and Keitt mangos. Nonetheless, these additional quantities are weighing down on the market as a whole. The fairly late start to the Ivorian campaign for the past few years has favoured the establishment of the competing origins. It has increased the concentration of volumes over a short period, and multiplied the trading difficulties, especially since by then the supply of seasonal fruit is progressing. Stuck between the combined pressure of Peru and Brazil on the one hand, and qualitative deteriorations at the end of the campaign on the other hand, Côte d'Ivoire and more generally the West African origins are caught in a complex pincer manoeuvre. Will the greater proximity of the West African suppliers be an asset to secure their flows to Europe in future? Will the search for greater competitiveness enable them to withstand the Latin American suppliers gnawing away at their market share?

The trajectory is even more critical for air-freight mangos, albeit in smaller volumes, but selling at higher prices. The commercial pincer manoeuvre is tightening around the West African origins, with the constant, sprawling presence of Peru and Mexico strengthening its position from May onward. Furthermore, many purchasers are increasingly going directly from Peru to Mexico, leaving the West African origins to one side.

West African mango – Number of interceptions due to the presence of fruit flies on arrival in Europe

	2018	2019	2020	2021
Burkina Faso	11	10	2	**7**
Côte d'Ivoire	16	9	2	**23**
Guinea	2	1		**1**
Mali	14	16	1	**9**
Senegal	7	3	2	**1**
Total	**50**	**39**	**7**	**41**


© Denis Lœillet

Mango quality

It has to be observed that the quality of Peruvian and Brazilian mangos is overall deemed to be fairly homogeneous between the campaigns. Some variations exist from one campaign to another due to the meteorological variations in the production zones. Others appear at the start or end of the season, though they remain limited compared to the volumes placed. Production from industrial orchards, which is subject to planned cropping practices, doubtless explains the success of these origins. For a large part of West Africa, the form of production management seems less advanced. The fragmented structure of the orchards and lack of production monitoring often lead to qualitative variations in the fruit, especially ripening homogeneity. Yet the European supermarket sector purchasers seek produce with constant quality, hence the big price fluctuations over the course of the campaigns.

On top of that are the problems of parasite pressure, the recurrence of which also works against the West African countries. In 2021, the number of interceptions at the European borders because of the presence of fruit fly larvae took an upturn, after the respite of 2020. Last year can hardly be taken as a benchmark, since the West African campaigns took place at the height of a pandemic, with all its consequences. The most concerning point to observe is that the downward trend in interceptions over previous years was completely called into question in 2021. Is it about increased parasite pressure, or a relaxation of management in the production zones? There do not seem to be any solutions to the problem in the short and medium term. West African countries are facing the regulatory constraints of the importer and consumer countries, which they are struggling to meet, so hard is the parasite threat to deal with for their industries. However, it is only by finding solutions to combat parasite pressures that these origins will be able to continue their exports. The progression of fungal diseases represents another subject for concern in terms of improving fruit quality. In this case, there are probably more accessible solutions than for fruit fly management. Hence, qualitatively and commercially, West African professionals are going through a tough period, and need to adapt quickly in order to maintain their place in the international mango trade ■

Mango

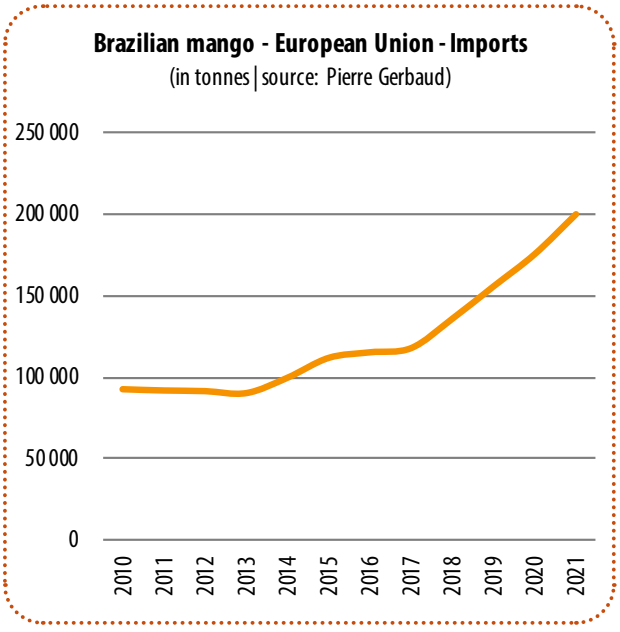
2021 review by origin

Pierre Gerbaud, consultant
pierregerbaud@hotmail.com

Brazil

The mango giant in Europe

Brazil once again consolidated its position as the top mango supplier to the European market. However, 2021 was less abundant, with Brazilian exports falling by 5 000 tonnes, bringing down the total shipments to the European market to 170 000 tonnes. This result is one of the best achieved by the origin, with the 175 000 tonnes in 2020 remaining an exception. Temporarily struggling, Brazilian produce held up against winds and tides, and provided continuity of supply, with a constant varietal range, except for Kent which remains more seasonal.



5 BOULEVARD DU DELTA - ZONE EURODELTA, 94658 RUNGIS
COMMERCIAL@COMEXASAS.FR • TÉL. +33 1 46 86 71 77
• FAX +33 1 46 86 80 43

FRANCE'S AVOCADO-RIPENING EXPERTS

NEW ECO-FRIENDLY, PLASTIC FREE PACKAGING

SUSTAINABILITY, ENVIRONMENT AND CSR FOCUS

WIDE PRODUCT RANGE

FACILITIES IN NORTH AND SOUTH OF FRANCE

THE LEADING #AVOEXPERTS

Consolidated varietal choices

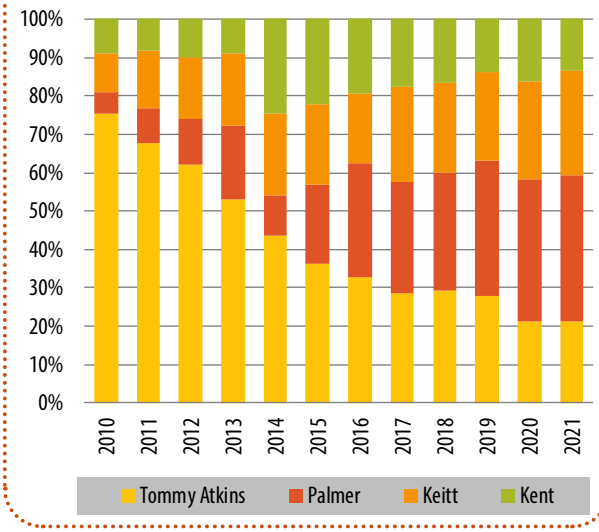
The strategy aimed at modifying the varietal range of exportable mangos is ongoing and intensifying. Tommy Atkins, long the spearhead of Brazilian exports, has now been relegated to the role of a secondary variety. Its benefit remains its availability year round, although other varieties have acquired the same characteristics. Tommy Atkins now represent just 20 % of Brazilian exports to Europe.

The main variety exported by Brazil is now Palmer, which represented 37 % of volumes aimed at European markets in 2021. This proportion, close to that registered in 2020, nonetheless marked a slight rise. Keitt came in second position with 27 % as opposed to 25 % the previous year. It would seem that particular efforts have been taken on behalf of this variety, which traditionally tops up the Kent supply. Palmer and Keitt are available year-round. The Palmer mango provides a steady flow to the European market, with a preference for the first half of the year. As for Keitt, it remains a bit more seasonal, with more substantial flows from June to October.

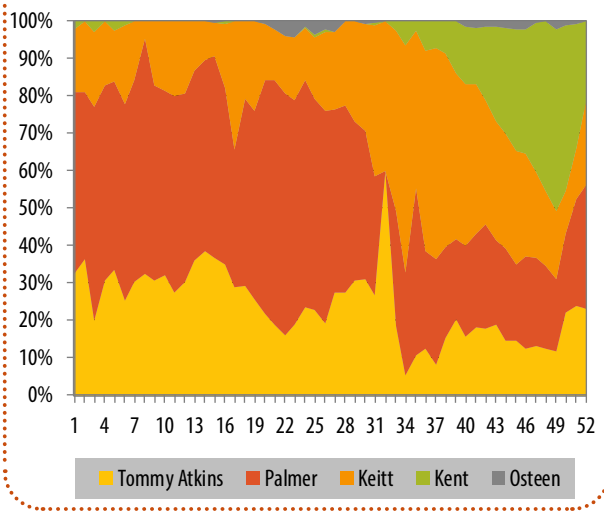
Kent remains marginal, with 10% to 15% of overall shipments from Brazil. In 2021 it represented 13 % of exports, as opposed to 16 % the previous year. This variety remains restricted to the months of October to December. It is probably the least productive of the Brazilian range and its production is probably the most difficult to control, whereas floral induction processes are obtaining better results on other varieties.

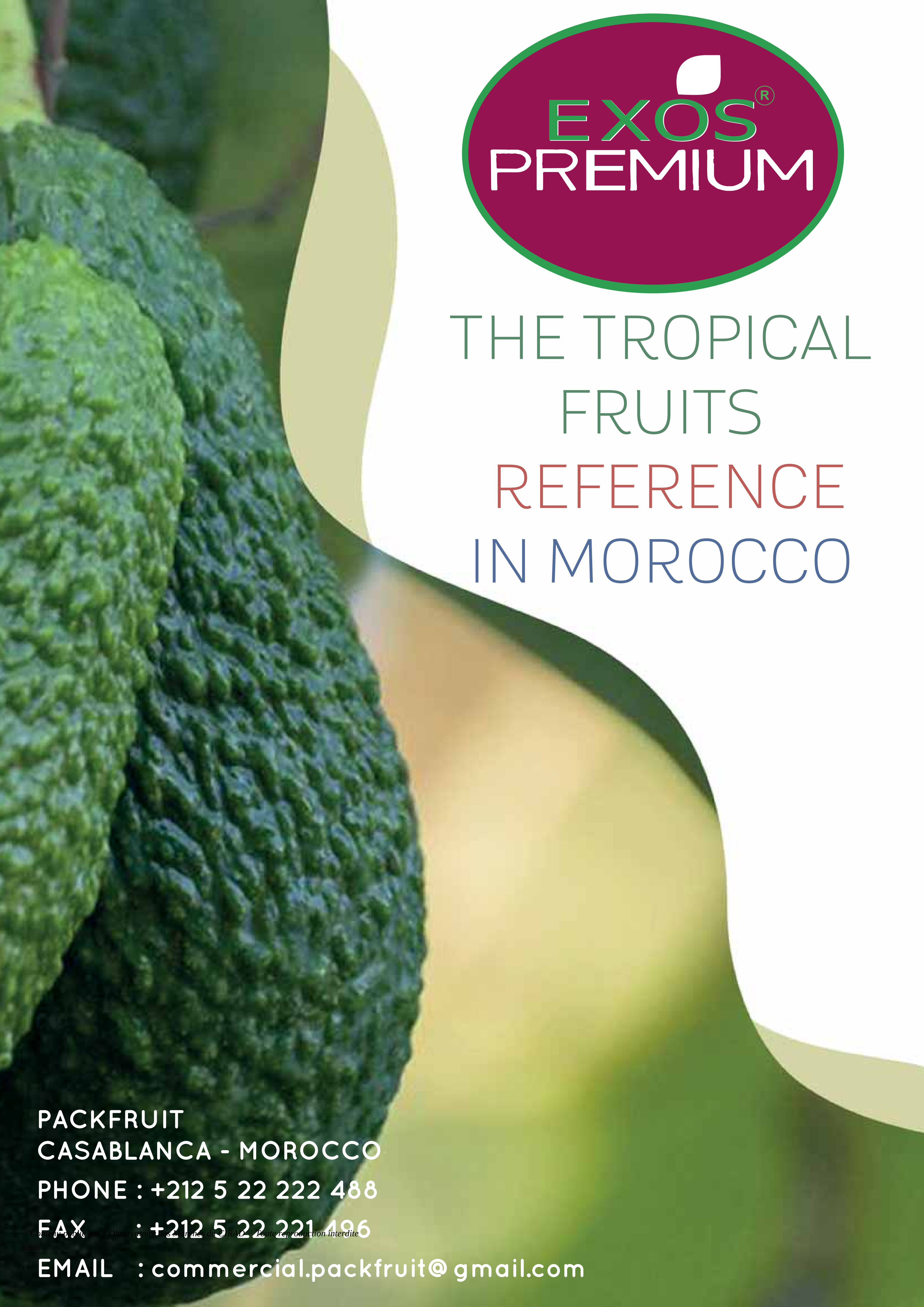
As a reminder, we will also mention Osteen, a newcomer to the Brazilian supply, which for the moment represents more an attempt at diversification than planned development. This variety, shipped in May/June and October/December, currently represents less than 1 % of shipments, but the fact deserves to be highlighted. Did the Palmer variety not start with small appearances before supplanting the other varieties exported by Brazil? The dazzling expansion of the latter variety is an unmitigated success story. Certain purchasers in the highest consuming countries such as Germany occasionally turn up their noses at it, in favour of other tastier varieties. Is this the price of success of volumes on the increase, or a deeper trend?

Mango - Brazil - Evolution of export volumes by variety
(sources: Brazil, Pierre Gerbaud)



Mango - Brazil - Varietal breakdown of weekly export volumes to Europe in 2021
(sources: Brazil, Pierre Gerbaud)



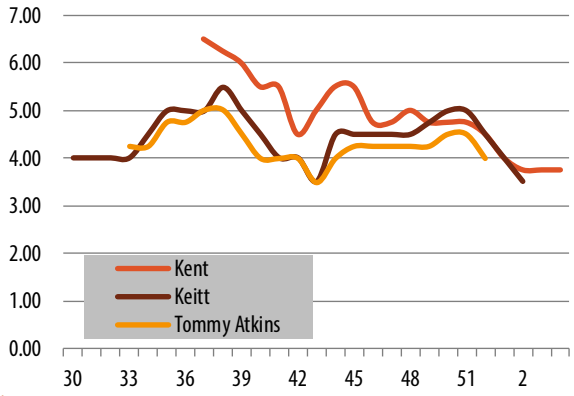


A repetitive air-freight campaign

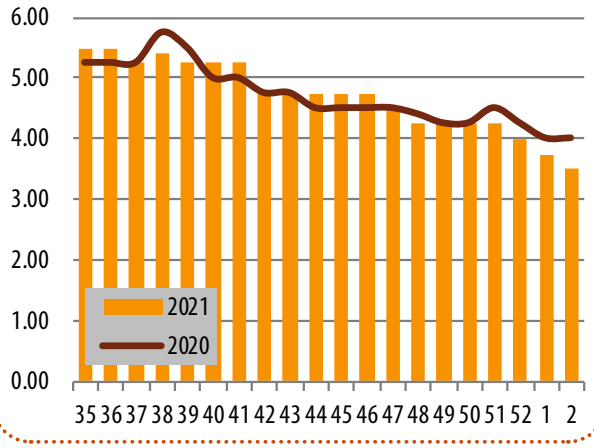
The Brazilian air-freight campaign started in early September with very limited volumes, as it did the previous year. Prices obtained were fairly stable, above €5.00/kg until early October. Some batches of insufficient coloration and/or maturity sold at lower prices. During this period, Brazilian Kent encountered no competition, except for end-of-campaign Israeli mangos in another varietal range. In September, the rate dipped, falling below the €5.00/kg mark, with an average of around €4.50/kg. This slump in prices was caused by Spain launching its campaign with Kent. The confrontation between the two origins caused competition which resulted in a dip in rates. The same pattern recurred in mid-November, upon the start of the Peruvian campaign. Prices dropped to between €4.00 and €4.50/kg. The clash between Brazil and Peru was felt more by the Brazilian fruit, whose prices were on the wane, but in parallel we could observe a complementarity between the produce from the two origins in terms of sizing. The Brazilian supply mainly comprised large sizes, unlike the Peruvian supply which at the start of the campaign was characterised by an abundance of small sizes. Finally, the Peruvian supply replaced the Brazilian supply, which had reached the end of its season with more fragile quality fruit. Sale prices dropped below the €4.00/kg threshold until the end of the campaign in mid-January 2022.

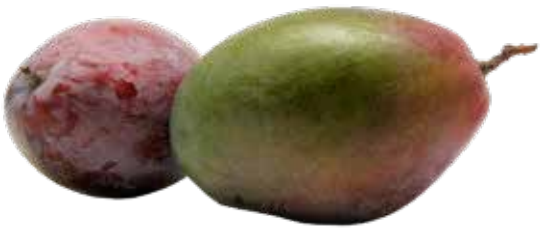
© Régis Domergue

Sea-freight Brazilian mango
Weekly average import price in France
(in €/box | source: Pierre Gerbaud)



Brazilian air-freight mango - Weekly average import price on the French market
(in €/kg | source: Pierre Gerbaud)





© Guy Bréhinier

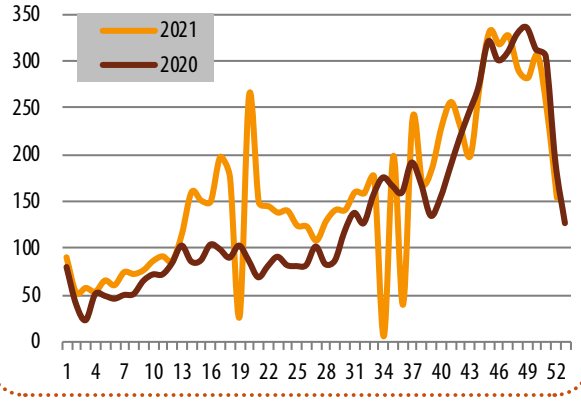
Two high points for the sea-freight campaign

Traditionally, Brazil supplies the European market year-round, due to its extent, the agricultural land dedicated to mango cultivation, its varietal range and cultivation practices adopted by growers. However, Brazilian exports go through two major periods. The first is situated in April/May and the second, longer, from October to January. The first period, concentrated around the month of May, is tending to swell year on year. The ambition, a few years ago, was to fill the relative supply trough between the end of the Peruvian campaign and the start of the West African campaign. Now, the extension of the Peruvian campaign most often fills this niche of a few weeks. Yet Brazil is shipping ever more volumes at this period, causing through the addition of shipments from various origins a structural over-supply to the market. The Brazilian varieties available at this period are Tommy Atkins, Palmer and to a lesser degree, Keitt. They are not the most sought-after varieties, especially since Peru and West Africa, whose campaigns follow each other, offer Kent. While in 2020 the quantities shipped by Brazil in April and May were smaller than in previous years because of the Covid pandemic and its logistical and commercial implications, they doubled in 2021. With the big rise in volumes, prices collapsed, reaching €2.00-€3.00/box at the peak shipments, across all varieties.

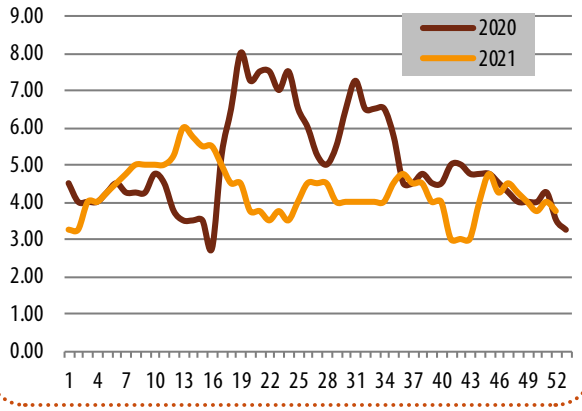
The second high point of the Brazilian campaign occupied the final quarter of the year. Back in August, Keitt and Palmer volumes rose and sold at distinctly lower prices than the previous year, when they peaked at €6.00-€7.00/box. In 2021, the price was rather situated at between €4.00 and €5.00/box. In September the Kent campaign started rather on the early side. These involved limited tonnages, enabling prices to be kept high, though dipping bit by bit from €6.50 to €5.50/box. From mid-November, the rate deteriorated, falling below €5.00/box, and then plummeting in the second half of December to €4.00/box and below. The end of this year was marked by the arrival of the first containers from Peru, causing more competition, and a qualitative deterioration in Brazilian fruit.

Hence Brazil consolidated its leading position among mango supplier countries to the European market, in spite of the competition it was exposed to in particular from Peru and Spain. Conversely, it is increasingly contributing to marginalising the West African origins.

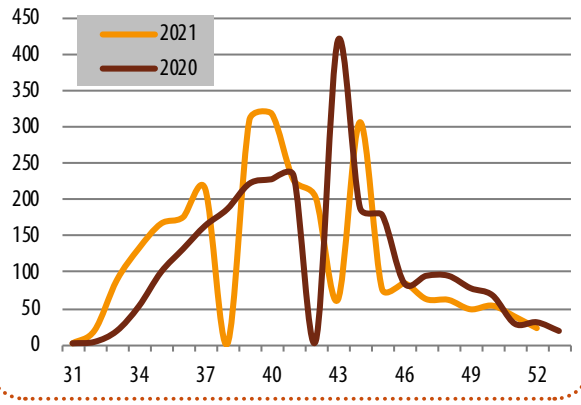
Sea-freight Brazilian mango
Weekly incoming shipments in the EU
(in number of 40-ft containers | source: Pierre Gerbaud)



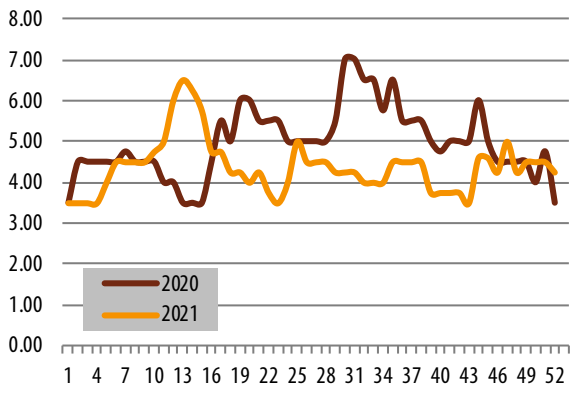
Sea-freight Brazilian Tommy Atkins mango
Weekly average import price in the Netherlands
(in €/box | source: Pierre Gerbaud)



Sea-freight Brazilian mango
Weekly incoming shipments in the USA
(in number of 40-ft containers | source: Pierre Gerbaud)



Sea-freight Brazilian Palmer mango
Weekly average import price in the Netherlands
(in €/box | source: Pierre Gerbaud)

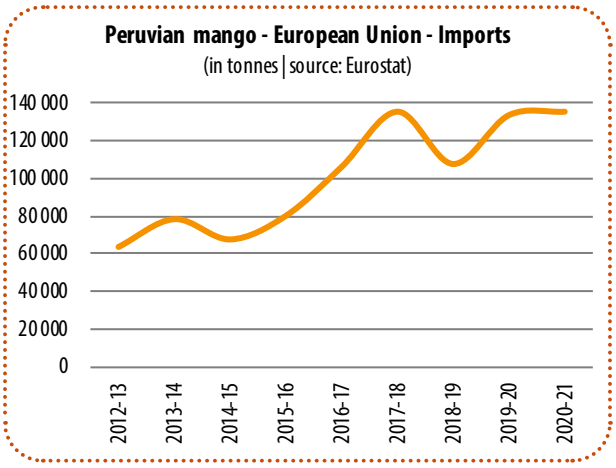


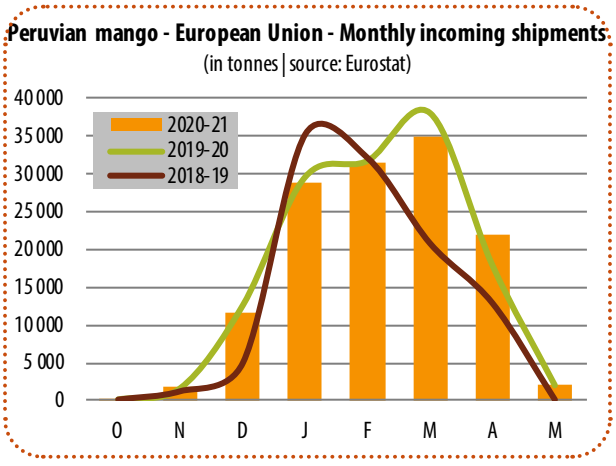

© Catherine Sanchez

Peru

Expansion levelling off?

With annual total exports of 135 500 tonnes, Peru consolidated its place as the number two mango supplier to the European market. Its shipments were up from 2020, though at a less marked tempo with an increase of less than 2 000 tonnes, a much lower figure than in more distant years. Conversely, if take the campaign itself rather than the civil year, in 2020-21 Peru shipped slightly less fruit than in 2019-20 (122 000 t as opposed to 125 000 t). A similar slump in volumes could also be found on the origin's number two market, North America, though only of a thousand tonnes. The limited dip in quantities shipped has not altered the major footprint left by Peru on the international mango market.





An ever longer air-freight campaign

As in 2019, the Peruvian campaign began in mid-November. The limited volumes on the market at the time obtained high prices, for a supply mainly comprising small sizes, not always suited to market demand. In early December, prices dipped from €6.00 to €5.00/kg. They recovered to around €5.50/kg on average for the Christmas holidays, and then returned to €5.00/kg. For two weeks in early January, the price soared again to €6.00/kg. A temporary fall in the Peruvian supply was behind this turn. This was due to social movements in Peru, but also to poor weather conditions in Spain heavily disrupting forwarding to other European countries.

The market then underwent a more difficult period in late February/early March, while the supply switched between origins. The last batches from the Piura region gradually gave way to the more southern regions of Motupe and Casma. At this period, the air-freight costs were revised downward, favouring higher competitiveness and more latitude for European operators. From March to June, the price gradually regained the ground previously lost. This recovery came under highly unstable conditions. Hence by mid-March, strike movements in Peru were paralysing some of the modes of transport, considerably cutting down the shipment options. This particular situation resulted in prices strengthening on the European market, receiving a leaner supply. However, the price rise was tempered by another increase in air-freight prices.

The air-freight mango market went through a yo-yo period, very much torn between the supply and demand levels, and the fruit cost price. Often a depressed sale price at the start of the week recovered by the end of the week, a shift generated by irregular incoming shipments. Unsold batches sold on a downward footing at the start of the week, as they were often of advanced maturity, and at high prices at the end of the week for incoming produce. On top of these factors were the proportions of large and small sizes. Small mangos, predominant at the beginning of the campaign, had more difficulty selling than the larger mangos. The tables were turned in the middle of the campaign, and prices for large mangos dipped, while prices for small mangos recovered. A balance was rarely achieved, and was all the more disrupted by changes of production region. In May, the quantities available dwindled distinctly, but persisted. With fruit quality still satisfactory, certain purchasers retained this origin on their listings. The last batches were sold in mid-June, a date never previously reached by Peruvian fruit, which regained its early-campaign rates.

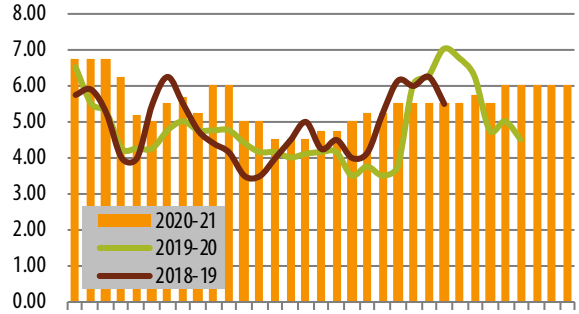
A sea-freight campaign distinct from the previous one

Arriving in mid-December, the first containers from Peru sold at equivalent prices to the previous year. In January, the more restrained demand weighed down on prices, which stabilised at around €4.50/box. In February, a first campaign peak kept these prices unchanged. Some sales were made at lower levels. The logistical disruptions led to a stop-start supply, impairing the fluidity of the merchandise and the programmes agreed with the supermarket sector. In March, rates saw a distinct recovery, aided by promotions in the supermarkets. The Easter holiday celebrations created additional demand, while supply levels at this period were growing. This price increase peaked in the second half of March, before gradually falling back from €6.50/box to €5.50/box after Easter.

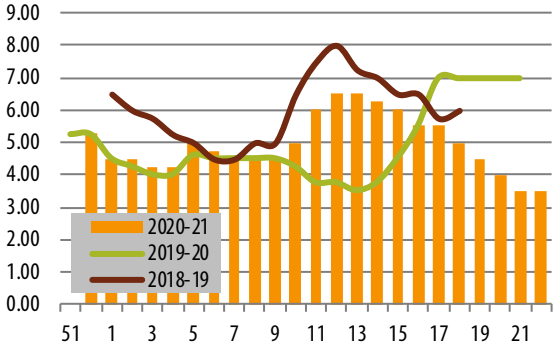
This trend was the reverse of the previous year, when this period corresponded to the start of the lockdown measures. Then, consumption had dropped steeply, before recovering after a few weeks. Taking advantage of the late start by the West African origins, Peruvian fruit then enjoyed a favourable end to the campaign, with incoming shipments rapidly waning, and prices soaring to approach €7.00/box. In 2021, the fall in volumes received was quicker, but was accompanied by a parallel dip in rates. From €6.50/box before Easter, prices slumped down to nearly €3.00/box.

This difficult end to the campaign is attributable to the influx of produce from various origins. The transition from the Peruvian campaign to the West African campaign, which was set to be smooth, rapidly became toxic. The declining volumes from Peru were offset by Ivorian volumes, but Peru dragged out its withdrawal, while quantities shipped by Côte d'Ivoire rapidly progressed. Furthermore, the presence on the market of considerable volumes from Brazil and the first shipments from the Dominican Republic finished off the destructuring of the market conditions. The uneven quality of the fruit received, the sizing variations and the multiplicity of the varieties proposed clashed with demand from consumers, who were focusing their purchases on seasonal products. Even if expensive and less common because of late frosts, seasonal fruits enjoyed more popularity than mangos, which had been available since the start of the year. The clash of the Latin American and African origins during the European spring represents a conflict framework for exporter countries, each wishing to increase their market share.

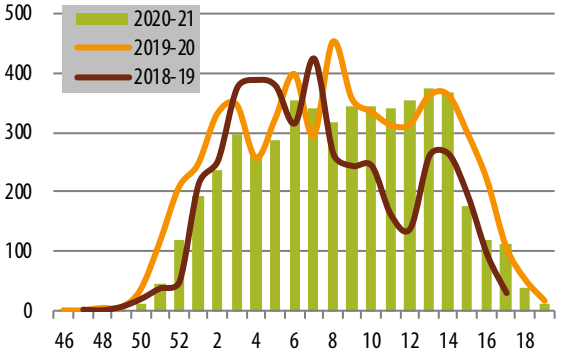
Peruvian air-freight mango - Weekly average import price on the French market (in €/kg | source: Pierre Gerbaud)



Peruvian sea-freight mango - Weekly average import price on the French market (in €/box | source: Pierre Gerbaud)



Peruvian sea-freight mango - Weekly incomping shipments in Europe (in number of containers | source: Pierre Gerbaud)

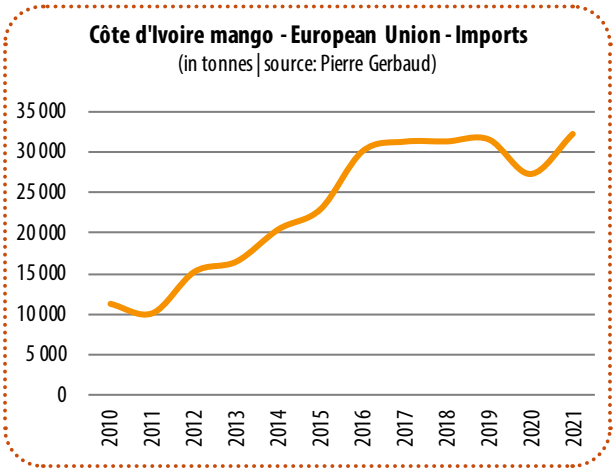


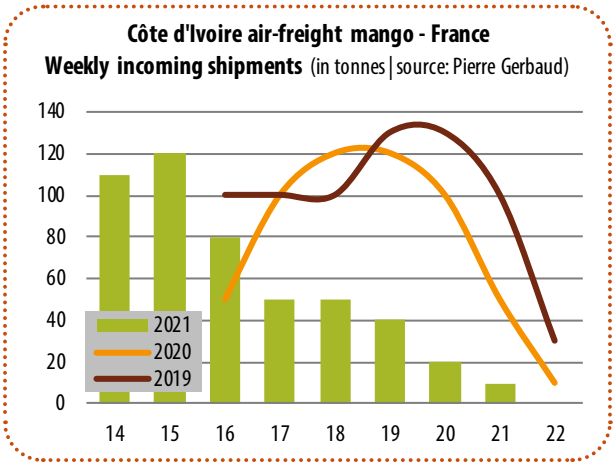
Côte d'Ivoire

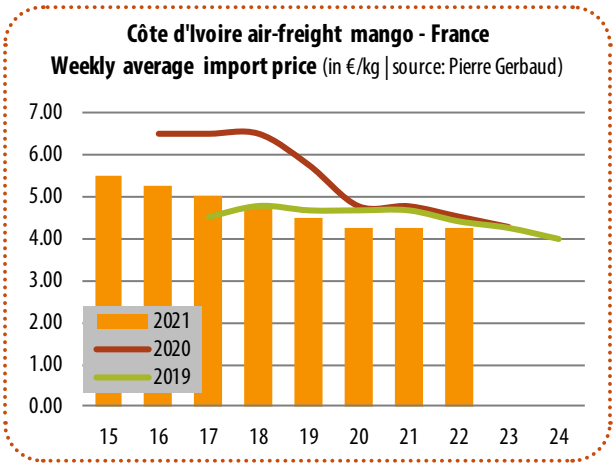
Struggling to hold up

Despite all the logistical difficulties due to the pandemic, the 2020 campaign had visibly brought some good economic results. True, export volumes were smaller (25 000 to 27 000 t), but the merchandise fluidity remained satisfactory. The Ivorian mango rate gradually dipped, but more slowly than in previous years, and without reaching the usual basement level. In 2021, Côte d'Ivoire regained its export tempo, with 30 000 to 32 000 tonnes. While the quantities were back to around 30 000 tonnes, the campaign went a completely different way, and much less positively.

© Catherine Sanchez







A phoney air-freight campaign

The Ivorian air-freight campaign had a highly peculiar year. The first batches were received in week 15, just after Easter, a period generally favourable for selling mangos. Once more, Ivorian production ruined this arrangement. The first volumes were placed at an average of around €5.00/kg. The predominance of small sizes and the only-just stage of maturity did nothing to aid sales, especially since Peru was still offering fruit of satisfactory quality. After two weeks of the campaign, volumes were already starting to shrink. In week 19, the rains affecting the harvest zones drove exporters to be cautious, and some stopped their shipments, while the overall market supply remained moderate, and demand stable. Ivorian mangos continued to trade until week 22, with rates on a downward footing between €4.00 and €4.50/kg. Moreover, the Mexican campaign started in week 20, pushing many purchasers to switch directly from Peru to Mexico. This phenomenon, already perceived in 2020, seems to be confirmed and intensifying. Hence the Ivorian niche could be severely shaken by these two Latin American origins, attempting to extend their campaign. Peru is prolonging its shipments increasingly late in the season every year, albeit with limited volumes. Meanwhile Mexico is favouring early starts to the campaign. Hence the Ivorian Côte d'Ivoire is caught between origins whose air-freight campaigns are extending over increasingly long periods, and tending to meet in May. In addition, the Ivorian campaign has been weakened by recurrent parasite problems, especially fruit fly infestation.

A difficult sea-freight campaign

In spite of an early start in 2021, the sea-freight campaign underwent an extremely competitive context, unfavourable for maintaining good sales conditions. The first shipments reached Europe in week 16, nearly two weeks ahead of the 2020 campaign. The extension of the campaign might seem a positive factor for the mango trade. Yet it was anything but, for a combination of unfavourable circumstances. The rapid and big rise in Ivorian exports was detrimental to sales. They swelled the incoming shipments from other origins, resulting in abundant volumes while demand was weakening, switching back to the first seasonal fruits. The remaining Peruvian volumes, of highly variable and fragile quality, weighed down on the sales conditions. Meanwhile Brazil was increasing its shipments, further stepping up the quantities on the market. This resulted in a rapid deterioration of Ivorian mango prices, which lost €1.00/box per week, to reach their lowest level at the start of the second half of May. They settled at below €4.00/box, and remained stable for two more weeks, before starting to rally as the quantities received fell. With the disappearance of Peruvian mangos and reduced imports from Brazil, Ivorian mango prices returned to their starting point, though for marginal quantities.

The concentration of exports in May (nearly 70 % of total shipments) caused market saturation, especially since Côte d'Ivoire is not the only origin occupying this niche. The imbalance in terms of sizing at the start of the campaign also represented a brake on sales. Mainly small-sized, the first mangos shipped could not satisfy a wide range of purchasers. This disadvantage quickly disappeared with the following shipments offering a wider range of sizes. The campaign was also impeded by rainfall on the production zones, potentially weakening fruit quality and increasing parasite risks. The lack of qualitative homogeneity of Ivorian fruit in terms of maturity stage was frequently highlighted, making sales to the supermarket sector more difficult. The Ivorian authorities finally announced an early end to the campaign (28 May) to limit the risks of increased interceptions. The damage had already been done, since the number of interceptions due to fruit fly larvae took an upturn in 2021.

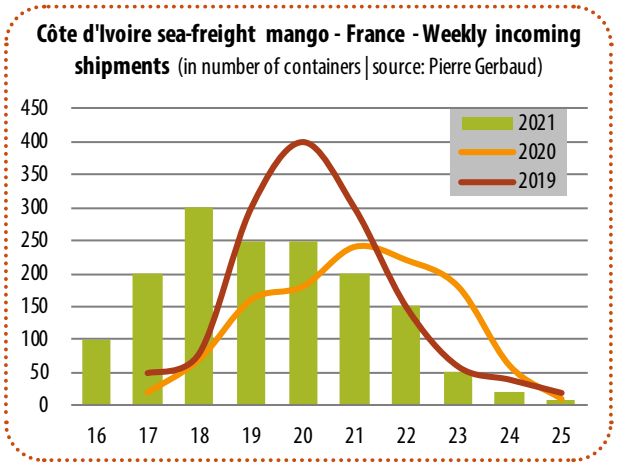
Whereas in 2019 interceptions had decreased considerably, the 2021 campaign exhibited a return to a high number. Use of management products and stricter fruit selection had apparently helped reduce interceptions in 2019. In 2020, the fall in volumes and use of pesticides had also kept the number of interceptions at a low level.

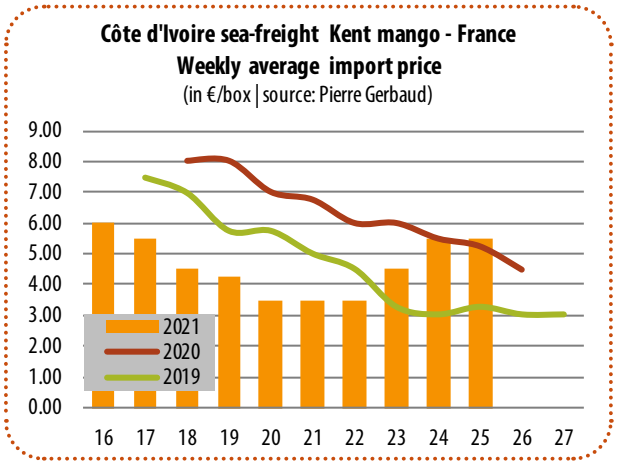
Côte d'Ivoire mango – Number of interceptions due to the presence of fruit flies on arrival in Europe

2018	2019	2020	2021
16	9	2	**23**

For this specific campaign, characterised by the restrictive measures associated with Covid-19, we can doubtless point to a smaller number of inspections. The return to high figures is highly concerning for the Ivorian industry. There are numerous projects and studies providing avenues for management, but these take time to set up, due to lack of resources and cohesion.

Côte d'Ivoire remains an essential supplier to the European market, but its position in the supply calendar is being disrupted by its own failings and by assaults from other origins seeking in parallel to expand their scope.





© Régis Domergue

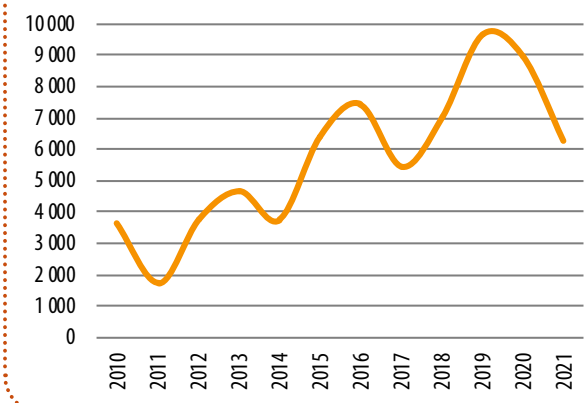

© Catherine Sanchez

Mali

Another downturn

Mali registered another fall in its mango exports in 2021. From 9 700 tonnes in 2019, they dropped to 8 900 tonnes in 2020, before falling again in 2021 to 6 300 tonnes. This situation can partly be explained by production problems, but above all logistical and commercial difficulties. This result comes in a context of a more general sawtooth pattern, featuring upward phases for three years followed by a one-year downturn, reminiscent of the alternate bearing phenomenon of the mango. True, Mali's production potential is far greater than its exports, but has a perceptible fluctuation from year to year in terms of trade, whether fresh or processed. In addition, production is evaluated not only in terms of volumes, but also fruit varieties and quality.

Malian mango - European Union - Imports
(in tonnes | source: Pierre Gerbaud)



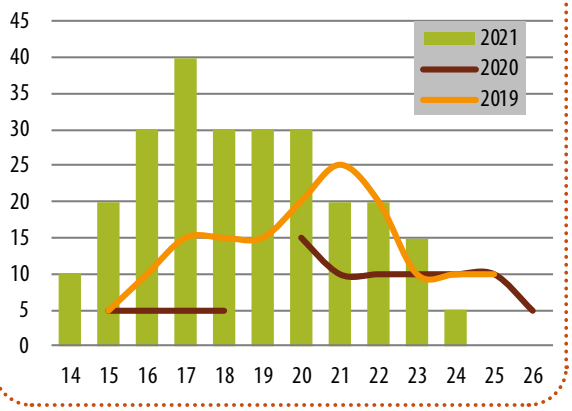
The valuation of Malian mangos does not solely concern the European market. Substantial volumes were placed on the national market, and in the sub-region, making it possible to offset, at least partially, the downturn in intercontinental shipments. Burkina Faso, Ghana, Senegal and Mauritania procured from Mali to top up shipments, or to supply their domestic markets alongside their own production. As for Burkina Faso, Mali also shipped mangos to the Moroccan market, which has big demand for the product, and becoming an increasingly sought-after outlet among the West African mango producer countries.

The 2021 campaign extended from early April to late June. Air-freight exports remained small because of the limited air-freight capacities and high prices. The first shipments comprised the varieties Amélie and Valencia. Kent followed ten or so days later. The small quantities of Malian mangos found themselves on a European market heavily supplied by the end of the Peruvian campaign, the Ivorian campaign and later the Mexican campaign in May. The combined tonnages worked against them, preventing them from really finding a commercial niche. Customers paid little heed to Valencia, in the face of the extended Peruvian Kent campaign. Amélie coped a little better, with fairly stable rates until early May. This variety, under-represented in terms of volumes, still appeals to a specific connoisseur customer base. Kent, selling at around €4.00/kg in May, saw its rates drop in June given the domination of Mexican mangos, in full progression. The prices charged of between €3.00 and €3.50/kg provided little profit, at quantities which had furthermore become marginal.

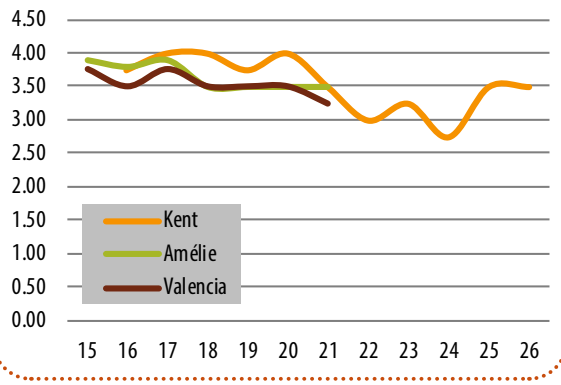
Sea-freight merchandise was mainly aimed at the North European markets at the start of the campaign. On the French market, they were mostly present in the second half of June, as Ivorian fruit trading was winding down. Overall, Mali mango prices were close to those obtained by Côte d'Ivoire fruit. They coped better in June as the Ivorian campaign waned (around €5.00/box), with Malian fruit presenting better conservation properties.

This year Mali struggled to find its trading window in the highly competitive context of the European market. Its landlocked location caused additional constraints in terms of forwarding times and freight cost. Like the neighbouring countries, Malian production was also subjected to parasite pressures that were crippling for exports. Interceptions due to fruit fly larvae reached 9 in 2021, as opposed to 1 in 2020 (highly particular campaign due to the Covid lockdown conditions). Although down from previous years (14 in 2018 and 16 in 2019), this resurgence in interceptions remains a serious threat to the Malian industry, and a factor damaging the economic results of the campaign.

Malian air-freight mango - Weekly incoming shipments on the French market (in tonnes | source: Pierre Gerbaud)



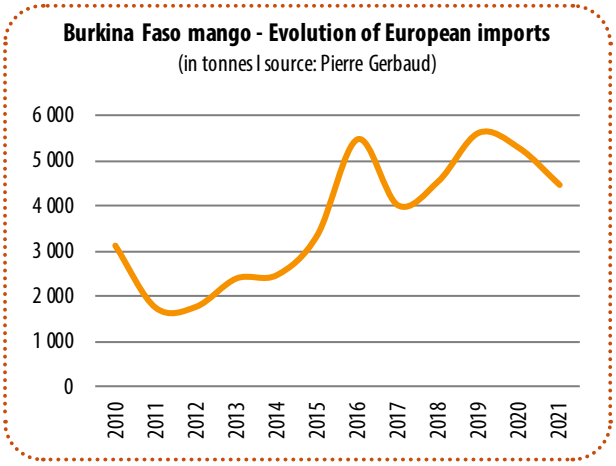
Malian air-freight mango - Weekly average import price on the French market in 2021 (in €/kg | source: Pierre Gerbaud)




© Denis Lœillet

Burkina Faso

A disappointing campaign



While the last two campaigns exhibited relative stability in Burkina Faso's export volumes to the European Union, the 2021 campaign marked a more considerable downturn. True, the 2020 season registered a fall of approximately 350 tonnes from the previous year, but in a pandemic context characterised by lockdown in a great many European States. This situation was faced by all the West African exporter countries, and could be regarded as exceptional and transient. The results of the 2021 campaign were even worse in terms of European import statistics. The shortfall in 2021 was more than 500 tonnes, with European imports going from 5 000 to 4 470 tonnes. The Burkinian inter-professional association (APEMAB) confirmed this downturn, with similar data to European Customs figures. According to the organisation, the total fresh mango trade out of Burkina Faso in 2021 amounted to 80 500 tonnes, divided as follows. The majority went to the processing sector (72 300 t), followed by practically equal shares (at around 4 000 t) for mangos shipped to the international market, mainly the European one, and to sub-region markets (Ghana, Niger, Côte d'Ivoire). We should add some shipments to Morocco. As regards the mode of transport used to the European and North African markets, air-freight remained fairly stable at around 300 tonnes. Sea-freight shipments were logically bigger, with more than 3 200 tonnes. Finally, road-freight shipments were around 500 tonnes.

The quantities aimed at the processing industry in particular provided a supply to the dried mango sector, with a figure of 1 985 tonnes in 2021, down from the 2020 figure of 2 390 tonnes. For the dried mango in 2021, 55 tonnes was exported by air-freight, 140 tonnes by road-freight and 1 790 tonnes by sea-freight. Air and sea-freight shipments were aimed at the European markets, but also Japan and the USA, while the road-freight shipments were aimed at the domestic and sub-regional markets. As a reminder, in terms of dried mangos Burkina Faso remains the number one African supplier marketing under the organic label.

Fresh mangos were shipped in small proportions by air-freight, mainly to the European market. The establishment of an air-freight service out of Bobo Dioulasso airport, specifically for receiving jumbo jets, favoured the exports of fruit directly from this high-production region. This opportunity avoided the need to route the merchandise via Ouagadougou, 350 km away. Unfortunately, it was not fully harnessed, since just six flights were operated from this airport, for a volume of 267 tonnes. Furthermore, while Bobo Dioulasso airport represents an asset for the region's exporters, it suffers from an absence of infrastructures suitable for handling fresh fruits.

The Burkinian air-freight campaign began in an unfavourable period, with strong competition from Peru, although at the end of its campaign, still very much present on the European market. Exports of more or less familiar and popular varieties among European consumers, in limited quantities and multiple sizes, represented more of a constraint than an asset for importers. At the start of the campaign, Valencia did not spark any interest from purchasers, as in previous years when this coloured launched the campaign for West African origins before the arrival of Kent. Burkinian fruit prices had similar levels and durations to their Malian counterparts, available over the same period. Some batches actually sold at lower prices for quality reasons.

Sea-freight shipments via the port of Abidjan were smaller than in previous years, due to the country's landlocked location, logistical difficulties and unfavourable market conditions in Europe, with lively competition in place between the West African origins. Burkinian mango rates aligned with Ivorian rates, or even below.

Despite efforts at structuring the Burkinian mango industry, it has to be observed that the origin is struggling to withstand the competitiveness of the other origins present on the European market at the same time. The increase in fruit purchases prices, as well as in freight prices, represent increasingly heavy constraints on the industry. Nor did the interception of eight batches due to the presence of fruit fly larvae do anything to favour the origin's brand image. There is management against this pest, but it seems still insufficient in terms of the parasite pressure to which the Burkinian cultivation area is being subjected. Diversification of market segments seems to be a healthy option for this origin, as attested by the progression of the proportion aimed at the processing industry, in particular drying. This sector captures a large part of production, earning decent value and escaping the competitive conditions of the fresh mango market.

Dominican Republic

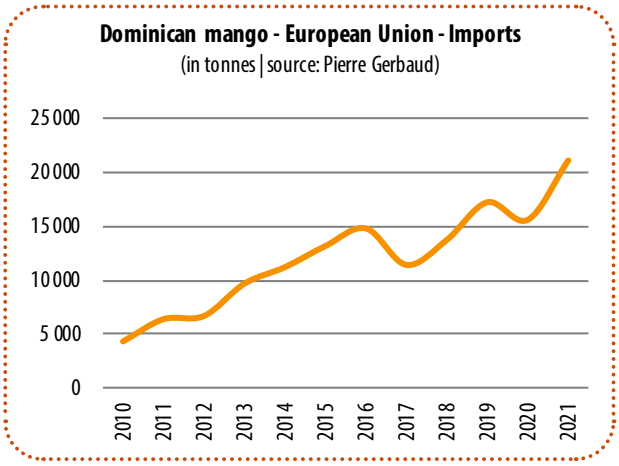
An opposite campaign to the previous one

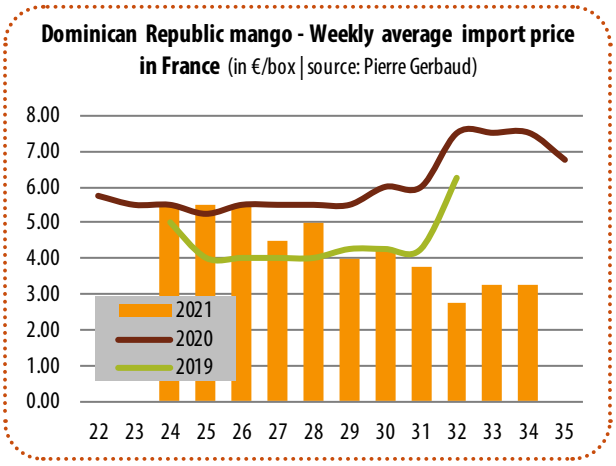
As profitable as 2020 was for Dominican mango exports, the 2021 campaign was equally negative. However it all began on the same footing, albeit with a slower start given the high pressure from the West African and Brazilian origins. The first shipments were received in Northern Europe, and a fortnight later on the more southern markets such as France. Volumes shipped in 2021 saw a distinct rise, with nearly 21 000 t, marking a new record in relation to the average from recent years (11 000 to 15 000 t), with the exception of the 2019 campaign at more than 17 000 t.

The Dominican campaign is situated at a transitional period in the supply to the European market, from the end of the West African origins' campaign to the summer period, during which there is an expansion in the number of supplier countries offering more or less the same quantities. Conversely, the varieties available change according to the origins. Kent dwindles pending the rise of Senegal, which ensures varietal continuity until August. From late July, Israel takes over, shipping several varieties of its own, with a limited Kent supply. The Dominican Republic exports Keitt to Europe, like Puerto Rico present at the same time. The mixture of varieties and qualities in June/July often complicates the market fluidity, especially as seasonal products are progressing.

The 2021 Dominican campaign encountered this particular context. Until late June, prices held up at between €5.00 and €6.00/box. In early July, the scale of the incoming shipments weighed heavily on the market, due to a considerable downturn in demand at this summer holiday period. The previous year, demand remained more dynamic as the pandemic restrictions were lifted. The supply was also better suited to the needs of the market. The Senegalese campaign was not as large. In 2021, the supply surplus (Senegal, Puerto Rico, Brazil), as well as weaker demand, drove prices into a marked and lasting downward trajectory. From mid-July to late August, they decreased constantly, reaching particularly low levels (€3.00/box). The surge by Israeli exports was another brake on sales of Dominican fruit, the quality of which proved increasingly fragile as time went on. The market configuration was completely the reverse of 2020, when Dominican mango prices soared at the end of the campaign, with a distinctly smaller Israeli supply and Senegal practically absent from the market in August.

The reversal in the Dominican Republic's trend between the last two campaigns shows the fragility of the market balance at this time of year, when there are a host of origins, varieties and fruit qualities. The desire of the various supplier countries to increase their volumes came up against smaller demand, generating a fall in prices.





Senegal

A poor campaign

This origin, supplying the European market during the summer period, has had a string of difficult campaigns. In 2020, Senegal saw its leanest season for five years, with a marked downturn in its exports (10 000 t). In addition, the campaign proceeded in two periods corresponding to separate blooms. The absence of Senegalese produce for three weeks in August had pushed customers toward other supply sources. Sales of Senegalese shipments on their resumption in September owed their good health solely to the absence of Kent at this time of year, and the rapid withdrawal of Israel, in a low production year. In 2021, the context was completely reversed. First of all, Senegal shipped distinctly bigger quantities, beating all its records, going from 10 000 tonnes to more than 18 000 tonnes over a three-month period. These shipments were particularly concentrated on July, accounting for 64 % of the country's total exports. Yet in July the market conditions were lacklustre, with a cumulative supply exceeding demand, which was instead focused on seasonal products available in large quantities, after a late start because of the spring frosts.

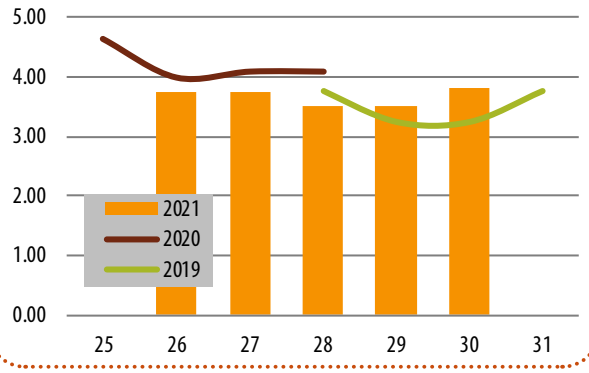
A lean air-freight campaign

The first air-freight shipments traded from the last week of June, i.e. one week later than the previous year. The campaign extended until late July, an additional fortnight compared to 2020. Encountering stiff competition from Mexican fruit available at the same time, Senegalese mangos sold at around €3.50/kg on average, an unprofitable price given the high air-freight prices. Rates for good quality mangos recovered slightly in the second half of July, due to the leaner Mexican shipments and their mediocre quality. With an average of €4.00/kg, prices remained insufficient to ensure profitable shipments. In late July, air-freight shipments were wound down, with increasingly fragile quality.

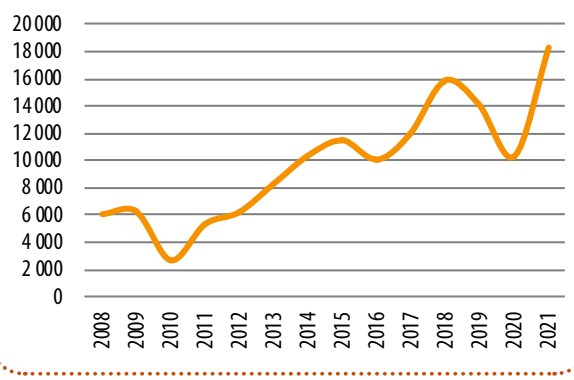
Sea-freight campaign on an irreparable decline

The difficulties of the air-freight campaign were followed by a catastrophic trajectory for the sea-freight campaign, which was distinctly longer. Sea container shipments began in the first half of June. Arriving on a market under-supplied with Kent, the first shipments sold at high prices of around €7.00/box. They quickly took a downturn until the first half of July when the rate lost more than €1.00/box. Yet it was also at this time, when exports reached their highest level, that the Israeli campaign started. On a market affected by the summer holidays and competition from seasonal fruits, poor mango sales led to the formation of stocks. It was also at this crucial point of the campaign that quality problems appeared, mainly the development of fungal attacks. From mid-July to late August, rates literally collapsed to extremely low levels of €2.00 to €3.00/box, more akin to an emergency rate than normal trading. Sorting of merchandise, placing batches on commission, all the sales options were brought into play to minimise losses. The quality problems on Senegalese mangos remain a recurrent constraint for this industry. Every year, the end of the campaign, or even from the halfway point, is disrupted by these problems. Without an effective and viable solution, the risk of poor economic results will continue to shadow this industry.

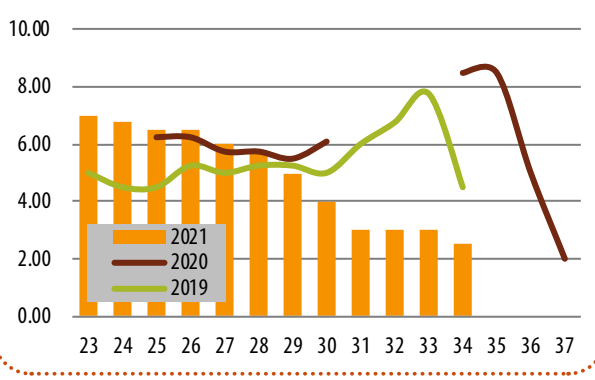
Senegal air-freight mango - Weekly average import price in France (in €/kg | source: Pierre Gerbaud)



Mango from Senegal - Evolution of European imports (in tonnes | source: Eurostat)



Senegal sea-freight mango - Weekly average import price in France (in €/box | source: Pierre Gerbaud)



Mexico

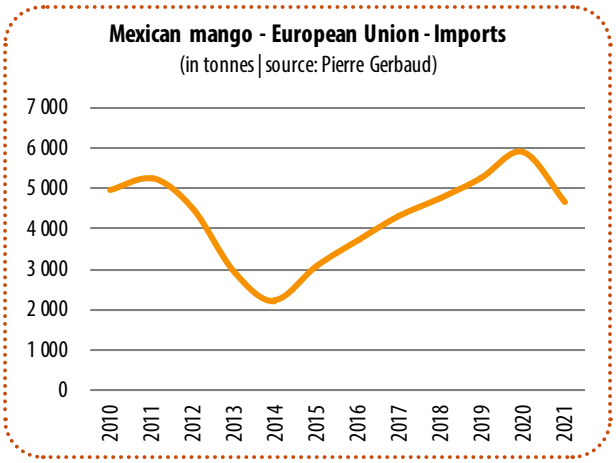
Origin at a standstill

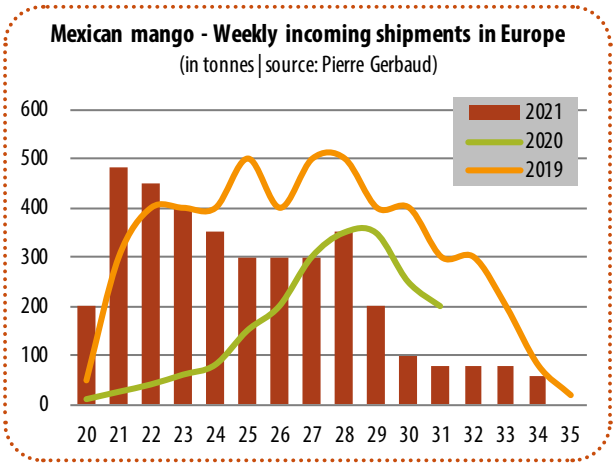

© Denis Loeillet

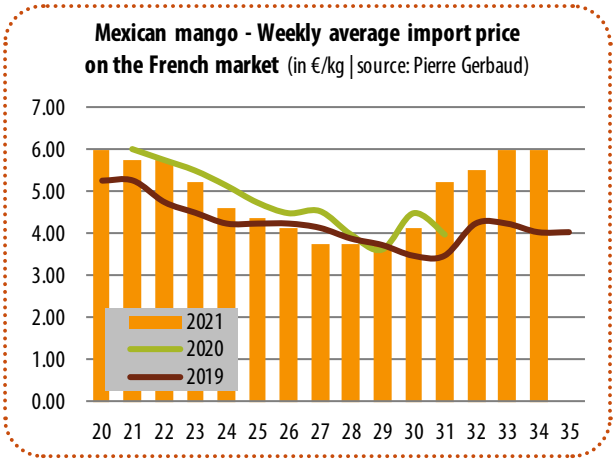
Since 2014, Mexican exports have made steady progress, reaching nearly 6 000 tonnes in 2020. With an increasingly early campaign, this origin takes over from Peru from May, with shipments extending until late August. June and July remain the main mango export periods to the European markets. Mexico holds the world number two position in the ranking of mango exporter countries, with more than 400 000 tonnes. The European market is only a commercial diversification for this origin, with primarily air-freight shipments. The vast majority of batches are aimed at the North American market, with proximity and trading agreements logically favouring merchandise flows.

In 2021, Mexico shipped smaller volumes to the European market. This downturn from the previous year is estimated at 1 000 to 1 500 tonnes. Several factors can explain this downturn. In the first place, production was apparently less favourable. The lack of rainfall during the fruit growth period delayed the start of the campaign, and led to production of small fruit. Conversely, the abundance of rains during the harvesting period delayed the picking operations and weakened the quality. On top of these factors were the logistical problems. For reasons relating to the pandemic, air services shrank, with a decrease in the number of passenger flights, often used by exporters and enabling supply flexibility in response to the sales conditions on the recipient markets. Cargo flights were also limited or insufficient in terms of capacity. The decrease in the freight supply also led to an increase in freight and transit prices. Hence the freight cost from Mexico rose by $1.00/kg to Spain, and by $1.20 to $1.30/kg to France. Under these conditions, the competitiveness of Mexican fruit dwindled. This situation proved all the more complex since European markets showed little interest in the product. The period corresponded to a resurgence in seasonal fruit consumption. The delayed start to the European-grown fruit campaigns, due to late frosts, had deferred the traditional consumer rush for these products.

The Mexican campaign started in mid-May, earlier than the previous year, when the West African supply was still at its peak and the Peruvian supply falling steeply but still present. The first batches sold on the same price footing as Peruvian fruit (€6.00/kg) but quickly, from early June, their rates dipped to €5.00/kg, and then down to €4.00/kg or less in July. The fall in prices did not stop until late July, despite the reduction in incoming volumes. It was not until August that prices recovered, given the smaller Kent supply. They regained their initial level, though with quantities that had become marginal. Production difficulties and their impacts on fruit quality, which was rapidly deteriorating, also made themselves felt on the European markets. The haphazard shelf life of the batches received and the frequent lack of fruit coloration rounded off a disappointing campaign.



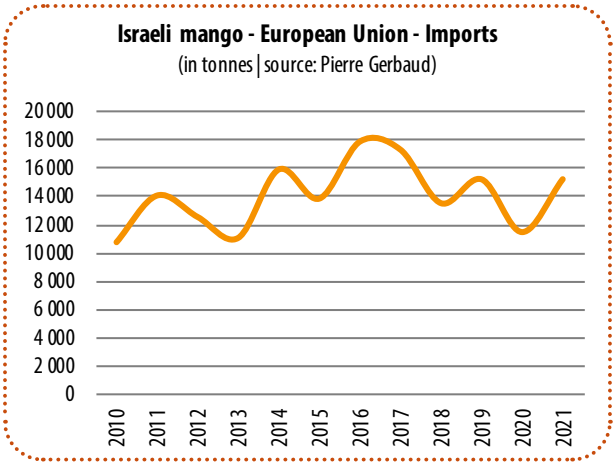


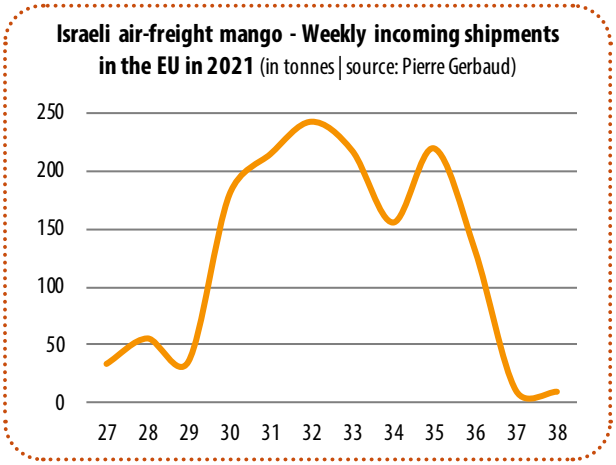


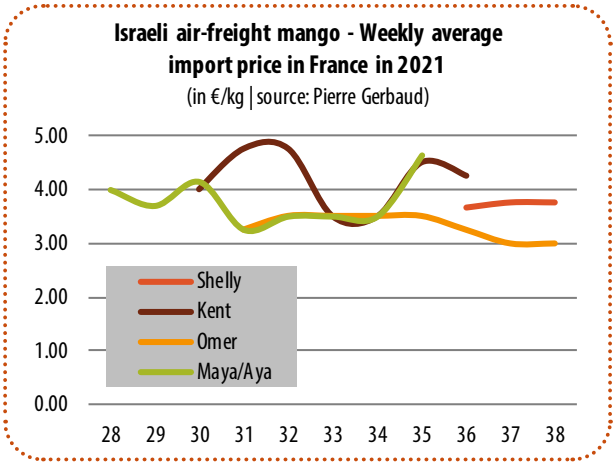
Israel

Resurgent exports

After a downturn in the 2020 campaign, in 2021 Israel regained its 2019 level, at around 15 000 tonnes, to the European Union and United Kingdom. On top of this result we should add the 2 200 tonnes shipped to Russia. These 15 000 tonnes correspond to this origin's average exports over the past decade. Israel holds a particular position in the European supply, and can be regarded as the most summer-based origin. Its export calendar extends from July to September. The other origins found at the same period start their shipments earlier, such as the Dominican Republic and Senegal (May/June), or later such as Spain (September). This concentration over the summer months generally corresponds to a period of lower mango consumption, given the holidays. Nonetheless, Israeli produce sells, its wide range of varieties, with different timings, enabling its campaign to extend over approximately three months.

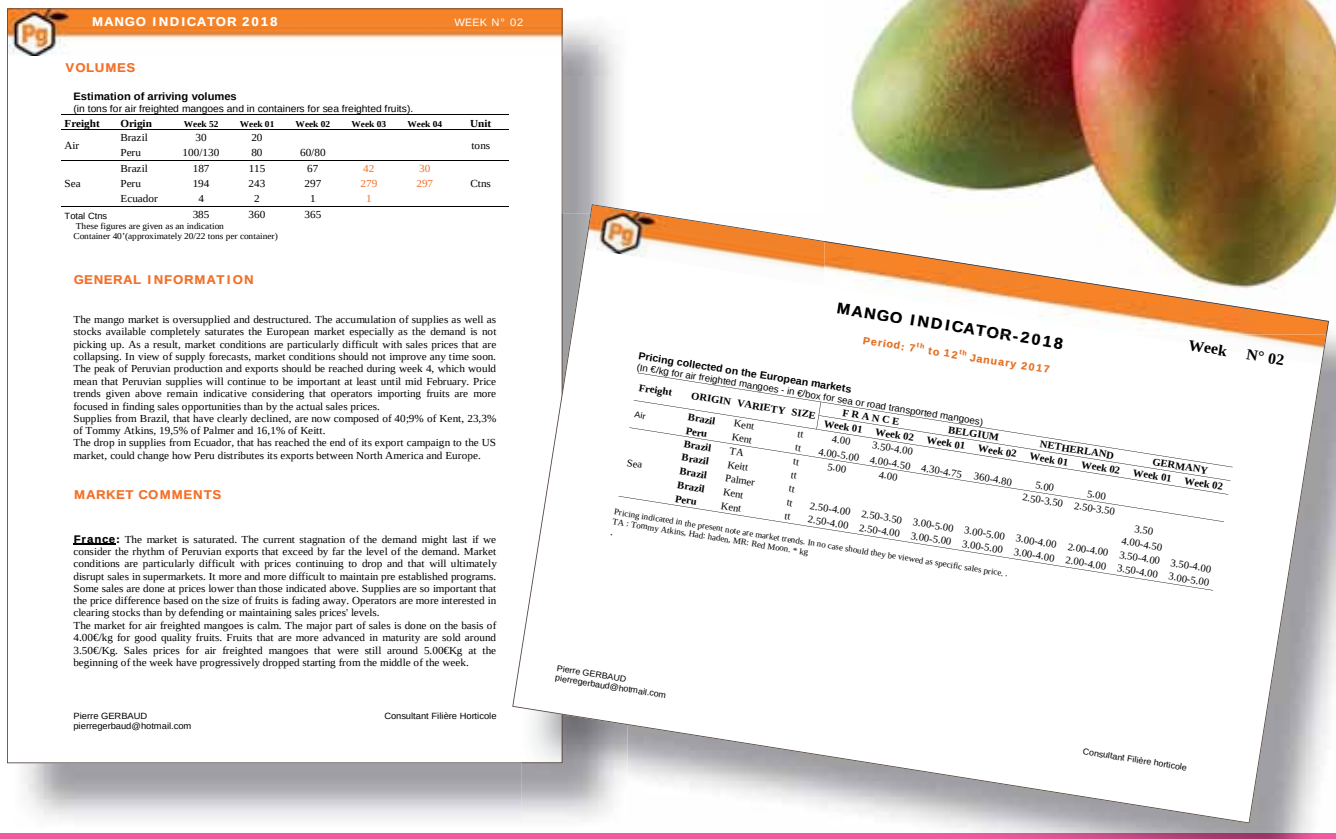






An earlier air-freight campaign

The 2021 season started two weeks earlier than the previous year. The first shipments were made in early July with the Aya variety. From the third week of the campaign, this was joined by the Maya variety. Shipments of these two varieties continued until early September. These mangos sold on a footing of €4.50/kg in July, falling in August to around €3.50/kg, and with a marked recovery for the final batches received in the first week of September. The Kent export period extended from late July to mid-September. In the first half of August, Kent saw an increase in rates due to the end of the Senegalese campaign, and the heterogeneity of Mexican fruit. Their prices fell in the second half of the month, before rallying again in early September. Israel was at the time the only origin offering Kent, and in addition, in small quantities. From early August to mid-September, the Israeli supply was topped up by Omer/Kasturi. This variety had the longest-lasting presence of the market, equivalent to the Aya/Maya pairing. This fruit sold steadily at around €3.50/kg on average, before falling in September to €3.00/kg. Finally, the Shelly variety was placed later, to secure the end of the campaign. It obtained intermediate prices between Kent and Omer/Kasturi, and generally enjoyed intense and attractive coloration, with a taste quality deemed superior to Omer/Kasturi. At the end of the campaign, we could also observe the presence of the David variety. The main recipient markets for air-freight Israeli mangos are, in decreasing order: France, the Netherlands, Germany and Italy.



MANGO INDICATOR 2018 — WEEK N° 02

VOLUMES

Estimation of arriving volumes
(in tons for air freighted mangoes and in containers for sea freighted fruits).

Freight	Origin	Week 52	Week 01	Week 02	Week 03	Week 04	Unit
Air	Brazil	30	20				tons
	Peru	100/130	80	60/80			
Sea	Brazil	187	115	67	42	30	Ctns
	Peru	194	243	297	279	297	
	Ecuador	4	2	1	1		
Total Ctns		385	360	365			

These figures are given as an indication
Container 40'(approximately 20/22 tons per container)

GENERAL INFORMATION

The mango market is oversupplied and destructured. The accumulation of supplies as well as stocks available completely saturates the European market especially as the demand is not picking up. As a result, market conditions are particularly difficult with sales prices that are collapsing. In view of supply forecasts, market conditions should not improve any time soon. The peak of Peruvian production and exports should be reached during week 4, which would mean that Peruvian supplies will continue to be important at least until mid February. Price trends given above remain indicative considering that operators importing fruits are more focused in finding sales opportunities than by the actual sales prices.
Supplies from Brazil, that have clearly declined, are now composed of 40;9% of Kent, 23,3% of Tommy Atkins, 19,5% of Palmer and 16,1% of Keitt.
The drop in supplies from Ecuador, that has reached the end of its export campaign to the US market, could change how Peru distributes its exports between North America and Europe.

MARKET COMMENTS

France: The market is saturated. The current stagnation of the demand might last if we consider the rhythm of Peruvian exports that exceed by far the level of the demand. Market conditions are particularly difficult with prices continuing to drop and that will ultimately disrupt sales in supermarkets. It more and more difficult to maintain pre established programs. Some sales are done at prices lower than those indicated above. Supplies are so important that the price difference based on the size of fruits is fading away. Operators are more interested in clearing stocks than by defending or maintaining sales prices' levels.
The market for air freighted mangoes is calm. The major part of sales is done on the basis of 4.00€/kg for good quality fruits. Fruits that are more advanced in maturity are sold around 3.50€/Kg. Sales prices for air freighted mangoes that were still around 5.00€Kg at the beginning of the week have progressively dropped starting from the middle of the week.

Pierre GERBAUD
pierregerbaud@hotmail.com
Consultant Filière Horticole

MANGO INDICATOR-2018
Period: 7th to 12th January 2017
Week N° 02

Pricing collected on the European markets
(in €/kg for air freighted mangoes - in €/box for sea or road transported mangoes)

Freight	ORIGIN	VARIETY	SIZE	FRANCE Week 01	FRANCE Week 02	BELGIUM Week 01	BELGIUM Week 02	NETHERLAND Week 01	NETHERLAND Week 02	GERMANY Week 01	GERMANY Week 02
Air	Brazil	Kent	tt	4.00	3.50-4.00						
	Peru	Kent	tt	4.00-5.00	4.00-4.50	4.30-4.75	360-4.80	5.00	5.00		
Sea	Brazil	TA	tt	5.00	4.00			2.50-3.50	2.50-3.50	3.50	
	Brazil	Keitt	tt							4.00-4.50	
	Brazil	Palmer	tt							3.50-4.00	3.50-4.00
	Brazil	Kent	tt	2.50-4.00	2.50-3.50	3.00-5.00	3.00-5.00	3.00-4.00	2.00-4.00	3.50-4.00	3.00-5.00
	Peru	Kent	tt	2.50-4.00	2.50-4.00	3.00-5.00	3.00-5.00	3.00-4.00	2.00-4.00		

Pricing indicated in the present note are market trends. In no case should they be viewed as specific sales price. .
TA : Tommy Atkins, Had: haden, MR: Red Moon. * kg
.

Pierre GERBAUD
pierregerbaud@hotmail.com
Consultant Filière horticole

Weekly mango market report

Comprehensive and relevant European market monitoring

- Detailed review of the main European markets
- Detailed import prices for each market
- Supply estimate

Annual subscription price: €1 000 pre-VAT

(approx. 48 editions per year)

E-mailed out on Fridays

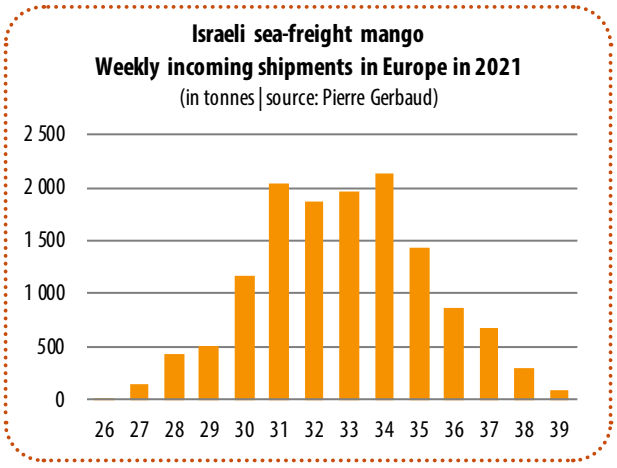
Contact: info@fruitrop.com

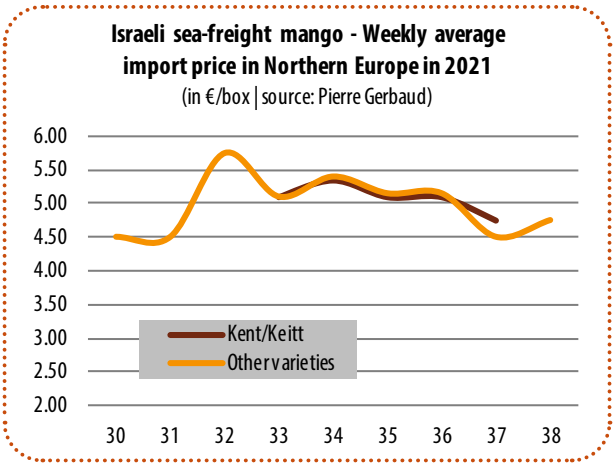
FRuiTROP weekly

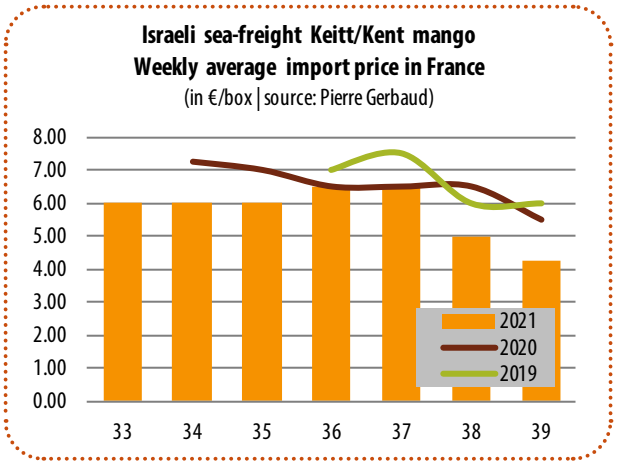

© Catherine Sanchez

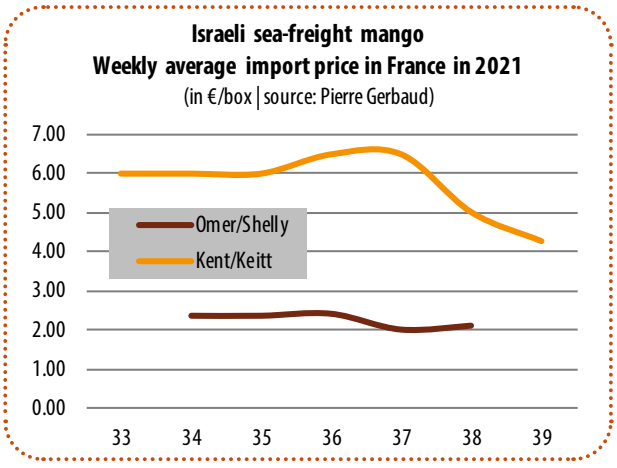
A fairly steady sea-freight campaign

Israeli sea-freight exports started in late July, and lasted until late September. The campaign peak came throughout the month of August, as the other origins such as Senegal and the Dominican Republic were fading and disappearing. So Israel dominated the European supply in August, and maintained a strong presence in the first half of September as Spain was starting up. The profile of the Israeli campaign was different to 2020, when the first batches were placed on the market at particularly high price levels, of around €7.00 to €8.00/box. Prices then gradually waned to €4.00-€5.00/box at the end of the campaign. In 2021, sales were much steadier, at around €5.00/box, with a dip to €4.50/box at the end of the campaign. In 2020, the weight of the pandemic drove operators to maintain a cautious attitude, which explains in particular the reduction in volumes shipped, and consequently, the high prices at the start of the campaign. In 2021, the greater easing of pandemic restrictions encouraged professionals to contemplate a campaign more in line with the normal. The stability of rates, as well as the considerable increase in volumes placed (nearly 4 000 t) made this past season a positive one.

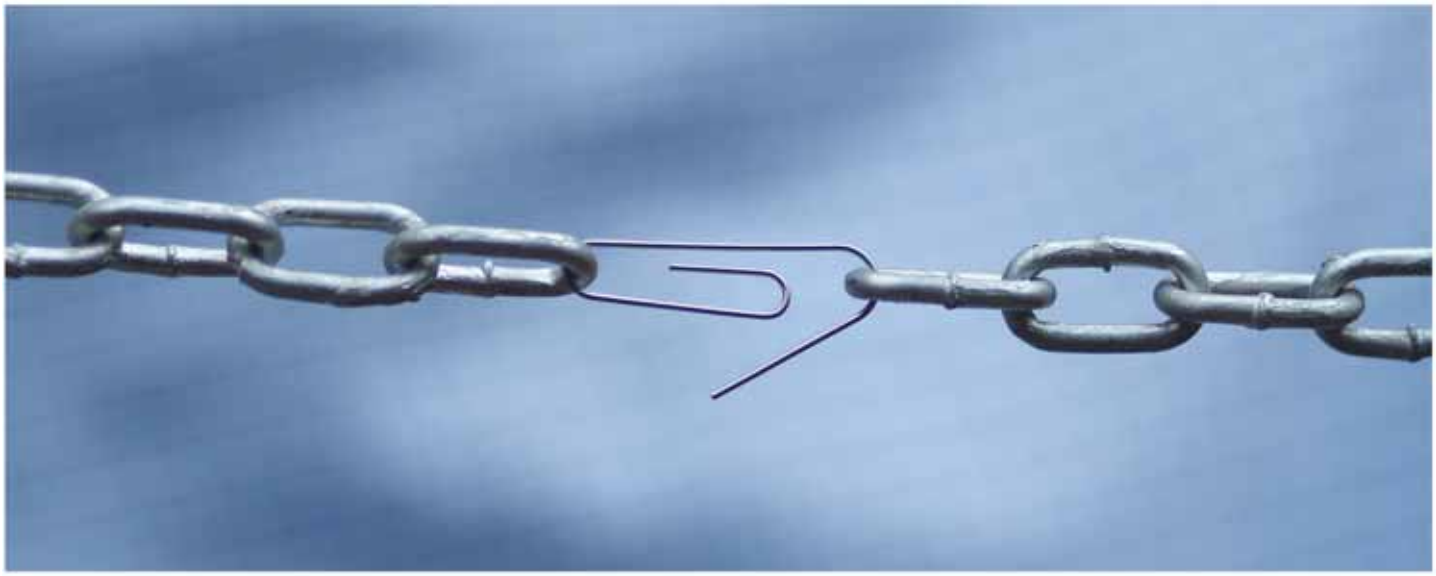








Information... your weak link?



Reefer Trends is an independent news and information provider, financed exclusively by revenue from subscriptions.

First published in 2003, it provides a number of services for users along the reefer logistics chain: the Reefer Trends weekly charter market brief is *the* benchmark publication for the specialist reefer business – it tracks the charter market for reefer vessels, as well as fruit and banana production and market trends that influence charter market movement.

The weekly publication has close to 200 paying subscriber companies from 34 countries worldwide. The list of subscribers includes all the major reefer shipping companies and reefer box operators, the major charterers, reefer brokers, banana multi-nationals, the major banana exporters in Ecuador, Costa Rica, Panama and Colombia, terminal operators in the US and Europe, the world's leading shipping banks and broking houses as well as trade associations, cargo interests and fruit importers on all continents. It is also circulated within the European Commission and the World Trade Organisation.

As well as the weekly Reefer Trends report it provides a separate online daily news service, covering developments in the global fruit, banana and logistics industries. The daily news is e-mailed direct to the desktops of several thousand subscribers worldwide.

Reefer Trends' consultancy clients include shipbuilding yards, banana majors, banks, brokers and equities analysts. Reefer Trends provides sector reports and forecasts for brokers and charterers. It has also acted as an expert witness in a chartering dispute.

For more information on subscriptions, please contact:
info@reefertrends.com or visit www.reefertrends.com

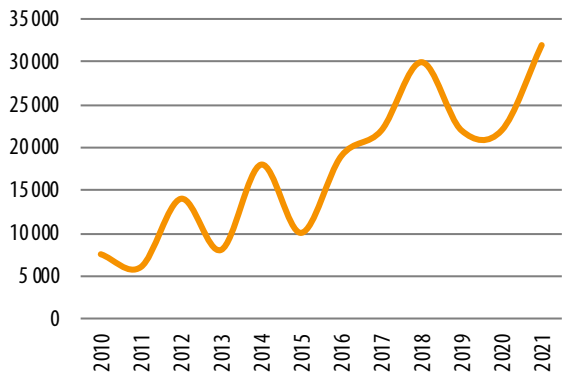
reefertrends

Spain

A new record!

Spain registered a new quantitative record in 2021, reaching for the second time the peak of 32 000 tonnes first scaled in 2018. Yet exporting substantial volumes often leads to a fall in rates. This is what happened this campaign, with lower rates than the previous year, though higher than those registered over much of the 2018 campaign, comparable in terms of volumes. The Spanish campaign began in the second half of August, with the Tommy Atkins variety, quickly followed by Osteen, which is the main variety offered by the origin. Prices held up at above €8.00/box until the second half of September, when shipments were still moderate. This point marked the campaign peak for Osteen, accompanied by a significant downturn in prices, which only strengthened at the end of the campaign in November. Osteen had a very big presence on the European market, albeit with slightly smaller production than in previous years. In late October/early November, Keitt took over from Osteen with bigger production. Prices held up along the same lines as the final sales of Osteen (€7.00-€8.00/box). These products were mainly aimed at the supermarket sector, especially in Northern Europe. Vast promotional actions supported the sales of Osteen and Keitt at the campaign peak, and helped obtain some fluidity in the quantities on the market. Nonetheless, the market conditions were particularly difficult given the magnitude of the supply from early August onward. The main origins supplying the European market at this time of year saw a higher production level than in previous years. Senegal, the Dominican Republic and Israel poured out steeply increasing quantities, while consumption was more naturally focused on seasonal products. Meanwhile, Brazil supplied large quantities of Keitt and Palmer, at lower prices, ramping up the competition on Spanish produce even further.

Mango - Spain - Evolution of exports
(estimates in tonnes | source: Pierre Gerbaud)



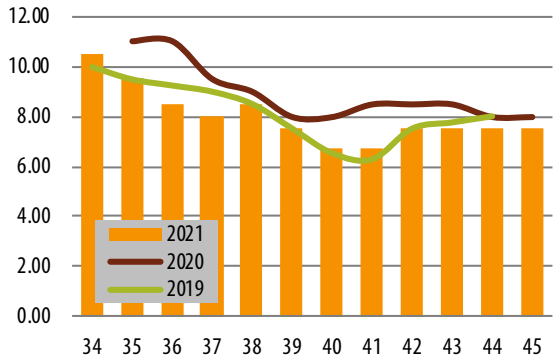
We are producers since 1979

OWN RECEPTION CENTERS IN: SPAIN AND PORTUGAL

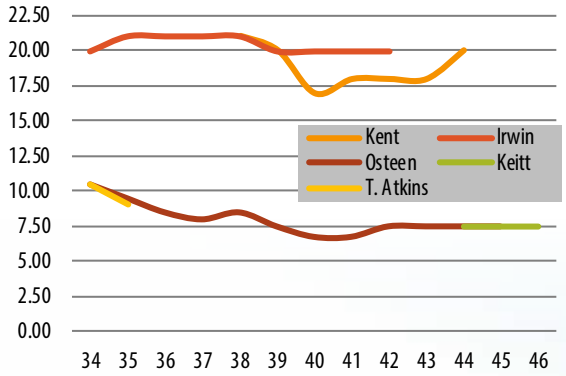
TROPS

trops.es

Spanish Osteen mango - Weekly average import price on the French market
(in €/box | source: Pierre Gerbaud)



Spanish mango - Weekly average import price on the French market in 2021 (in €/box | source: Pierre Gerbaud)



Spain also supplied Irwin for two-thirds of the campaign. This air-freight quality produce sold at high, near-constant prices, of around €5.00/kg. The distribution of Irwin, mainly on the traditional distribution circuits, was favoured by larger production. This coloured, aromatic mango represented an alternative to air-freight mangos from other origins. Finally, Spanish operators shipped Kent from late September, for just over one month. This air-freight quality fruit sold at a lower price level than Irwin. It faced direct competition from Brazil, whose Kent campaign had already started. As for Keitt, competition between the two origins on this market niche was lively.

With these particularly high figures, Spain hoisted itself up to third position among the European market supplier countries for 2021, on a par with Côte d'Ivoire. Yet the history of Spanish exports clearly shows that this is a temporary shift, which will probably not last. Spanish production zones remain on the periphery of the mango planting area. They are subject to weather conditions which according to the seasons can prove good or bad. The water resources in the production regions are limited, with often uneven distribution between the needs of the population and tourism on the one hand, and agriculture on the other.

However, Spain retains a major asset: the proximity between the production zones and consumption zones. New trends currently developing on the aspects of locality and the environment, although they represent only a limited proportion of consumption, bear watching in the future. Spain is in this respect well placed to meet this type of demand, and represents a driving force in this field.


© Eric Imbert

Weekly avocado market report

Comprehensive and relevant European market monitoring

- Detailed import prices for each source, variety and size
- Weekly market trends
- Forecasts
- Supply levels

Annual subscription price: €1 000 pre-VAT

(approx. 48 editions per year)

E-mailed out on Fridays

Contact: info@fruitrop.com

or www.fruitrop.com/en/ciradshop/subscribe

FRuiTROP weekly

Mango

European market month by month in 2021

Another complicated year

Pierre Gerbaud, consultant
pierregerbaud@hotmail.com


© Catherine Sanchez

A gloomy start to the year, marked by the health measures

The year started with the traditional and always tricky overlap period between the Brazilian and Peruvian supplies. On top of that this year were the effects of the second wave of Covid-19, which to a degree froze consumption: no "impulse" purchases generally favoured after the festive period via the promotions.

At the end of January, the high shipments tempo from Peru maintained a high overall supply level, despite disruptions due to the health measures in place in the field of maritime logistics (Covid screening tests for crews). Then the recovery made itself felt bit by bit. In February, the shipments delay created a relative under-supply, enabling a slowdown in rates. The European markets coped more or less well with the staccato shipments.

Too short a surge period over Easter

In March, the European market seemed to emerge from its slumber, while the combined supply from Peru and to a lesser extent Brazil weighed heavily on sales. Indeed it underwent a profile shift in the run-up to Easter, when the more urgent demand reinvigorated transactions. The faster demand meant more fluid merchandise flows, and helped raise the sale prices. Peruvian Kent were the first to take advantage of this market shift, though this trajectory also brought bigger Brazilian shipments in its wake, with Palmer and Tommy Atkins varieties. Demand over Easter seemed dynamic, in spite of the reinforced health measures in several European Union countries.


© Bettina Balmer

From slowdown to collapse

April was initially characterised by declining rates, and then by the traditional transition period between the Peruvian campaign and the West African origins campaign. At the end of the month, the market was completely wobbling. Rates, which had previously held up constantly, were breaking up. The influx of merchandise from Côte d'Ivoire (steeply rising) and Brazil, as well as the last Peruvian shipments (delayed) formed a big overall supply in a context where demand was more focused on seasonal fruits. In May, it was even possible to talk about genuine destructuring. The widening varietal and quality range of the merchandise on the market was disrupting the sales conditions.

The context also saw sudden and frequent meteorological changes, which did not contribute to consumption of tropical fruits, although the lack of activity affected the whole fruits and vegetables sector. In early June, the market was reaching the trough of the wave.

A particularly heavy summer season

From mid-June, the European mango market recovered slightly, given the considerable fall in the supply. The Ivorian campaign was winding down, Mali was shipping limited quantities, and Brazilian shipments were tending to dip slightly. In late June, the supply was primarily provided by Brazil, the Dominican Republic and Senegal. In July, the summer tempo was gradually establishing itself. The holiday period and atypical weather conditions in some European countries did nothing to favour mango consumption, and more generally consumption of tropical fruits. The multiple and disparate supply did not help set steady rates. Numerous quality problems on the fruit from several origins only aggravated the difficult sales conditions. In August, the supply remained substantial and diversified, while demand was at rock bottom. The market was heavy and the pressure on sales particularly high since fruit from some origins was too fragile to be triggered, and so were sold as it was, to prevent the development of fungal attacks. Fruit sold in this way is often rejected since it does not match customer expectations.

Tiny increase after the summer holidays

During the September transition period, we observed a fall in volumes available, with the liquidation of the last batches from Senegal and the Dominican Republic. Brazil continued its shipments at an unsteady tempo, especially because of the delays in incoming shipping. Israel was at the height of its campaign, and starting to gradually decrease its shipments. We could observe a general upward trend in rates, varying between the European markets and the varieties placed. But it would not last. From the end of the month, the market swelled, with the combined merchandise available from Israel alongside the increased shipments from Brazil and Spain.

At the same period, Brazilian exports to the North American markets were increasingly steeply, and becoming predominant over the quantities aimed at the European markets. Nonetheless, the situation proved more favourable on the air-freight market, with more moderate volumes.

Covid back in the autumn

In October, the restrictions relating to the Covid epidemic in certain East European countries, including Russia – had a distinct effect on merchandise flows from the unloading ports. In November, the new wave of the pandemic spreading rapidly in some European countries led the authorities to implement restrictions on population movements. On top of these were logistical disruptions caused by shipping delays, with some abandoning stopovers in order to shorten transport times to Europe. The resurgence of the restrictions was unfavourable for consumption, with the lack of confidence in the near future also causing a wait-and-see position in trade.

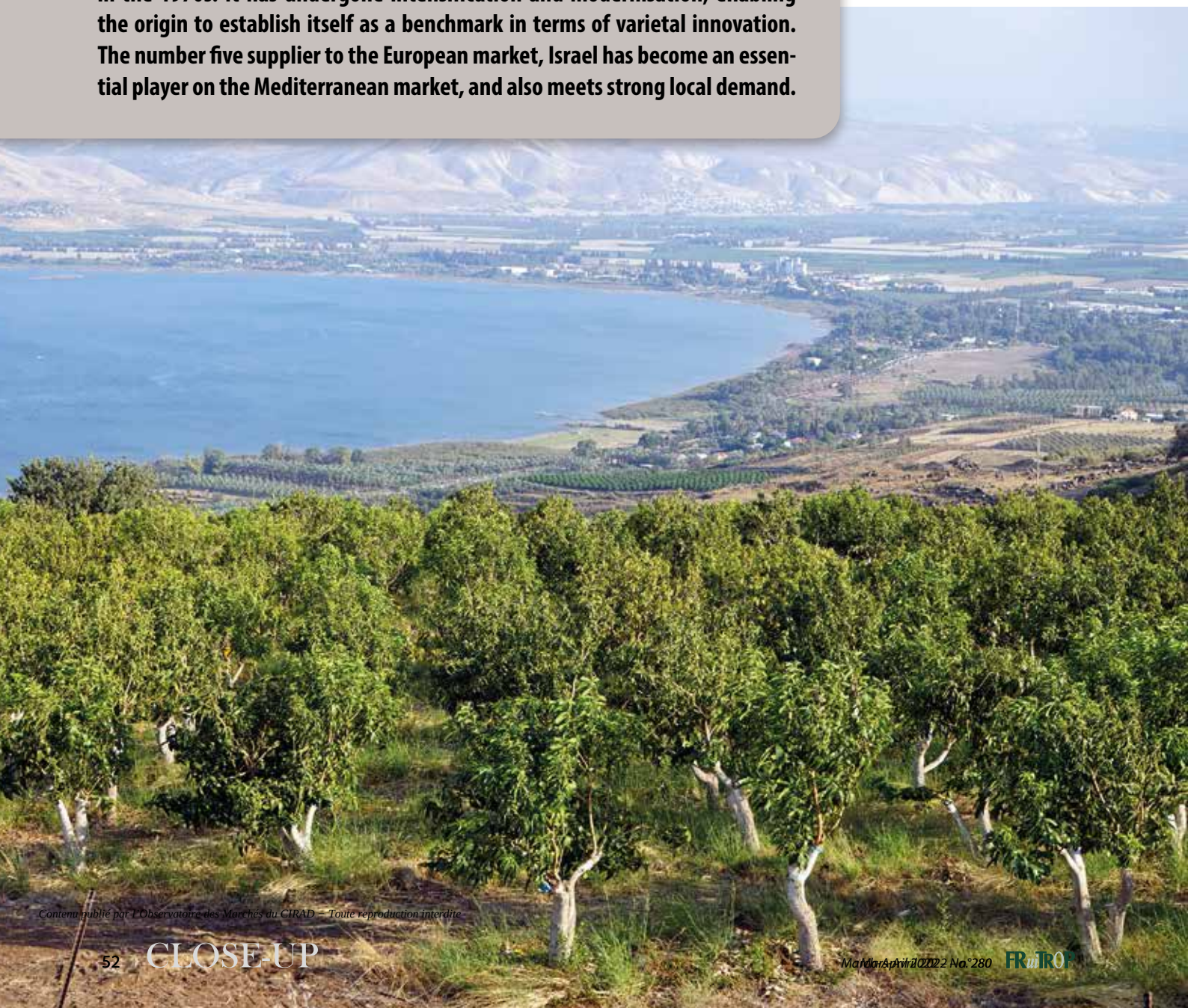
There were no miracles for the end-of-year festivities. While the run-up to the holidays stimulated demand a bit, the market remained heavy due to the large shipments from Brazil, although they were still subject to logistical delays. On top of the substantial Brazilian shipments there were shipments from Peru, which started its campaign early. The European mango market finished the year on a sluggish note. The large quantities available and lack of consumer interest during the end-of-year festivities destructured the market conditions ■

Producer country file

The mango in Israel

Anselme Cleron, *Cirad*
anselme.cleron@cirad.fr

Mango cultivation in Israel is relatively recent, starting on a commercial basis in the 1970s. It has undergone intensification and modernisation, enabling the origin to establish itself as a benchmark in terms of varietal innovation. The number five supplier to the European market, Israel has become an essential player on the Mediterranean market, and also meets strong local demand.






Galilee

Direct from the field





From growing to shipping, we bring you the best

36/40, rue de Perpignan – 94642 Rungis
Tel : +33 (0)1 46 87 28 59
ely@galil-export.com
www.galilee-export.com

Localisation

Approximately 90 % of the orchards are situated in the north-east of the country, around the Sea of Galilee. The northernmost orchards are situated on the Golan Plateau, descending down as far as Rosh Pinah. The production zones then extend into the Lake Kinnereth valley (Sea of Galilee) and into the Beit She'an Valley to the lower slopes of Mount Gilboa, in the southern part of Emek HaMayanot. The remaining 10 % can be found in the central region of Arava, in the Jordan Valley, and in the west of the country in Sde Nitzan, in the Western Negev. Along with Spain, Israel is one of the northernmost mango producer countries. Consequently, the cultivation conditions remain difficult in winter because of the relatively low temperatures, and in spring during blooming and fruit-setting, when the weather sometimes proves to be unstable. Conversely, it is the summer which is Israel's salvation. The hot weather makes for perfect maturing, and prevents the diseases and spots that generally affect mangos grown in the tropical regions.

Omer variety

Maya variety

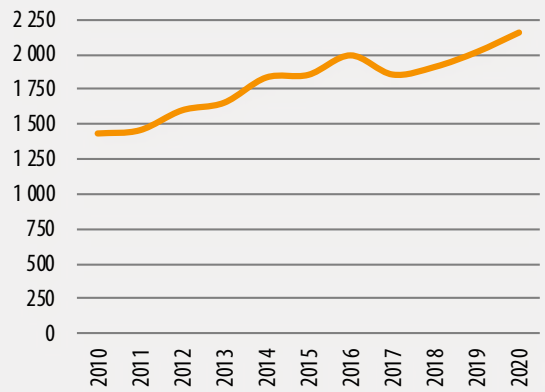
Photos © Galilee Export

Mango
Israel

Production

The mango was introduced to Israel in the early 20th Century, but its commercial cultivation only really began in the past fifty years. According to FAO figures, production is evaluated at between 40 000 and 50 000 tonnes per year. The production fabric comprises 60 % private plantations (Mochavim) and 40 % State-owned plantations (Kibboutzim). Israel has an extensive industrial cultivation area, which has seen an expansion trend over the past decade, with an increase from 1 400 hectares to 2 150 hectares between 2010 and 2020. Furthermore, this origin is a pioneer in terms of cropping techniques and tree yield improvement techniques. Thanks to the development of high-density planting, which is characterised by low tree spacing and a limited height, Israeli orchards register very high yields.

Mango - Israel - Evolution of planted areas
(in hectares | sources: CBS, FAO)




© Udi Gafni


© Galilee Export

Mango
Israel

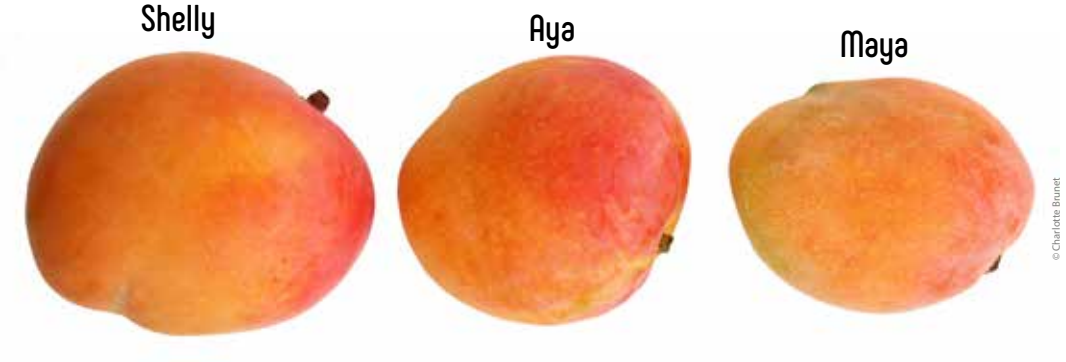
Calendar and varieties

Thanks to intensive innovation efforts, undertaken in particular by the Volcani Center, and the major investment allocated to research and development, Israel currently has patents for at least eight mango varieties (Aya/Maya, Shelly, Omer, Noa, Orli, Tali, Agam, Tango). However, some of these varieties are not cultivated in Israel, but developed under licence in countries such as Egypt. Others are consumed only on the local market. This is the case for Orli, Tali, Tango and Agam. Regarding exports, the main varieties concerned are Aya/Maya, Tommy Atkins, Omer, Shelly, Kent and Keitt. Given this varietal diversity, the production calendar is relatively extended, starting in mid-June and ending in late December. This starts with the early varieties which ripen from June to August in Arava (Haden, Tommy Atkins and Aya/Maya), followed by Omer, Noa and Shelly in August, while Kent is picked in August-September, and Keitt in September-October.

Mango – Israel – Production calendar

Varieties	J	J	A	S	O	N
Orli	■	■				
Tali	■	■				
Maya/Aya	■	■	■			
Haden	■	■	■			
Tommy Atkins	■	■	■			
Agam		■	■			
Omer/Kastury		■	■			
Tango		■	■			
Kent			■	■		
Shelly			■	■		
Noa			■	■		
Keitt				■	■	■

Israeli varieties



Logistics

Mango — Israel — Sea freight

Port of departure	Shipping line	Port of arrival	Transit time
Haifa	Maersk	Fos-sur-Mer	5 days
Haifa / Ashdod	ZIM	Valencia	7-9 days
		Felixstowe	13-15 days
		Rotterdam	14-21 days
		Hamburg	15-18 days
		Antwerp	18-21 days
		Le Havre	19-23 days
Ashdod / Haifa	MSC	Valencia	5-6 days
		Felixstowe	10-11 days
		Rotterdam	12-13 days
		Hamburg	14-15 days
		Antwerp	17-18 days
		Le Havre	19-21 days

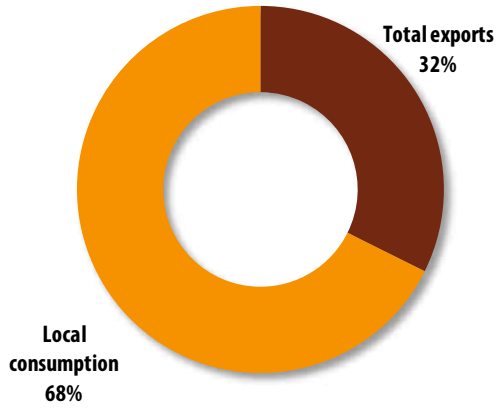
The Israeli mango is still mainly exported by sea-freight, with the air-freight segment representing just 10 % of export volumes in 2021. The fruit is forwarded after harvesting by refrigerated lorries to the port terminals of Ashdod and Haifa. They are then transported by sea, by means of the shipping lines serving the Mediterranean. France is reached in 5 days via the port of Fos-sur-Mer, and 21 days via Le Havre. The United Kingdom (Felixstowe) is reached in 12 days, and the Netherlands (Rotterdam) in 16 days. Among the main companies linking the Mediterranean and Northern Europe are the Israeli companies ZIM and MSC, while Maersk runs the voyages between Haifa and Southern France. Regarding exporters, there are a total of 17, the biggest 5 of which control 90 % of exports, namely Mehadrin, Galilee Export, Odem, Eitan and Niva.

Mango
Israel

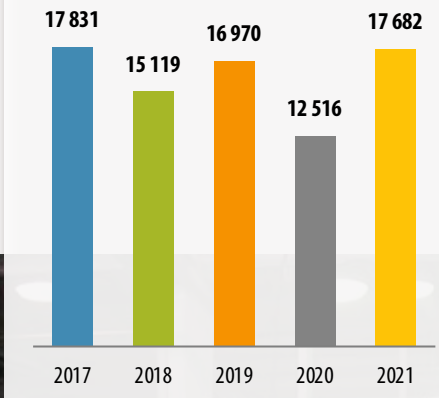
Outlets and exports

Israel exports on average just 30 % of its production, with the rest dedicated to the processing industry and local consumption. Every year, approximately 30 000 tonnes are sold on the local market, and on the markets in Gaza and the West Bank. In the export sector, because of its geographic proximity, the EU27+UK remains the main destination, with a total of 15 400 tonnes out of the 17 600 tonnes exported in 2021. The leading European partners include the Netherlands, Germany, the United Kingdom, France and the Baltic States. Unlike the harvest calendar, the trading window in Europe is relatively short, since the end of Israeli exports usually coincides with the start of the Spanish season. Hence exports traditionally begin at the end of June, and finish in September. Over the past five years, exporters have found flourishing new markets. This has been the case with Russia, which went from exports of 766 tonnes in 2017 to 2 160 tonnes in 2021. Nonetheless, this dynamic could be compromised from next season, because of the current geopolitical situation.

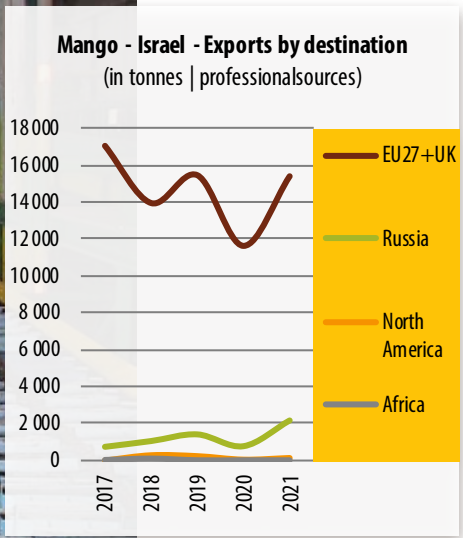
Mango - Israel - Outlets
(in tonnes | sources: CBS, FAO, Comtrade)



Mango - Israel - Evolution of exports
(in tonnes | professional sources)



Mango - Israel - Exports by destination
(in tonnes | professionalsources)



2020-2021

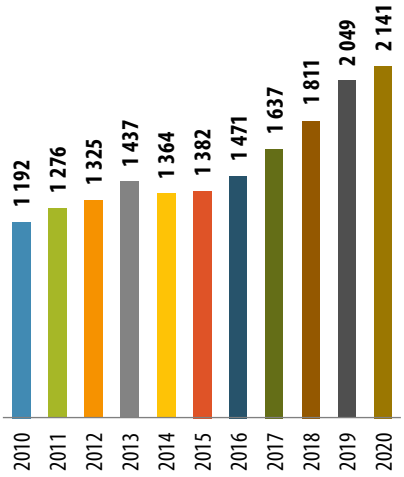
MANGO

WORLD STATISTICS

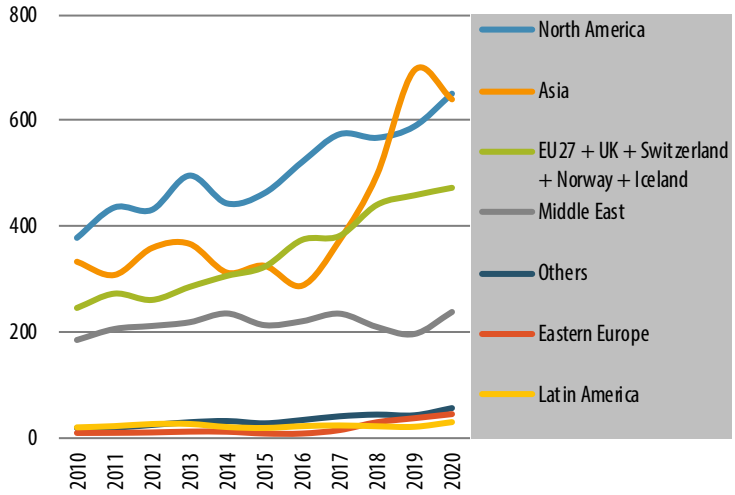
© Régis Domergue

Imports

Mango - World - Evolution of imports
(in 000 tonnes I sources: Comtrade, Eurostat)

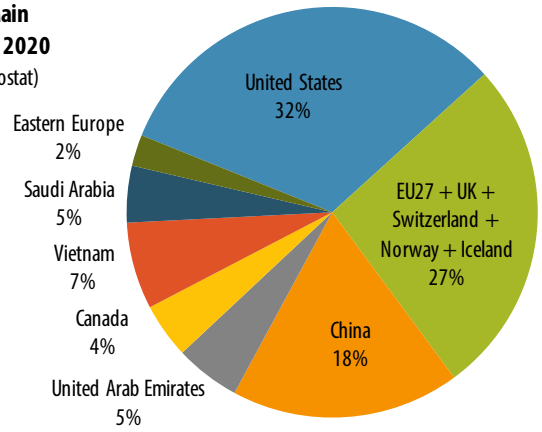


Mango - World - Main importer countries
(in 000 tonnes I source: Customs)

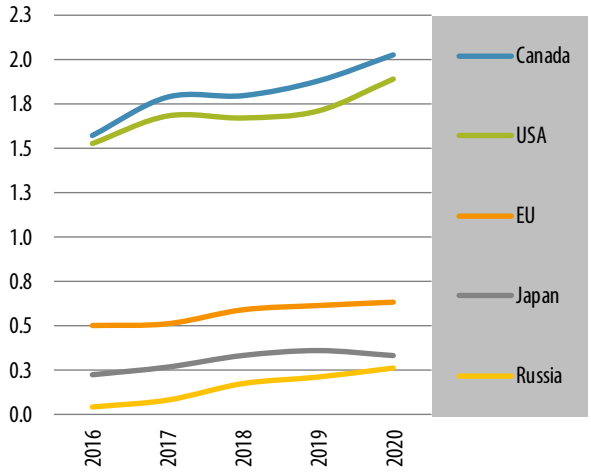


Consumption

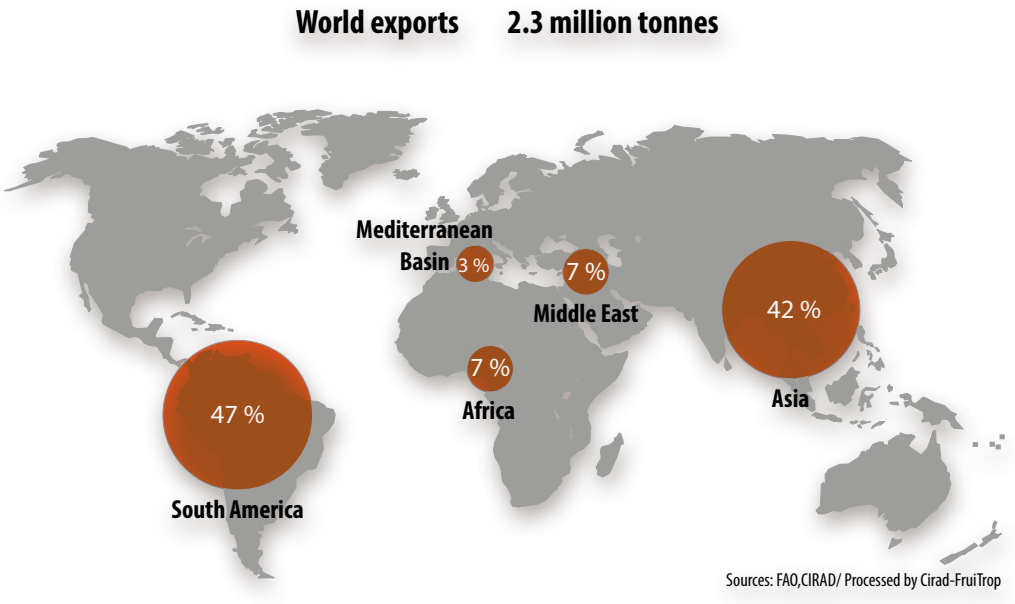
Mango - World - Main importer markets in 2020
(sources: Comtrade, Eurostat)



Mango - World - Average consumption per capita in main markets
(in kg/capita I source: Customs)



Exports

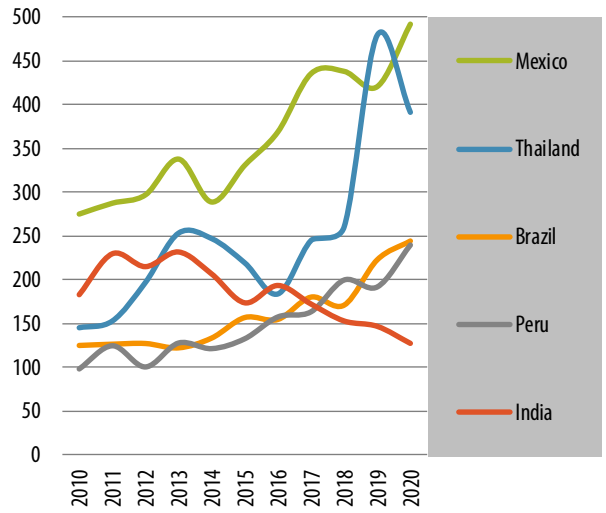


Mango – World
Main exporter countries

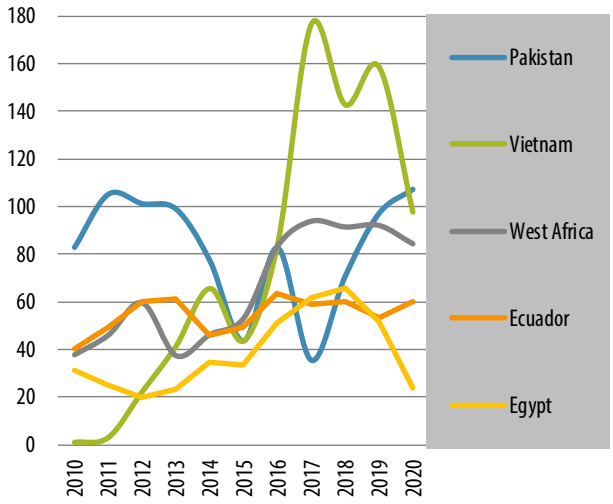
in tonnes	2020
Mexico	492 400
Thailand	391 280
Brazil	243 466
Peru	239 391
Hong Kong + China	139 914
India	128 026
Pakistan	107 196
Vietnam	97 567
Ecuador	60 135
Indonesia	57 825
Côte d'Ivoire	35 124

Sources: Comtrade, Eurostat

Mango - World - Main exporter countries
(in 000 tonnes I sources :Comtrade, Eurostat)

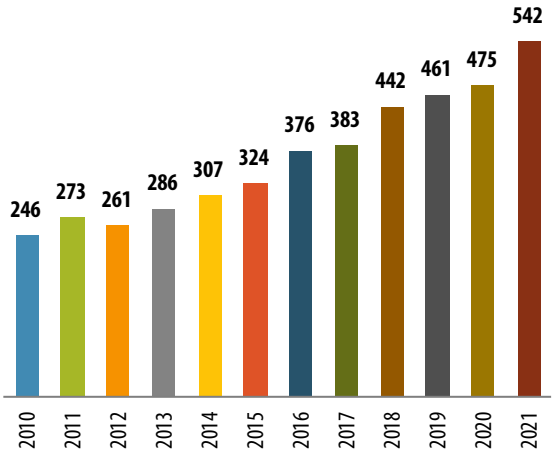


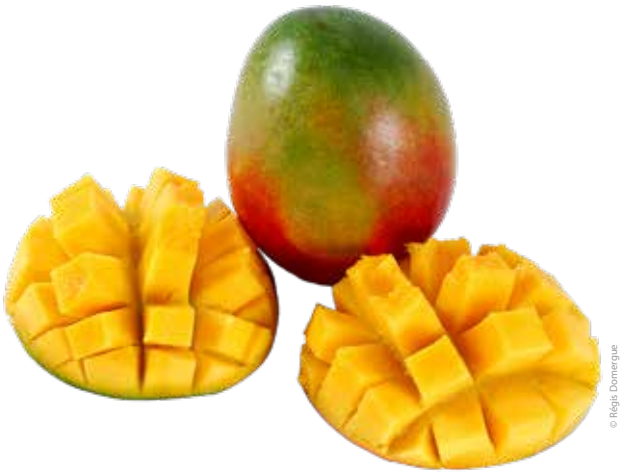
Mango - World - Other exporter countries
(in 000 tonnes I sources: Comtrade, Eurostat)



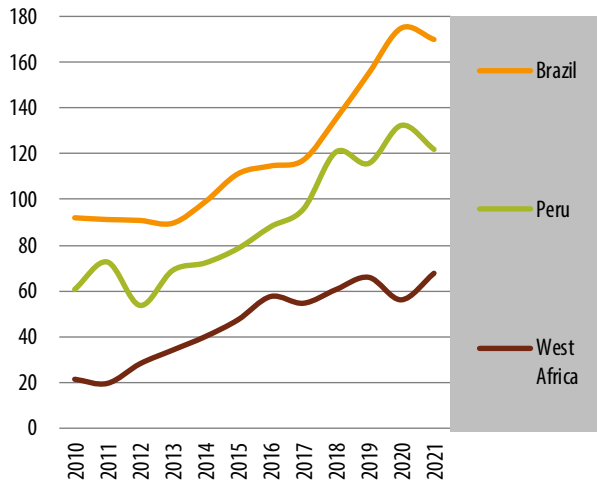
EU27 + UK + Switzerland + Norway + Iceland

Mango - EU27 + UK + Switzerland + Norway + Iceland
Evolution of imports
(in 000 tonnes I sources: Comtrade, Eurostat)

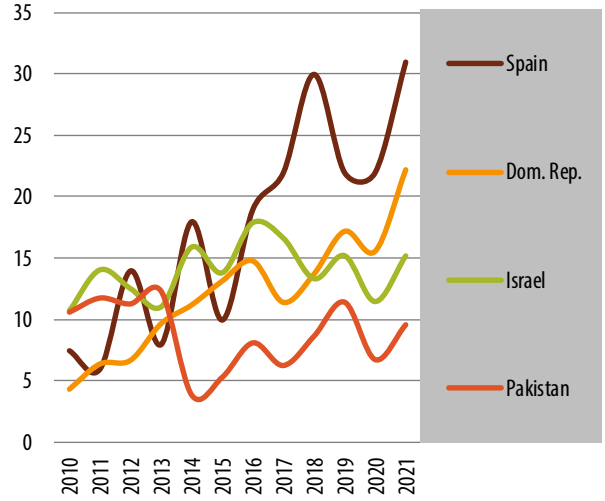




Mango - EU27+UK - Main supplier countries
(in 000 tonnes I sources: Comtrade, Eurostat)



Mango - EU27+UK - Other supplier countries
(in 000 tonnes I sources: Comtrade, Eurostat)



Imports by origin

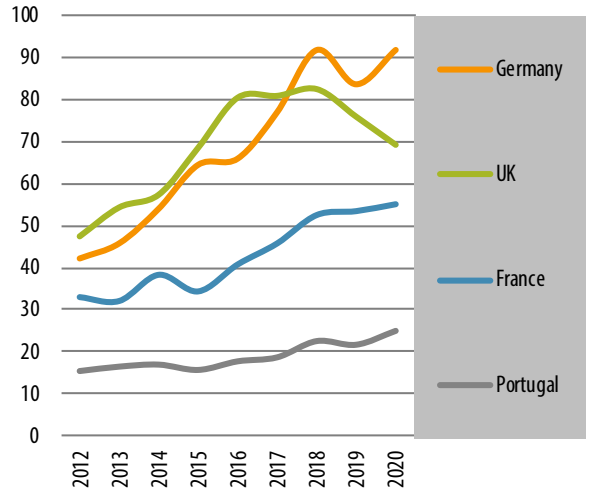
Mango – EU27 + UK – Imports by origin

in tonnes	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
TOTAL	**224 995**	**252 521**	**232 267**	**260 686**	**270 421**	**295 150**	**335 233**	**338 602**	**389 218**	**415 968**	**427 915**	**484 360**
Brazil	92 256	91 490	91 093	89 884	99 314	111 511	114 923	117 496	135 535	155 406	175 218	170 230
Peru	60 386	72 350	53 323	68 689	71 975	78 299	87 819	95 537	120 593	115 583	132 249	121 713
Spain	7 500	6 000	14 000	8 000	18 000	10 000	19 000	22 000	30 000	22 000	22 000	31 000
Côte d'Ivoire	11 323	10 177	15 245	16 553	20 473	22 919	30 298	30 193	29 168	31 495	25 525	30 487
Dominican Rep.	4 303	6 357	6 652	9 636	11 154	13 103	14 727	11 360	13 668	17 138	15 519	22 142
Senegal	2 758	5 341	6 197	8 267	10 328	11 520	10 029	11 125	15 843	14 106	10 296	19 132
Israel	10 700	14 016	12 492	11 011	15 865	13 777	17 843	16 583	13 300	15 166	11 444	15 147
Pakistan	10 596	11 745	11 272	12 295	3 873	5 318	8 106	6 271	8 646	11 409	6 748	9 576
United States	4 744	8 475	7 954	12 009	11 343	7 383	12 254	11 119	9 145	8 283	8 886	6 440
Burkina Faso	3 302	2 129	2 126	2 933	3 064	4 358	6 158	4 786	5 772	6 880	6 810	6 380
India	3 201	3 016	3 782	6 037	956	2 477	4 329	5 421	5 979	5 301	3 370	6 329
Mali	3 672	1 795	3 816	4 802	3 833	5 946	7 449	4 897	5 989	9 662	8 937	6 288
Ghana	428	227	847	1 627	2 383	2 656	3 611	3 609	3 815	3 771	4 538	5 385
Mexico	4 938	5 255	4 512	2 954	2 224	3 078	3 742	4 322	4 779	5 252	5 924	5 287
Costa Rica	3 429	6 873	3 860	4 027	3 825	3 952	2 460	3 154	2 589	2 266	2 340	3 641
Egypt	303	465	319	603	742	853	1 238	2 233	1 257	1 888	2 911	2 196
South Africa	1 040	507	681	297	592	1 482	1 510	2 287	1 777	2 124	1 526	1 932
Gambia	776	1 503	981	876	2 193	1 915	1 679	1 753	1 524	2 169	1 037	1 139
Guatemala	845	1 033	24	597	591	904	510	979	2 578	1 287	1 134	771
Thailand	1 178	1 101	1 061	990	1 128	1 168	974	1 020	998	825	573	468
Ecuador	1 406	1 523	2 071	3 311	1 418	1 857	2 136	1 426	1 245	1 044	1 273	459

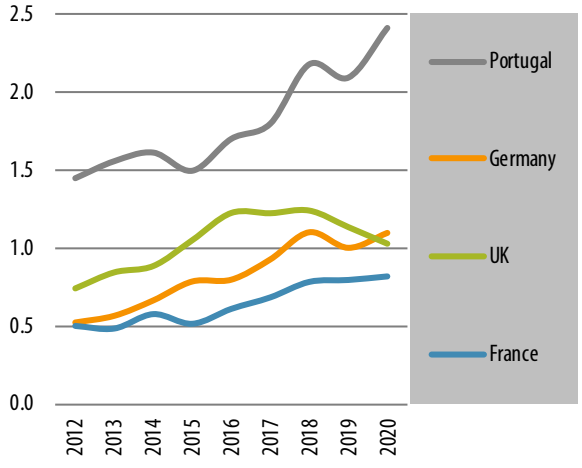
Source: Eurostat

Consumption

Mango - Europe - Net consumption on main markets
(in 000 tonnes I sources: Comtrade, Eurostat)

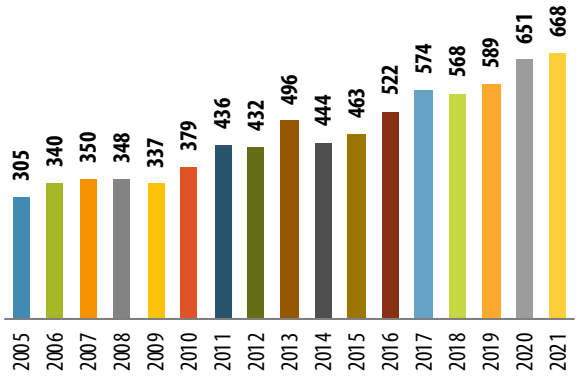


Mango - Europe - Consumption per capita on main markets
(in kg/capita I sources: Comtrade, Eurostat)



Imports

Mango - USA + Canada - Evolution of imports
(in 000 tonnes | source: US Customs)



Mango – United States – Imports by origin

in tonnes	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
TOTAL	**379 803**	**377 408**	**436 085**	**385 861**	**405 965**	**464 797**	**508 904**	**500 463**	**518 207**	**573 747**	**587 970**
Mexico	241 468	251 321	285 679	244 675	263 217	304 059	332 525	327 495	341 905	359 538	357 529
Peru	45 223	26 974	41 277	44 654	33 494	44 953	51 546	49 945	54 350	74 573	73 156
Ecuador	30 364	37 868	45 945	34 467	38 202	56 319	49 584	52 540	44 367	53 066	54 291
Brazil	24 810	24 215	23 924	22 392	32 210	27 858	32 934	31 782	39 967	48 214	51 617
Guatemala	17 875	16 986	16 948	20 803	15 544	12 448	16 818	17 026	13 424	11 008	15 353
Haiti	9 241	8 045	10 262	9 894	10 728	7 079	9 347	6 617	8 366	11 645	12 119
Dominican Rep.	204	535	752	867	901	1 038	1 154	1 924	3 431	3 567	6 720
Philippines	3 989	2 929	2 411	2 220	3 027	3 065	2 932	2 563	2 162	3 228	3 705
Others	6 629	8 535	8 888	5 890	8 643	7 978	12 064	10 571	10 235	8 908	13 481

Source: Comtrade

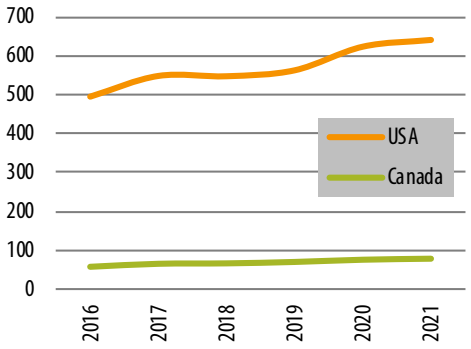
Mango – Canada – Imports by origin

in tonnes	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
TOTAL, of which	**56 375**	**54 291**	**60 290**	**58 000**	**57 234**	**57 022**	**65 576**	**67 298**	**71 202**	**77 418**	**80 473**
Mexico	35 923	35 173	38 940	35 211	37 065	36 477	41 239	43 013	43 506	47 591	50 797
Peru	6 195	4 346	5 826	6 437	4 789	5 875	6 732	7 079	7 965	11 377	10 897
Brazil	4 310	4 850	4 706	6 317	6 744	5 645	7 131	7 208	7 910	8 899	8 665
Ecuador	4 083	3 709	3 979	3 192	2 716	2 744	2 235	2 889	2 420	1 896	1 667

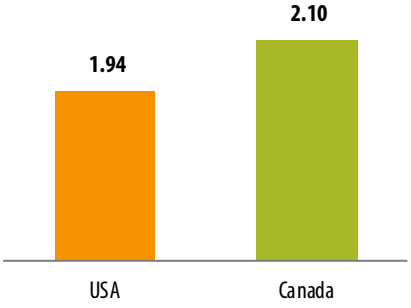
Source: Comtrade

Consumption

Mango - USA + Canada - Net consumption
(in 000 tonnes | source: US Customs)

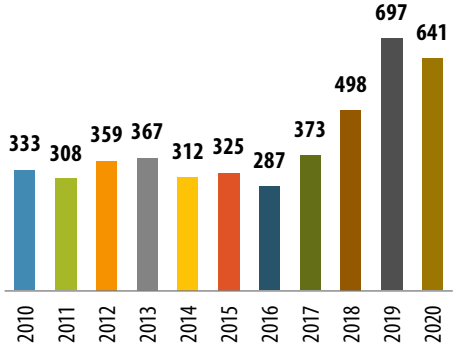


Mango - USA + Canada
Consumption per capita in 2021
(in kg/capita | source: US Customs)

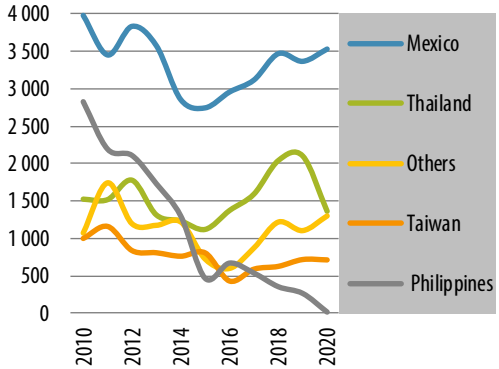


Imports

Mango - Asia - Evolution of imports
(in 000 tonnes | source: Comtrade)



Mango - Japan - Imports by origin
(in tonnes | source: Comtrade)



Mango – Japan – Imports by origin

in tonnes	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
TOTAL, of which	**10 055**	**9 741**	**8 588**	**7 354**	**5 841**	**6 012**	**6 690**	**7 692**	**7 535**	**6 903**	**9 040**
Mexico	3 446	3 828	3 569	2 849	2 740	2 952	3 112	3 464	3 361	3 525	4 821
Thailand	1 514	1 773	1 309	1 229	1 116	1 369	1 588	2 036	2 096	1 358	1 218
Taiwan	1 155	834	805	759	803	429	587	624	715	710	861
Philippines	2 197	2 113	1 733	1 300	464	669	535	352	262	12	65
Others	1 743	1 193	1 172	1 217	718	593	868	1 216	1 101	1 298	2 075

Source: Comtrade

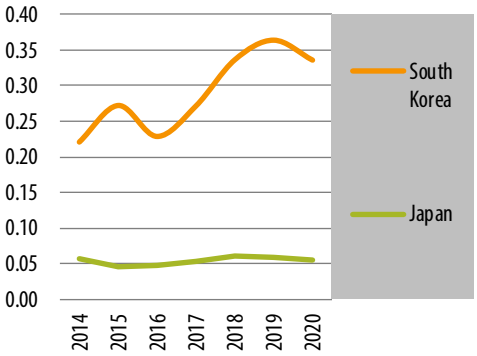
Mango – Other Asian countries – Main markets

in tonnes	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TOTAL	**322 468**	**297 632**	**349 188**	**358 341**	**304 801**	**319 387**	**281 261**	**366 582**	**490 152**	**689 310**	**634 549**
China	240 710	203 184	231 938	233 827	151 387	156 842	106 778	112 398	200 601	431 640	321 038
Vietnam	10 677	7 932	8 000	33 984	53 375	28 850	39 877	95 855	73 268	85 171	122 146
Malaysia	42 015	50 960	60 637	48 675	50 324	55 140	51 158	61 389	62 411	44 684	63 054
Thailand	69	1 311	3 602	1 408	385	18 380	26 597	29 945	71 684	28 369	37 410
Singapore	18 232	20 920	22 716	21 234	22 507	22 083	20 336	23 651	26 824	25 547	27 198
Afghanistan	-	-	-	-	-	-	-	8 574	8 684	23 263	23 000
South Korea	1 351	2 270	3 041	6 494	11 248	13 917	11 747	13 972	17 383	18 840	17 417
Nepal	1 964	5 740	6 500	7 117	12 550	15 845	14 362	11 024	19 548	21 433	12 608
Laos	-	-	-	-	-	1	3 825	4 598	5 939	4 618	5 500
Bangladesh	2 332	185	5 269	56	-	3 138	948	1 658	359	3 237	3 000
Brunei	511	779	658	1 012	1 142	1 466	1 477	1 882	2 560	2 341	1 803
Cambodia	3 401	3 287	5 734	4 415	1 243	3 723	4 156	1 636	891	167	375

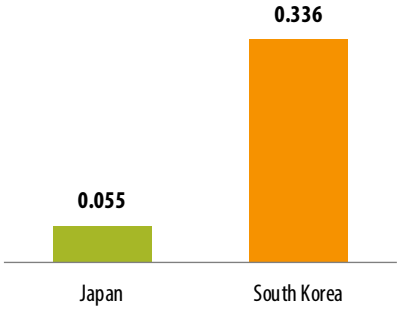
Source: Comtrade

Consumption

Mango - Japan and South Korea - Consumption
(in kg/capita | source: Comtrade)

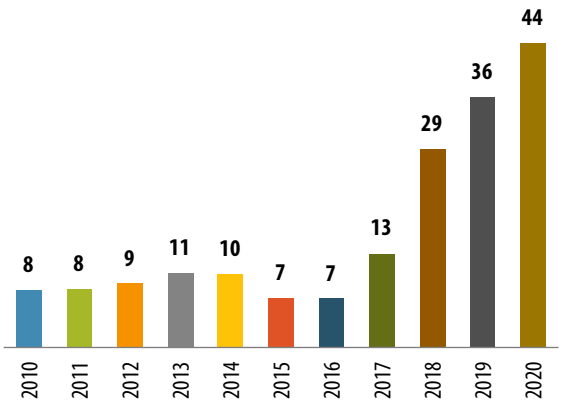


Mango - Japan + South Korea Consumption per capita in 2020
(in kg/capita | source: Comtrade)

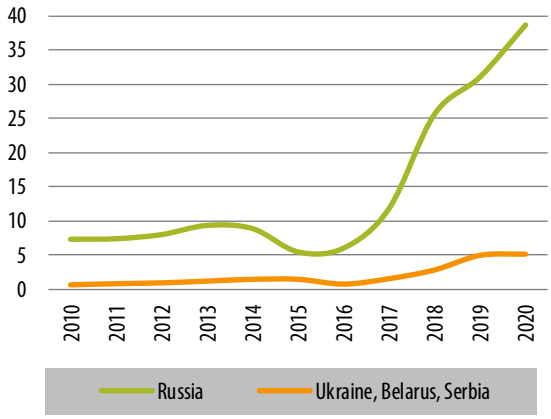


Imports

Mango - Russia + Eastern Europe (Ukraine, Belarus, Serbia)
Evolution of imports (in 000 tonnes | source: Comtrade)



Mango - Russia + Eastern Europe (Ukraine, Belarus, Serbia)
Evolution of imports (in 000 tonnes | source: Comtrade)



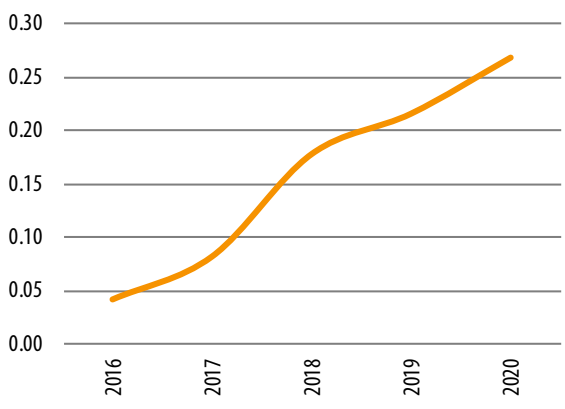
Mango – Russia – Imports by origin

in tonnes	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TOTAL	**7416**	**7488**	**8091**	**9429**	**8969**	**5564**	**6 119**	**11 907**	**25 683**	**31 119**	**38 695**
Peru	4 893	4 967	5 442	5 863	4 559	3 518	3 513	1 437	5 956	5 852	11 768
Brazil	922	876	666	919	1 235	535	632	6 165	10 449	10 606	8 979
China	437	418	435	424	324	286	301	1 106	2 313	6 052	5 746
Egypt							11	938	1 929	2 750	5 246
Vietnam							7	59	395	1 007	3 020
Thailand	393	452	559	750	736	404	438	812	1 034	984	591
Ecuador	415	254	87	105	45	3	73		163	341	297

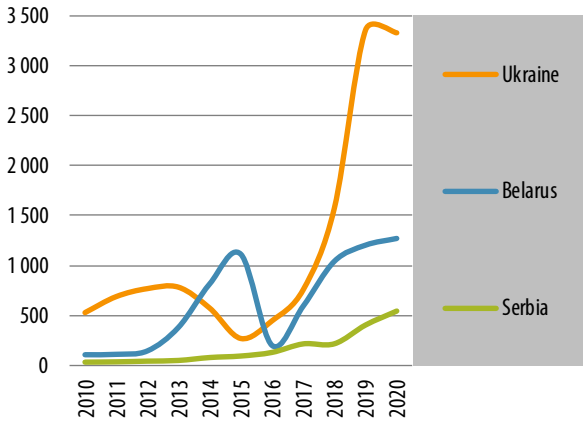
Source: Comtrade

Consumption

Mango - Russia - Consumption per capita
(in kg/capita | source: Comtrade)

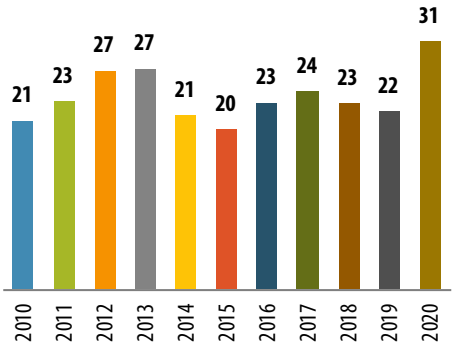


Mango - Eastern Europe - Apparent consumption
(in tonnes | source: Comtrade)

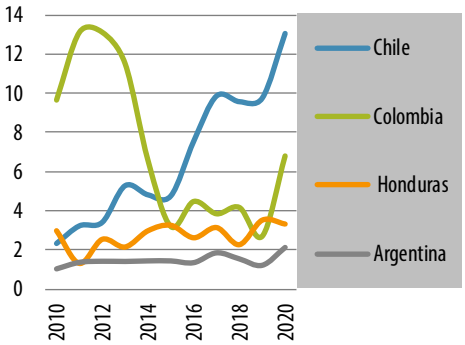


Imports
Latin America

Mango - Latin America - Evolution of imports
(in 000 tonnes | source: Comtrade)



Mango - Latin America - Evolution of imports
(in 000 tonnes | source: Comtrade)



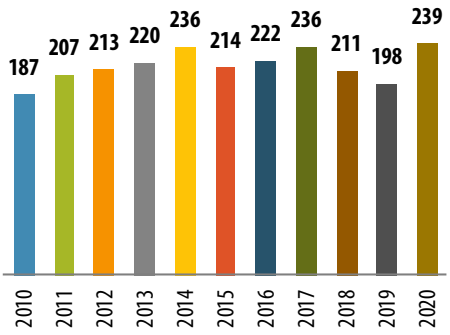
Mango – Latin America – Main import markets

in tonnes	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TOTAL	**20 782**	**23 119**	**27 025**	**27 196**	**21 440**	**19 637**	**23 048**	**24 419**	**22 844**	**21 916**	**30 626**
Chile	2 344	3 240	3 421	5 286	4 820	4 765	7 546	9 855	9 564	9 745	13 036
Colombia	9 675	13 132	13 132	11 530	6 594	3 219	4 499	3 870	4 191	2 726	6 820
Honduras	3 000	1 339	2 565	2 174	2 999	3 276	2 643	3 161	2 292	3 538	3 340
Argentina	1 024	1 353	1 408	1 399	1 426	1 425	1 337	1 832	1 527	1 205	2 103
Mexico	2 300	1 976	2 921	3 307	2 041	1 588	1 768	1 909	2 347	1 500	1 500
El Salvador	665	569	1 966	1 761	1 952	1 797	1 196	1 384	1 444	1 477	1 370
Panama	173	374	535	464	431	620	914	572	474	787	1 263
Paraguay	105	121	117	375	265	364	412	406	413	239	526
Guatemala	201	228	124	277	363	1 558	1 740	623	254	325	382
Bolivia	105	79	133	426	431	834	874	706	222	250	250

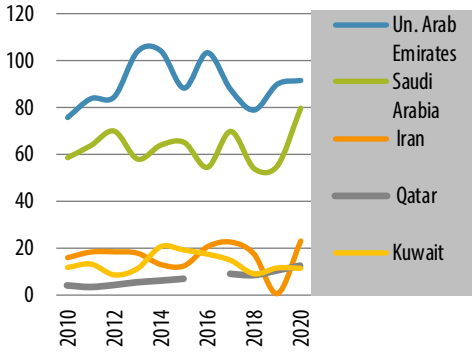
Source: Comtrade

Imports
Middle East

Mango - Middle East - Evolution of imports
(in 000 tonnes | source: Comtrade)



Mango - Middle East - Evolution of imports
(in 000 tonnes | source: Comtrade)



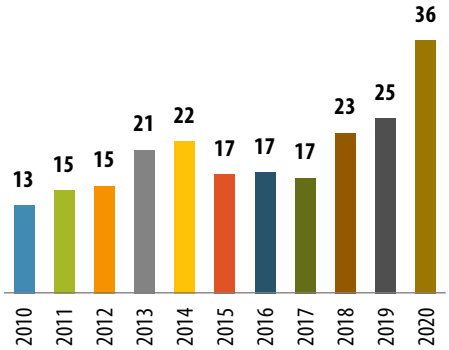
Mango – Middle East – Main markets

in tonnes	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TOTAL	**186 573**	**207 204**	**212 886**	**219 781**	**236 339**	**214 441**	**221 642**	**235 994**	**210 996**	**197 911**	**239 152**
United Arab Emirates	75 519	83 635	84 397	103 966	104 187	88 163	103 417	87 504	78 723	89 852	91 466
Saudi Arabia	58 250	63 497	69 702	57 649	63 668	64 823	54 098	69 572	53 572	54 723	79 584
Iran	15 670	18 073	18 156	17 576	12 713	12 169	20 344	22 356	17 155	249	22 787
Qatar	4 184	3 525	4 334	5 482	6 148	6 937	-	8 984	8 435	10 362	12 376
Kuwait	11 705	13 099	8 567	11 223	20 409	18 960	17 232	14 625	9 035	11 502	11 319
Bahrain	2 801	5 581	6 447	7 337	8 013	7 665	9 107	9 357	8 609	9 560	11 051
Oman	18 444	19 794	21 283	16 548	21 201	15 724	17 444	23 596	35 467	21 663	10 569
Yemen	10 045	15 356	27 533	40 047	27 285	11 359	17 182	18 104	15 689	13 974	10 000

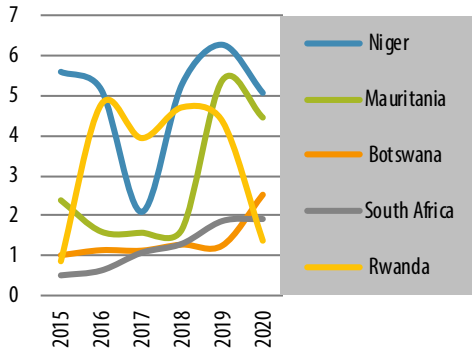
Source: Comtrade

Imports Africa

Mango - Africa - Evolution of imports
(in 000 tonnes | source: Comtrade)



Mango - Africa - Evolution of imports
(in 000 tonnes | source: Comtrade)



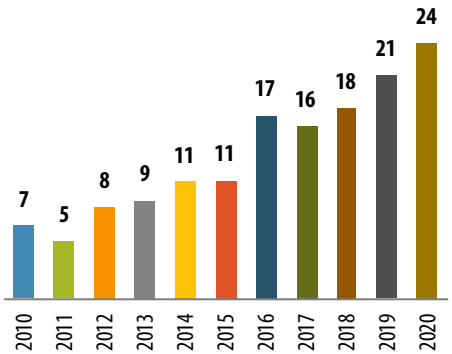
Mango – Africa – Main import markets

in tonnes	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TOTAL	**12 621**	**14 820**	**15 486**	**20 642**	**21 921**	**17 065**	**17 454**	**16 626**	**23 195**	**25 208**	**36 411**
Uganda	111	111	1 310	1 542	2 411	3 570	843	3 098	6 462	3 558	*19 325*
Niger	4 223	3 274	3 676	3 166	2 681	5 589	5 141	2 081	5 278	6 266	5 062
Mauritania	549	774	890	2 461	2 387	2 364	1 578	1 550	1 638	5 373	4 438
Botswana	1 956	1 369	1 451	1 726	787	1 012	1 139	1 127	1 280	1 257	2 543
South Africa	362	571	522	621	530	527	648	1 088	1 310	1 874	1 924
Rwanda	1 000	1 360	1 471	2 290	2 557	834	4 759	3 914	4 684	4 335	1 348
Djibouti	1 956	2 251	1 743	2 115	2 509	2 335	2 147	2 728	1 801	1 347	1 285
Namibia	444	461	420	513	556	532	491	532	241	697	386
Tanzania	2 020	4 649	4 003	6 208	7 503	302	708	508	501	501	100
Kenya	2	253	1 541	1 251	519	719	845	10 545	5 876	3	1

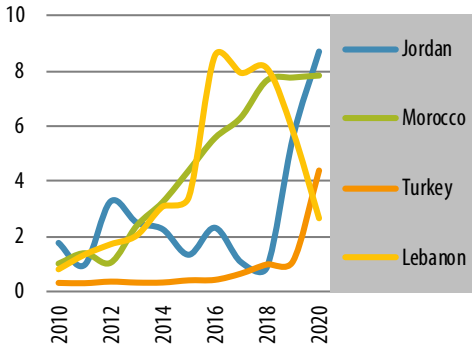
Source: Comtrade

Imports Mediterranean

Mango - Mediterranean - Evolution of imports
(in 000 tonnes | source: Comtrade)



Mango - Mediterranean - Evolution of imports
(in 000 tonnes | source: Comtrade)



Mango – Mediterranean – Main markets

in tonnes	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TOTAL	**6 668**	**5 251**	**8 464**	**9 040**	**10 772**	**10 910**	**16 892**	**15 882**	**17 592**	**20 612**	**23 567**
Jordan	1 765	966	3 271	2 504	2 260	1 335	2 315	1 068	884	5 599	8 712
Morocco	993	1 372	1 027	2 368	3 228	4 377	5 550	6 297	7 645	7 749	7 820
Turkey	271	260	318	282	285	365	382	610	945	1 060	4 376
Lebanon	817	1 344	1 720	2 039	3 084	3 420	8 523	7 907	8 074	5 792	2 659
Libya	2 822	1 309	2 128	1 847	1 915	1 413	122		44	412	-
Algeria	130	209	233	236	273	179	5	-	-	-	-

Source: Comtrade

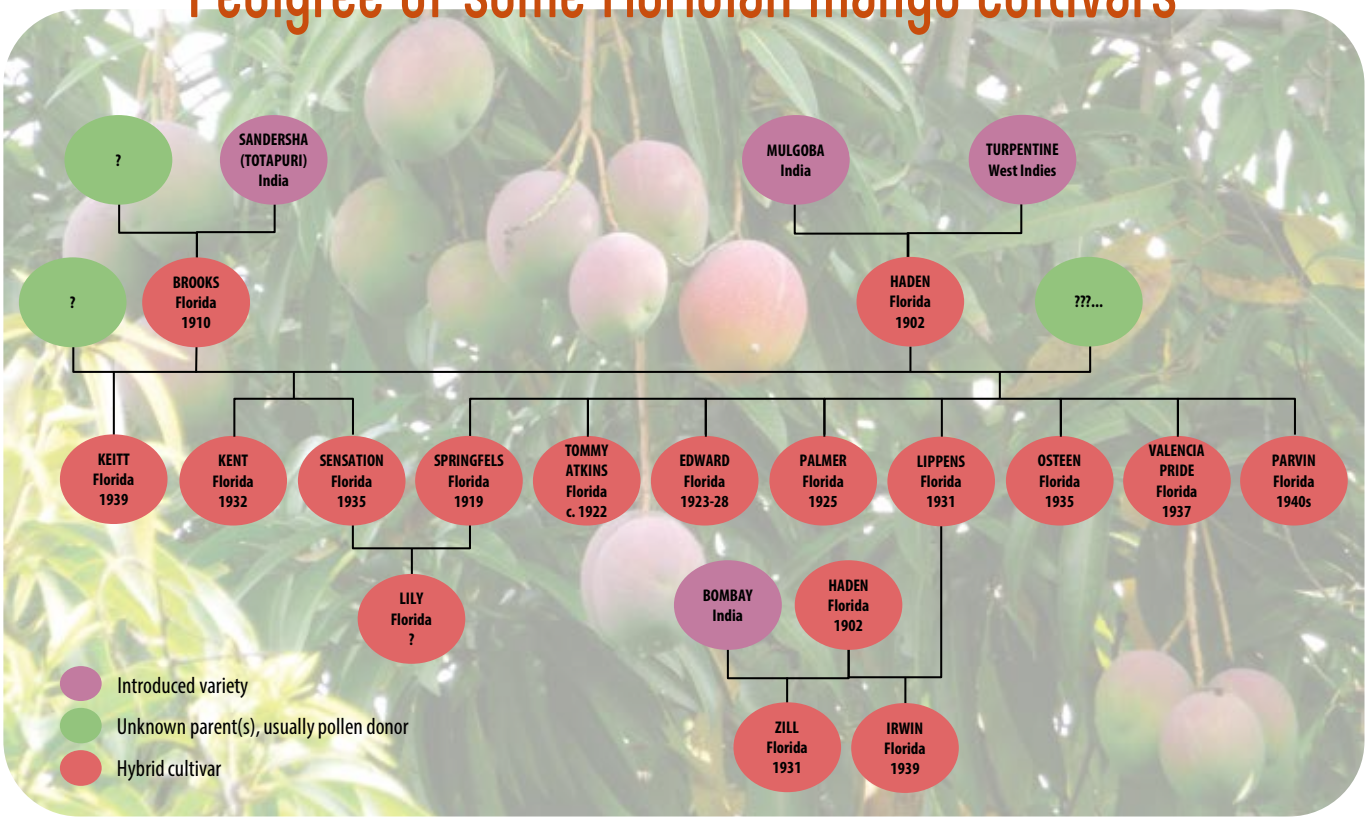
Main mango varieties

by **Guy Self**, consultant
fruitguyde@outlook.com

ORIGIN AND DOMESTICATION

The mango, *Mangifera indica* L., is one of about 60 species in the genus *Mangifera* in the family Anacardiaceae, which also contains the cashew (*Anacardium occidentale*) and the pistachio (*Pistacia vera*). It is native to eastern India and Myanmar, and is believed to have been cultivated in India for thousands of years before it was introduced elsewhere. Buddhist monks probably took it to South-East Asia (Indochina and Malaysia) during the 4th and 5th Centuries where it is thought to have undergone a second domestication. It was then carried westwards by Persian traders in the 9th and 10th Centuries to East Africa, where the Portuguese likely reintroduced it in the 16th Century from their Indian territories in Goa. The Portuguese then took it to West Africa and then to Brazil in about 1700, from where it was taken to the Caribbean, arriving in Barbados in 1742 and Jamaica in 1782. Not long after, the Spanish introduced it to Mexico, from both their territories in the Caribbean and in the Philippines. A few plants were then taken to southern Florida in 1833, but they did not survive and the mango did not become established there until the 1860s when seed was imported into Miami. As the mango spread around the tropics and subtropics, it proved to be an adaptable tree and through natural outcrossing produced varieties adapted to a multitude of different local conditions and microclimates. Today new plantations of commercial varieties are grafted onto these locally adapted types.

Pedigree of some Floridian mango cultivars



MAIN VARIETIES

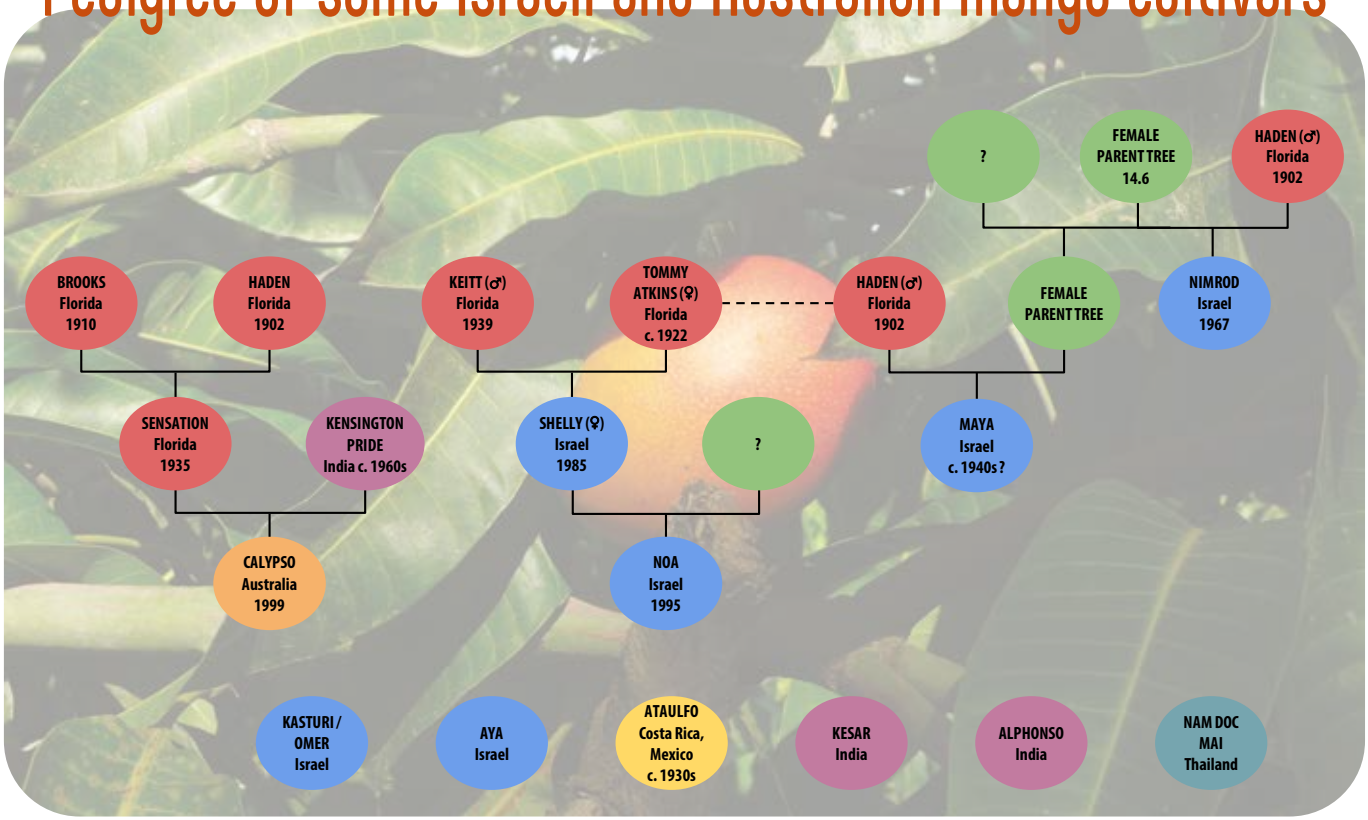
Most of the mango varieties in international trade originated in southern Florida between 1900 and 1950. Mangos were introduced to Florida in the mid-19th Century and promoted as a backyard fruit tree. The first introductions came from the Caribbean, with others added later from India, South-East Asia and Africa. This created a diverse collection of varieties that started to cross pollinate either naturally or through amateur horticulturalists, producing many new varieties. Whilst recent genetic analysis may not support southern Florida as being a secondary centre of mango diversity, it was nevertheless the centre of a remarkable period of largely amateur plant breeding that underpins commercial production to this day.

The first named variety came from seeds of an Indian variety, Mulgoba, bought by Captain J.J. Haden in 1902 from Professor Elbridge Gale at Lake Worth, near present-day West Palm Beach, and planted at his property in Coconut Grove, south Miami. Capt. Haden did not live to see his seedlings mature, but his wife Florence recognised one as having superior fruit and she reported it to the Florida State Horticultural Society. The variety was named for Capt. Haden and it became commercially very successful and is still grown and traded today most often as a specialty air-freight mango. Through further crosses, often with unknown parents, Haden gave rise to nearly all the varieties grown commercially today including Kent, Sensation, Tommy Atkins, Edward, Palmer, Osteen and Parvin. One important variety that does not have Haden or its parents in its pedigree is Keitt, which came from a seedling of the Brooks variety and an unknown parent.

This group of varieties became known as the Floridian cultivars, which have since been widely distributed in the tropics, the subtropics and the Mediterranean, where they have generally adapted well to local conditions. There are other centers of mango breeding, most notably Brazil, Israel and Australia, but such is the influence of Haden that it is also found in the pedigrees of some of the best known Israeli (Maya, Shelly and Noa) and Australian (R2E2 and Calypso™) varieties.

The majority of mangos traded in Europe and the UK are Floridian and Israeli cultivars, with retailers generally preferring to supply Kent and Keitt year-round, allowing other cultivars only when supplies are tight. There are however a few other varieties imported for ethnic or speciality lines. One is Ataulfo, a polyembryonic South-East Asian-type cultivar that originated in Tapachula, Mexico, reportedly from seed brought from Costa Rica in about 1930. The fruit is marketed as Ataulfo, Honey or Champagne™ in the US and was granted a protected designation of origin by the Mexican Government in 2003 as Ataulfo del Soconusco Chiapas. It is grown mainly along the western coast states of Mexico, and also in Peru. Another is the Kesar mango grown in the Girnar foothills in Gujarat, India. The variety was developed and named in the early 1930s, and was awarded a geographical indication in India in 2011. It is on the market from May to July particularly in the UK where it is sold by the box mainly to customers of Indian and Asian origin.

Pedigree of some Israeli and Australian mango cultivars



Main mango varieties (continued)

Photos © Régis Domergue

HADEN

Fruit characteristics

A medium to large-sized oval fruit with a rounded base and a medium-thick, woody stone. It is bright yellow with a deep crimson or red blush and numerous large, natural, yellow lenticel spots. Fruit weight is typically 510 g to 680 g (equivalent to a 4 kg size 8 to 6). The fruit is thick-skinned and tough, with a firm and juicy pulp that can sometimes be fibrous. It is deep yellow, rich and sweet, often with a strong, pleasant aroma.

Postharvest handling

The fruit changes colour from green to golden yellow as it matures and ripens. It softens relatively quickly, and can be prone to bruising so needs careful handling. Fruits should be transported and stored at 10-12°C. It is now shipped almost only by air.

Production

Haden is a vigorous tree with a large spreading canopy. It can be prone to alternate or irregular bearing and for this reason has tended to be replaced in commercial planting by newer cultivars. It is also prone to jelly seed and internal discolouration, often in larger fruit, so mineral nutrition is important.

Origin

The Haden mango resulted from natural cross-pollination between Mulgoba and Turpentine, Mulgoba having been introduced to Florida from India in 1889, while Turpentine is one of several poly-embryonic mangos naturalised in the West Indies, which is often used as a root stock.

The original Haden was discovered amongst 48 seedlings planted in 1902 by Captain John J. Haden, a retired US Army officer living in Coconut Grove, Florida, by his wife Florence, Haden having died in 1903. Florence reported the discovery to the Florida State Horticultural Society and sent samples to the United States Department of Agriculture. The Haden cultivar was then introduced in 1910, the first of the so-called Floridian mangos, and is now widely grown. It has since become the "seed" or female parent of many other cultivars including Kent, Tommy Atkins, Edward, Palmer, Osteen, Parvin and Maya.

KENT

Fruit characteristics

Kent is a large, oval fruit with a rounded base. It is greenish-yellow with a red or crimson blush and numerous small yellow lenticel spots. Fruit weight is typically 600 g to 750 g (equivalent to a 4 kg size 7 to 6). The skin is thick and tough, adhering to the flesh, which is deep yellow to orange-yellow, firm with a melting texture, fibreless and juicy. It is sweet with high Brix and a rich, complex flavour and sweet, tropical aroma.

Postharvest handling

The fruit changes colour from green or greenish yellow to yellow-orange as it ripens, though it has a tendency to stay green. Fruits should be transported and stored at 10°C, though care should be taken as Kent can be susceptible to internal discolouration thought to be caused by low temperatures. Large fruits can be susceptible to jelly seed and internal breakdown, usually a sign of calcium deficiency or nutrient imbalance.

Production

Kent is a large, vigorous tree with a dense, compact, upright canopy. It needs cool night-time temperatures (at least below 20°C) to induce good flowering, which means that yields are affected when this does not occur. When there are no temperature issues, it generally produces well and consistently, though it can develop a tendency towards alternate bearing. Maturity can be judged by the fullness of the cheeks as well as internal colour. Though yields may not be as great as some other varieties, the proportion of exportable fruit is usually high, though quality can vary widely depending on where and how it is grown.

Origin

The Kent mango is thought to have been produced from a cross between Haden and Brooks, Brooks being a seedling of Totapuri (also known as Sandersha), a pedigree confirmed by genetic analysis in 2005. The original seedling was germinated in September 1932 and planted on January 1, 1933 on land owned by Leith D. Kent in Coconut Grove, Florida. The original tree is reported still to be alive. Kent has become a highly popular variety with consumers and is now widely grown throughout the tropics and sub-tropics.

KEITT

Fruit characteristics

Keitt is a large to very large, oval fruit with a rounded base. It is greenish-yellow with a pink or red blush, a lavender bloom and numerous small white or yellow lenticel spots. Fruit weight is typically 510 g to as much as 2 kg (equivalent to a 4 kg size 8 to larger than 5). The skin is thick and tough, and adheres to the flesh, which is lemon-yellow to yellow, firm with a melting texture, some fibre near the base of the stone and juicy. It has an excellent flavour with a good balance between sweet and acidic, tangy notes and a pleasant aroma.

Postharvest handling

The fruit changes colour from green or greenish yellow to yellow as it ripens. Fruits should be transported and stored at 11°C as large fruits in particular can be susceptible to internal discolouration thought to be caused by low temperatures and/or nutrient imbalance. The fruit is relatively resistant to anthracnose. It tolerates postharvest handling and shipping well, and has good storage and shelf-life.

Production

Keitt is a medium sized, moderately vigorous, upright tree with a fairly open canopy. Like Kent, it is a precocious variety and is therefore de-fruited for the first four years after planting to encourage vegetative growth and the establishment of a strong tree with good canopy structure. It is a consistent, high yielding variety. It is amenable to flowering manipulation and thus season extension. Keitt fruits can also be held on the tree to extend their season, though this has a detrimental impact on yield the following year.

Origin

The Keitt mango is thought to have arisen from Brooks and a second, unknown parent. It therefore shares one parent, Brooks, with Kent. The original seedling, planted in 1939, grew on the property of Mrs. J. N. Keitt at Homestead, Florida. It produced well in 1945 and 1947, but not in 1946 likely due to a hurricane in September 1945. It was first described in the proceedings of the Florida State Horticultural Society in 1947. Since then, like Kent, it has become a variety of choice with growers and consumers alike, and is now widely grown throughout the tropics and sub-tropics.

TOMMY ATKINS

Fruit characteristics

Tommy Atkins is a medium to large, oval to oblong fruit with a rounded tip. The fruit is green with a conspicuous bright to dark red blush often covering almost the whole fruit. Fruit weight is typically between 450 to 700 g (equivalent to a 4 kg size 10 or 12 to 6). The skin is thick and protects the fruit. The flesh is medium to dark yellow or orange, juicy, but with only fair to good mild flavour and with a fibrous texture.

Postharvest handling

The fruit changes from green to orange-yellow as it ripens. It is resistant to anthracnose and the thick skin protects it from damage and bruising during handling. It should be transported and stored at 10°C to 12°C and has a long storage and shelf-life, which is a major reason why at one time it was so popular.

Production

Tommy Atkins trees are vigorous with a dense, rounded canopy. They are regular and heavy bearers. It is particularly amenable to flowering manipulation and can be produced almost year-round in Brazil. Fruit maturity is indicated by the shoulders becoming raised. The fruit is particularly prone to breakdown and internal discolouration with mineral nutrition, particularly the nitrogen calcium balance, believed to be a key factor. Both the trees and the fruits are resistant to anthracnose.

Origin

The Tommy Atkins mango grew from a Haden seed planted in about 1922 in Broward County, Florida, north of Ft. Lauderdale. It apparently did not bear fruit until the early 1940s. The striking colour of the fruit attracted the attention of Mr. T. H. Atkins who believed it to have commercial potential. He began grafting trees in 1945 and offering them for sale with the first trees sold in 1948. He submitted fruit to the Variety Committee of the Florida Mango Forum several times in the late 1940s and early 1950s where it was recognised for its colour and production potential, but not for its flavour and texture. Nevertheless, it became a favourite commercial variety and was extensively planted in Florida in the 1950s and 1960s. It also became widely planted in Brazil and elsewhere and for a time was the predominant exported variety.

Mango main varieties (continued)

OSTEEN

Fruit characteristics

The fruit is an elongated oblong with a rounded base, sometimes with a small beak. It is yellow-orange with a purple or lavender blush and numerous small, whitish lenticels. Fruit weight is typically about 500 to 760 g (size 6 to 8). The flesh is firm and juicy, with little fibre, lemon yellow to deep yellow, mild and very sweet with a pleasant aroma. The skin is thick, tough and easily separates from the flesh.

Postharvest handling

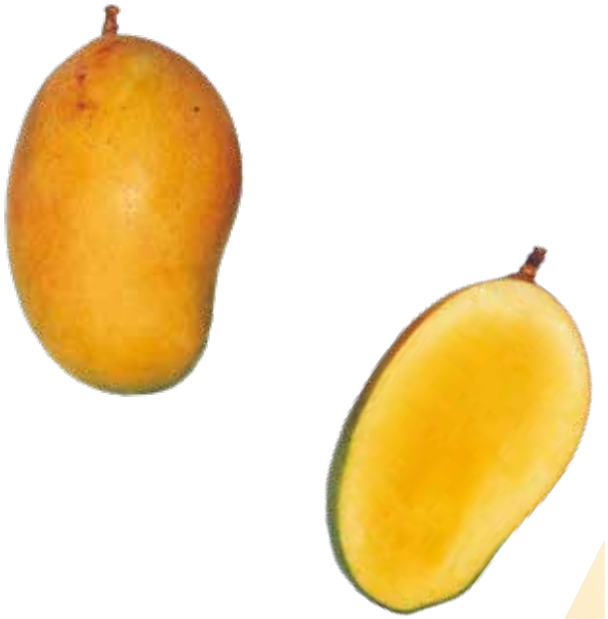
The fruit changes colour from green to yellow-orange as it ripens. Fruits should be transported and stored at 10 to 11°C. The fruit is robust and withstands postharvest handling well. There can be a tendency to develop off-flavours if harvested too mature and if the trees have received too much N fertiliser.

Production

The tree is vigorous, medium sized, forming a dense canopy. It is grown mainly in Spain where it is early maturing before Kent and Keitt, and bears regularly and well. Spanish producers regulate nitrogen and calcium fertilisation very closely to avoid internal issues and off-flavours.

Origin

The Osteen mango grew from a seed planted in 1935 on the property of S.A. Osteen, the first County Commissioner of Brevard County, Florida. Like so many others, the seed came from a Haden tree. The tree first fruited in 1940 and was named for the Osteen family that had lived on South Tropical Trail, Merritt Island, Florida, since the late 19th Century. It is said that family descendants live there still.



Photos © Guy Brehinier

VALENCIA PRIDE

Fruit characteristics

Valencia Pride is a medium to large fruit, with an elongated kidney shape, a rounded apex and a large beak. It is greenish-yellow in colour with a red to purple blush and yellow lenticels. Fruit weight is typically 600 g to 900 g (equivalent to a 4 kg size 7 to 5). The peel is quite thin and detaches easily from the flesh, which is deep yellow, practically fibreless, firm with a good, sweet and aromatic flavour.

Postharvest handling

The fruit is moderately resistant to anthracnose and other fungi, but is somewhat susceptible to internal breakdown.

Production

The trees are very vigorous and quick growing with large, open, spreading canopies. They bear consistently and well. Grown mainly in West Africa, it long enabled varietal diversification at the beginning of the season when shipments were mainly of Amelie. It is now well established in the market as an air-freight variety.

Origin

The original tree was grown from a Haden mango seed planted in 1937 by Mrs. Charles Brown in Miami, Florida, first bearing fruit in 1941. After registration with the Florida Mango Forum, the variety was propagated by Mr. and Mrs. Andrew Zapiain also of Miami.

Photos © Guy Self

PALMER

Fruit characteristics

Palmer is a large fruit with a characteristic oblong shape and rounded base with a medium-thick, woody stone. The shoulders are not raised and there can be some natural wrinkling of the peel around the stem. When ripe it is bright yellow-orange with a dark cherry-red to crimson or purple blush and a few small natural, white lenticel spots. Fruit weight is typically 510 g to 850 g (equivalent to a 4 kg size 8 to 5). The fruit has a tough, medium thick skin. The orange-yellow to yellow pulp is firm and melting with minimal fibre; it is mild and aromatic with good eating quality.

Postharvest handling

The fruit changes colour from light green or green to yellow-orange as it ripens. Fruits should be transported and stored at 11-12°C. The eating quality of Palmer can vary in different years, and it must be harvested at the correct maturity to ensure the best eating quality and good Brix values.

Production

Palmer is a moderately vigorous tree that forms a large, upright and tight canopy. It is a regular bearer. It was one of the first alternative varieties planted in Brazil when the industry there started to move away from Tommy Atkins in the early 2000s.

Origin

Genetic analysis shows that the Palmer mango probably developed from Haden. The original tree was grown from a seed planted by Mrs. Victor Mell in Miami, Florida, around 1925, the variety being officially recognised in 1949. It gained some commercial acceptance in Florida and is now widely grown, particularly in Brazil, but also in the Caribbean, Israel and Australia.

© Denis Loeillet

Mango speciality varieties

© Charlotte Brunet

MAYA

Fruit characteristics

Maya is a small to medium-sized round fruit with a smallish stone. It is deep yellow when ripe, sometimes with a bright pinkish orange-red blush covering much of the fruit. Fruit weight is typically 300 g to 400 g (equivalent to a 4 kg size 12 to 10). The fruit is thin-skinned and characteristically has more sap flow than other varieties. The pulp is melting and juicy, fibreless, deep yellow, with a rich, very sweet flavour and good eating quality. Like Haden, Maya mangos have a high Brix/acid ratio.

Postharvest handling

The fruit changes colour from green to deep yellow as it matures and ripens. It is a delicate fruit that needs careful handling, and for this reason it is generally air-freighted. With proper handling, the fruit has a long shelf-life. Fruits should be transported and stored at 11-12°C.

Production

It grows well around the Sea of Galilee in Israel and in The Gambia, but has been less successful in other areas such as Brazil, where it has a tendency for alternate bearing. It is a vigorous, productive tree, producing 30 tonnes/ha in Israel. Research suggests that shading trees to reduce temperatures during fruit development, promoting autumn vegetative growth by early harvesting, mild pruning, and additional irrigation have the potential to increase yields.

Origin

The Maya mango was discovered sometime during the 1940s as a natural seedling in an Israeli orchard and is believed to be derived from Haden. One source says it was developed by a Prof. Hanan Oppenheimer who named it after his wife. First arrivals in Europe started in about 2002, although it had been common in local markets for some years before.

ATAULFO

Fruit characteristics

Ataulfo is a small to medium-sized, oblong to reniform shaped fruit with a small seed. Fruit weight is typically 250 g to 350 g (equivalent to a 4 kg size 14 to 12). The fruit is thin-skinned and firm; the pulp is a rich, golden yellow colour and practically fibreless. It is aromatic with an excellent, sweet flavour with slight acidity. Brix is typically 15 to 20°. Eating quality is best when the fruit is completely ripe, indicated when the skin has completely changed to golden yellow, sometimes with slight wrinkling. Partially ripe fruit has a distinctly acidic taste. Ataulfo is high in β-carotene, vitamin C and polyphenol antioxidants, higher than typical varieties such as Tommy Atkins and Kent.

Postharvest handling

The fruit changes colour from green to golden yellow as it matures and ripens. It softens relatively quickly during ripening, but shelf-life is good with the fruit holding its appearance well. It is very sensitive to chilling injury and internal discolouration; it should be handled carefully and not stored or transported at less than 13°C, with fruit being particularly susceptible to temperatures between 10°C and 12.5°C. The fruit is moderately resistant to anthracnose.

Production

Ataulfo is an upright, vigorous tree, that can be constrained somewhat on certain rootstocks. It can typically produce 10-20 t ha-1 at 70 to 100 trees ha-1, though yields can decrease considerably if plantations are not well managed. It is not highly adaptive to climate and soil compared to varieties such as Tommy Atkins, Keitt and Haden. Flowering and harvest can be manipulated to advance the season.

Origin

The Ataulfo mango was discovered at the end of the 1950s in the Soconusco region of Chiapas on the South Pacific coast of Mexico when Héctor Cano, a coffee technician looking for alternatives to diversify agriculture in the region, found a group of mango trees bearing attractive, gold coloured fruits in the backyard of Mr. Ataulfo Morales' house in Tapachula. There are some reports that the trees originally came from Costa Rica.

KESAR

Fruit characteristics

Kesar is a small to medium-sized fruit with a roundish shape and a distinct curved tip and an average weight of about 275 g. The skin is a dull, slightly mottled yellow cadmium colour, with a green tinge when less than fully ripe, and a bluish bloom. Internally, the pulp is a deep yellow-orange to orange colour. The flesh is smooth and firm, and the flavour fragrant and intensely sweet (Brix 20 or more), with a slight acidic edge in less than fully ripe fruit. The stone is medium-sized with a little fibre attached. Eating quality is best when the fruit is completely ripe, indicated when the skin has completely changed to yellow and the fruit feels tender in the hand, sometimes with slight wrinkling of the peel.

Postharvest handling

The fruit changes colour from green to yellow as it matures and ripens. It softens relatively quickly during ripening, but shelf-life is good with the fruit holding its appearance well. Hot water treatment at 52°C for 10 mn plus a fungicide is reported to control postharvest rots. Pre-cooling to 12°C has been shown to reduce weight loss, maintain firmness, prolong shelf-life and reduce disease incidence.

Production

Today, Kesar mango is grown mainly on about 20 000 ha in the districts of Junagadh and Amreli in the Saurashtra region of Gujarat. Total annual production in India is estimated at 200 000 tonnes, which suggests a yield of 10 tonnes/ha, though yields up to 15 tonnes/ha are reported from high density planting. The tree is smaller in stature than others and moderately vigorous. It flowers and bears regularly. Kesar mango is available usually from mid-April to July.

Origin

The Kesar mango was first grown in 1931 by Junagadh Wazir Sale Bhai in Vanthali, a small town in the Junagadh district of Gujarat, though it may date from much earlier in the 16th or 17th Century during the Mughal Empire. About 75 grafted trees were then planted in the foothills of Girnar with the variety becoming known as Kesar in 1934 when Muhammad Mahabat Khan III, the last ruling Nawab of Junagadh, on seeing the rich orange pulp declared it "kesar", or saffron. Kesar mango grown around the Gir sanctuary in Gujarat is the only mango officially known as Gir Kesar mango, being granted Geographical Indication status in India in 2011.

Mango quality defects (Photos © Pierre Gerbaud, Guy Self)

INSECTS

Fruitfly larvae

Scarred-over insect pricking

Discoloration caused by scales

FUNGI AND BACTERIA

Fungal infection

Anthracnose type fungal infection

Bacterial black spot caused by *Xanthomonas citri* pv. *mangiferae indicae*

PHYSIOLOGICAL...

Misshapen fruit

Misshapen fruit

Natural discolouration of the epidermis

Stem rot

Soft stem-end rot that has progressed far into the fruit

Stem-end mold

...PHYSIOLOGICAL

Flesh cavities

Corky, white patches under the peel

PHYSICAL...

Sun scorching

...PHYSICAL

Wounding with wind-caused rubbing

Stem too long

Post-harvest sap burn

Post-harvest soiling by sap

Mechanical wounds after picking

Mechanical wounds after picking

Immaturity and spotting

Overripeness

Internal breakdown caused by excessive nitrogen (high calcium and boron contents too)

Production set for a fall

Anne-Solveig Aschehoug, consultant
annesolveig.presse@gmail.com

According to the WAPA forecasts (World Apple and Pear Association), Southern Hemisphere apple and pear harvests in 2022 should be down. Meanwhile, the export campaigns are set to be subjected to increased freight costs, and the consequences of the Russia-Ukraine conflict.

© Catherine Sanchez


© Catherine Sanchez

Apple harvest at half-mast

Southern Hemisphere apple production will be down by 7 % over one year, to 4 864 000 tonnes. This downturn can be linked to a production fall of 30 % in Brazil and 11 % in Argentina. Australia and Chile are set for smaller falls of 3 % and 2 % respectively. New Zealand and South Africa are the only countries to report a production increase, with +15 % and +4 % respectively.

Generally speaking, Chile is the biggest Southern Hemisphere apple producer, with 1 455 000 tonnes. It is followed by South Africa (1 163 000 t), Brazil (900 000 t), New Zealand (590 000 t), Argentina (445 000 t) and Australia (311 000 t).

With a total volume of 1 706 000 tonnes, the Gala variety dominates Southern Hemisphere apple production. The harvest is set to be down 7 % over one year. Despite this, operators are predicting stable exports at 1 744 762 tonnes, with a more substantial volume from New Zealand (+ 17 %) and South Africa (+ 6 %). Conversely, Brazilian exports should see a clear downturn of 65 %.

A small pear harvest

The Southern Hemisphere producer countries are predicting a fall in the overall pear harvest of 6 %, to 1 229 000 tonnes, due primarily to Argentina (- 13 %), Chile (- 11 %) and Australia (- 6 %). For its part, South Africa has announced a production rise of 5 %, and New Zealand a record harvest, up by 31 %. Argentina dominates pear production with 522 000 tonnes, followed by South Africa (492 000 t), Chile (122 000 t), Australia (81 000 t) and New Zealand (11 000 t). The Packham's Triumph variety retains its majority in production with 444 000 tonnes, despite a 4 % fall over one year. The Williams variety registered 306 000 tonnes. Meanwhile, exports are expected to be down 6 % to 641 207 tonnes, especially from Argentina (- 14 %).

This Southern Hemisphere pear campaign is marked by increased transport and logistical costs worldwide. It is also highly dependent on the Russia-Ukraine conflict. Pears bound for the Russian market come mainly from Argentina and South Africa.

APPLES – Southern Hemisphere – Harvest forecast

in tonnes	2022*	2022 compared to	
		2021	3-year average
Chile	1 455 000	- 2 %	- 6 %
South Africa	1 163 000	+ 4 %	+ 17 %
Brazil	900 000	- 30 %	- 19 %
New Zealand	590 000	+ 15 %	+ 8 %
Argentina	442 000	- 11 %	- 18 %
Australia	311 000	- 3 %	+ 7 %
TOTAL	**4 864 000**	**- 5 %**	**- 2 %**

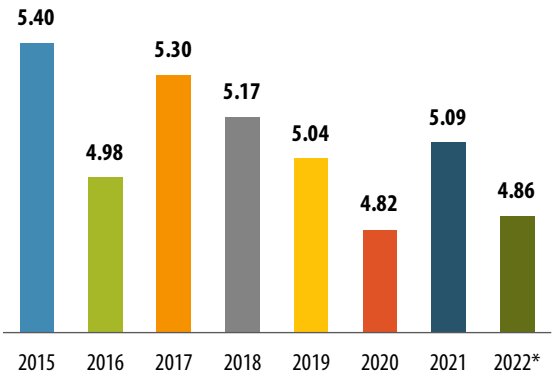
* Estimate | Source: WAPA

PEARS – Southern Hemisphere – Harvest forecast

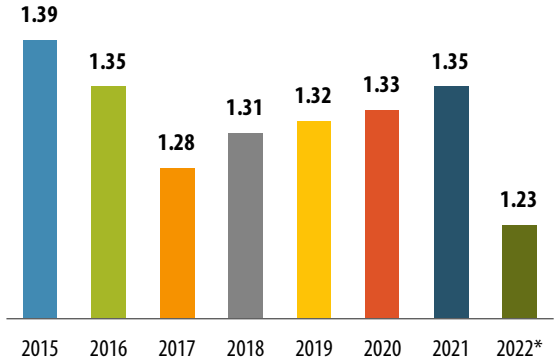
in tonnes	2022*	2022 compared to	
		2021	3-year average
Argentina	522 000	- 13 %	- 15 %
South Africa	492 000	+ 5 %	+ 12 %
Chile	122 000	- 11 %	- 26 %
Australia	81 000	- 6 %	- 8 %
New Zealand	11 000	+ 31 %	+ 2 %
TOTAL	**1 229 000**	**- 9 %**	**- 8 %**

* Estimate | Source: WAPA

Southern Hemisphere apples - Evolution of production
Chile, Brazil, South Africa, Argentina, New Zealand, Australia
(* estimate | in million tonnes | source: WAPA)



Southern Hemisphere pears - Evolution of production
Chile, Brazil, South Africa, Argentina, New Zealand, Australia
(* estimate | in million tonnes | source: WAPA)



Russia-Ukraine conflict causing a revision of campaign plans

In 2021, Argentina shipped 73 765 tonnes of pears and 8 573 tonnes of apples to Russia; for South Africa, the figures were 47 576 tonnes of pears and 30 199 tonnes of apples. South Africa exports in particular category II pears, i.e. all small Packhams and Abate Fetel. Russia alone imported 21 % of South African pear volumes in 2021.

With the current situation and congestion of North European ports, Southern Hemisphere countries usually making big exports to Russia will need to revise their trading plans, and sell their apples and pears on the European market, or even in the Middle East. The devaluation of the rouble is not a good sign at all. Hence the fruit could be unloaded onto the European market, which would probably lower prices and destabilise the market, while production costs are soaring in the producer countries with the increased energy costs, in particular for oil, inputs, fertilisers, packaging, and above all the additional logistical costs (+ 300 % in one year).

According to the Argentinean press, in mid-March, 11 000 tonnes of apples and pears had already been loaded onto ships that would normally be bound for the Russian market. We can also note a big reduction in fruit consumption in Russia, because of increased prices due to devaluation of the rouble, logistical problems and the panic effect among the population, which is opting to hoard rather than consume. Fruit prices in Russian supermarkets have apparently doubled since the start of the war in Ukraine. To counteract this phenomenon, Russia has re-authorised apple and pear imports from China, and also Turkey. The exclusion of several Russian banks from the SWIFT payment system is causing exporters major difficulties in getting paid. Credit insurers have pulled out of the Russian market, and the collapse of the rouble could lead to heavy losses for operators.

APPLES – Russia – Imports

in tonnes	2017	2018	2019	2020	2021
Moldova	229 317	246 035	250 020	206 258	207 786
Serbia	168 122	125 611	160 472	131 784	124 346
Turkey	9 008	41 631	10 615	44 951	63 401
Azerbaijan	66 846	82 322	88 575	66 952	62 229
South Africa	16 556	16 041	14 266	40 540	30 199
Brazil	2 352	9 757	5 931	19 719	21 586
Belarus	38 030	55 478	36 056	19 113	21 079
Macedonia	9 300	8 899	18 195	23 180	17 313
Georgia	888	1 857	9 921	9 591	16 075
New Zealand	8 341	8 310	9 287	21 141	15 048
Chile	27 322	29 720	18 516	28 044	10 456
Argentina	11 071	17 581	16 978	10 636	8 573
China	100 160	128 930	25 587	-	-
Others	18 240	71 291	36 125	29 571	17 184
Total	**705 553**	**843 463**	**700 544**	**651 480**	**615 275**

Source: Comtrade

European stocks: an increase for apples, and a big fall for pears

As at 1st February 2022, apple stocks in Europe were up by 7 % over one year, to 3 606 980 t. This increase was due above all to stocks of Red Jonaprince (+ 36 % over year), Golden Delicious (+ 23 %), Gala (+ 20 %) and Jonagold (+ 17 %). Several varieties saw their stocks drop, such as Cripps Pink (- 17 %) and Granny Smith (- 13 %). Belgian stocks recorded a figure of 115 832 t (+ 66 % as opposed to + 59 % as at 1st January). The Italian figure was 1 018 609 t (stable over one year). Polish stocks were at 1 148 000 t (+ 8 %). This increase is due to the effect of the Belarus embargo since 1st January 2022. The French stocks level was around 484 865 t.

As for pear stocks, they were down by 30 % over one year at 408 340 t, and 26 % below the five-year average. This downturn in volumes was due above all to the small Italian Abate Fetel harvest. The Italian pear stocks level was 21 132 t as at 1st February, down by 83 % over one year, and 84 % below the five-year average. French stocks recorded a figure of 3 755 t (- 50 % over one year, and 40 % below the five-year average). Belgium registered a slightly higher level of 159 885 tonnes, with a deferral of stocks originally bound for Belarus. In the Netherlands, they reached 148 119 t, down 17 % over one year, and 11 % below the five-year average ■

PEARS – Russia – Imports

in tonnes	2017	2018	2019	2020	2021
Argentina	71 035	82 533	84 173	89 540	73 765
South Africa	28 701	32 452	35 946	44 652	47 576
Belarus	84 569	66 991	44 529	32 480	46 562
Turkey	13 191	12 727	15 106	27 761	32 015
Chile	14 382	16 505	21 552	12 604	14 315
Bosnia-Herz.	10 167	8 422	6 930	5 327	1 578
China	40 072	38 740	11 112	-	-
Others	9 087	12 966	8 799	7 912	9 329
Total	**271 204**	**271 336**	**228 147**	**220 276**	**225 140**

Source: Comtrade

VITROPIC S.A.

Tissue culture production of tropical fruit plants

Your banana tissue culture plant specialist

A unique range of elite varieties

What we promise you

The most productive selected elite varieties

Prime bunch quality

Optimum homogeneity in the field

The best sanitary guarantees of the market

Unequalled responsiveness

Tel: +33 (0)4 67 55 34 58
Fax: +33 (0)4 67 55 23 05
vitropic@vitropic.fr

ZAE des Avants
34270 Saint Mathieu de Tréviers
FRANCE
www.vitropic.fr

Visiblement, cette banane avait vraiment un goût *Suprême*

La banane *Suprême* est cultivée sur des terres volcaniques riches et baignées de soleil, cueillie à la main à pleine maturité, sélectionnée avec un soin extrême et acheminée jusqu'à vous dans les meilleures conditions de transport qui soient. De calibre minimum garantit de 22 cm et d'une saveur intense et incomparable, elle vous fera redécouvrir le vrai goût de la banane et transformera chaque dégustation en une expérience sensorielle unique.

COMPAGNIE FRUITIERE