

# FR*ui*TROP

MAGAZINE  
NOVEMBER-DECEMBER 2020  
N°272

## CITRUSES

MEDITERRANEAN PRODUCTION FORECAST

2020-2021



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# Editorial



## The sesame opening Pandora's box.

We opted for a humorous twist in the headline to talk about this veritable “Sesamegate”, which has fuelled great chatter among the food sector professionals in recent weeks. If we start with the facts, it is the French Fraud Repression Service which puts it best: “The French health authorities were informed in early September by their Belgian counterparts, via the RASFF, of the presence of a chemical, ethylene oxide, with a content exceeding the maximum regulatory limit in certain batches of imported sesame seeds.” Classified as a category 2, R46 mutagen by the European Union, ethylene oxide is used as a sterilisation agent. This affair reminds us of a few truths about the food industries in Europe. The first is very reassuring, since the European monitoring system is working, providing traceability. Consumer alerts and product recalls provide overwhelming proof of this. So the citizen can trust the system. This is fundamental for any sector, especially the food sector.

It also speaks volumes about globalisation and the interpenetration of economies. A few dozen tonnes of an ingredient imported into Europe from India led to the recall in France alone of nearly 1 200 references (as at 24 November, with the list regularly updated). Back in 2019, an alert for poppy seeds overloaded with opiate alkaloids was in the news.

Finally, and this is the really shocking point, a very high proportion of the recalled products are organic; and this will start homo consummatus vulgaris wondering. How to explain the presence of chemicals, and moreover in proportions potentially up to 1 000 times the regulatory limit, in an ingredient of certified foods sold under the organic label? How to explain that organic labelled products can include non-organic ingredients? Well, it's a cruel world for unaware and naïve consumers. You need to read the small print on the packaging to see that 5 % of the ingredients in the recipe of an organic product might not be organic. Since the dose does not make the poison in every case, a high contamination level of 5 % of a product, as is the case for this Indian sesame, is no longer a trivial matter. As an irony of history, the sesame is according to the belief commonly held by food crusaders “a small seed with big benefits”, so beloved by the ayatollahs of good eating. I suggest they combine the poppy with the sesame. We don't know the combined effects of ethylene oxide and morphine, but in the land of dreams, the pink elephants are bound to turn up.

Denis Lœillet



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Cover design: J'article

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## Pineapple

prepared by  
*Carolina Dawson  
and Thierry Paqui*



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## French banana market supply in September 2020:

### French market not slowing down.

September 2020 was the eight consecutive growth month for the banana supply into France. After only + 1 % in August, marketing saw a vigorous recovery in September, with a 4 % gain. Unsurprisingly, it was the dollar origins which boosted the supply, with a monthly increase of 45 % (from September 2019). We can also note a boom in imports from EU Member States in September, confirming the establishment of a steady flow of bananas from third-country origins (primarily in the dollar zone). Guadeloupe's rise kept pace with the market, with a 4 % gain. Conversely Martinique, the ACP origins group and re-exports registered falls which at times were considerable. Over 9 months, the market rose by 5 % to 520 000 tonnes (+ 25 000 tonnes). On a 12-month sliding scale, the supply level was 693 000 tonnes, i.e. 24 000 tonnes more and 4 % better than one year previously.

Source: CIRAD



Banana – France – Supply  
from January to September 2020\*

in tonnes	2018	2019	2020	2020/2019
Guadeloupe and Martinique	120 003	147 583	139 616	- 5 %
ACP	341 944	346 443	310 771	- 10 %
Dollar	176 916	140 724	182 784	+ 30 %
Via a Member State**	13 823	6 879	16 548	+ 141 %
<b>Gross supply</b>	<b>652 686</b>	<b>641 628</b>	<b>649 719</b>	<b>+ 1 %</b>
Re-export	185 055	147 230	130 212	- 12 %
<b>Net supply</b>	<b>467 631</b>	<b>494 398</b>	<b>519 507</b>	<b>+ 5 %</b>

\* provisional | \*\* Via another Member State, therefore loss of the notion of origin  
sources: French Customs, UGPBAN | processed by Cirad-Fruitrop

## European banana market: Cyclone ETA to the rescue for European contract banana prices in 2021?

The Atlantic cyclone season is definitely dragging on. Cyclone ETA, which recently hit Nicaragua in week 45-2020, and climbed up Central America via Honduras, Guatemala and Belize before escaping towards Cuba, left behind a trail of very serious human and material damage. For readers of a certain age, the intensity of cyclone ETA was equivalent to that of Cyclone Mitch, which devastated this part of the world in 1998. For the agricultural sector, and particularly the banana sector, there was major damage. It is still a tricky matter to estimate the losses so soon after such a big climate vagary, but already 10 000 ha of banana plantations have been registered as affected, to degrees ranging from complete destruction (especially Honduras) to flooding (especially in Guatemala), which could, depending on the rate of water discharge, lead to the complete loss of the harvest and a big reduction in the production potential over the first half of 2021.

Under these conditions, there will doubtless be a new tone to the discussions between the upstream and downstream segments in Europe over the contract prices for 2021. While initial estimates raised fears of a fall to a historically low level (see <https://www.fruitrop.com/en/Articles-by-subject/Direct-from-the-markets/2020/Aldi-Europe-banana-contract-price-for-2021-lower-than-ever>), hundreds of thousands of boxes lost every week, over a period of months, will now shift the balance. Given the recent climate vagaries in the Philippines, production peaks which are now past (Colombia, Costa Rica), as well as a potential trade-off by Costa Rica and Ecuador in favour of the USA (to make up for the reduction in Central American export potential), a start to the year with a low supply pressure now seems to be the likeliest scenario.

Source: CIRAD

The logo for Trops, featuring the word "Trops" in a white, bold, serif font inside a red oval shape.

# Trops

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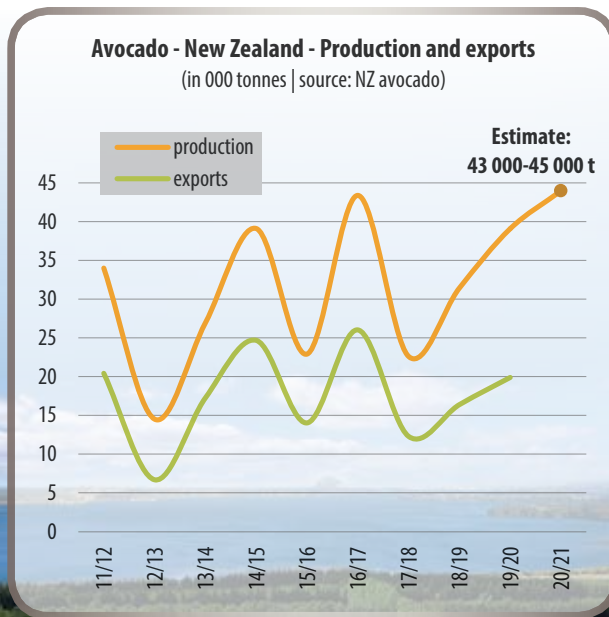
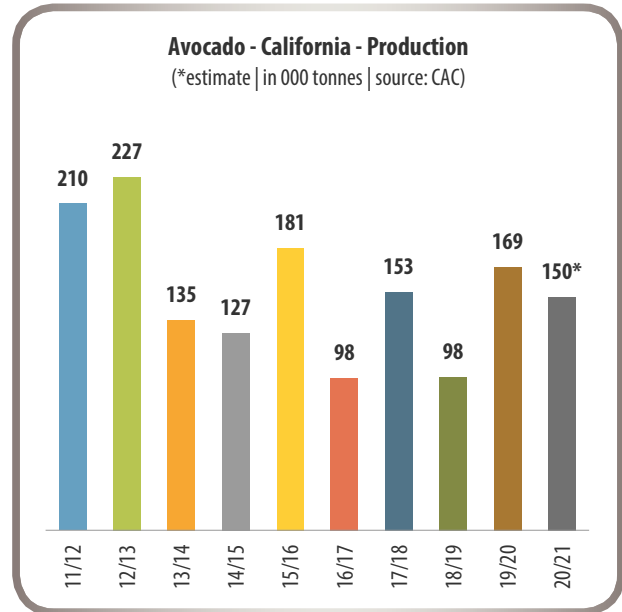
# The Gourmet's Choice



**2020-21 Californian avocado harvest: a limited alternate bearing effect.**

The high harvest level in 2019-20 pointed to a big alternate bearing swing. Yet this is not the case, according to the initial forecast from the California Avocado Commission. With an expected 150 000 t, production should fall by only just over 10 % from 2019-20, and maintain a level 15 % above average. The wildfires which hit California, though unprecedented in intensity, appear to have spared the orchards, and the heatwave has had only a moderate impact, especially thanks to the good water reserves accumulated in 2019. Furthermore, the 2020 survey confirmed a stabilisation trend for the cultivation area (between 20 500 and 20 800 ha of young or fruit-bearing trees over the past three years). The surface area shrinkage trend has practically come to a halt in the south, while there is a very slight rise in the north.

Source: CAC



**New Zealand avocado: a growing industry in transformation.**

New Zealand's avocado industry is continuing its rise to the fore, with its 2020-21 harvest expected to be up by approximately 10 to 15 % on the previous year. This movement is primarily due to the major planting carried out in recent years (approximately 1 000 ha of young orchards recorded in 2019, in addition to the just over 3 900 ha in production). This is tending to modify the structure of the industry, both in terms of its geographic centre of gravity and the profile of its growers. It is the provinces in the far north of the country which are being targeted (weaker alternate bearing effect in these warmer Far North zones), with much larger-scale projects than the national average (50 to 200 ha, as opposed to 4 ha!) and a high technical level (high density, etc.). The Australian market, which accounts for three-quarters of its exports, should give a warm welcome to the additional volumes available in 2020-21. Local production in Western Australia, a competitor during New Zealand's season, is in shortfall. However, this is a temporary fall, due to pollination problems. The cultivation area is also expanding rapidly in this zone, as is shown by the production trend (33 000 t in 2019-20, as opposed to 15 000 t on average 5 years previously), a medium-term challenge for New Zealand, which could see a drastic contraction of its main market.

Sources: Avocado Australia, NZ avocado



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## **Madagascan litchi: ships en route for Europe.**

While all the Indian Ocean origins have been shipping air-freight litchis to the European market for the past fortnight, Madagascar is winding down its sea-freight export campaign. The official opening of the Madagascan litchi export campaign, on 13 November, led to air-freight shipments, but also to two conventional shiploads, intended to supply the European markets for the end-of-year festivities. The Baltic Klipper, which was loaded from 14 to 17 November, sailed as soon as loading was complete. Taking the northern route via the Suez Canal, and loaded with approximately 7 800 pallets of litchi, this ship will call at Marseille on around 30 November to offload nearly one third of its cargo. The rest of its load will be handled in Zeebrugge from 7 December. The Atlantic Klipper, the second ship scheduled for this campaign, finished loading in Toamasina on 19 November. It is due to reach Zeebrugge on 10 December, via the Cape, with approximately 5 300 pallets on-board. While the Madagascan litchi campaign can be considered over, it remains to be seen how the European markets will react in commercial terms, in this most peculiar of contexts.

Source: Pierre Gerbaud



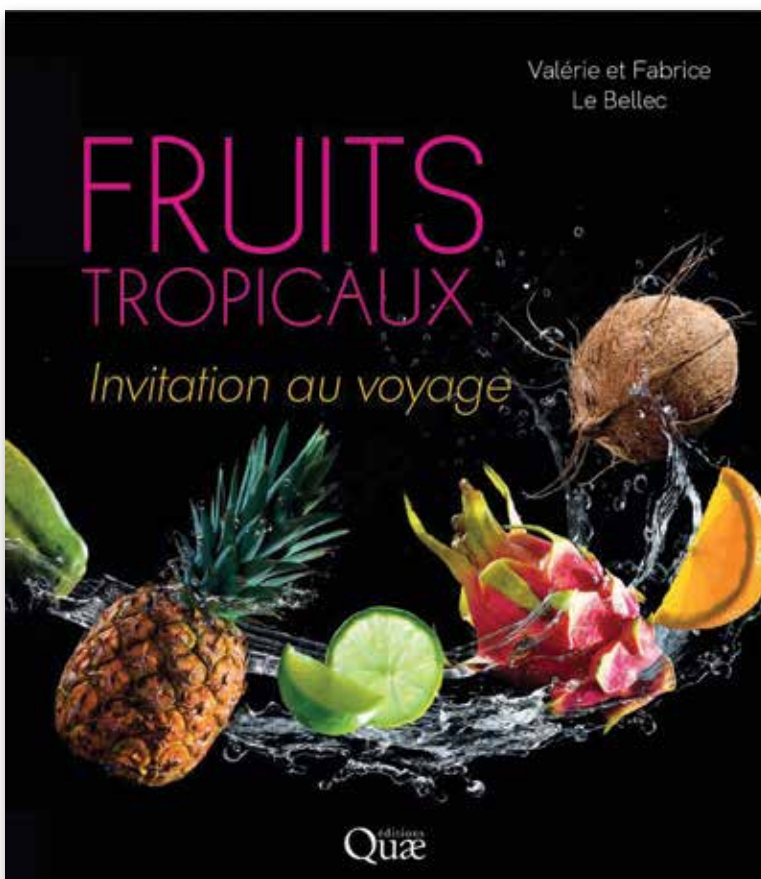
## **Release of the book by Valérie and Fabrice Le Bellec: “Tropical fruits, an invitation to travel”**

The pineapple originates from Africa, the dragon fruit (pita-haya) from Vietnam, the grapefruit from Florida, the litchi from Madagascar, the avocado from Israel... Is that right? Well no, all these statements are false! The fruits presented here thrive in tropical, sub-tropical or even warm temperate climates. We set out together to discover their histories, particularities, and uses in foods or medicines.

Tropical fruits have always been traded between tribes, peoples and nations. From the 15<sup>th</sup> Century onwards, this intercontinental trade gathered pace with the big European expeditions of discovery and colonisation. This has resulted in today's worldwide distribution of the main fruit species; hence the avocado, which originated in Mexico, is cultivated and prized worldwide, as are citruses, originally from the foothills of the Himalayas. However, just a few decades ago, only fruits that could withstand long sea voyages were marketed outside of their production area. The banana was one of the first to achieve a wide reach. The development of air freight then made it easier for these fruits to make it onto our shelves.

On another note, how many tropical fruits do you know? Ten, twenty, maybe thirty, those commonly found on the markets? Without neglecting the most common, this book invites you to discover many more, indeed over 80... from their origins to their uses, extending a genuine invitation to travel!

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## **No crisis for Ivorian mango exports in 2020**

*After two mediocre campaigns, 2020 has been a reassuring year for Ivorian exporters. The fall in volumes and market restrictions have helped maintain decent sale prices throughout the campaign.*

© Virginie Pugnet



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In Côte d'Ivoire, uncertainties over the outcome of the 2020 campaign were quickly lifted thanks to the intervention of the Ministry for Agriculture, which enabled the implementation of exceptional and appropriate measures, in the context of the health crisis: transport permits for fresh fruit exports, providing phytosanitary services at the packing stations, etc., while Abidjan was locked down and cut off from the rest of the country.

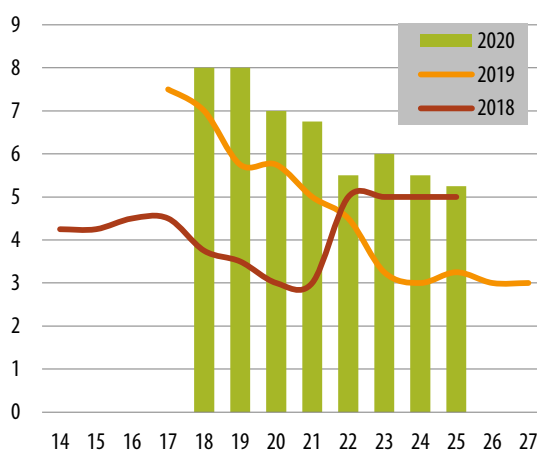
Most European countries were in lockdown during the mango harvesting period in April and May. Traditional Ivorian mango importers scaled back their orders, in the face of an uncertain European market and outlets exclusively reserved for the supermarket sector. Numerous contracts were cancelled or reduced. Then, during the campaign, the lockdown easing in Germany enabled the market to open up, providing bigger outlets for the Ivorian mango.

Furthermore, the closure of airports, whether in Europe or Côte d'Ivoire, were an impediment to air-freight exports.

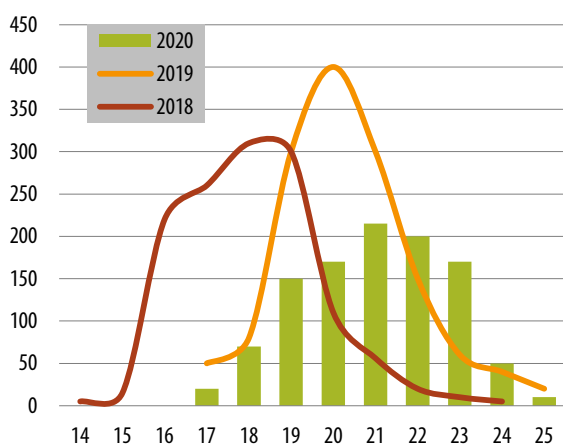


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**Côte d'Ivoire sea-freight Kent mango - France**  
**Weekly average import price**  
 (in euro/box | source: Pierre Gerbaud)



**Côte d'Ivoire sea-freight mango - France**  
**Weekly incoming shipments**  
 (in number of containers | source: Pierre Gerbaud)



## Reinforced measures against the Covid-19 pandemic

The packing stations had to adapt their operations to the new hygiene and social distancing measures, and to new working hours.

The additional constraints for the 2020 campaign comprised all personnel having to wear a mask, packing personnel cutbacks to enable better social distancing, reduced packing and harvesting working hours to adhere to the curfew implemented by the authorities, and reinforced hygiene measures.

The campaign opened on 10 April 2020 and finished in early June. However, the majority of volumes were exported between 10 April and 10 May, with the Kent variety. There were no Amélie or Keitt exports.

Exporters, under the inter-professional association (Inter Mangue), agreed to delay the campaign slightly, to allow the Peruvian volumes still on the European markets to sell off.



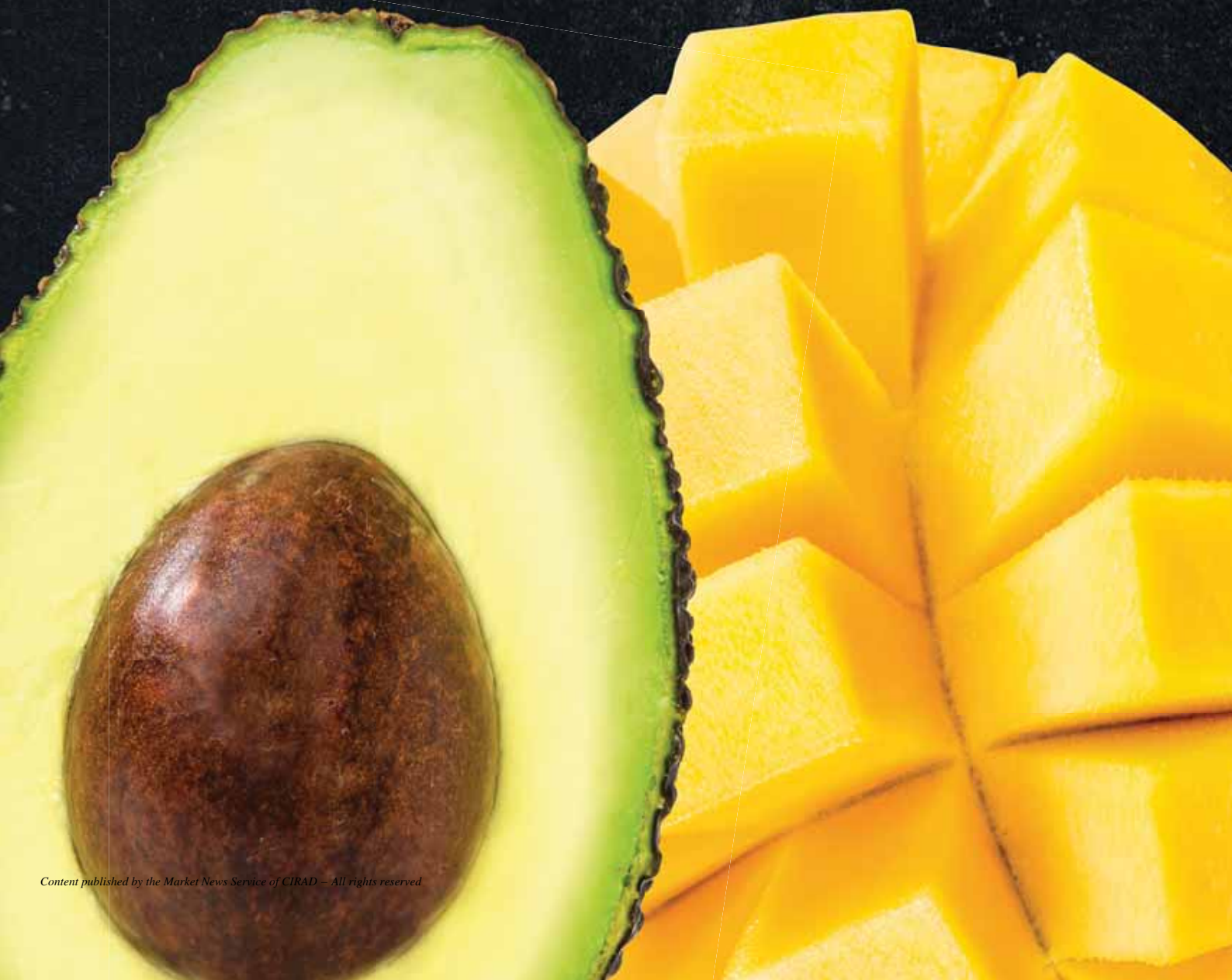
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## Volumes falling steeply

Ivorian mango exports to the European Union went from 28 000 tonnes in 2019 to 23 000 tonnes in 2020, i.e. a 20 % fall, despite good plantation production. The main cause was the European market shrinking due to the Covid pandemic.

Sea-freight logistics out of the port of Abidjan worked quite well. The AEL line (banana ships), as well as the conventional lines (especially MSC), did not suffer any disruption. The voyage time of 11 days was maintained. The transport of the containers from port to the production zone in the north of the country went smoothly, thanks to the exceptional measures taken by the Ministry of Agriculture.

Conversely, air-freight mango exports represented the real challenge. In a context of no passenger flights, except for special repatriation flights, Air France KLM and Martinair Cargo provided cargo flights aimed solely at taking Ivorian mangos. With a capacity of 45 tonnes, chartered cargo flights, with a frequency of two or three a week, were able to serve the market during April and May, at the height of the lockdown in Europe. Bolloré Transport et Logistique also exported 80 tonnes of air-freight mangos. Sales prices maintained reasonable levels, despite the increase in the air-freight prices.

Under pressure from Europe, Côte d'Ivoire had to redevelop and put forward a strategic fruit fly management plan, as this is a quarantined organism in the European Union. For several years, Côte d'Ivoire has applied large-scale biological treatments. In 2019, exporters were forced to provide phytosanitary products to combat fruit flies. This year, the Ministry of Agriculture's programme PAFDA (agricultural industries development support programme) financed the provision of treatment products, banking on ease of use for the growers: traps.

The phytosanitary objectives were achieved this year, with Côte d'Ivoire registering only four interceptions due to fruit fly detection. This is a notable success, after the major phytosanitary problems encountered in previous campaigns. In 2018, there were 23 interceptions, and 17 in 2019.



## New production support measures for 2020-2021

Following the production losses due to the Covid-19 pandemic, estimated at nearly 65 %, the Ivorian State granted the mango industry a subsidy of 7.62 million euros. This subsidy, aimed mainly at supporting growers, should enable the implementation of plantation maintenance actions: tree pruning, phytosanitary treatments (against anthracnose, bacteriosis and mango mealybug), providing fruit fly traps for the 2021 campaign, etc. Some resources could also be distributed to extra growers once their plots have been identified ■

Virginie Pugnet



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## Producer country file

# The banana in the French West Indies

by Noémie Cantrelle and Carolina Dawson, with the collaboration of Denis Lœillet, Thierry Lescot and JM. Risède

The number two European banana production zone behind the Canaries, the French West Indies (Guadeloupe and Martinique) face numerous challenges, including frequent climate vagaries, high production costs and increasingly restrictive phytosanitary regulations. Despite these growing constraints, and production below the 200 000-tonnes mark for the past three years, the FWI industry is holding up, and undergoing a profound transformation. On the one hand, the productive fabric has been able to adapt, and very quickly at that, to the principles and techniques of agroecology in a tropical environment, to cope with changes to the European regulatory framework in terms of pesticide use. On the other hand, and thanks to a downstream strategy focused on differentiation and sustainability, the industry has been able to harness consumer demand for healthy produce of French origin. Thanks to this, the banana grown in the FWI, which is recognised as a world laboratory for good social and environmental practices for this crop, is now firmly established on the Mainland French market.

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#bananeguadeloupemartinique



### History

It was during the 16<sup>th</sup> Century that the banana was introduced to the French West Indies from neighbouring islands colonised by the Spanish. The wars fought between the Spanish, British, French and Dutch throughout the Caribbean stimulated trade between the islands, and in particular boosted planting of emergency food crops and reserves for the various navies and local populations. French colonists arriving on Martinique and Guadeloupe in the 16<sup>th</sup> Century at first used the banana only for shade in the cacao and coffee plantations.

It was much later, from the 1920s, that the dessert banana became a diversification and export crop in the FWI. Quick to plant and bear fruit, especially after the cyclones which ravage coffee and cacao plantations, it was deemed useful by growers, and made rapid progress as a credible alternative to traditional sugar planting. Banana production developed at this time in a fragmented agricultural landscape, alongside food crops and livestock farming. It quickly became one of the top agricultural speculations on both Martinique and Guadeloupe, alongside sugar cane.



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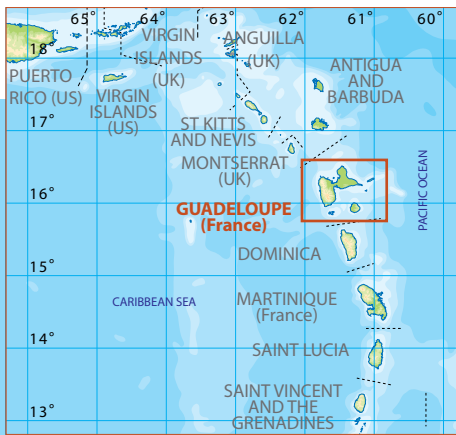
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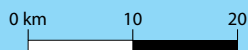
### Location – Guadeloupe

With a surface area of 1 438 km<sup>2</sup>, Guadeloupe is the biggest island in the FWI. It is situated in the middle of the arc formed by the West Indies archipelago, in the Windward Islands. It comprises two twin islands separated by a narrow sea channel known as “Rivière Salée”: Grande-Terre to the east has flat terrain, while Basse-Terre to the west has rough terrain, dominated by the Soufrière Volcano (1 484 metres). Nearly 80 % of banana farms are located on the broad slopes of Basse-Terre, with its highly fertile volcanic soil. The annual rainfall is high (between 2 000 and 3 500 mm in the banana zones), but unequally distributed because of the terrain and a dryer period from December to May, known as Carême. Hence on the limestone plateaux of Grande-Terre, the traditional sugar cane production zone, irrigation is a must. The banana planted area extends over 2 850 ha (2019 figure, including fallowed areas).



**Guadeloupe**  
2 850 ha

Banana production zones



Map developed using data from DAAF Guadeloupe

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### Production – Martinique

The production growth from 2008 to 2014 was due in particular to plantation renewal and to the better yields obtained, especially through implementing and spreading innovative cropping techniques harnessing preventive measures and better fertility management, under the Sustainable Banana Plan (see Sustainable Banana Plan inset) developed with the support of the State and European aid (see POSEI inset). Hence yields climbed to on average 32.5 tonnes/ha in 2015 (excluding fallowed areas), although they ranged from 10 tonnes/ha on smallholdings measuring less than 5 ha, up to 50 tonnes/ha on farms measuring 50 ha or more. Growers have implemented and spread agro-ecology based practices. This move toward a more virtuous, though more labour-intensive, production system, has been accompanied by a concentration trend. The average farm size went from 12.1 ha in 2002 to nearly 20 ha in 2015 (excluding fallowed areas). Production is now based on medium-sized facilities, highly specialised in the banana. Hence in the space of seven years and ahead of the commitments made to reduce pesticide use, the sector has become a benchmark in terms of minimising environmental impacts, while continuing to offer its employees very high-level social conditions. It remains one of the island's economic engines: the leading private employer with 10 000 employees currently working for the industry in the FWI, with 63 % of the agricultural workforce.

Given the urban development pressure, the useful agricultural surface area (UAS) has been falling for over twenty years. The UAS now represents just 21.9 % of the territory, as opposed to 28.4 % in 2000. This considerable overall fall is reflected in the banana sector, the number two agricultural activity in terms of surface area behind livestock farming grassland production, and ahead of sugar cane. Productive banana surface areas went from 7 400 ha in 2002 to just 5 000 ha in 2019.

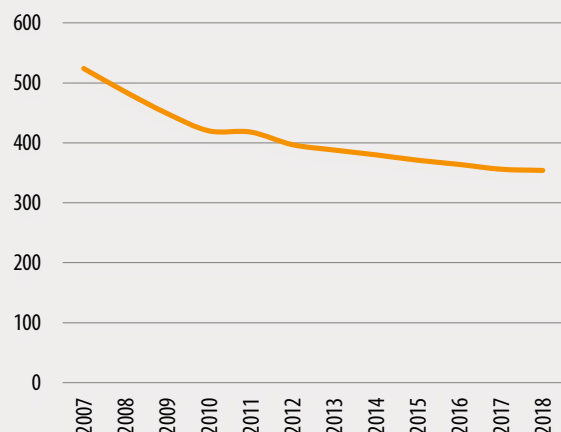
In parallel, in the space of fifteen years, the number of farms focused on export bananas has practically halved, going from 688 in 2003 to just 354 in 2018. Besides the increased competition on the European market and production aid reform, production costs are high. The minimum gross wage is around 1 500 euros per month, and employees enjoy all the advantages of French labour law.

The fact remains that climate vagaries are frequent, and shape production: following Cyclone Dean, the entire banana planted area on Martinique was ravaged, with production reaching a low in 2007. Thereafter, surface areas and production took an upturn, despite Cyclone Thomas in 2010 and Tropical Storms Rafael in 2012 and Chantal in 2013. In 2015, exports reached practically 200 000 tonnes. However, more recently and especially since 2016 and 2017, following Tropical Storms Matthew and Maria, the fall in production and surface areas has been confirmed. In 2019 and 2020, Martinique was hit by a severe drought, reducing production a little bit further.



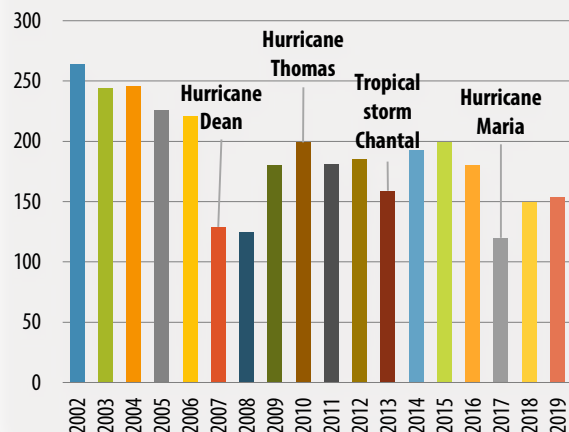
**Banana - Martinique - Number of farms**

(sources: European Commission, ODEADOM)



**Banana - Martinique - Evolution of marketed volumes**

(in 000 tonnes | sources: European Commission, ODEADOM)



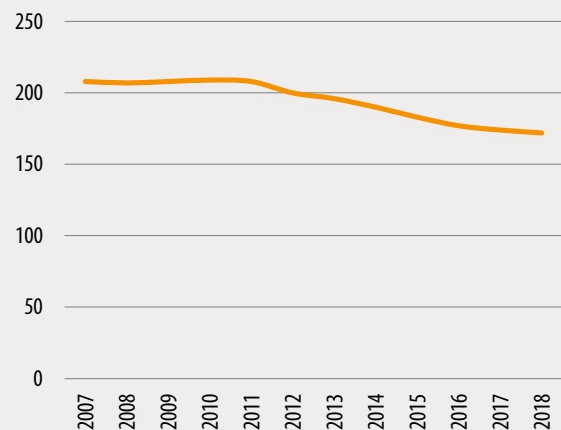


### Production – Guadeloupe

The farms are small for topographical and also historical reasons, with small and medium growers in the majority. From 2010, production made distinct progress, setting a new record in 2014, by producing more than 70 000 tonnes in a surface area of around 2 000 ha, i.e. with a yield of nearly 35 tonnes/ha. This success was due to the production recovery process in 2006 and consolidated by the Sustainable Banana Plan, the design of which was well-suited to Guadeloupe's particular production facilities, and which improved competitiveness through concentration of surface areas. However, the banana sector had registered a distinct downturn from the 1980s, which can be explained by high land pressure, due to a dynamic demographic trend. Urban development projects reduced access to agricultural land, making it difficult for young farmers to become established. As a result, Guadeloupe's useful agricultural surface area has decreased by 25 % since the early 2000s. The productive banana planted area went from approximately 2 000 ha in 2015 to 1 400 ha in 2019. On top of that, production costs are very high. Unlike the sugar cane, situated primarily on the large plains of Grande-Terre, banana production is concentrated in zones which are not always mechanisable, due to the rough terrain (mountainous). So the crop is highly labour-intensive, and the workforce subject to French law. In addition, the tropical climate exposes the production to relatively frequent climate vagaries: cyclones, winds in 2007, 2010 and 2011, volcanic ash in 2010 and drought in 2015, 2019 and 2020.

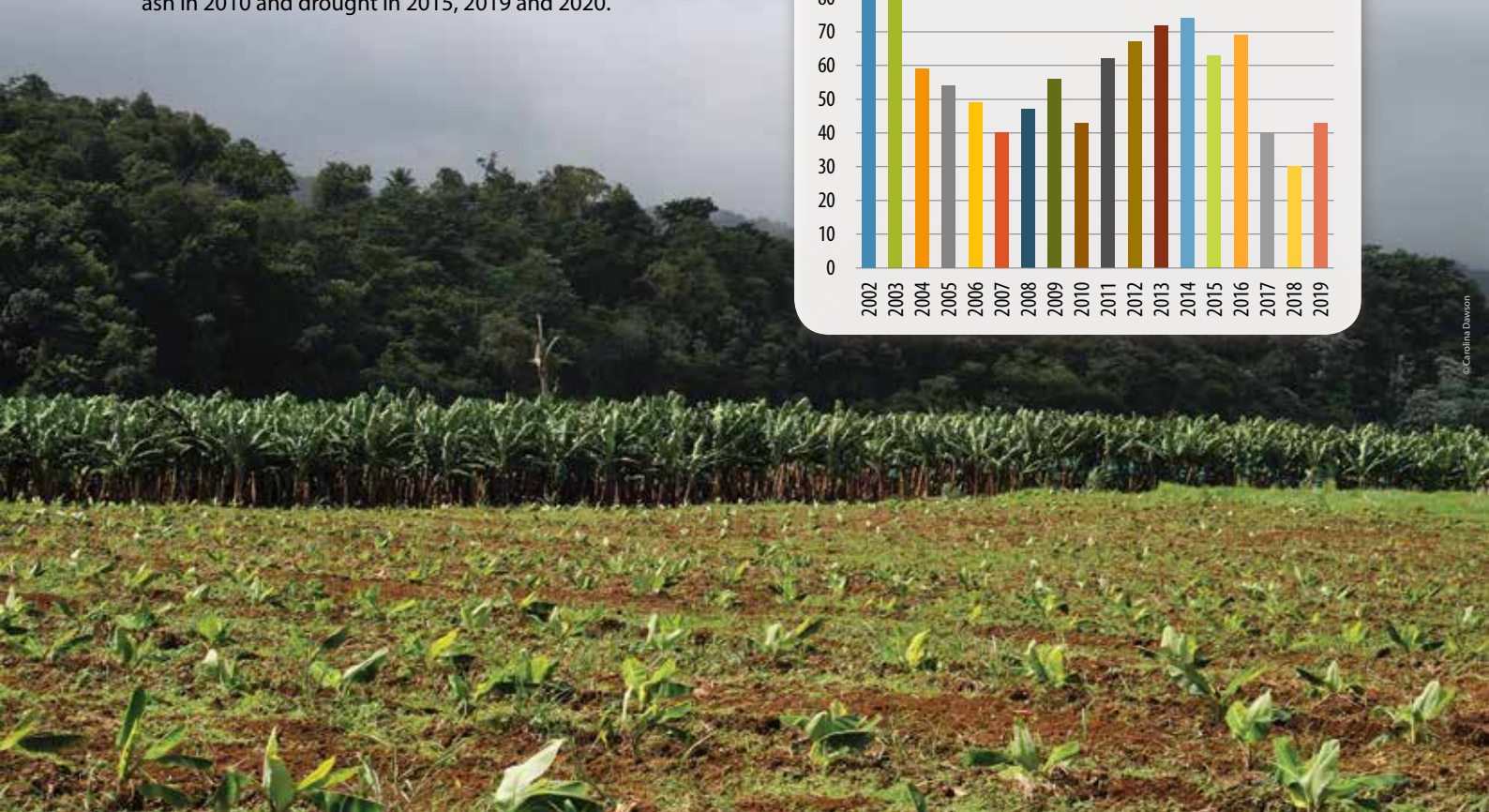
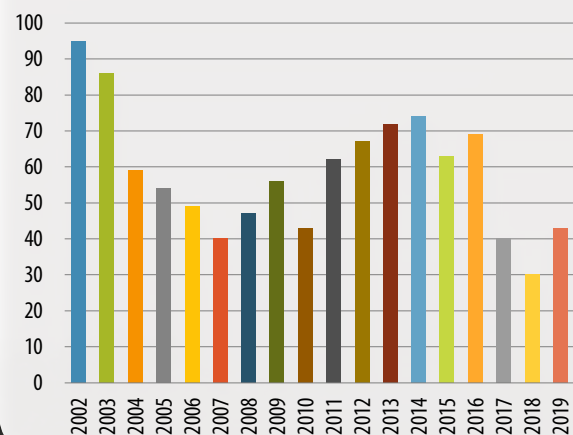
**Banana - Guadeloupe - Number of farms**

(sources: European Commission, ODEADOM)



**Banana - Guadeloupe - Evolution of marketed volumes**

(in 000 tonnes | sources: European Commission, ODEADOM)



### Agronomics

There are serious agronomic and climate constraints on both islands. Phytoparasitic nematodes and weevils are for the time being no longer of primary concern, thanks to a patient remediation campaign: agro-ecological management of soil parasites with large-scale fallowing, crop rotations and sound planting stock (vitroplants). Conversely, it is control of black sigatoka, which appeared in 2010 on Martinique and in 2012 on Guadeloupe, which is posing the most difficulties. Sigatoka management has become especially complex since the industry has had to adapt to the new prohibition of aerial spraying for pest management. Furthermore, the gradual ban on use of several molecules, as well as a reduction in the number of authorised treatments, makes disease management extremely complex.

So in the space of two decades, the FWI production model has fundamentally changed, to adopt a set of principles and techniques based on agro-ecology: alert-based sigatoka treatment, sound planting stock (vitroplants), weevil trapping using pheromones, sanitary defoliation, service plant cover enhanced by combinations with the banana plants or crop rotations, remediative fallowing, etc. Over time, Martinique and Guadeloupe have become by far

among the best-performing dessert banana production and export zones, situated in wet tropical environments, in terms of reducing and mitigating environmental impacts. This agro-technical expertise enables growers to offer a wide range of products, and capitalise on the efforts made in the field. This encompasses organic, a newcomer which is set to expand, zero pesticide residue, as well as pesticide-free or custom ranges such as Carrefour's "Filière Qualité" banana.

Efforts are also being made in varietal diversification. Cirad, supporting the production industry and in interaction with IT2, has developed a conventional creation and varietal selection programme, which is aimed at obtaining varieties tolerant or resistant to diseases and pests, but also at diversifying a production model based for decades solely on the Cavendish group. The Pointe d'Or®, which exhibits a very good resistance to black sigatoka, is the first variety from this programme to be produced in the FWI, and to be placed on the market in France.



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### Organisation

Since 2012, growers have been grouped in two growers' organisations: Banamart on Martinique and LPG (Les Producteurs de Guadeloupe) on Guadeloupe. While in 2004 Martinique had four coexisting growers' groups (Sicabam, Gipam, Cobamar and Banalliance), since the 1st of January 2012 Banamart has been Martinique's sole planters' organisation.

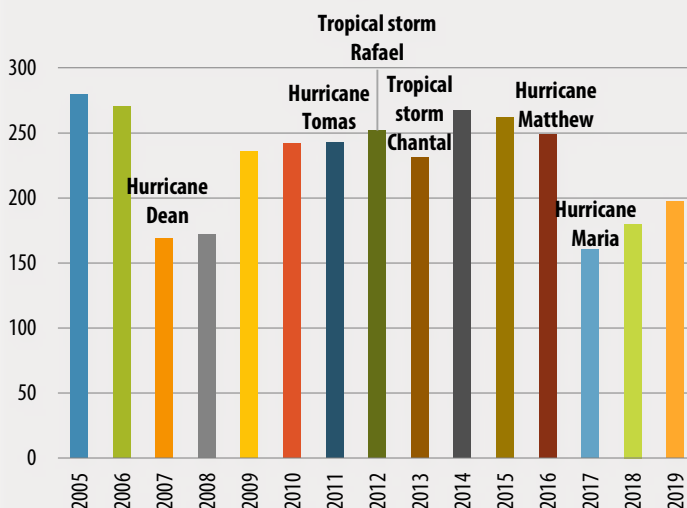
Exports from the two islands all pass via the same marketing channel: UGPBAN (the Guadeloupe & Martinique Banana Growers' Groups Union), which since 2003 has governed all the growers' organisations in the FWI. In January 2009, the ripening centres of Fruidor group (9 in Mainland France) stepped up their production capacity, to a level of around 200 000 tonnes. In January 2020, the group acquired three new ripening centres belonging to Canavese, with a potential of 39 000 tonnes, taking Fruidor's ripening capacity to 240 000 tonnes, and making it the French number one.

In 2015, UGPBAN carried out custom industrial developments on its Dunkirk warehouses, as part of the launch of the FWI banana "francité" concept [Frenchness], which stands out for its innovative packaging. The bananas, already pre-cut in bunches of 3, 5 or 6 fingers, are repacked in 14.5-kg net open top boxes of 80 pieces, and sashed together in batches or bunches before ripening in Fruidor's network. This major financial and human investment is part of a differentiation approach aimed at enhancing the origin. The sashed "francité" banana now represents 15 to 17 % of the total FWI supply.

In order to offer their customers a wide range of products and guarantee them a supply in case of climate vagaries in Martinique and Guadeloupe, the ripening centres are procuring from a wide range of origins. This unified organisation has invigorated the sector through implementing effective marketing and promotional policies.



**Banana - French West Indies - Evolution of marketed volumes**  
(in 000 tonnes | sources: European Commission, ODEADOM)



The sector is also supported by numerous French public bodies. ODEADOM (Office for Development of the French Overseas Agricultural Economy) is managing the EU's POSEI programme, which provides production aid to offset the lack of competitiveness of European origins in relation to other suppliers to the EU market (dollar, ACP – see POSEI inset). When the first Sustainable Banana Plan was implemented in 2008, IT2 (Tropical Technical Institute) was set up. It contributes to coordinating research and development actions, and to supporting dissemination of technical knowledge to farms. French research centres, Cirad chief among them, handle the agricultural research locally, and maintain very close, long-standing relationships with the profession. Finally, DAAF (Martinique Directorate for Food, Agriculture and Forestry), the regional arm of the French Ministry for Agriculture, supports the agricultural profession. We can also mention the Chambers of Agriculture or Fafsea (training).

### Exports

Europe's number two banana production zone after the Canaries, the FWI ship nearly all of their production to Mainland France. After hitting a ceiling of around 250 000 tonnes between 2014 and 2016, volumes shipped are now struggling to reach 200 000 tonnes. Since the transit of Cyclones Matthew and Maria in 2017 and 2018, and due to the growing production constraints, exports have never managed to regain their historic level.

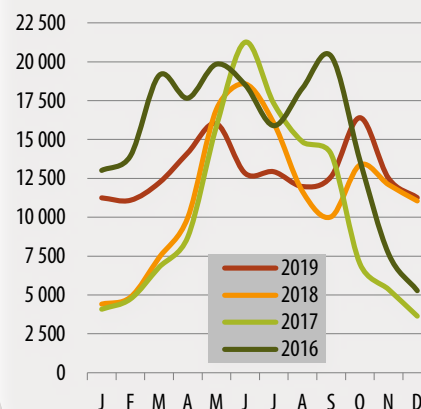
On the Mainland French market, bananas from Martinique and Guadeloupe hold a 25 to 30 % market share, with the rest going to the ACP and dollar origins. Within the space of a few years, the FWI banana has been able to strengthen its position on the French market, thanks to a new segmentation and to marketing efforts focusing on France as the origin. In addition, the recent craze for "eating French/local" has also made a big contribution to its consolidation on the market.

Bananas from Martinique and Guadeloupe are segmented in several ranges. On the one hand, the Planter section (premium), which complies with a strict set of specifications, and the Country section (category two), which are both all cultivated on the plains. The Mountain section bananas are grown at an altitude of more than 250 m.

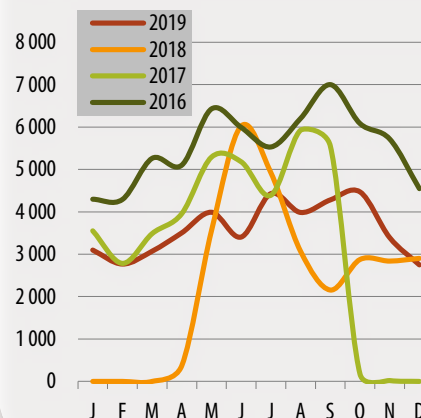
The segmentation strategy was reinforced in 2015 with the launch of French bananas sold individually, and is continuing to move forward through diversification. Currently there are no less than three different sashed products: the French banana, Kids' French banana and Fairtrade French banana. The Kids' French banana is characterised by a smaller size and lighter weight, enabling smaller fruit to be used. Since 2017, the Fairtrade French banana has certified fruit from smallholdings (4 hectares on average), providing a revenue 20 % above the average annual premium price. Finally, the Organic French banana has appeared just recently, though the quantities remain very limited, with just 500 tonnes in 2019.

Varietal diversification is another avenue of development, with for the first time in 2020 the attempted marketing of a new, non-GMO variety: Pointe d'Or®. The fruit of this new variety presents different characteristics to Cavendish in terms of taste, grade, length, impact sensitivity, etc. Hence a test phase to adapt and attune to the logistical and marketing constraints of the downstream segment of the industry is currently in progress.

**Banana - Martinique - Monthly incoming shipments in Europe** (in tonnes | professional sources)



**Banana - Guadeloupe - Monthly incoming shipments in Europe** (in tonnes | professional sources)



### Logistics

Logistics are shared between the growers on Martinique and Guadeloupe. Four CMA-CGM container ships (dedicated to the line Martinique - Guadeloupe - Dunkirk - Zeebrugge - Rotterdam - Le Havre - Montoir) transport all the bananas to Europe on a weekly basis. The voyage time is 13 days: one sailing per week out of Fort-de-France (Martinique) on Wednesday, stopping in Pointe-à-Pitre (Guadeloupe) on Saturday and arriving 9 days later at the port of Dunkirk (France) on Monday. Since 1998, the majority of volumes have been unloaded in Dunkirk, where there are two facilities for container transfer, quality control and shipment management to the ripening centres.





## POSEI aid

Since 1993, the EU has supported the European banana industry in the form of financial aid for production and investment, within the framework of the Common Market Organisation for the Banana (CMOB) and of the social cohesion policy. This support system was reformed in 2006, and since then, European banana growers have received 278.8 million euros every year within the framework of POSEI programmes, which comprise specific measures to ensure the continuity and development of agricultural production in the remotest regions, taking into account the handicaps specifically due to their isolation. This programme finances operations aimed at stimulating and professionalising production, structuring the industries, maintaining and improving the living standards of the growers (revenue, jobs, etc.) according to the qualitative and quantitative level of their production.

Of this total annual budget allocated to the banana, 129.1 million euros (i.e. 46 % of the total) goes to the French West Indies, with Martinique receiving 75 %, i.e. just over 96 million euros, and Guadeloupe 25 %, i.e. just over 32 million euros. The planters must maintain a minimum production level (80 % of the historic benchmark in a normal year, barring climate vagaries) to receive the full aid. Since the 2018 campaign, planters engaged in producing organic bananas have been able to access POSEI aid, with an adjustment to the calculation factoring in the loss of potential yield due to the organic mode of production. Finally, since the 2020 campaign, a specific system has provided adjusted aid to planters suffering big losses caused by black sigatoka, and employing sustainable management practices (defoliation).

As part of the seven-year renegotiation of the EU budget and of the CAP reform, negotiations are in progress for all agricultural aid allocated by the European Union for the period 2021-2027. While there are questions over changes to the overall POSEI budget, especially because of the departure of a major contributor to the EU budget, the United Kingdom, the European Parliament has decided to maintain the budget for the period 2021-2027. The final decision is to be made public in late 2020.

## The Sustainable Banana Plan

Launched in 2008 by the French Ministry for Agriculture, the primary objective of the Sustainable Banana Plan is to reduce pesticide use in banana cropping systems in the FWI, and promote more sustainable agricultural production in environmental, economic and social terms. It brings together the banana industries of Guadeloupe and Martinique, IT2 (Tropical Technical Institute), the local authorities and Cirad. It is derived from the same rationale which guided the Grenelle Environment Laws and the Ecophyto Plan, which set out to halve the quantities of pesticides used by 2018. In particular, it incorporates an R&D aspect and a socio-economic aspect aimed at valuing and safeguarding the agricultural workforce, and maintaining production, an engine of the local FWI economy.

The review conducted of the first Sustainable Banana Plan 2008-2013 hailed the good results obtained by the industry in terms of the environment: the objective of a significant reduction in pesticide use in banana plantations was achieved, with for example in Martinique a 51 % decrease in quantities of active ingredients per hectare. This fall was due in large part to a marked and long-term reduction in nematicide and insecticide use, and to a lesser degree to a reduction in herbicide use, alongside increasing use of service plants and new planting techniques. Research and trials are conducted by Cirad. Hence new varieties of disease-resistant or tolerant non-GMO banana plants are being investigated and tested, and innovative cropping techniques respecting the environment and local biodiversity are being developed: sanitary defoliation against sigatoka, the generalised implementation of service plant cover, use of pheromone traps against weevils, soil remediation in terms of phytoparasitic nematodes through fallowing and crop rotations, etc. IT2 is contributing to the creation and transfer of innovations, as well as supporting the growers.

With the Sustainable Banana Plan, the industry is expressing its desire to continue with the appropriation of sustainable agriculture methods by growers and to keep innovation at the centre of its strategy. The objective is not to seek productivity at any price, but rather to produce a universally renowned sustainable banana, which complies with very high-level socio-economic and environmental standards. The second Sustainable Banana Plan 2016-2020 is an extension of this effort, which has profoundly altered the production sector in the French West Indies, and contributed to making the FWI a world laboratory for good social and environmental practices. Hence the sector guarantees for the FWI the production of an agro-ecological banana more respectful of the environment and human health, and for European consumers, the fruit of the highest quality and safety.

A report prepared by  
Eric Imbert

# Citruses

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# Mediterranean citruses

## 2020-21 production forecast for the EC market

### Less than predicted!

by **Eric Imbert**, CIRAD  
eric.imbert@cirad.fr

In wine growing, it is possible to have two exceptional years in a row. This is rarely the case in citrus growing, with the alternate bearing phenomenon often generating over-production after a lean campaign. Nonetheless, the production avalanche predicted to follow on from the very small 2019-20 Mediterranean harvest will not come to pass, with numerous climate incidents, to be attributed to the climate change phenomenon, having decided otherwise. Yet this is not the only surprise from this campaign. The consequences of the Covid-19 pandemic on demand could also change the hand. FruiTrop offers you this review of a 2020-21 campaign taking an unexpected shape.

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## 2019-20, long forgotten prices

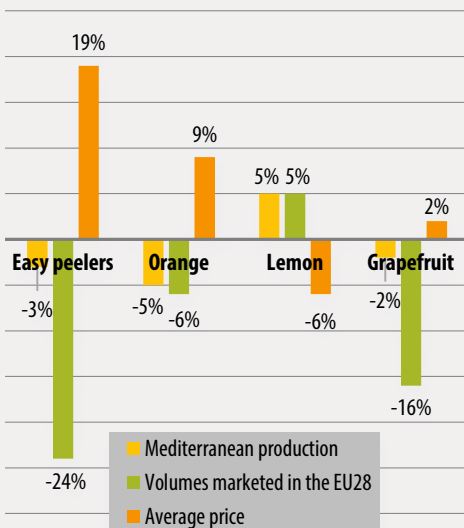
To carry on the wine growing metaphor, 2019-20 was a vintage year... and this is a sufficiently rare phenomenon in the citrus world to deserve a mention. Our barometer for prices charged on the European market registered an absolute record for easy peelers, and was hot on the heels of the 2015-16 high point for oranges. What a contrast with the 2018-19 season, also a record but in terms of mediocrity! There are two main reasons for this two-fold exceptional performance. On the one hand, Mediterranean production was distinctly below average for both these product families, in particular from the three main EC market players (Spain, Morocco and Egypt), which on their own provide more than 80 % of the supply for these two citrus families. On the other hand, the Covid-19 pandemic boosted retail sector demand from March onwards, and helped bring about a final flourish for an oranges campaign which had been good in terms of volume but hitherto rather average for prices. This is a phenomenon that will need to be taken into account this season, although it is very difficult to understand given its contradictory consequences between the market segments. Nonetheless, these excellent prices were not synonymous with an excellent campaign in economic terms for all the origins. The rise in rates was not able to offset the collapse in exports for Moroccan professionals.

### Citruses – Mediterranean – Production

in 000 tonnes	2019-20	2019-20 compared to	
		2018-19	4-year average
Easy peelers	6 854	- 10 %	- 3 %
Orange	11 714	- 11 %	- 5 %
Lemon	3 176	- 7 %	+ 5 %
Grapefruit	574	+ 1 %	- 2 %
<b>Total</b>	<b>22 318</b>	<b>- 10 %</b>	<b>- 3 %</b>

Professional sources

**Citruses - 2019-20 indicators**  
Difference with the 4-year average  
(sources: Eurostat, Cirad)



### Citruses – EU28 – Volumes marketed during 2019-20 winter season

in 000 tonnes	2019-20	2019-20 compared to	
		2018-19	4-year average
Easy peelers	1 357	- 23 %	- 24 %
Orange	1 832	- 2 %	- 6 %
Lemon	750	- 3 %	+ 5 %
Grapefruit	171	+ 6 %	- 16 %
<b>Total</b>	<b>4 110</b>	<b>- 9 %</b>	<b>- 10 %</b>

Source: Eurostat

### Citruses – EU28 – Price at import stage during 2019-20 winter season

in euros/kg	2019-20	2019-20 compared to	
		2018-19	4-year average
Easy peelers	1.30	+ 33 %	+ 19 %
Orange	0.83	+ 28 %	+ 9 %
Lemon	1.08	+ 3 %	- 6 %
Tropical grapefruit	1.93	- 3 %	+ 14 %
Mediterranean grapefruit	0.93	- 7 %	+ 2 %

Source: Cirad

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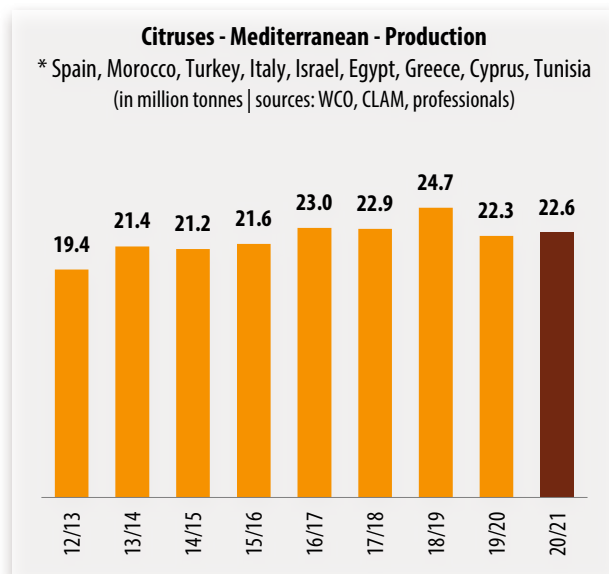
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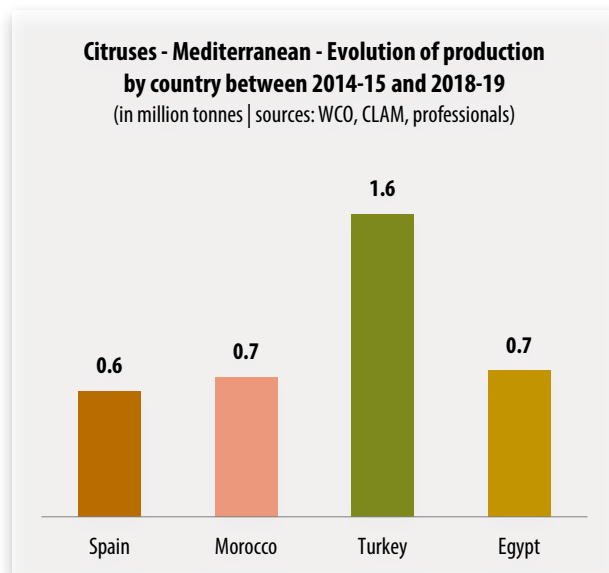
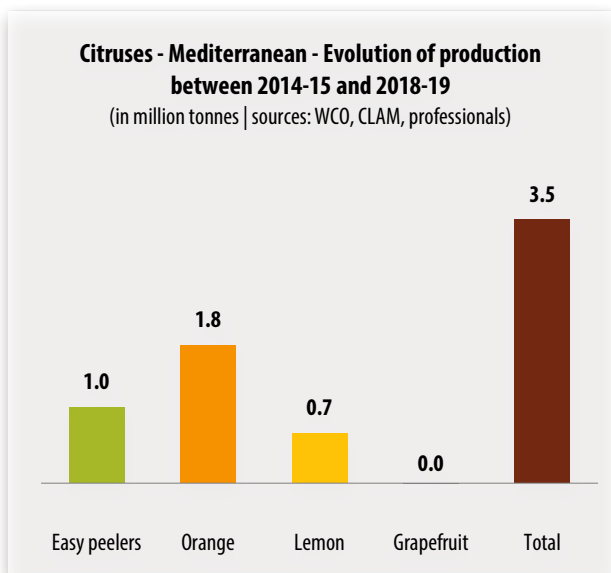
## 2020-21, an atypical campaign in terms of volume

Alternate bearing meant that 2020-21 was bound to be a much heavier season: on paper, at least, since the vagaries of climate change had their say. Most of the big producer countries were affected, and so saw a smaller than expected climb in their production. The East Mediterranean was struck by a spring heatwave. While this is a fairly common phenomenon, its intensity and length were highly atypical this season. Turkey and Egypt, which are among the main Mediterranean players, as well as Israel, were affected to varying though significant degrees. The West Mediterranean was not spared, though climate incidents were of a different degree, and less widespread. The Spanish giant had a rotten spring, while Morocco once more was faced with a drought this season, which seems to be becoming a structural phenomenon, in particular in the south and east of the country. Hence the combined production of the main Mediterranean players would seem to be barely any greater than in 2019-20, remaining slightly below the four-year average. However, a fine analysis is required since not all the families or even all the varieties are affected in comparable proportions.



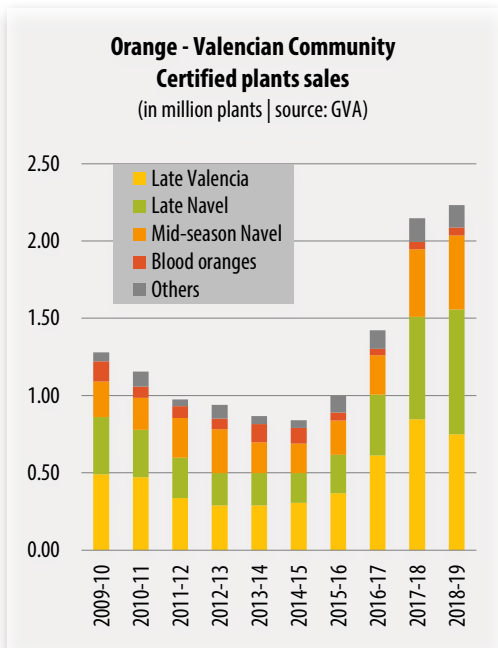
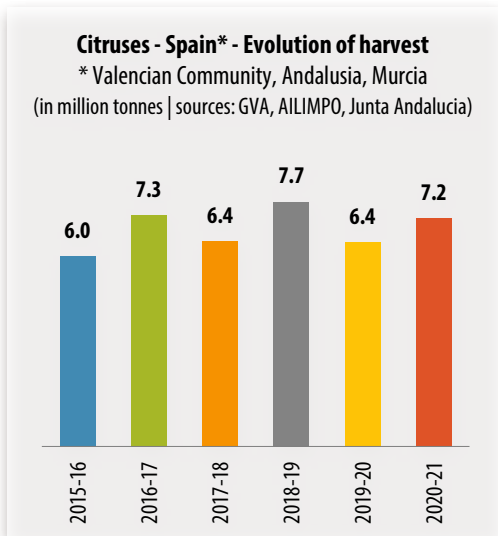
## A temporary problem, not an underlying trend

The near-paralysis of Mediterranean production for two consecutive seasons, after a fall as great as in 2018-19, is something utterly atypical. It represents a break from uninterrupted growth since the start of the new millennium, allowing for alternate bearing effects (+ 350 000 t per year on average for more than 15 years). Nonetheless, we should not conclude that this is a change of trend. While the expansion of the Mediterranean cultivation area has clearly slowed, surface areas are continuing to expand in certain major countries (Turkey, Egypt), and some large areas of young orchards are still a long way from reaching their full potential (Morocco, Turkey, Egypt, etc.), while varietal substitutions providing productivity gains are continuing to take place in other countries (Spanish juice orange stock, for example).





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## SPAIN

### Production slightly above average

What are the prospects for this 2020-21 season for the leading origins, starting with the Spanish giant, which on its own supplies more than two-thirds of citrus consumed in the EU27+UK during the winter season? The very wet weather and unfavourable temperatures in March and April had a highly adverse effect on flowering and fruit-setting, and heavily impeded the production bounce-back. Furthermore, this peculiar weather also had an indirect negative impact: a proliferation of mealybug attacks (*Delotococcus aberiae*), especially since approval of the most effective insecticides has been withdrawn, and the lack of personnel due to Covid-19 has made control harder.

However, there remains a marked rise in production from 2019-20, of approximately 12 %, though this figure is deceptive in more than one respect. On the one hand, the harvest is ultimately barely above average (+ 3 %), with a very low point of comparison. On the other hand, the changes vary greatly between citrus families, with a high potential for easy peelers and lemons, yet volumes still slightly below average for oranges. Finally, and this is not apparent in the overall figure, there is a rather big climb by the mid-season varieties, but a much more limited one for the late varieties, given the period when the climate problems occurred (in particular for oranges).

The structural trends in the Spanish cultivation area are still barely apparent in these forecasts. Though there has been a distinct upturn in planting since 2015-16. In the Valencian Community, the major production and export area, sales of certified plants have gone gradually from approximately 2.1-2.2 million units per year to more than 3.6 million units since 2017-18. This movement, two-thirds focused on oranges, is primarily taking advantage of late varieties, for both table oranges (Lanelate and super-lates) or juice oranges ("enhanced" Valencia, such as Delta and Midnight). It is being implemented with a view to substitution rather than surface area expansion (in particular, uprooting early clementine orchards, hard to manage, with low productivity and lower quality than their late hybrid competitors from the Southern Hemisphere).



### Citruses – Spain\* – Harvest forecast

in 000 tonnes	2020-21	2020-21 compared to	
		2019-20	4-year average
Easy peelers	2 369	+ 30 %	+ 11 %
Orange	3 448	+ 4 %	- 3 %
Lemon	1 291	+ 8 %	+ 11 %
Grapefruit	74	- 14 %	- 9 %
<b>Total</b>	<b>7 182</b>	<b>+ 12 %</b>	<b>+ 3 %</b>

\* Valencian Community, Andalusia, Murcia  
Sources: GVA, AILIMPO, Junta Andalusia

### Citruses – Spain – Harvest forecast for Andalusia and Valencian Community

in 000 tonnes	2020-21	2020-21 compared to	
		2019-20	4-year average
Andalusia	2 315	+ 6 %	+ 6 %
Valencian Community	3 481	+ 14 %	+ 1 %

Sources: GVA, AILIMPO, Junta Andalusia

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A brand's reputation is forged thanks to the people behind it.



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# MOROCCO

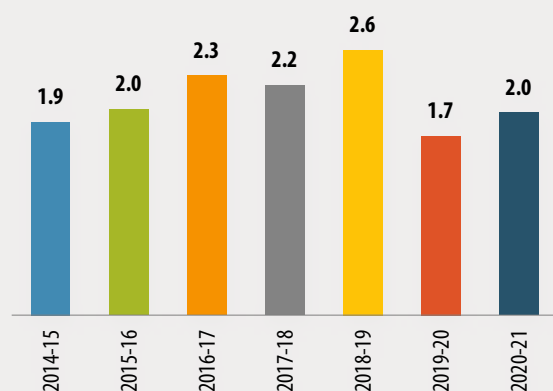
## Drought making itself at home

Moroccan professionals were really banking on a real bounce-back in production in 2020-21, after a dramatic 2018-19 season in economic terms, and a shipwreck 2019-20 season in terms of production (1.8 million tonnes, i.e. 1 million tonnes less than in 2018-19). This was a logical expectation, not only because of the alternate bearing phenomenon for production, but also given the enormous surface areas coming into their prime - those planted both under the “Maroc Vert” plan, between 2007-2008 and in recent years (more than 45 000 ha, for the vast majority easy peelers, taking the Moroccan cultivation area to 129 000 ha).

Unfortunately, once again this season the drought has given Moroccan agriculture in general a hard time. As at mid-November the rainfall was less than 20 mm in the Agadir region. Alongside that, all the dams in Morocco’s greater southern area, as at the end of October, were registering critical levels: 17 % in the Marrakech region, as opposed to more than 30 % in 2019, and 28 % as opposed to 53 % in 2019 for Souss. Drinking water cuts had to be ordered in the city of Agadir. The country’s eastern zone (Berkane) is also in a situation of water crisis. In this context, production will remain well below average (- 11 %), since the bounce-back will be much more limited than expected (+ 13 % on the “lean” season 2019-20). The sizing is currently rather middling to small for early-season varieties. Its development will be crucial in terms of evaluating volumes available for export.

**Orange and easy peelers - Morocco - Evolution of harvest**

(in million tonnes | source: MarocFoodex)



**Citruses – Morocco – Harvest forecast**

in 000 tonnes	2020-21	2020-21 compared to	
		2019-20	4-year average
Easy peelers	1 040	+ 12 %	- 13 %
Orange	920	+ 14 %	- 9 %
<b>Total</b>	<b>1 960</b>	<b>+ 13 %</b>	<b>- 11 %</b>

Source: MarocFoodex





## AIR-SHIPPED MANGO FROM PERU

### Rendezvous with quality

Tasty, sweet, sugary, fiber-free, the Kent mangoes we import by air from Peru are the result of our exclusive partnerships with producers who grow fruit of exceptional quality.

Carefully matured and reconditioned on demand at our facilities in the heart of Rungis, they fully satisfy the sustained demand of consumers for fresh, tasty, healthy and ready to eat fruit.



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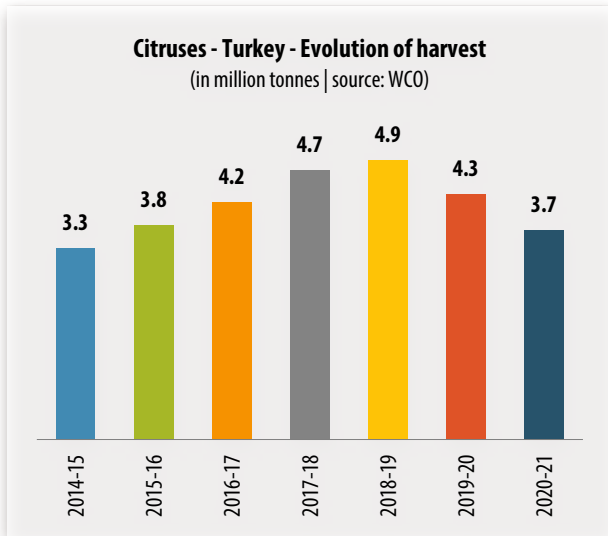
15, boulevard du Delta / Zone Euro Delta DE1 / 94658 Rungis Cedex / France

T +33 1 49 78 20 00 / F +33 1 46 87 16 45 / [contact@greenyardfresh.fr](mailto:contact@greenyardfresh.fr)

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for a healthier future



### Citruses – Egypt – Harvest forecast

in 000 tonnes	2020-21	2020-21 compared to	
		2019-20	4-year average
Orange	3 100	+ 3 %	+ 1 %

Source: WCO

### Citruses – Turkey – Harvest forecast

in 000 tonnes	2020-21	2020-21 compared to	
		2019-20	4-year average
Easy peelers	1 450	+ 4 %	0 %
Orange	1 300	- 24 %	- 29 %
Lemon	700	- 26 %	- 28 %
Grapefruit	220	- 12 %	- 13 %
<b>Total</b>	<b>3 670</b>	<b>- 15 %</b>	<b>- 19 %</b>

Source: WCO

### Citruses – Israel – Harvest forecast

in 000 tonnes	2020-21	2020-21 compared to	
		2019-20	4-year average
Easy peelers	185	+ 3 %	- 5 %
Grapefruit	120	+ 1 %	- 16 %
<b>Total</b>	<b>305</b>	<b>+ 2 %</b>	<b>- 9 %</b>

Source: CMBI

## EAST MEDITERRANEAN

### Heatwave and moderate production

The production forecasts are registering levels slightly below average to very considerably below average, in all the big citrus producer countries in the Eastern Mediterranean, because of the above-mentioned heatwave. Egypt, which has vied with Spain in recent seasons for the title of world number one orange exporter, will see the harvest of its flagship product climb, albeit remaining slightly below the four-year average.

The impact of the heatwave is distinctly more marked in Turkey, another giant of the zone, with exports of between 1.7 and 1.9 million tonnes in recent years. The harvest appears to be even further below average than in 2019-20, and indeed the smallest for the last six years. The orange and lemon are the hardest-hit fruits. This is an additional challenge for the Turkish industry, already affected by its two main markets shrinking in recent campaigns. Exports to Russia are dropping, with the stricter health protection measures. Furthermore, the political and economic situation has caused shipments to Iraq to collapse. These two markets, which represented approximately 1.1 million tonnes in 2018-19, i.e. nearly 60 % of the country's exports, plummeted by approximately 200 000 t. Nonetheless, the country will have a major asset, in terms of competitiveness, with its currency having collapsed since early 2020 (25 % loss against the euro in one year upon the opening of the season, despite a certain bounce-back in recent weeks).

In Israel, the harvest is seemingly smaller than in 2019-20, and 8 % below average, under the combined effects of the heatwave and an alternate bearing downswing. This downturn, although in part cyclical, confirms the downward trend of the country's citrus sector (approximately 1 000 ha and 50 000 t of production lost since the middle of the last decade). The appreciation of the shekel, which is weighing down the sector's export competitiveness, is playing a major role in this sluggish trend.



# WE CITRUS

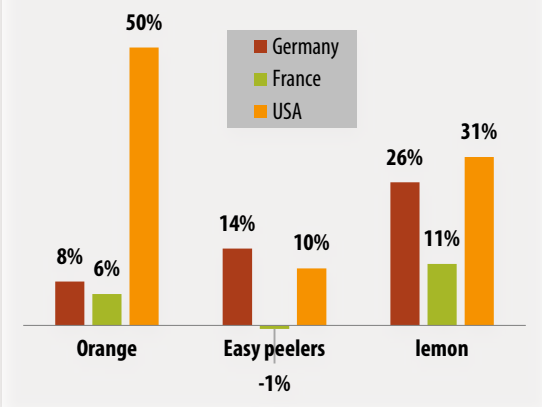


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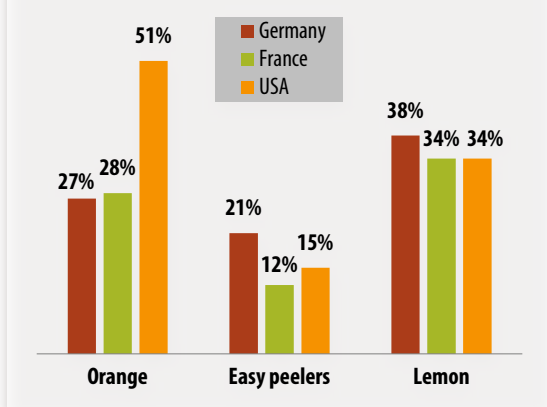
 + 33 (0)3 20 20 79 00  [contact@pulpfruits.fr](mailto:contact@pulpfruits.fr)

 **pulp**  
fruits

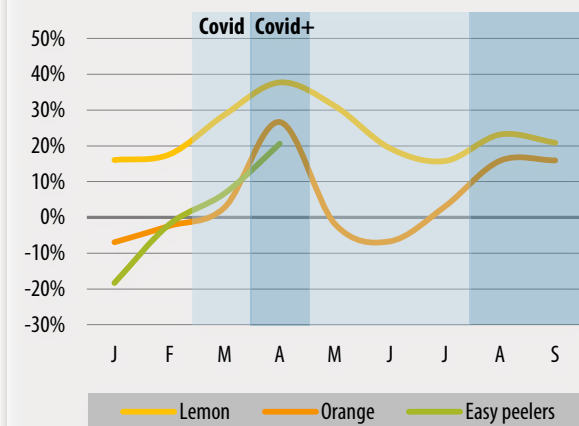
**Citruses - Evolution of sales during the Covid period in France and Germany** (volumes from March to Sept.) compared to 2018-19 average, **and in the USA** (value from April to Sept.) compared to 2019 (source: panels)



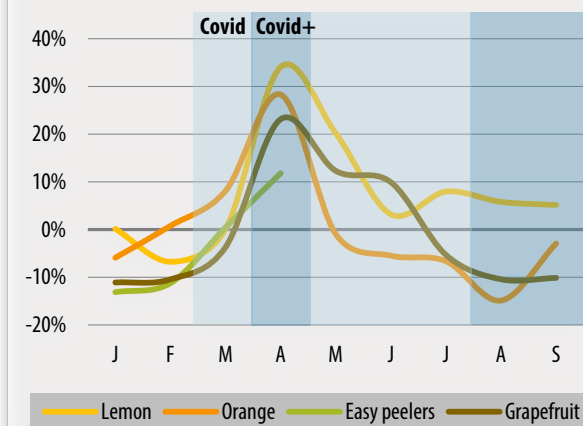
**Citruses - Evolution of sales during the Covid period peak in France and Germany** (volumes in April) compared to 2018-19 average, **and in the USA** (value in July) compared to 2019 (source: panels)



**Citruses - Germany - Monthly sales in volume 2020 compared to 2018-2019 average** (source: Cirad)



**Citruses - France - Monthly sales in volume 2020 compared to 2018-2019 average** (source: Cirad)



## Impact of Covid-19 on demand?

Demand is the great unknown – and may be the nice surprise – of this 2020-21 campaign. While the Covid-19 campaign is greatly complicating operations and generating big additional costs (in particular upstream), it is also generating citrus demand, at least on the major retail segment. Analysis of consumption data during the last “wave” is particularly instructive: during the peak of the pandemic (April), orange sales in retail rose by nearly 30 % in terms of volume, and lemon sales by more than 30 %, in both France and Germany. There was also a very distinct increase for easy peelers, though it was less significant since much more limited volumes were involved at this time of year. There was an even more marked increase across the Atlantic, with a rise in retail turnover of more than 50 % for the orange and more than 30 % for the lemon during the pandemic peak. This was such a strong trend that it was triggered like a reflex action, with citrus fruits seemingly the “fallback” fruits, or perhaps even the food products in general, in terms of health benefit.

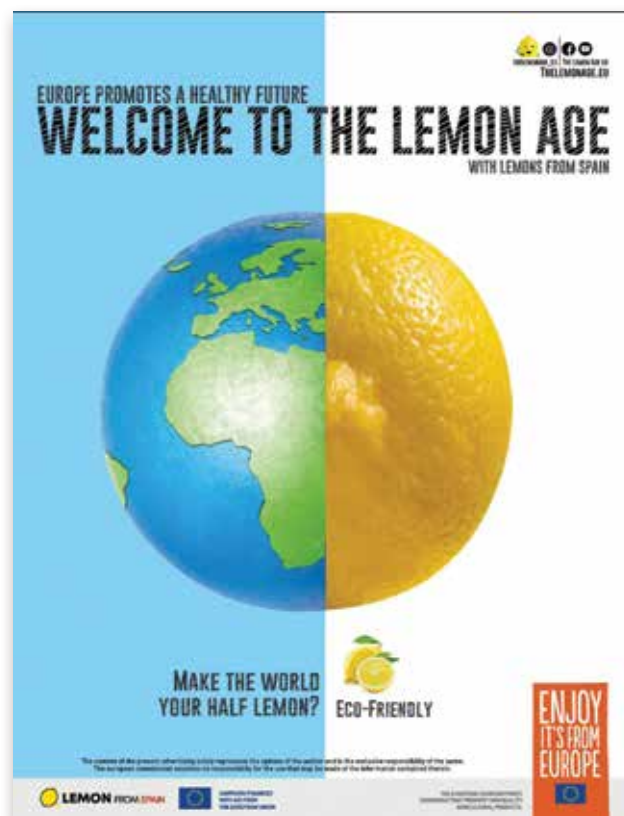
Will this phenomenon be repeated during the “second wave”? First of all, this trend should be put into perspective, which without questioning its basis, does mitigate its cogency. The HORECA segment, which takes in variable volumes depending on the country, but in all significant cases, has at the same time slipped, or even come to a stop. Furthermore, the considerable fall in sales which came during the summer easing off, but probably also with the very high price levels. The “pandemic intensity” and “price” variables will clearly be crucial. In view of the pandemic’s current surge across Europe and the relatively high production levels available, at least during the first part of the season, it is reasonable to believe that rates will be accessible, and so demand will be lively. It remains to be seen whether the attitude of the supermarket sector will bring the upstream segment the benefits of a price at least taking into account the additional costs associated with all the constraints due to the pandemic. Citrus fruits are currently dream loss leader products, and the pressure from the big chains on the commercial negotiations for these products is apparently enormous.

## Two major initiatives to highlight

This campaign is opening with two pieces of good news. First of all, the return of a large-scale promotion campaign in the world of citruses, with the launch of “The lemon age” aimed at promoting the Spanish lemon. This campaign, supported by a substantial budget of 6.5 million euros for the period 2020-2022, is under the initiative of Ailimpo (Spanish inter-professional association for the lemon and grapefruit), and aimed mainly at the three big markets of the EU-27 (France, Germany and Spain), as well as North America (USA and Canada). The initiative should also be highlighted for its mode of financing, with an entire industry able to come together to take on the promotion challenge. While 70 % of the funds are from the Community, this is topped up by the professional sector, via a mandatory para-fiscal tax levied on sales.

Another important point to mention at the start of this season is the first big steps taken by the World Citrus Organization, which held its first on-line conference in November. In an increasingly difficult context of rapidly progressing production for most citrus families and fairly flat demand now on most markets, we can only hail the establishment of an organisation able to provide support on at least two main points. Firstly, transparency on main trends, both in terms of markets and production. Industry players now more than ever need objective and reliable info to guide their operations, whether in the short term or long term. The second main aspect is promotion, and the WCO could contribute to focusing energies, or even resources, on this vital theme, beneficial for all stakeholders in the citrus world.

The major increase in demand during the pandemic peak shows what a good image citrus enjoy, i.e. how powerful a lever pitched communication on this under-used theme could be for this industry ■



## EASY PEELERS

### Large volumes of Spanish clementines during the mid-season

The merely average level of EC production is deceptive. There are large volumes available for the international market, since Spain controls more than 70% of the EU market, and it has a big harvest. However, this extra production is very unevenly distributed over time. While a peak is expected in the mid-season, the supply should be very similar to 2019-20 during the second part of the campaign.

With nearly 2.4 million tonnes expected, Spain is back to a bumper campaign, similar to 2016-17 and 2018-19 (11 % above average). The production rise was more distinct during the mid-season. The alternate bearing effect was very much in play for Nules, the queen of clementines in terms of volume (approximately 730 000 t of mid-season clementines expected, i.e. a rise of more than 60 % from 2019-20, and 10 % above average). The rise in the export potential could nonetheless be smaller than for production, given the medium to low sizing. The temperatures in the Valencia zone, considerably above normal, could have an adverse impact on fruit keeping.



Conversely, the supply of second-half varieties should not see any considerable rise from last campaign. The production surge for late, top-end young hybrids (Nadorcott, Orri, Tango) will be smaller than expected.

Turkish production will see a relatively limited bounce-back, despite a light 2019-20 campaign. With an expected 1.4 million tonnes, the harvest will be only average, and distinctly smaller than in 2017-18 and 2018-19. The potential for Satsuma seems to be slightly below average (moderate impact of the heatwave in the main production zone of Erzin, but significant losses in Adana). Regarding second-half varieties, Nova appears hard hit, but not W. Murcott.

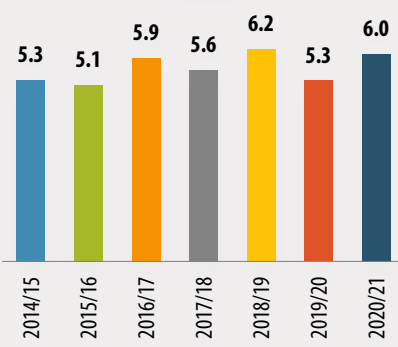
Moroccan production will see a relative recovery. With just over 1 million tonnes expected, the harvest of this varietal group, the export spearhead, will remain very considerably below average (- 13 %). This shortfall can be attributed to clementines, since Souss and Oriental, the country's two main clementine production zones, are hard hit by drought. Volumes available for export will depend on how the sizing develops; currently it is on the small side. Nadorcott production should be similar to 2019-20, with growers having sought to preserve this iconic, high added-value variety.

Israeli Orri production should barely see any change from 2019-20, and remain slightly below average. Conversely, the Corsican clementine campaign, which is of particular interest to the French market, is set for a very good level.

The EC market is set for a big supply in the mid-season, i.e. from mid-November, with the start of an abundant Spanish Nules clementine campaign. The pressure will be particularly high on small fruit. In this context the doors of the EU27+UK will probably not be very open to other origins, such as Morocco, with Corsica remaining above the fray on a French niche market. Additional demand due to the Covid-19 pandemic will perhaps relieve the market at this key period. Unlike last season, highly significant volumes of Nules should still be available during much of January (if the fruit is able to keep), making the market more competitive and less readable for the start of the late hybrids season. Conversely, if the market window is set to be later and therefore narrowed for these varieties, the available potential across all varieties (Nadorcott from Morocco and Spain, Orri from Israel and Spain, Tango from Spain) should not be very different from 2019-20, with the effect of young orchards entering their prime readily countered by unfavourable weather ■

### Easy peelers - Mediterranean - Production

(in million tonnes | sources: WCO, CLAM, professional estimate)



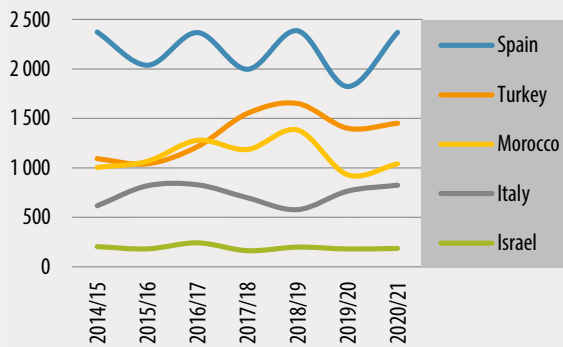
### Easy peelers – Mediterranean – 2020-21 production forecast

in 000 tonnes	2020-21	compared to	
		2019-20	4-year average
Spain	2 369	+ 30 %	+ 11 %
Turkey	1 450	+ 4 %	0 %
Morocco	1 040	+ 12 %	- 13 %
Italy	824	+ 8 %	+ 15 %
Israel	185	+ 3 %	- 5 %
Greece	174	- 2 %	- 1 %
<b>Total</b>	<b>6 042</b>	<b>+ 15 %</b>	<b>+ 3 %</b>

Sources: WCO, CLAM, professional estimate

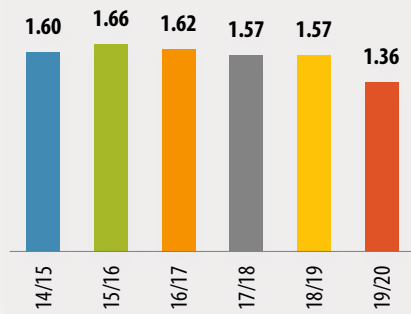
### Easy peelers - Mediterranean - Production

(in 000 tonnes | sources: WCO, CLAM, professional estimate)



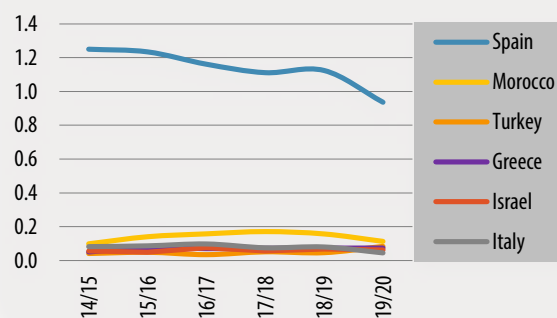
### Easy peelers - EU28 Winter season supply

(in million tonnes | source: Eurostat)



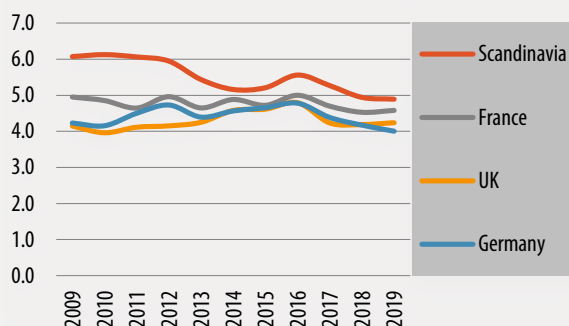
### Easy peelers - EU-28 Winter season supply - Main suppliers

(in million tonnes | source: Eurostat)



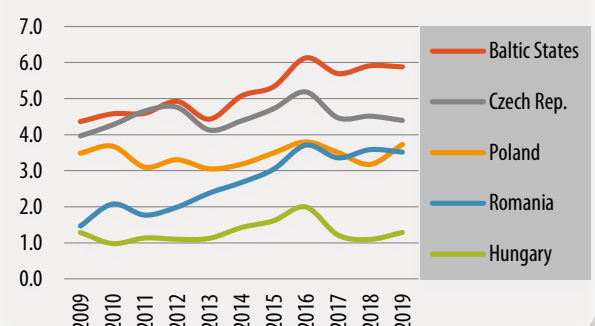
### Easy peelers - Evolution of consumption on the leading West European markets

(in kg per capita | sources: Customs, Trade map, professionals)



### Easy peelers - Evolution of consumption on the leading East European markets

(in kg per capita | sources: Customs, Trade map, professionals)



# ORANGE

## A double-faceted campaign

Spanish production will see only a modest recovery, despite the fairly marked trough in 2019-20. With an expected 3.4 million tonnes, the harvest remains slightly below average. This is actually the second smallest volume for the past five campaigns. The shortfall is attributable to the Valencian Community, while Andalusia has an average harvest. Just as for easy peelers, mid-season volumes will be large, as the production potential is relatively high for Naveline (6 % above average). The below-average sizing and the impact on keeping of the high temperatures in the production zones could cap the volumes available for export. Conversely, the supply will shrink, with availability below average during the second part of the campaign, for both table oranges and juice oranges. The resumption of planting of Valencia like and Navel late & super-late is still too recent to have a perceptible effect.

The Egyptian harvest is set to be a bit bigger than in 2019-20, but it will not be back to the record levels of 2016-17 or 2018-19. Just as in 2019-20, a heatwave affected production in spring. It was the late varieties which were hardest hit, in particular recent Navel late orchards, and to a lesser degree, Valencia late orchards. The recent opening up of Japan to the Egyptian orange should not compromise the breakdown of exports by market, since the potential of the Japanese market is limited (approximately 50 000 t during the winter season, primarily imported from the USA) and its quality requirements very high. China, the Middle East and Europe will remain by a long way the main outlets.



© Régis Domergue

There is pretty much a general shortfall from smaller-scale suppliers to the EC market. The Greek harvest is reported to be approximately 6 % below average, and Morocco 9 % below average. Turkey is seemingly set for a much more substantial drop, with production at its lowest since 2012-13, and Naveline and Washington Navel hardest hit. Conversely, Italy should have its biggest harvest for nearly ten years, at approximately 1.9 million tonnes. The rise should be especially marked for blood oranges, after a highly pronounced shortfall in the 2019-20 season. This increase should have fairly limited consequences on the export sector, which is not the main concern of the Italian industry, but conversely considerably limit Spanish shipments to this market (between 110 000 and 130 000 t over the past three seasons).

The juice market will be much more attractive than in 2019-20. The combined production of the two main protagonists on this market, Brazil and Florida, is registering a level 12 % below average, while demand is distinctly brisker with the Covid-19 pandemic. According to IHS Markit, rates per tonne of 65°Brix concentrate into Rotterdam were 1 950 USD in mid-November, i.e. up by 200 USD in the space of a year.

The Mediterranean campaign started in a relatively clear context in Western Europe (record South African exports to the Old Continent, but with an early start to the season, fairly lively demand due to the pandemic and self-regulation of Argentinean shipments for health reasons). The market rapidly swelled thereafter, with the bumper Spanish Naveline harvest coming to the fore (albeit with a small black mark in the Balkans, where Greek and Turkish shortfalls will make themselves felt). The pressure should remain fairly high and the market not very open until February. The second part of the season should bring a completely different market, with the Spanish supply dropping below average for both table and juice oranges ■

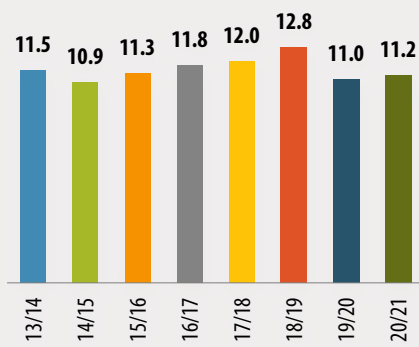


© Catherine Sanchez



### Orange - Mediterranean - Production

(in million tonnes | sources: WCO, CLAM, prof. estimate)



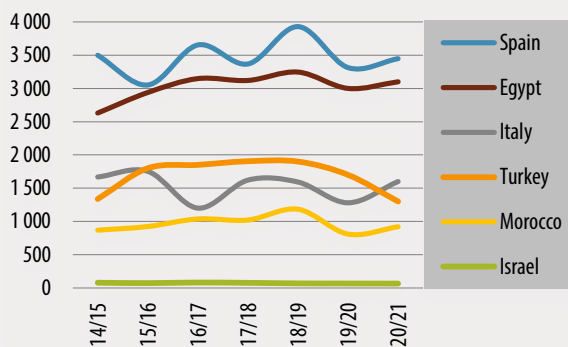
### Orange – Mediterranean – 2020-21 production forecast

in 000 tonnes	2020-21	compared to	
		2019-20	4-year average
Spain	3 448	+ 4 %	- 3 %
Egypt	3 100	+ 3 %	- 1 %
Italy	1 600	+ 25 %	+ 12 %
Turkey	1 300	- 24 %	- 29 %
Morocco	920	+ 14 %	- 9 %
Greece	859	- 7 %	- 6 %
<b>Total</b>	<b>11 227</b>	<b>+ 2 %</b>	<b>- 6 %</b>

Sources: WCO, CLAM, professional estimate

### Orange - Mediterranean - Production

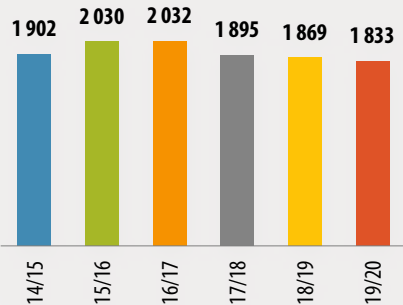
(in 000 tonnes | sources: WCO, CLAM, professional estimate)



### Orange - EU28

#### Winter season supply

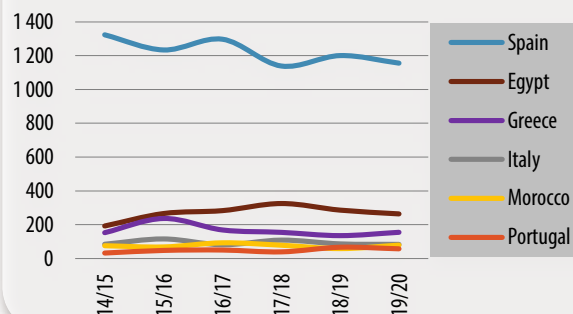
(in 000 tonnes | source: Eurostat)



### Orange EU-28

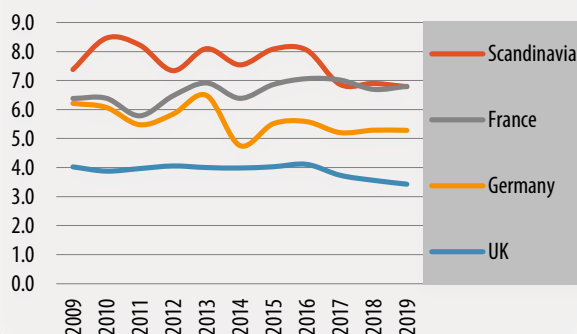
#### Winter season supply - Main suppliers

(in 000 tonnes | source: Eurostat)



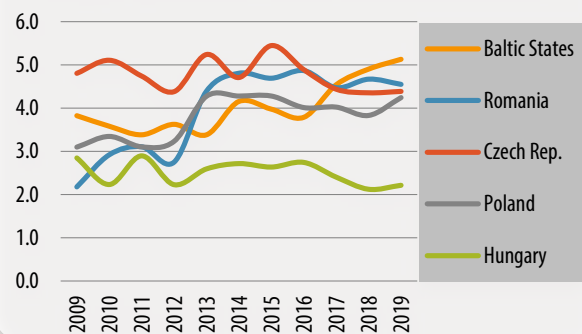
### Orange - Evolution of consumption on leading West European markets

(in kg per capita | sources: Customs, Comtrade, professionals)



### Orange - Evolution of consumption on leading East European markets

(in kg per capita | sources: Customs, Comtrade, professionals)



# GRAPEFRUIT

## Toward high prices?

True, the sluggish consumption trends remain a negative. However, all the big Mediterranean players are registering below-average production levels, while the USA could suffer heavy sanctions from the EU on some of its products, following the Airbus/Boeing dispute.

Turkey, the Mediterranean number one in terms of production, will see a considerable drop in its harvest this season, reaching 220 000 tonnes, a level 13 % below the four-year average. Unlike for the lemon and orange, the fall seems to be due to an alternate bearing downswing rather than to the heatwave in May. The devaluation of the Turkish lira will be more of an asset than ever in terms of export competitiveness.

Israel is just as badly off in terms of production. An expected 120 000 tonnes would mark a historic low point, at a level more than 15 % below average. The fall is attributable to the combined effects of the heatwave in May and the massive uprooting operations carried out until 2017. Surfaces areas have clearly bounced back since 2019, albeit this only relates to a few hundred hectares; but this is too recent to have an impact. There should barely be any change in the breakdown by destination, with the EU-27+UK remaining the main outlet. The downward trend in the Old Continent's market share in favour of Asia seems to have come to an end.

There is also a fairly considerable fall in production in Spain, after two rather heavily laden seasons. With 74 000 t, the harvest is 9 % below average. France and Germany should remain this origin's two main markets.



© Nigel Domergue

The news is hardly any cheerier for the tropical grapefruit. Floridian production is continuing to drop (174 000 t expected, according to the FDOC's November forecast, i.e. 15 % below average). Conversely, sizing is at its best level for a decade. Texas will have an around-average production level, thanks to a small leap up from the 2019-20 season. Texas' harvest level is now similar to Florida's. Nonetheless, US exports could well fall by much more than the production would seem to indicate. On the one hand, just as for the other citrus, local demand exhibited a distinctly stronger dynamic than in 2019 during the peak of the pandemic (approximately + 15 to + 30 % from March to July). On the other hand, and above all, exports to the EU-27 could well collapse. 25 % Customs duty has been imposed on the EC's borders on all grapefruits exported after 7 November 2020, as part of the reprisals decided on against the USA in the context of the Airbus/Boeing dispute. The cost of the US grapefruit could become discouraging, in particular for supermarket chains, and especially for Texan produce, which has a weaker brand image than its Floridian counterpart ■

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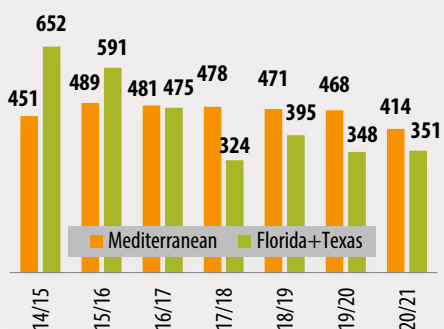
5 rue de la Corderie, Centra 310, 94550 Rungis Cedex, France  
Tel.: +33 (0) 1 41 80 10 10 - Fax.: +33 (0) 1 41 80 10 15  
miles.import@milesimport.com - www.milesimport.com  
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MANGOES - GRAPEFRUITS - ORANGES - LIMES - GRAPES - POMEGRANATES - CHERRIES

### Grapefruit - EU28

#### Main suppliers production

(in 000 tonnes | sources: WCO, CLAM, USDA, prof. estimate)



### Grapefruit – Mediterranean – 2020-21 production forecast

in 000 tonnes	2020-21	compared to	
		2019-20	4-year average
Turkey*	220	- 12 %	- 13 %
Israel	120	- 17 %	- 17 %
Spain	74	- 1 %	- 5 %
<b>Total</b>	<b>414</b>	<b>- 12 %</b>	<b>- 13 %</b>

Sources: WCO, CLAM, \*professional estimate

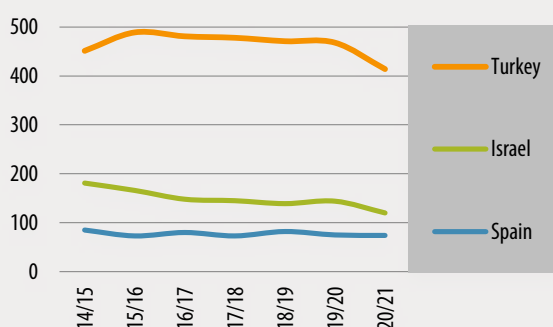
### Tropical grapefruit – 2020-21 production forecast

in 000 tonnes	2020-21	compared to	
		2019-20	4-year average
Florida	174	- 8 %	- 15 %
Texas	178	+ 11 %	- 2 %
<b>Total</b>	<b>352</b>	<b>- 5 %</b>	<b>- 9 %</b>

Source: USDA

### Grapefruit - Mediterranean - Production

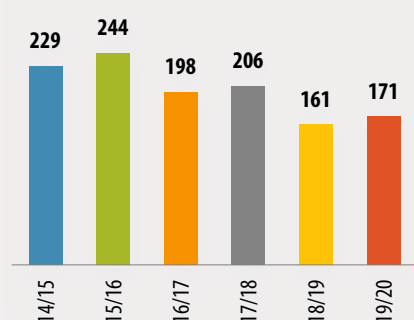
(in 000 tonnes | sources: ALLIMPO, CMBI, USDA)



### Grapefruit - EU28

#### Winter season supply

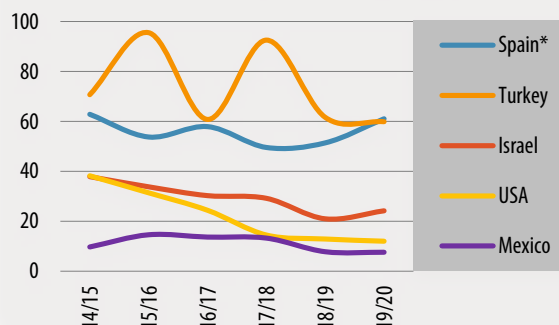
(in 000 tonnes | source: Eurostat)



### Grapefruit - EU28

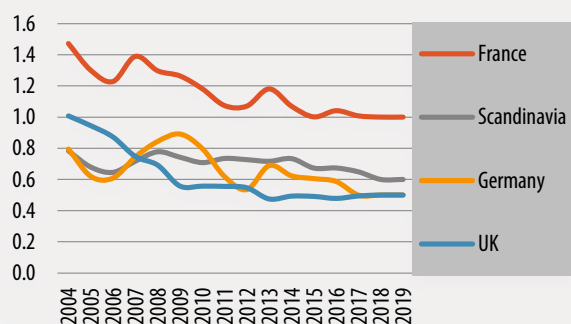
#### Winter season supply - Main suppliers

(in 000 tonnes | sources: Eurostat, \*Allimpo)



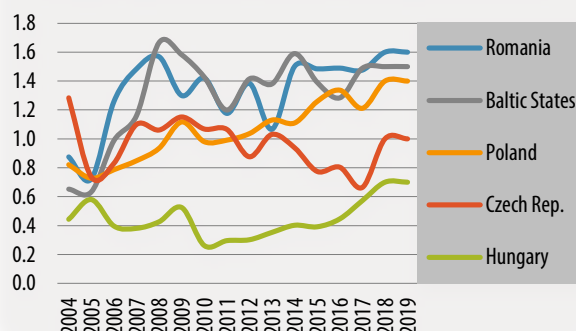
### Grapefruit - Evolution of consumption on leading West European markets

(in kg per capita | sources: Customs, Trade map, professionals)



### Grapefruit - Evolution of consumption on leading East European markets

(in kg per capita | sources: Customs, Trade map, professionals)



# LEMON

## Production no more than near-average

Despite the strong and generalised surface areas expansion trend seen in recent years in the Mediterranean, production will remain slightly below average. While certain producer countries are exhibiting record production potentials, Turkey is once again bearing the cost of difficult weather conditions.

The Spanish harvest should practically equal its record of 1.3 million tonnes set in 2018-19 - which comes as no surprise. Volumes are surging, under the effect the large surface areas planted in recent years entering production or their prime. Availability will be particularly high for Primofiori, with a harvest approaching 950 000 tonnes for the first time (14 % above the four-year average). Despite a slight downturn from last season, production of the late variety Verna will also be high, and considerably above average (+ 7 %). The sizing is rather below average.

Italy will also have a big harvest, with nearly 500 000 tonnes registering its best level for a decade. Nonetheless the rise in availability for the fresh market is not set to fully reflect the rise in production. Attacks by the citrus blossom moth (*Prays citri*) have been intense, and a bigger proportion of the harvest than in 2019-20 will need to be forwarded to the industrial sector. The same goes for volumes of organic lemon, as controlling *mal secco* is a complex matter, requiring big investment by the growers.

Again this season, Turkey's major increase in production potential will go unnoticed. With 700 000 tonnes

expected, the harvest will be 30 % below average, and indeed at its lowest level since 2015-16 when frost caused significant losses. Just as in 2019-20, the Interdonato harvest was affected by adverse weather, very severely limiting the load on the trees (40 to 50 % below a normal season). This will have considerable consequences on the international market. This early variety is the most exported, although it only represents approximately 25 to 30 % of overall production. Other varieties such as Meyer, Lamas or Küt diken have not been much affected.

Regarding the smaller-scale protagonists on the EC market, Greece's harvest will be considerably below average. The same goes for Egypt which, despite a significant planting dynamic in recent years, will see its production decrease. So it will remain a very minor player on the EC market (approximately 4 000 t exported to the EU-27+UK in recent years.).

The fresh market will more than ever be the favoured outlet for Mediterranean production. The derivatives market is very unappealing at the beginning of this season. According to IHS Markit, concentrated juice prices continued to follow the heavy downward trend underway since January 2019. Argentinean 400 GPL was quoted at 1 450 USD/t in mid-October, its worst level since 2013 after a twelve-month fall of more than 700 USD.

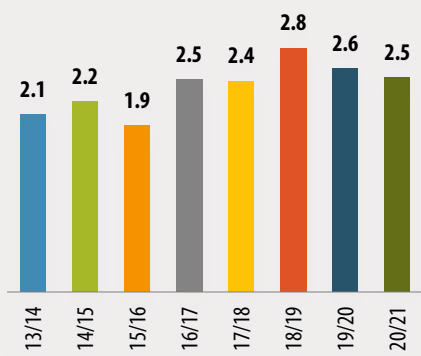
The EC fresh lemon market supply was relatively restrained at the beginning of the season (Turkish shortfall for Interdonato, actual Spanish potential not yet expressed because of limited sizing at the beginning of the season). The pressure will keep rising, and peak from the middle of the season. Everything will depend on demand, which is very hard to anticipate this season because of the opposing effects of the Covid-19 pandemic. True, the slowdown or complete shutdown in certain major consumer countries of HORECA segment sales is weighing heavily on this product, among the essentials in bars and restaurants. However, the lemon is also the citrus with the biggest rise in retail sales during the pandemic (more than 30 % during the peak), by virtue of its powerful health image. We should also highlight the positive effects that the launch of the promotion campaign orchestrated by ALLIMPO should bring, with major target markets (France, Germany, Spain) and substantial resources (5.2 million euros over 3 years, 70 % financed by the EU-28 and 30 % by professionals). Finally, we should also take into account the underlying consumption trends. The latest figures show that even disregarding the pandemic effect, the lemon and lime remain the only major citruses whose sales are regularly rising. After stability in 2018, consumption per capita took an upturn in 2019, peaking at an average of 1.94 kg in the Western EU's non-producer countries. This makes an increase of nearly 400 g/capita since 2014! ■



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**Lemon - Mediterranean - Production**  
(in million tonnes | sources: WCO, CLAM, prof. estimate)

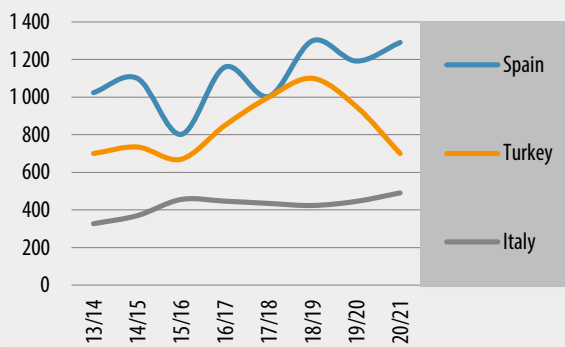


**Lemon – Mediterranean – 2020-21 production forecast**

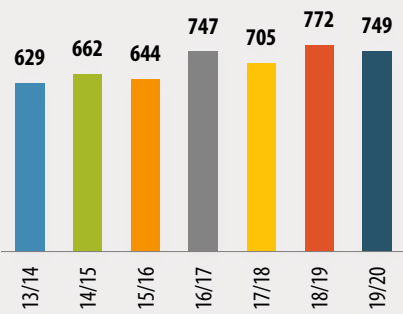
in 000 tonnes	2020-21	compared to	
		2019-20	4-year average
Spain	1 291	+ 8 %	+ 11 %
Turkey	700	- 26 %	- 28 %
Italy	491	+ 10 %	+ 12 %
<b>Total</b>	<b>2 482</b>	<b>- 4 %</b>	<b>- 4 %</b>

Sources: WCO, CLAM, professional estimate

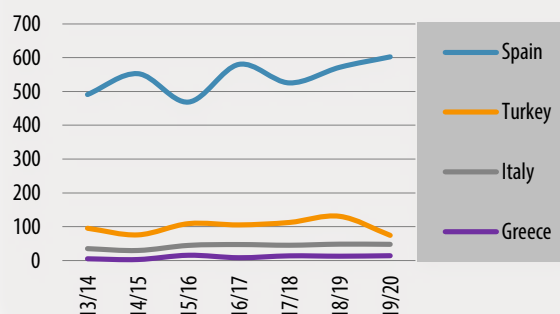
**Lemon - Mediterranean - Production**  
(in 000 tonnes | sources: WCO, CLAM, professional estimate)



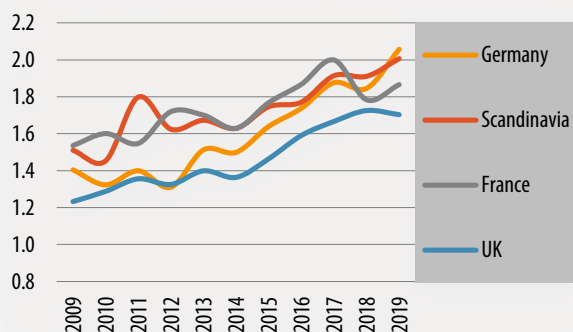
**Lemon - EU28 Winter season supply**  
(in 000 tonnes | source: Eurostat)



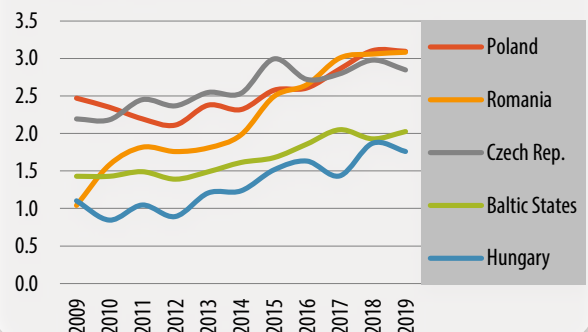
**Lemon - EU28 Winter season supply - Main suppliers**  
(in 000 tonnes | source: Eurostat)

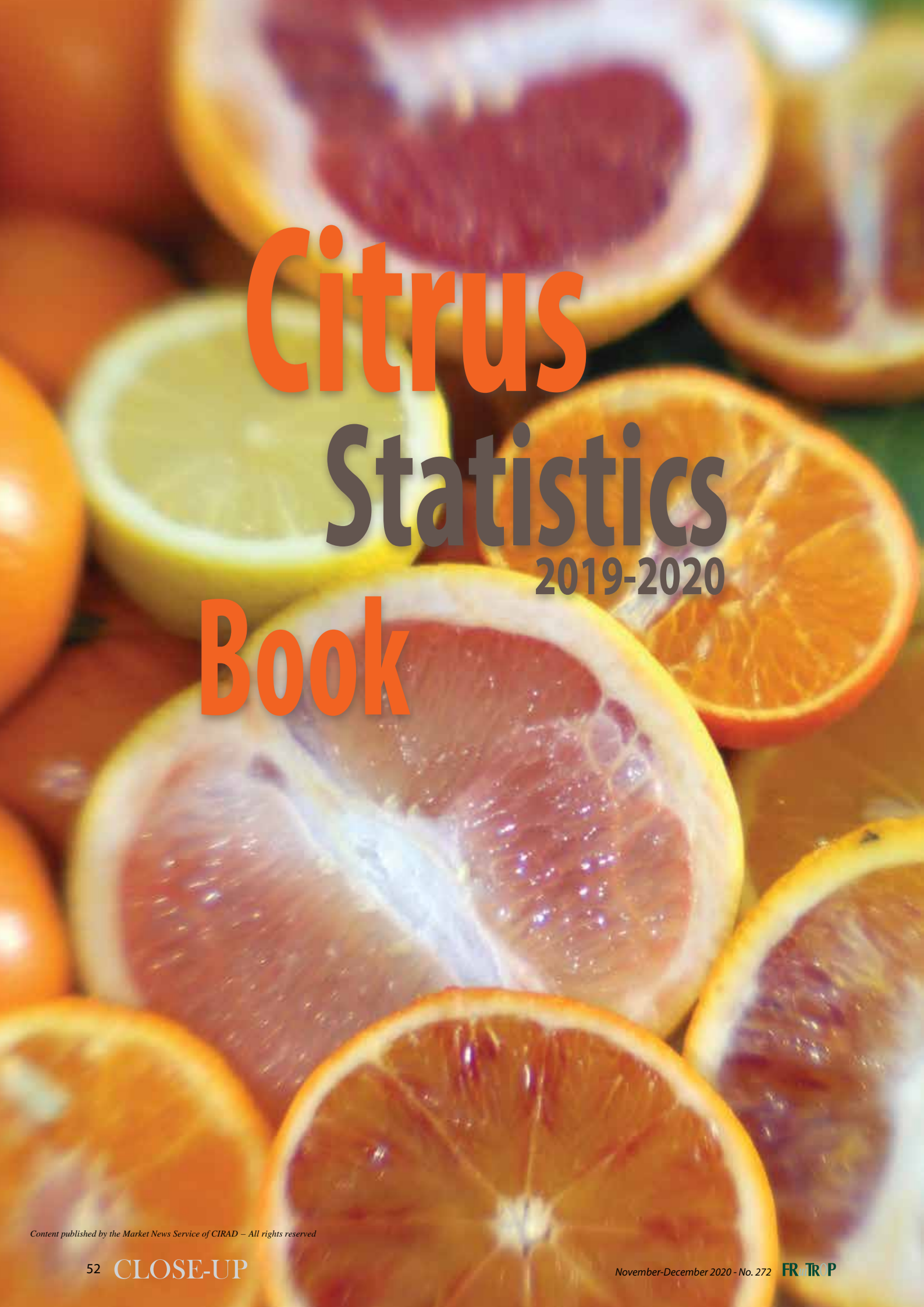


**Lemon - Evolution of consumption on leading West European markets**  
(in kg per capita | sources: Customs, Trade map, professionals)



**Lemon - Evolution of consumption on leading East European markets**  
(in kg per capita | sources: Customs, Trade map, professionals)

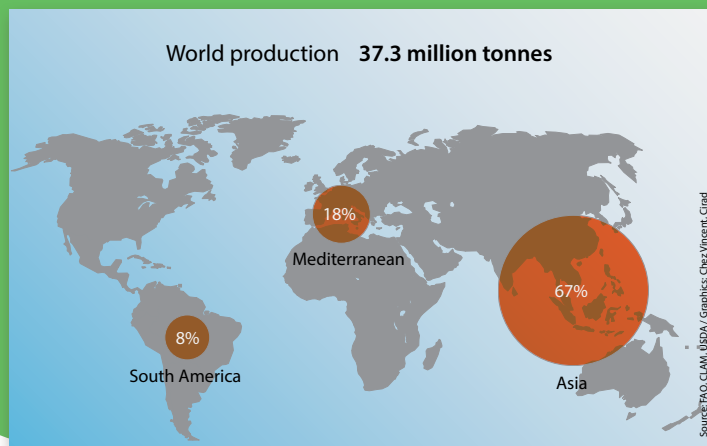




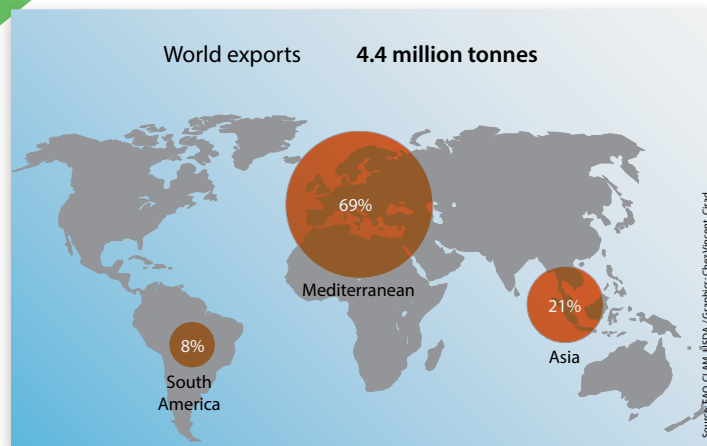
# Citrus Statistics 2019-2020 Book



## Production (2019-2020)\*



## Exports (2019-2020)\*



### Easy peelers - Top 10 producer countries

000 tonnes	2019
China	22 000
Spain	1 822
Egypt	1 466
Turkey	1 400
Brazil	997
Japan	952
Morocco	930
United States	842
Italy	764
South Korea*	646

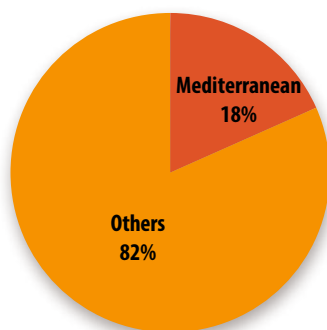
\* Estimate / Sources: FAO, professionals

### Easy peelers - Top 10 exporter countries

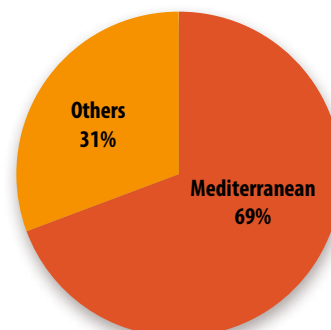
000 tonnes	2019
Spain	1 281
Turkey	827
China	540
Pakistan	405
Morocco	379
South Africa	276
Peru	158
Chile	144
Greece	126
Israel	98

Sources: national Customs, professionals

### Easy peelers - World Mediterranean production share



### Easy peelers - World Mediterranean exports share



### Easy peelers - Mediterranean - Production

000 tonnes	2019
Spain	1 822
Egypt*	1466
Turkey	1400
Morocco	930
Italy	764
Israel	179
Greece	177
Tunisia	67
Cyprus*	25

\* Estimate / Source: professionals

### Easy peelers - Mediterranean - Exports

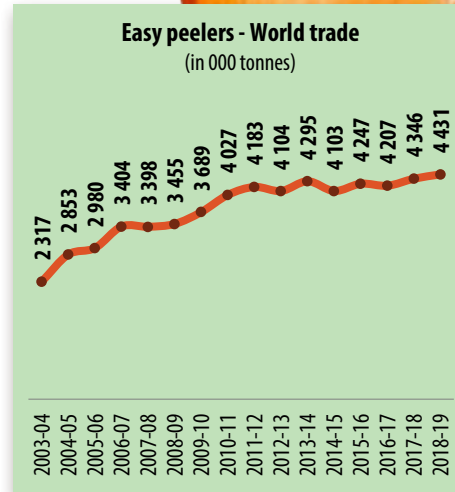
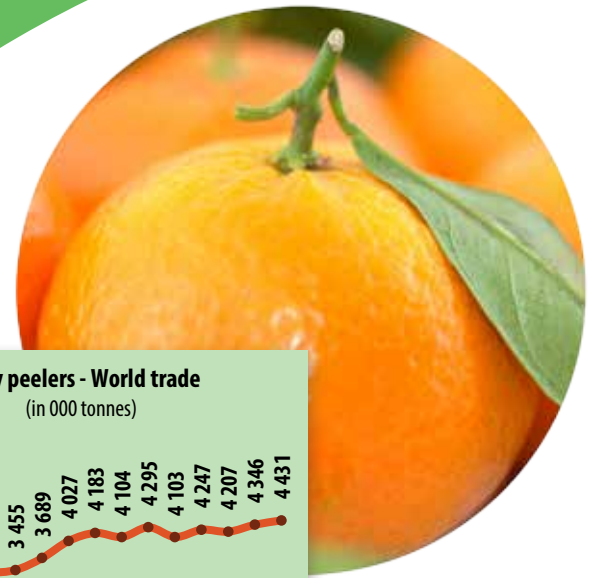
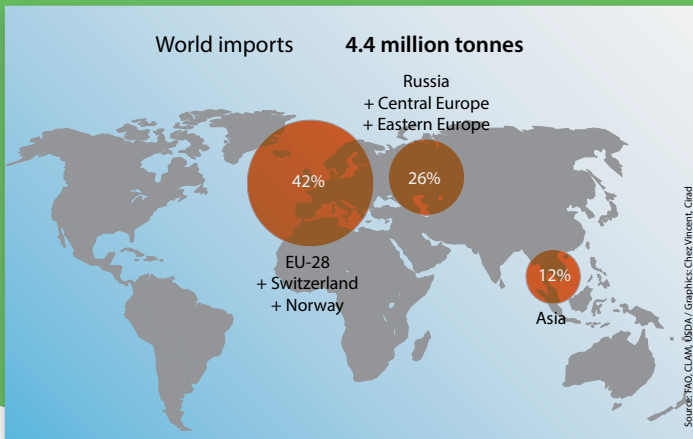
000 tonnes	2019
Spain	1 281
Turkey	827
Morocco	379
Greece	126
Israel	98
Italy	66
Egypt*	48
Cyprus	10

\* Estimate / Source: professionals

\* 2019 for S. Hemisphere, 2019-2020 for N. Hemisphere

# EASY PEELERS

## Imports (2019-2020)\*

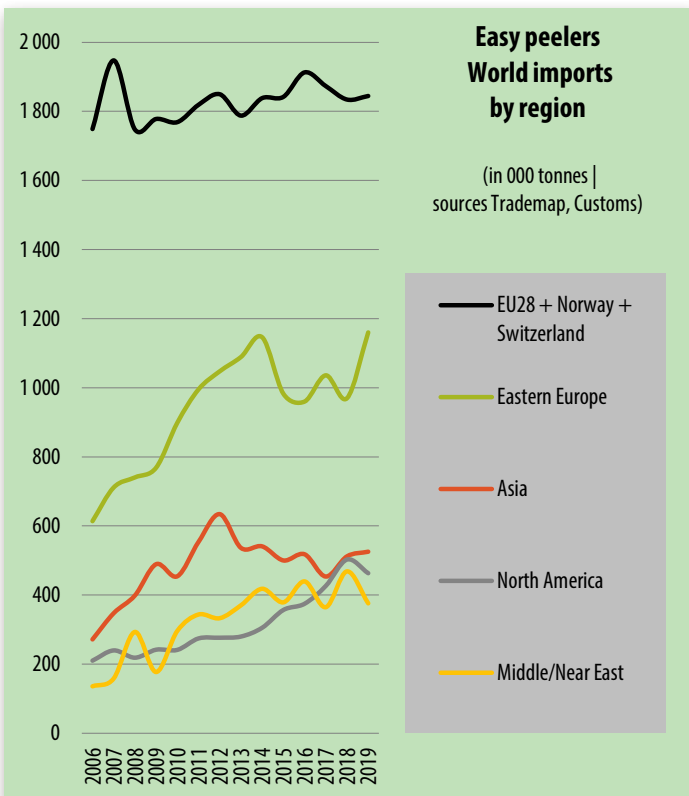


Country	2019 (000 tonnes)
Russia	879
Germany	341
France	341
United States	314
United Kingdom	290
Netherlands	171
Ukraine	171
Iraq	160

Source: national Customs

Country	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Total</b>	<b>181.9</b>	<b>210.7</b>	<b>228.9</b>	<b>273.6</b>	<b>353.1</b>	<b>313.6</b>
<b>Total N. Hemis., incl.</b>	<b>85.8</b>	<b>83.2</b>	<b>70.1</b>	<b>74.4</b>	<b>84.9</b>	<b>76.1</b>
Morocco	37.7	44.4	32.2	43.0	56.6	51.3
Spain	40.5	32.2	23.3	17.0	15.4	9.4
Israel	2.5	4.4	8.3	9.4	7.5	9.2
Mexico	5.1	2.2	6.3	5.0	5.4	5.5
<b>Total S. Hemis., incl.</b>	<b>96.1</b>	<b>127.5</b>	<b>158.8</b>	<b>199.2</b>	<b>268.2</b>	<b>237.5</b>
Chile	52.8	71.2	90.6	111.5	164.5	135.7
Peru	30.1	34.4	41.7	54.4	67.1	64.6
Uruguay	4.5	12.1	13.3	17.0	17.5	14.7
South Africa	7.7	8.1	9.8	10.9	12.4	16.6
Australia	1.0	1.7	3.4	5.3	6.7	5.9
<b>Local production (tangerine, tangelo)</b>	<b>700</b>	<b>811</b>	<b>864</b>	<b>937</b>	<b>728</b>	<b>896</b>
California	533	679	787	867	697	856
Florida	161	126	77	70	31	40
Arizona	5	6	-	-	-	-

Source: US Customs, code 080520



Country	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>123.4</b>	<b>146.0</b>	<b>145.8</b>	<b>152.8</b>	<b>149.6</b>	<b>149.5</b>
<b>Total N. Hemis., incl.</b>	<b>94.7</b>	<b>119.6</b>	<b>116.3</b>	<b>121.0</b>	<b>111.8</b>	<b>113.6</b>
Morocco	28.1	53.4	58.6	68.5	57.3	53.5
United States	16.7	18.9	15.8	13.6	12.5	23.9
Spain	18.4	16.6	14.2	12.0	18.8	19.5
China	21.5	19.8	21.4	17.2	13.8	9.0
Japan	2.6	1.8	1.2	0.9	0.1	0.8
<b>Total S. Hemis., incl.</b>	<b>28.7</b>	<b>26.4</b>	<b>29.5</b>	<b>31.8</b>	<b>37.8</b>	<b>35.9</b>
Peru	13.1	11.3	12.4	14.4	14.7	13.1
South Africa	6.9	5.9	6.1	7.0	10.3	10.8
Argentina	3.9	4.1	3.9	4.8	4.5	5.1
Chile	2.1	3.6	3.3	2.5	6.0	3.8
Uruguay	2.4	1.4	1.9	2.1	1.1	1.8
Brazil	-	0.1	1.9	1.0	0.2	0.3

Source: COMTRADE, code HS 085020

\* 2019-2020 or calendar year 2019

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# EASY PEELERS

Easy peelers - European Union - Main supplier countries (September to May)						
000 tonnes	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
<b>Total</b>	<b>1 766.9</b>	<b>1 836.5</b>	<b>1 796.6</b>	<b>1 761.0</b>	<b>1 772.7</b>	-
<b>Total N. Hemis., incl.*</b>	<b>1 605.2</b>	<b>1 659.1</b>	<b>1 616.6</b>	<b>1 568.8</b>	<b>1 572.2</b>	<b>1 357.2</b>
Spain	1 250.0	1 234.2	1 161.2	1 111.1	1 124.1	936.2
Morocco	98.4	140.4	157.5	170.8	156.8	112.9
Turkey	41.1	48.5	34.4	51.2	46.1	83.3
Greece	50.2	76.5	70.0	72.0	72.9	73.6
Israel	56.2	48.8	75.2	56.5	68.2	62.4
Italy	81.8	86.4	97.5	75.0	79.7	44.8
Egypt	1.6	1.2	1.8	5.7	4.5	24.2
Portugal	12.1	17.8	12.9	20.3	15.8	14.6
Cyprus	6.4	5.4	6.2	6.1	4.2	5.2
<b>Total S. Hemis., incl.</b>	<b>161.7</b>	<b>177.4</b>	<b>180.0</b>	<b>192.2</b>	<b>200.5</b>	-
South Africa	94.9	115.9	116.0	129.5	139.0	-
Peru	47.1	47.8	53.7	53.5	52.4	-
Chile	3.3	2.9	3.2	2.0	4.1	-
Uruguay	10.1	6.1	4.7	3.8	2.8	-
Argentina	4.1	3.9	1.6	2.7	2.0	-
Australia	1.9	0.8	0.8	0.5	0.2	-

\* Extra-EU imports and shipments from main EU producer countries (Spain, Italy Greece)  
Source: EUROSTAT, code 080520 until 2017, after 2017 code 080521, 080522, 080529

Easy peelers - Other West European countries - Main markets						
000 tonnes	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Total</b>	<b>73.0</b>	<b>75.2</b>	<b>76.4</b>	<b>76.6</b>	<b>73.2</b>	<b>71.8</b>
Switzerland	42.7	44.7	44.3	44.0	41.0	40.6
Norway	29.1	29.2	30.9	31.5	29.6	30.1
Iceland	1.1	1.3	1.2	1.1	2.6	1.1

Source: COMTRADE, code HS 080520

Easy peelers - Russia - Main supplier countries						
000 tonnes	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Total</b>	<b>860.2</b>	<b>754.1</b>	<b>684.9</b>	<b>799.6</b>	<b>688.5</b>	<b>878.7</b>
<b>Total N. Hemis., incl.</b>	<b>785.5</b>	<b>700.2</b>	<b>635.9</b>	<b>749.0</b>	<b>638.1</b>	<b>827.8</b>
Morocco	287.7	139.1	190.7	214.5	212.6	281.1
Turkey	197.8	302.2	167.4	328.2	250.9	276.8
China	82.2	77.4	90.5	82.7	66.7	89.0
Pakistan	74.4	100.3	97.8	65.3	68.9	88.5
Georgia	47.7	44.3	43.2	29.3	21.1	53.7
Egypt	3.2	7.1	16.4	6.5	0.5	18.8
Belarus	7.9	9.5	7.6	5.6	16.1	7.9
Israel	14.0	18.4	16.8	13.2	1.3	7.7
Spain	39.4	-	-	-	-	-
Greece	7.5	-	-	-	-	-
<b>Total S. Hemis., incl.</b>	<b>74.7</b>	<b>53.9</b>	<b>49.0</b>	<b>50.6</b>	<b>50.4</b>	<b>50.9</b>
South Africa	12.2	15.3	14.3	19.6	26.4	27.0
Argentina	47.0	28.9	24.3	20.0	13.7	13.8
Peru	5.0	3.7	3.6	7.0	7.8	8.2
Uruguay	10.5	6.1	6.8	4.0	2.5	1.9

Source: COMTRADE, code 080520

Easy peelers - Ukraine - Main supplier countries						
000 tonnes	2013	2014	2015	2016	2017	2018
<b>Total, incl.</b>	<b>215.7</b>	<b>158.1</b>	<b>112.5</b>	<b>145.4</b>	<b>132.9</b>	<b>164.6</b>
Turkey	114.6	82.9	62.3	92.5	81.3	102.7
Egypt	3.5	1.3	1.7	1.3	5.1	15.2
Italy	12.4	9.7	12.1	13.9	14.4	14.2
Greece	6.0	4.9	6.5	10.7	8.3	10.0
Spain	34.9	26.8	15.4	9.8	8.8	9.5
Georgia	21.4	7.0	3.3	6.5	4.4	4.8
Pakistan	13.8	21.1	9.6	5.2	5.6	4.1
Cyprus	2.0	0.4	0.5	-	-	-

Source: COMTRADE, code HS 080520

Easy peelers - Japan - Main supplier countries						
000 tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>10.2</b>	<b>11.6</b>	<b>17.4</b>	<b>18.5</b>	<b>18.6</b>	<b>18.7</b>
<b>Total N. Hemis., incl.</b>	<b>8.0</b>	<b>9.3</b>	<b>14.5</b>	<b>14.4</b>	<b>14.0</b>	<b>13.8</b>
United States	7.5	8.8	14.0	13.0	13.0	12.8
Israel	0.4	0.6	0.4	1.4	1.0	1.0
Taiwan	0.1	-	0.1	-	-	-
<b>Total S. Hemis., incl.</b>	<b>2.2</b>	<b>2.3</b>	<b>2.9</b>	<b>4.1</b>	<b>4.6</b>	<b>4.9</b>
Australia	1.6	1.6	2.6	4.1	4.6	4.9
New Zealand	0.6	0.7	0.3	0.0	-	-

Source: Japanese Customs, code HS 080520

Easy peelers - South-East Asia - Main markets						
000 tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>447.3</b>	<b>413.2</b>	<b>430.2</b>	<b>382.4</b>	<b>404.2</b>	<b>432.3</b>
Indonesia	116.4	82.3	39.6	43.5	62.7	103.5
Philippines	49.8	52.6	77.1	67.8	95.3	95.5
Malaysia	60.3	72.3	74.7	80.9	73.7	73.9
China	34.5	40.1	58.6	52.3	52.5	64.3
Thailand	148.2	125.2	135.6	88.2	84.3	57.8
Singapore	20.4	22.1	24.7	28.1	19.2	21.1
Sri Lanka	7.1	8.9	9.6	7.0	8.6	8.7
Vietnam	10.6	9.8	10.3	14.6	7.8	7.5

Source: COMTRADE, code HS 080520

Easy peelers - Central Asia - Main markets						
000 tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>83.4</b>	<b>75.3</b>	<b>70.4</b>	<b>52.6</b>	<b>89.2</b>	<b>74.4</b>
Kazakhstan	72.3	63.7	56.9	43.5	68.2	57.5
Azerbaijan	-	-	2.3	2.7	9.8	9.2
Kyrgyzstan	11.1	11.5	11.2	6.4	11.2	7.7

Source: COMTRADE, code HS 080520

Easy peelers - Persian Gulf - Main markets						
000 tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>418.1</b>	<b>378.8</b>	<b>439.4</b>	<b>364.8</b>	<b>468.5</b>	<b>375.9</b>
Iraq	182.3	168.4	202.8	183.9	239.9	159.5
Saudi Arabia	74.3	65.5	91.9	76.5	88.0	82.8
United Arab Em.	107.1	101.7	87.1	60.0	76.1	76.7
Kuwait	23.8	16.8	27.8	22.3	26.0	18.0
Oman	11.5	9.8	12.3	10.6	17.6	17.0
Qatar	8.5	9.2	9.9	8.9	13.3	14.3
Bahrain	10.3	6.2	7.7	2.6	7.6	7.6
Iran	0.3	1.3	0.0	-	-	-

Source: COMTRADE, code HS 080520

Easy peelers - Other East and Central European countries - Main markets						
000 tonnes	2014	2015	2016	2017	2018	2019
<b>Total, incl.</b>	<b>127.8</b>	<b>116.0</b>	<b>129.7</b>	<b>103.4</b>	<b>116.6</b>	<b>121.4</b>
Belarus	50.4	53.5	47.6	40.3	43.5	31.0
Serbia	25.1	21.1	27.3	21.2	21.3	28.5
Bosnia	20.0	15.6	22.3	15.9	20.4	19.2
Armenia	4.6	2.6	6.2	5.6	7.2	12.8
Moldova	9.7	9.1	10.2	8.9	11.6	12.7
Macedonia	10.0	8.9	10.8	8.1	9.8	9.4
Georgia	0.6	0.7	2.1	1.7	0.7	6.7
Albania	7.4	4.5	3.2	1.7	2.1	1.1

Source: COMTRADE, code 080520

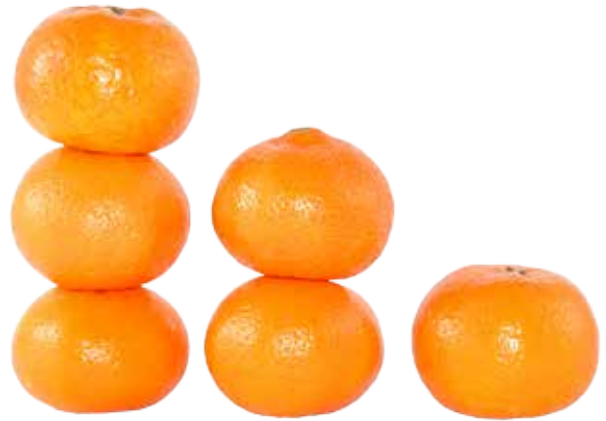
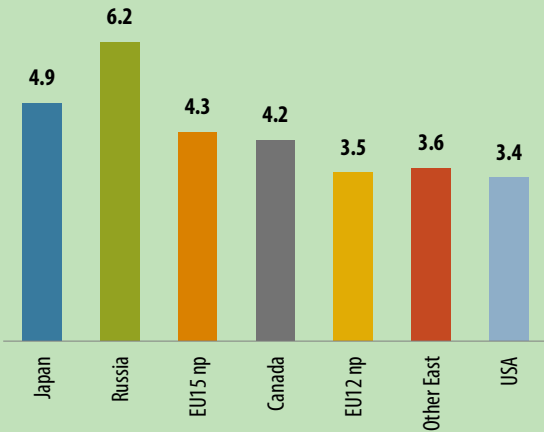


# EASY PEELERS

## Consumption (2019)

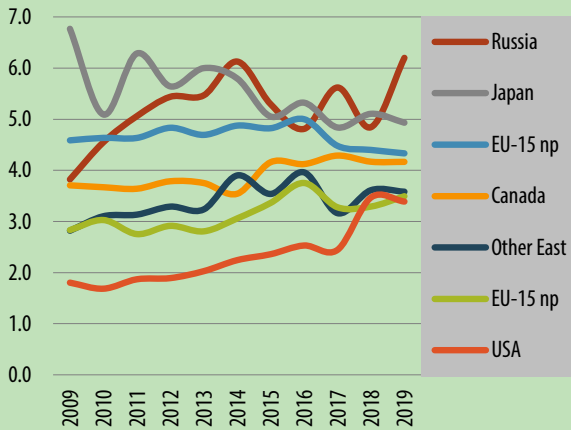
### Easy peelers - Consumption in 2019

(np: non-producer country | in kg per capita  
sources: Customs, Trade map, professionals)



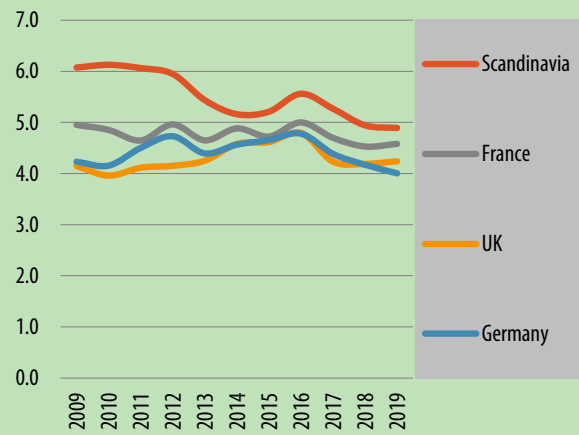
### Easy peelers - Evolution of consumption on the leading markets

(in kg per capita | sources: Customs, Trade map, professionals)



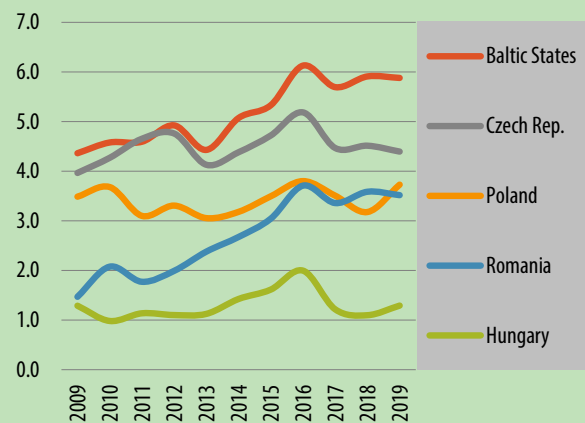
### Easy peelers - Evolution of consumption on the leading West European markets

(in kg per capita | sources: Customs, Trade map, professionals)



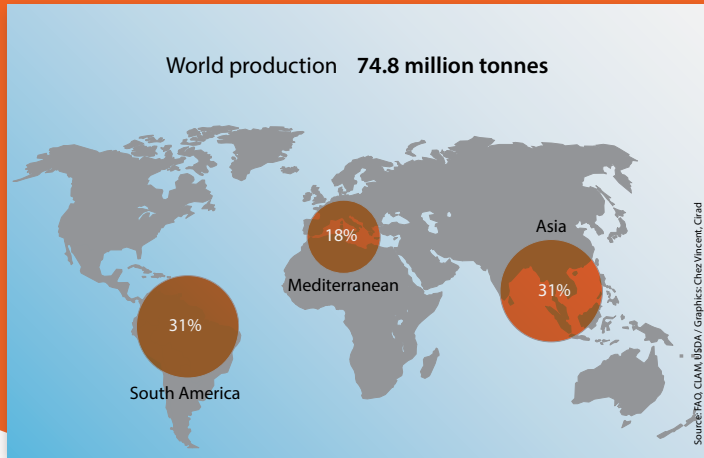
### Easy peelers - Evolution of consumption on the leading East European markets

(in kg per capita | sources: Customs, Trade map, professionals)

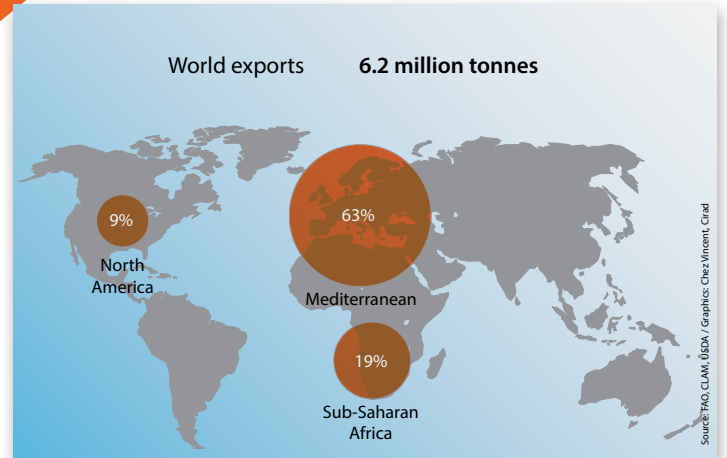




## Production (2019-2020)\*



## Exports (2019-2020)\*



### Orange - Top 10 producer countries

000 tonnes	2019-2020
Brazil	19 380
India	8 367
China	7 200
United States	4 733
Mexico	4 082
Spain	3 313
Egypt	3 000
Indonesia	2 510
Iran	1 889
Turkey	1 700

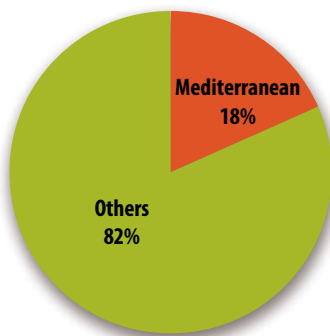
Sources: FAO, professionals

### Orange - Top 8 exporter countries

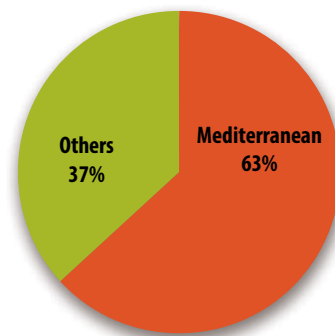
000 tonnes	2019-2020
Spain	1 604
Egypt*	1 373
South Africa	1 185
United States	514
Greece	331
Turkey	293
Morocco	125
Italy	121

\* Estimate / Sources: national Customs, professionals

### Orange - World Mediterranean production share



### Orange - World Mediterranean exports share



### Orange - Mediterranean - Production

000 tonnes	2019-2020
Spain	3 313
Egypt	3 000
Turkey	1 700
Italy	1 650
Greece	920
Morocco	809
Tunisia	236
Israel	66
Cyprus	20

Source: professionals

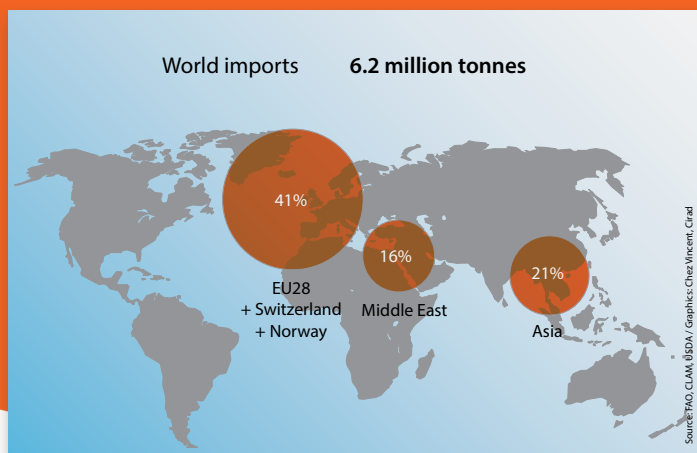
### Orange - Mediterranean - Exports

000 tonnes	2019-2020
Spain	1 604
Egypt*	1 374
Greece	380
Turkey	293
Morocco	125
Italy	121
Tunisia	9
Cyprus	5
Israel	2

\* Estimate / Source: professionals

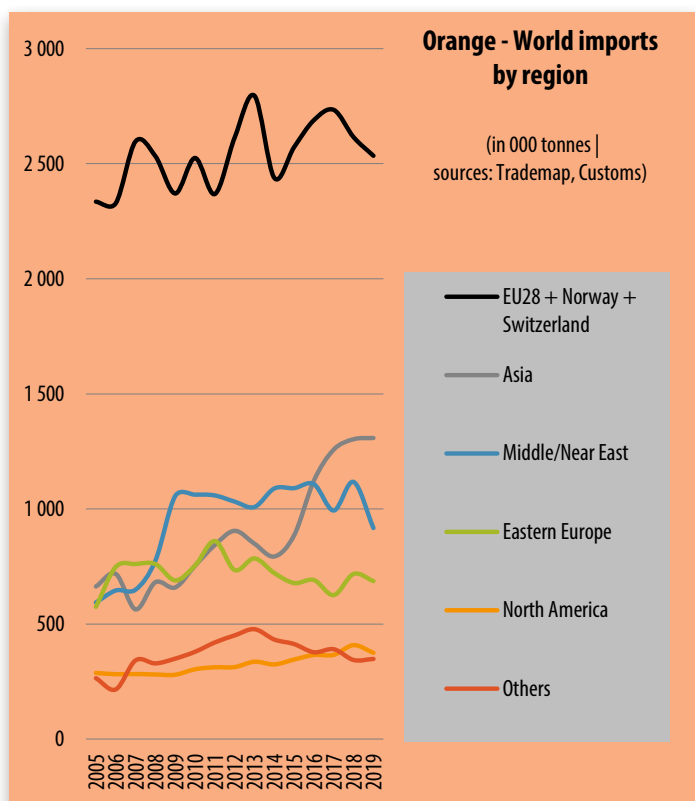
\* 2019 for S. Hemisphere, 2019-2020 for N. Hemisphere

## Imports (2019-2020)\*



Orange - Top 8 importer countries	
tonnes	2019-2020
China	730 816
Netherlands	589 500
France	489 200
Russia	465 431
Germany	460 100
Saudi Arabia	402 797
Iraq	300 457
United Kingdom	263 400

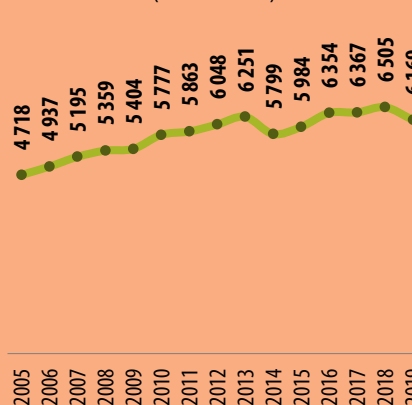
Source: national Customs



\* 2019-2020 or calendar year 2019

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## Orange - World trade (in 000 tonnes)



Easy peelers - United States - Main supplier countries						
tonnes	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
<b>Total</b>	<b>158 672</b>	<b>161 165</b>	<b>186 744</b>	<b>222 870</b>	<b>191 920</b>	-
<b>Total N. Hemis., incl.</b>	<b>47 294</b>	<b>49 167</b>	<b>75 897</b>	<b>79 769</b>	<b>66 402</b>	<b>60 124</b>
Mexico	44 851	47 073	71 096	66 000	57 161	55 624
Dominican Rep.	319	1 842	1 339	2 112	2 325	2 156
Morocco	1 845	51	3 284	11 264	6 060	2 137
<b>Total S. Hemis., incl.</b>	<b>111 378</b>	<b>111 998</b>	<b>110 847</b>	<b>143 101</b>	<b>125 518</b>	-
Chile	59 878	66 142	66 864	92 553	92 102	-
South Africa	41 838	37 926	36 400	41 639	29 289	-
Australia	7 968	5 663	4 608	5 371	2 583	-
Uruguay	1 694	2 267	2 823	3 359	1 306	-

Source: US Customs

Orange - Canada - Main supplier countries						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>180 569</b>	<b>187 019</b>	<b>204 188</b>	<b>179 435</b>	<b>185 340</b>	<b>182 823</b>
<b>Total N. Hemis., incl.</b>	<b>139 448</b>	<b>143 032</b>	<b>160 905</b>	<b>136 708</b>	<b>140 772</b>	<b>144 131</b>
United States	112 472	124 344	153 301	114 196	102 053	96 394
Spain	23 612	13 644	6 450	16 075	28 646	35 210
Morocco	2 447	4 413	601	6 329	9 587	11 973
<b>Total S. Hemis., incl.</b>	<b>41 121</b>	<b>43 987</b>	<b>43 283</b>	<b>42 727</b>	<b>44 568</b>	<b>38 692</b>
South Africa	35 571	38 250	32 285	32 050	35 623	29 137
Australia	2 130	2 780	4 823	4 905	5 298	3 692
Chile	2 107	2 098	2 334	2 362	1 841	3 394
Argentina	355	416	1 565	1 949	631	1 237
Uruguay	890	397	2 122	1 364	899	1 094

Source: COMTRADE

Orange - South America - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>194 714</b>	<b>187 784</b>	<b>218 161</b>	<b>224 629</b>	<b>210 846</b>	<b>210 632</b>
Costa Rica	55 399	34 851	57 533	67 992	73 306	58 313
Guatemala	27 523	23 522	36 451	35 162	35 162	31 939
Brazil	16 056	15 450	18 886	18 234	22 056	30 656
Mexico	26 173	25 418	32 564	16 563	21 156	28 602
Paraguay	27 184	30 215	12 324	29 644	18 399	25 495
El Salvador	19 349	34 767	28 773	26 703	15 627	21 056
Chile	2 546	1 180	3 141	3 355	2 340	2 845
Nicaragua	2 692	5 131	6 551	4 064	2 340	2 845
Peru	2 447	2 818	3 381	3 048	2 819	2 744
Argentina	68	21	4 306	3 266	5 050	2 458
Barbados	1 473	1 519	1 523	1 387	1 366	1 658
Ecuador	12 648	12 059	11 728	14 671	9 954	1 173

Source: COMTRADE

Orange - Oceania - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>28 335</b>	<b>28 711</b>	<b>26 088</b>	<b>31 255</b>	<b>26 597</b>	<b>23 005</b>
Australia	16 611	17 701	14 750	20 435	17 208	13 728
New Zealand	11 724	11 010	11 338	10 820	9 389	9 277

Source: COMTRADE

Orange - European Union - Main supplier countries						
tonnes	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
<b>Total</b>	<b>2 464 721</b>	<b>2 578 478</b>	<b>2 628 470</b>	<b>2 511 537</b>	<b>2 430 562</b>	-
<b>Total N. Hemis., incl.</b>	<b>1 902 452</b>	<b>2 030 351</b>	<b>2 032 262</b>	<b>1 895 043</b>	<b>1 869 339</b>	<b>1 832 576</b>
Spain	1 323 336	1 233 704	1 297 293	1 138 728	1 200 403	1 155 688
Egypt	192 069	265 830	283 013	325 055	285 926	263 667
Greece	152 492	236 559	168 650	154 438	135 078	154 749
Morocco	75 392	68 153	92 537	78 388	58 404	78 801
Italy	84 196	115 493	81 111	108 528	86 216	83 289
Portugal	32 012	47 559	49 844	38 994	66 361	57 067
Turkey	8 473	29 560	24 792	27 420	13 020	21 346
Tunisia	17 055	15 741	16 592	12 240	13 201	7 562
Cyprus	4 545	2 605	2 852	1 734	3 271	5 226
Israel	4 154	4 452	2 820	2 318	1 442	859
Others	8 728	10 696	12 758	7 200	6 018	4 322
<b>Total S. Hemis., incl.</b>	<b>562 270</b>	<b>548 127</b>	<b>596 208</b>	<b>616 494</b>	<b>561 223</b>	-
South Africa	428 491	403 758	450 911	464 637	417 321	-
Argentina	36 607	49 204	39 245	44 415	41 417	-
Zimbabwe	27 642	28 098	32 773	39 251	34 573	-
Uruguay	34 508	27 779	26 351	26 641	28 278	-
Brazil	21 192	23 261	28 639	18 580	17 000	-
Peru	6 315	10 232	15 739	17 600	19 000	-
Swaziland	6 525	5 070	2 023	4 411	1 900	-
Chile	800	547	518	943	904	-
Australia	188	179	10	16	830	-

Source: EUROSTAT

Orange - Other West European countries - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>98 127</b>	<b>107 511</b>	<b>111 035</b>	<b>105 323</b>	<b>103 775</b>	<b>103 979</b>
Switzerland	62 966	69 218	70 465	68 282	69 390	70 109
Norway	33 323	36 311	38 560	35 113	32 506	31 926
Iceland	1 838	1 982	2 010	1 928	1 879	1 944

Source: COMTRADE

Orange - Russia - Main supplier countries						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>468 707</b>	<b>463 660</b>	<b>451 822</b>	<b>428 481</b>	<b>465 431</b>	<b>447 723</b>
<b>Total N. Hemis., incl.</b>	<b>338 791</b>	<b>367 641</b>	<b>364 503</b>	<b>338 920</b>	<b>433 610</b>	<b>361 459</b>
Egypt	210 221	232 818	269 178	219 979	240 841	266 127
Turkey	76 415	108 572	70 278	103 550	103 477	74 695
Morocco	26 008	21 515	10 933	10 679	83 297	11 384
China	4 812	3 060	4 220	2 981	2 984	6 709
Syria	2 477	1 676	9 894	1 667	2 746	2 544
Spain	17 840	-	-	-	-	-
Israel	-	-	-	64	265	-
United States	193	-	-	-	-	-
<b>Total S. Hemis., incl.</b>	<b>129 916</b>	<b>96 019</b>	<b>87 319</b>	<b>89 561</b>	<b>31 821</b>	<b>81 956</b>
South Africa	123 035	89 170	66 101	77 632	83 297	73 332
Argentina	651	497	5 306	3 185	2 186	3 663
Uruguay	1 440	1 310	9 405	2 777	593	1 936
Zimbabwe	789	252	315	880	953	409

Source: COMTRADE

Orange - Ukraine - Main supplier countries						
tonnes	2013	2014	2015	2016	2017	2018
<b>Total</b>	<b>133 185</b>	<b>94 639</b>	<b>66 323</b>	<b>81 096</b>	<b>69 887</b>	<b>92 088</b>
<b>Total N. Hemis., incl.</b>	<b>122 855</b>	<b>80 110</b>	<b>60 479</b>	<b>71 437</b>	<b>59 846</b>	<b>86 067</b>
Egypt	72 596	38 136	31 909	20 709	31 773	41 684
Turkey	38 637	35 102	23 725	46 091	24 458	39 783
Spain	10 790	6 055	4 372	3 392	2 884	3 593
Greece	711	690	386	1 236	612	899
Italy	110	106	66	9	28	98
Morocco	11	21	21	-	91	10
<b>Total S. Hemis., incl.</b>	<b>9 799</b>	<b>13 879</b>	<b>5 683</b>	<b>8 730</b>	<b>8 351</b>	<b>7 841</b>
South Africa	8 609	13 289	4 944	7 405	6 601	4 157
Brazil	9	2	20	312	1 169	3 593
Argentina	99	56	94	236	426	60
Zimbabwe	1 082	532	625	777	155	31

Source: COMTRADE

Orange - Japan - Main supplier countries						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>83 553</b>	<b>84 113</b>	<b>101 543</b>	<b>90 593</b>	<b>81 593</b>	<b>88 123</b>
<b>Total N. Hemis., incl.</b>	<b>51 953</b>	<b>51 495</b>	<b>64 556</b>	<b>50 932</b>	<b>44 628</b>	<b>50 595</b>
United States	51 953	50 824	64 225	49 677	42 795	50 318
Mexico	-	670	330	1 255	1 832	277
<b>Total S. Hemis., incl.</b>	<b>31 260</b>	<b>32 457</b>	<b>36 839</b>	<b>39 535</b>	<b>36 921</b>	<b>37 575</b>
Australia	26 106	27 909	33 222	36 736	33 236	34 164
South Africa	5 130	4 548	3 594	2 799	3 685	3 411

Source: Japanese Customs

Orange - Central and South-East Asia - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>709 909</b>	<b>801 250</b>	<b>1 022 061</b>	<b>1 167 449</b>	<b>1 221 303</b>	<b>1 220 110</b>
China	334 562	418 067	523 343	699 764	730 816	762 819
South Korea	98 371	111 743	154 944	141 572	142 443	124 386
Malaysia	103 688	95 661	102 812	97 006	93 745	103 124
India	49 004	49 055	56 014	48 881	83 702	72 902
Singapore	48 461	45 142	54 108	52 094	42 926	43 768
Vietnam	11 359	10 570	57 172	46 521	57 595	41 150
Philippines	19 740	17 723	22 404	35 118	19 261	19 786
Azerbaijan	234	12 131	12 044	12 607	18 098	16 742
Indonesia	17 048	14 036	12 212	12 999	11 391	11 410
Thailand	6 585	6 468	9 809	6 688	8 152	8 409

Source: COMTRADE

Orange - Persian Gulf - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>1 088 938</b>	<b>1 090 284</b>	<b>1 107 589</b>	<b>993 160</b>	<b>1 117 205</b>	<b>917 064</b>
Saudi Arabia	402 475	400 163	416 818	386 420	402 797	405 376
United Arab Em.	241 943	250 826	237 796	215 242	199 839	202 305
Iraq	210 000	211 768	214 266	203 899	300 457	120 366
Kuwait	104 602	106 492	81 314	67 539	80 122	65 000
Oman	56 561	42 256	43 494	44 403	52 230	50 000
Qatar	30 580	30 972	33 993	31 962	35 089	34 984
Bahrain	19 342	19 029	21 096	23 953	19 538	19 033
Yemen	17 092	16 912	5 242	3 812	18 906	10 000
Iran	6 343	11 866	53 570	15 930	8 227	10 000

Source: COMTRADE

Orange - Mediterranean - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>112 946</b>	<b>102 703</b>	<b>70 713</b>	<b>83 383</b>	<b>63 163</b>	<b>72 780</b>
Turkey	28 213	45 697	36 797	48 743	33 232	42 132
Jordan	50 852	31 913	26 982	27 355	29 931	30 648
Algeria	26 719	19 709	6 084	7 000	7 000	7 000

Source: COMTRADE

Orange - Africa - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>96 475</b>	<b>93 638</b>	<b>62 196</b>	<b>51 056</b>	<b>42 946</b>	<b>41 842</b>
Côte d'Ivoire	7 809	5 068	7 491	6 805	8 319	12 093
Kenya	8 408	18 061	15 380	11 529	11 248	7 110
Namibia	4 473	5 252	4 241	3 404	2 501	4 947
Zambia	12 367	8 168	5 811	3 630	4 174	4 070
South Africa	12 782	7 991	3 468	3 326	3 672	3 834
Botswana	826	2 705	3 127	1 640	2 190	3 446
Mauritius	4 764	4 821	5 128	5 379	4 939	3 156

Source: COMTRADE

Orange - Other East European countries - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total, incl.</b>	<b>157 863</b>	<b>147 826</b>	<b>158 068</b>	<b>127 130</b>	<b>160 075</b>	<b>148 768</b>
Serbia	46 732	40 976	47 173	35 236	41 751	41 488
Belarus	32 695	39 488	27 982	27 956	33 742	35 000
Bosnia	22 117	20 524	22 958	17 352	30 377	19 618
Albania	20 344	13 362	18 520	13 231	16 312	15 000
Armenia	8 699	9 035	10 498	9 620	12 081	13 275
Macedonia	15 806	13 936	18 727	13 024	13 702	12 187
Montenegro	6 514	6 125	8 008	6 265	6 652	6 500
Moldova	4 956	4 380	4 202	4 446	5 458	5 700

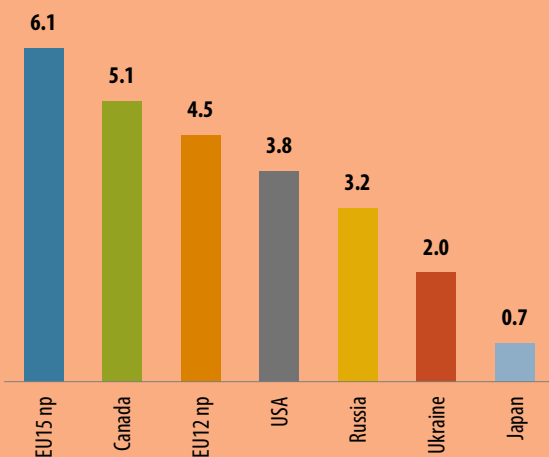
Source: COMTRADE

## Consumption (2019)



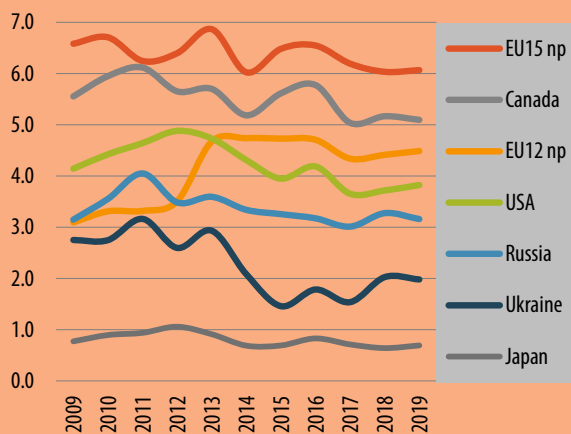
### Orange - Consumption in 2019

(np: non-producer country | in kg per capita  
sources: Customs, Trade map, professionals)



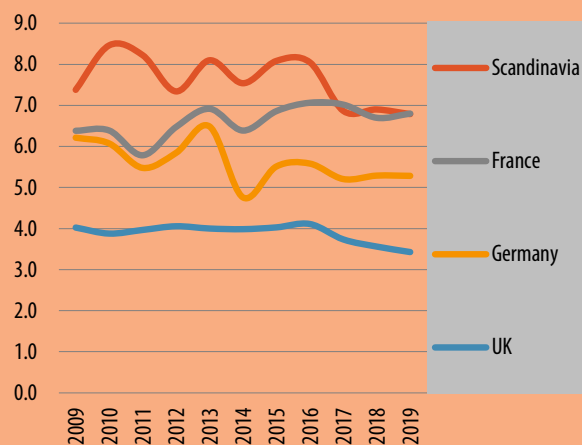
### Orange - Evolution of consumption on the leading markets

(in kg per capita | sources: Customs, Comtrade, professionals)



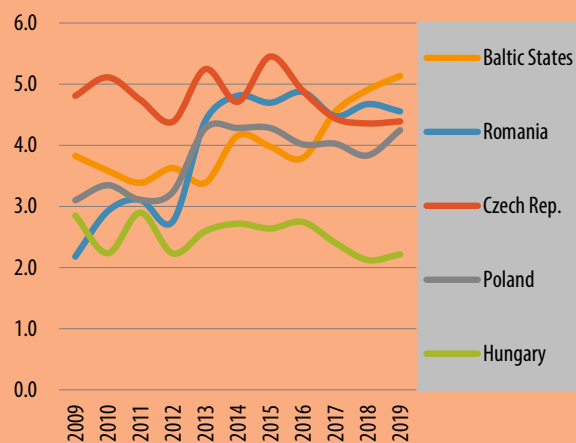
### Orange - Evolution of consumption on leading West European markets

(in kg per capita | sources: Customs, Comtrade, professionals)



### Orange - Evolution of consumption on leading East European markets

(in kg per capita | sources: Customs, Comtrade, professionals)



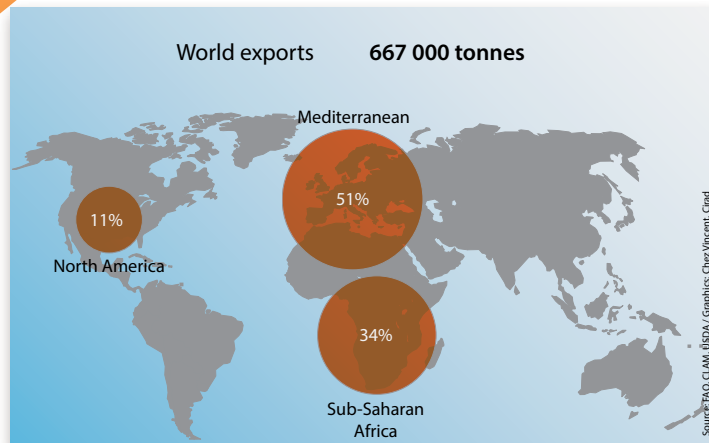
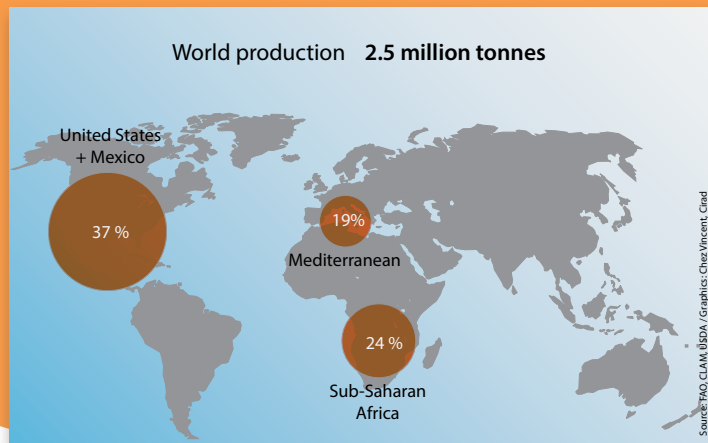
# GRAPEFRUIT

excluding shaddock



## Production (2019-2020)\*

## Exports (2019-2020)\*



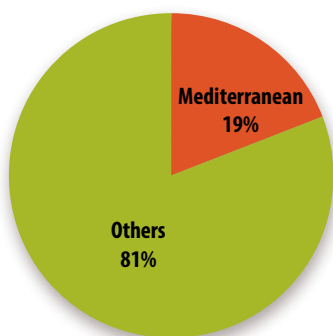
Grapefruit - Top 8 producer countries	
tonnes	2019-2020
United States	485 000
Mexico	456 000
South Africa	371 800
Turkey	249 000
Sudan	234 000
Israel	144 000
Argentina	114 118
Spain	86 000

Sources: FAO, USDA, professionals

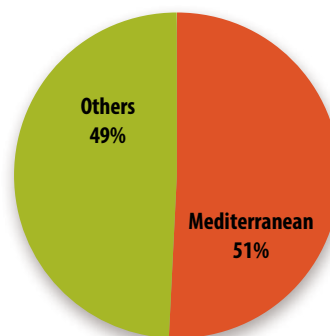
Grapefruit - Top 8 exporter countries	
tonnes	2019-2020
South Africa	236 900
Turkey	183 800
Spain	60 477
Israel	57 195
United States	55 500
Egypt*	23 359
Mexico	20 000
Egypt	9 200

\* Estimate / Sources: national Customs, professionals

Grapefruit - World  
Mediterranean production share



Grapefruit - World  
Mediterranean exports share



Grapefruit - Mediterranean - Production	
tonnes	2019-2020
Turkey	249 000
Israel	144 000
Spain	86 000
Egypt*	42 000
Cyprus*	16 000
Italy	5 000
Greece	3 000
Morocco	3 000

\* Estimate / Source: professionals

Grapefruit - Mediterranean - Exports	
tonnes	2019-2020
Turkey	183 800
Spain	68 900
Israel	57 200
Egypt*	23 300
Cyprus	8 502
Italy	4 500
Greece	1 000

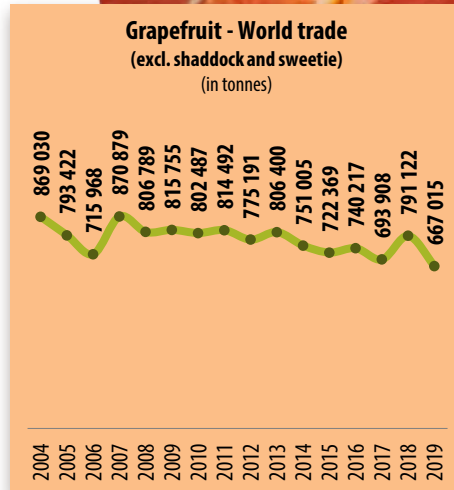
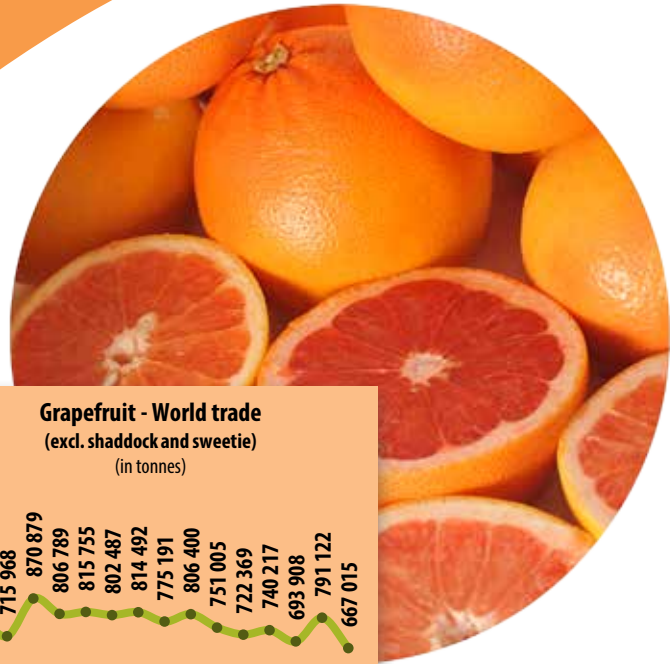
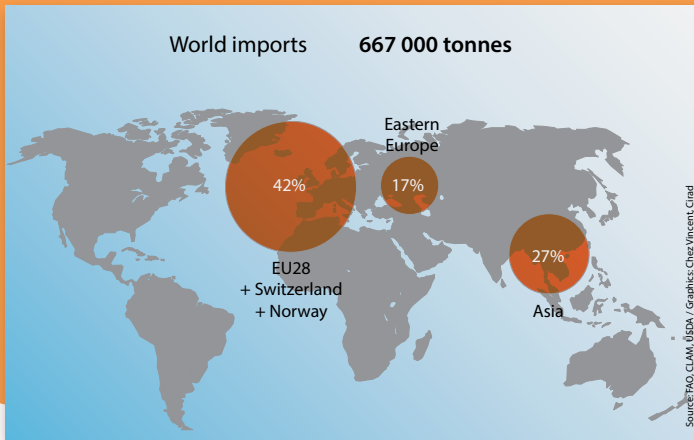
\* Estimate / Source: professionals

\* 2019 for S. Hemisphere, 2019-2020 for N. Hemisphere

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# GRAPEFRUIT

## Imports (2019-2020)\*

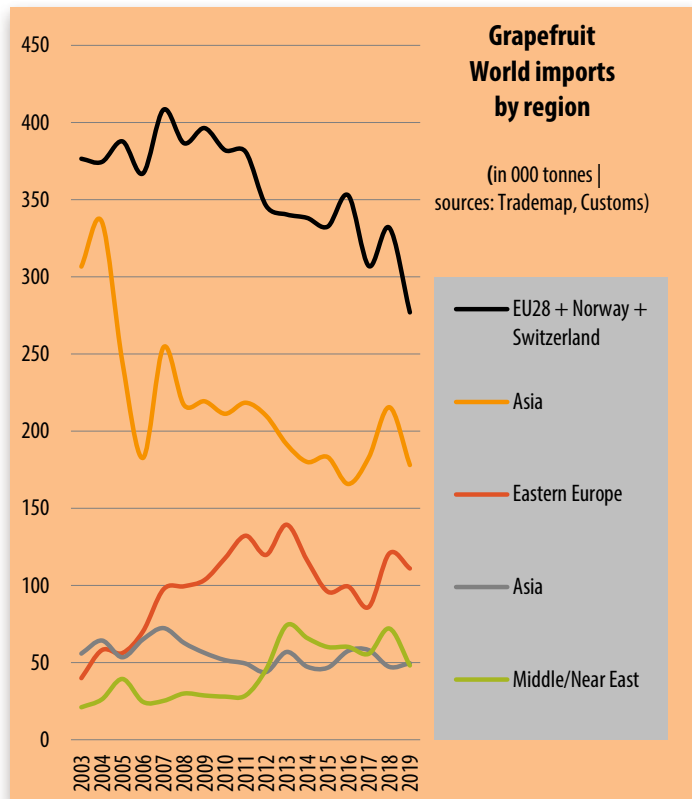


Grapefruit - Top 8 importer countries	
tonnes	2019
Netherlands	147 000
China	89 228
Russia	69 567
Japan	63 907
France	57 200
Poland	42 700
Germany	37 000
Canada	33 819

Source: FAO, USDA, professionals

Grapefruit - United States - Main supplier countries						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>9 549</b>	<b>9 500</b>	<b>23 798</b>	<b>25 268</b>	<b>11 239</b>	<b>15 848</b>
South Africa	5 085	4 977	12 795	12 702	4 512	5 581
Mexico	3 678	2 721	4 016	3 900	4 281	6 041
Israel	566	442	2 099	2 331	1 361	2 613
Peru	224	559	4 885	6 335	1 084	1 610

Source: US Customs



Grapefruit - Canada - Main supplier countries						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>37 851</b>	<b>37 276</b>	<b>33 875</b>	<b>32 872</b>	<b>36 073</b>	<b>33 819</b>
<b>Total winter, incl.</b>	<b>29 295</b>	<b>29 287</b>	<b>27 850</b>	<b>24 470</b>	<b>17 077</b>	<b>18 772</b>
United States	27 731	27 494	23 077	19 648	13 751	15 577
Israel	869	1 089	3 291	3 319	2 904	2 419
Mexico	369	617	1 370	1 394	289	653
Thailand	326	87	112	109	133	123
<b>Total summer, incl.</b>	<b>8 556</b>	<b>7 453</b>	<b>5 103</b>	<b>6 708</b>	<b>9 771</b>	<b>6 912</b>
South Africa	8 551	7 451	5 036	6 580	9 769	6 863
Argentina	-	1	66	127	-	48
Chile	5	1	1	1	2	1

Source: COMTRADE

Grapefruit - South America - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>3 163</b>	<b>3 612</b>	<b>4 339</b>	<b>3 777</b>	<b>3 451</b>	<b>3 009</b>
Mexico	1 725	2 567	1 897	1 331	1 507	1 727
Argentina	1 438	1 045	2 442	2 446	1 944	1 282

Source: COMTRADE

\* 2019-2020 or calendar year 2019

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# GRAPEFRUIT

Grapefruit - European Union - Main supplier countries						
tonnes	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
<b>Total</b>	<b>324 059</b>	<b>344 403</b>	<b>298 951</b>	<b>323 381</b>	<b>268 957</b>	-
<b>Total N. Hemis., incl.</b>	<b>228 565</b>	<b>243 851</b>	<b>198 471</b>	<b>206 018</b>	<b>161 293</b>	<b>170 657</b>
Turkey	70 729	95 573	60 821	92 595	61 660	59 915
Spain (Ailimpo)	62 870	53 780	57 940	49 587	51 427	61 084
Israel	37 887	33 820	30 290	29 215	21 005	24 216
United States	38 243	31 421	24 425	14 507	12 911	12 030
Mexico	9 725	14 612	13 683	13 276	7 815	7 611
Cyprus	5 557	6 811	5 410	6 668	6 456	5 782
Honduras	54	37	53	3	19	19
Others	3 500	7 798	5 834	167	-	-
tonnes	2014	2015	2016	2017	2018	2019
<b>Total S. Hemis., incl.</b>	<b>83 451</b>	<b>95 494</b>	<b>100 552</b>	<b>100 479</b>	<b>117 363</b>	<b>107 664</b>
South Africa	76 707	90 017	90 464	96 446	109 374	102 704
Swaziland	3 933	647	4 604	1 902	4 485	2 698
Zimbabwe	2 133	2 139	1 939	1 692	2 561	1 521
Chile	64	1 660	2 883	174	133	495
Argentina	59	-	375	196	279	127
Uruguay	-	115	-	16	316	-

\* Extra-EU imports and shipments from main EU producer countries (Spain, Cyprus)  
Source: EUROSTAT

Grapefruit - Other West European countries - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>8 580</b>	<b>8 524</b>	<b>8 398</b>	<b>8 055</b>	<b>8 450</b>	<b>8 042</b>
Switzerland	7 236	7 158	7 095	6 776	6 935	6 543
Norway	1 344	1 366	1 303	1 279	1 515	1 499

Source: COMTRADE

Grapefruit - Russia - Main supplier countries						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>72 157</b>	<b>63 954</b>	<b>62 051</b>	<b>53 805</b>	<b>69 567</b>	<b>59 784</b>
<b>Total N. Hemis., incl.</b>	<b>50 880</b>	<b>44 391</b>	<b>45 086</b>	<b>34 746</b>	<b>48 353</b>	<b>39 645</b>
Turkey	40 032	39 354	42 184	32 298	47 656	37 921
Israel	10 324	4 668	2 855	2 218	643	1 304
Morocco	300	369	47	230	54	420
Spain	219	-	-	-	-	-
United States	5	-	-	-	-	-
<b>Total S. Hemis., incl.</b>	<b>21 277</b>	<b>19 563</b>	<b>16 965</b>	<b>19 059</b>	<b>20 660</b>	<b>20 053</b>
South Africa	18 092	18 027	15 372	18 243	19 630	18 240
Mexico	2 037	1 075	606	515	124	1 003
Swaziland	1 076	418	668	132	728	397
Argentina	-	-	262	112	169	360
Zimbabwe	72	43	57	57	9	53
Others	-	-	-	-	554	86

Source: COMTRADE

Grapefruit - Other East European countries - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total, incl.</b>	<b>44 043</b>	<b>32 062</b>	<b>37 314</b>	<b>32 354</b>	<b>51 255</b>	<b>51 271</b>
Ukraine	22 432	13 441	18 751	16 938	28 969	32 683
Belarus	8 474	7 021	5 936	5 503	8 282	5 295
Serbia	5 050	4 380	4 875	3 535	5 105	3 786
Moldova	1 698	1 659	1 651	1 480	2 310	2 244
Georgia	834	935	963	797	1 124	2 125
Armenia	1 306	1 028	1 306	1 191	1 568	2 018
Bosnia Herz.	1 878	1 539	1 565	1 285	1 700	1 317
Macedonia	1 481	1 323	1 345	913	1 241	1 007
Montenegro	643	553	729	593	833	664
Albania	247	183	193	119	123	132

Source: COMTRADE

Grapefruit - Japan - Main supplier countries						
tonnes	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
<b>Total</b>	<b>99 597</b>	<b>82 167</b>	<b>84 581</b>	<b>72 386</b>	<b>63 907</b>	-
<b>Total N. Hemis., incl.</b>	<b>55 794</b>	<b>50 442</b>	<b>45 097</b>	<b>34 941</b>	<b>33 370</b>	<b>31 893</b>
United States	51 899	44 032	36 029	18 975	17 643	15 838
Israel	1 501	2 937	5 964	10 689	10 536	10 461
Mexico	-	1 783	3 008	5 022	3 795	4 581
Turkey	2 185	1 684	95	255	1 396	1 013
<b>Total S. Hemis., incl.</b>	<b>43 803</b>	<b>31 725</b>	<b>39 484</b>	<b>37 445</b>	<b>30 537</b>	-
South Africa	43 688	30 625	38 669	36 251	29 445	-
Australia	-	982	755	935	1 016	-
Swaziland	-	116	53	257	75	-

Source: Japanese Customs

Grapefruit - Other Asian countries - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>70 950</b>	<b>83 623</b>	<b>83 638</b>	<b>98 441</b>	<b>143 168</b>	<b>114 181</b>
China	44 719	51 372	53 518	68 414	114 533	89 228
South Korea	19 491	25 010	23 169	22 998	21 269	17 786
Singapore	5 469	5 568	5 343	5 324	5 223	5 615
Malaysia	1 271	1 673	1 608	1 705	2 143	1 552

Source: COMTRADE

Grapefruit - Persian Gulf - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>65 990</b>	<b>60 162</b>	<b>60 234</b>	<b>55 804</b>	<b>72 151</b>	<b>48 197</b>
Saudi Arabia	35 554	32 506	31 449	32 965	33 608	22 730
United Arab Em.	11 561	10 925	10 792	10 535	9 738	10 000
Iraq	9 939	7 826	9 856	5 027	19 110	5 467
Kuwait	2 892	2 648	2 637	2 404	4 571	5 000
Qatar	6 044	6 257	5 500	4 873	5 124	5 000

Source: COMTRADE



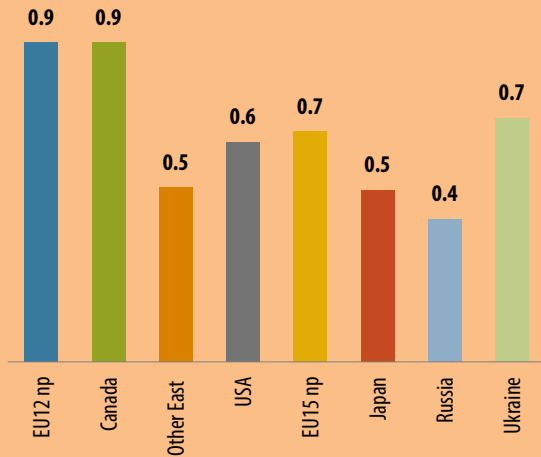
# GRAPEFRUIT

## Consumption (2019)



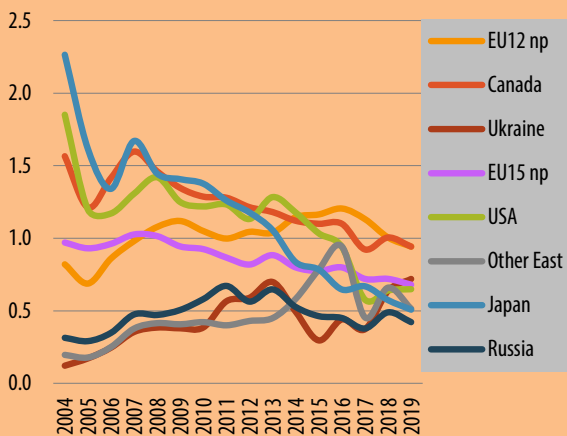
### Grapefruit - Consumption in 2019

(np: non-producer country | in kg per capita  
sources: Customs, Trade map, professionals)



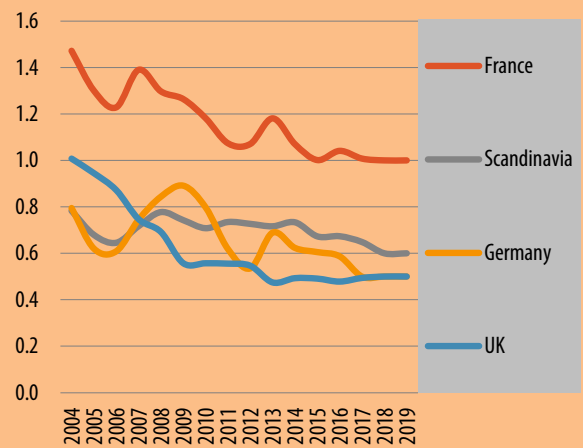
### Grapefruit - Evolution of consumption on the leading markets

(in kg per capita | sources: Customs, Trade map, professionals)



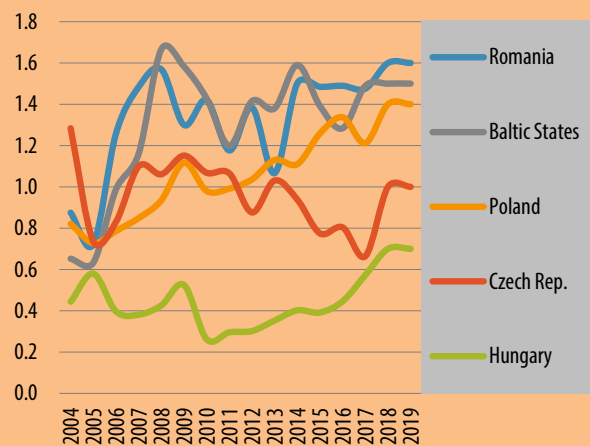
### Grapefruit - Evolution of consumption on leading West European markets

(in kg per capita | sources: Customs, Trade map, professionals)



### Grapefruit - Evolution of consumption on leading East European markets

(in kg per capita | sources: Customs, Trade map, professionals)

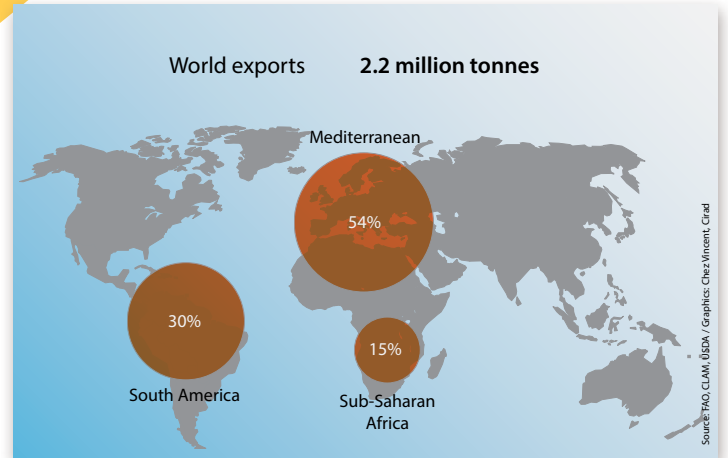
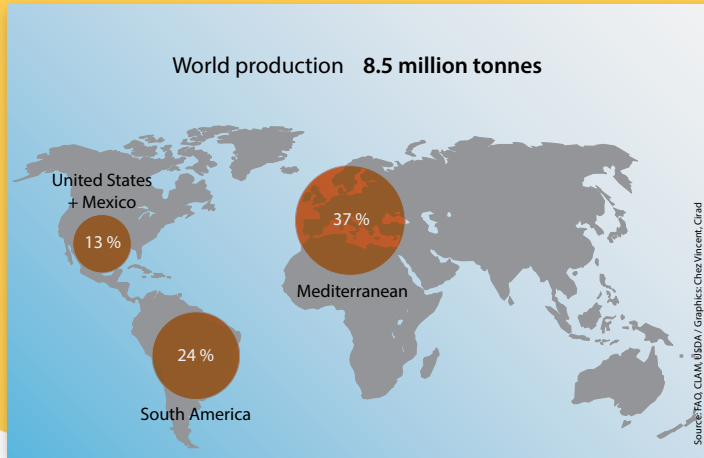




excluding lime

## Production (2019-2020)\*

## Exports (2019-2020)\*



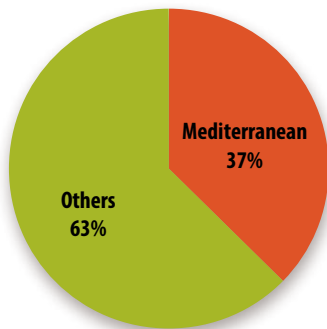
Lemon - Top 8 producer countries	
000 tonnes	2019
Argentina	1 800
Spain	1 192
United States	998
Turkey	950
China	750
South Africa	492
China	480
Italy	446

Lemon - Top 6 exporter countries	
000 tonnes	2019
Spain	732
Turkey	383
South Africa	340
Argentina	224
United States	93
Chile	87

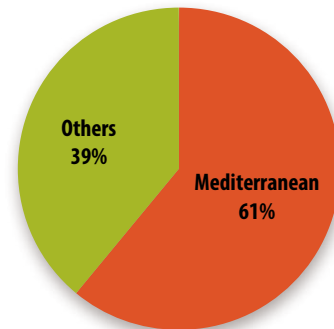
Sources: FAO, USDA, professionals

Sources: national Customs, professionals

Lemon - World Mediterranean production share



Lemon - World Mediterranean exports share



Lemon - Mediterranean - Production	
000 tonnes	2019
Spain	1 192
Turkey	950
Italy	446
Greece	68
Israel	68
Tunisia	50
Morocco	33
Cyprus	6

Lemon - Mediterranean - Exports	
tonnes	2019
Spain	732 000
Turkey	382 700
Italy	52 700
Egypt*	23 000
Greece	19 600
Morocco	13 224
Cyprus	2 000

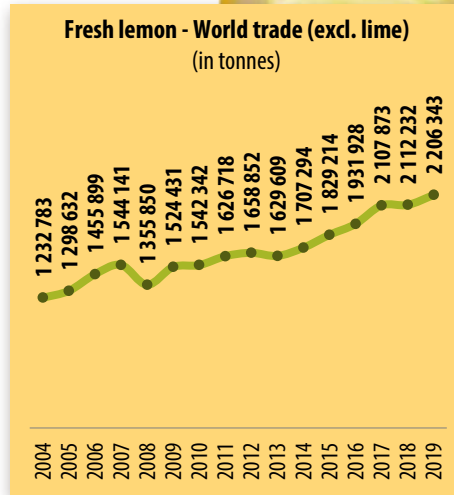
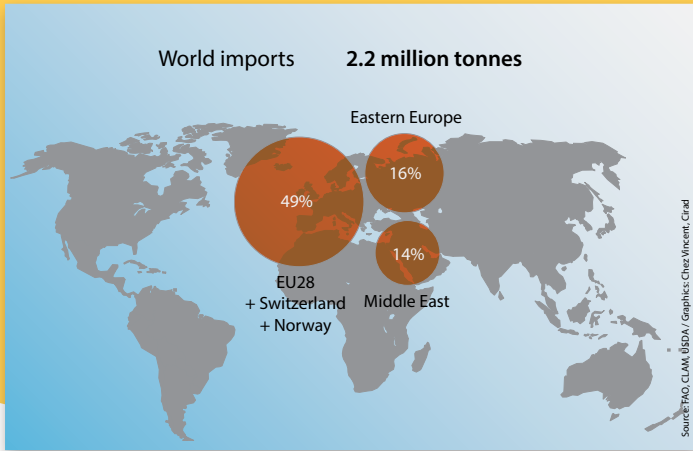
Professional sources, USDA

\* Estimate / Professional sources, Customs

\* 2019 for S. Hemisphere, 2019-2020 for N. Hemisphere

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## Imports (2019-2020)\*

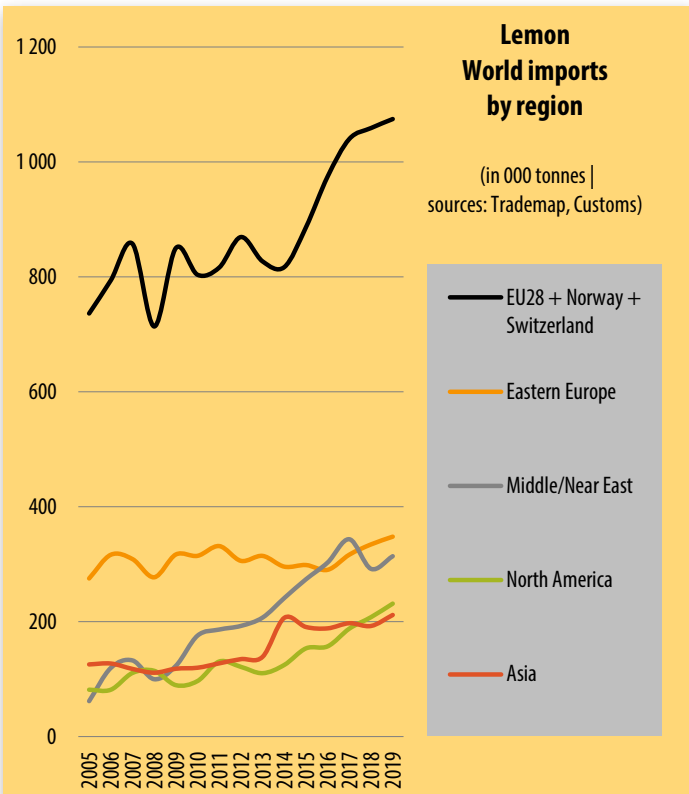


000 tonnes	2019
Russia	227
Germany	189
United Arab Emirates	144
France	140
Netherlands	137
United States	133
Italy	128
Saudi Arabia	127

Source: national Customs

tonnes	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Total</b>	<b>52 203</b>	<b>79 522</b>	<b>78 845</b>	<b>97 695</b>	<b>115 063</b>	<b>133 209</b>
<b>Total N. Hemis., incl.</b>	<b>28 528</b>	<b>44 827</b>	<b>44 617</b>	<b>52 973</b>	<b>55 149</b>	<b>49 709</b>
Mexico	26 362	39 830	42 748	47 433	53 444	41 500
Spain	1 647	4 845	1 690	5 220	1 034	7 212
Dominican Rep.	217	65	118	48	-	25
Others	302	87	61	272	671	972
<b>Total S. Hemis., incl.</b>	<b>23 675</b>	<b>34 695</b>	<b>34 228</b>	<b>44 722</b>	<b>59 914</b>	<b>83 500</b>
Chile	16 780	33 574	31 162	41 246	56 461	56 000
Argentina	-	-	-	-	7 784	24 000

Source: US Customs



tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>53 928</b>	<b>59 887</b>	<b>62 628</b>	<b>67 135</b>	<b>71 040</b>	<b>71 040</b>
<b>Total N. Hemis., incl.</b>	<b>38 396</b>	<b>41 762</b>	<b>41 525</b>	<b>39 347</b>	<b>41 680</b>	<b>40 491</b>
United States	29 593	30 099	33 542	29 781	24 595	27 786
Spain	8 248	10 735	7 094	8 468	13 396	10 919
Turkey	555	928	889	1 098	3 689	1 786
<b>Total S. Hemis., incl.</b>	<b>14 511</b>	<b>16 820</b>	<b>20 069</b>	<b>25 042</b>	<b>26 512</b>	<b>25 545</b>
South Africa	8 140	9 118	8 351	12 642	14 005	15 133
Argentina	5 010	6 297	10 075	10 708	10 467	8 695
Uruguay	1 027	677	1 104	1 217	962	730
Chile	88	400	418	317	470	550
Australia	246	328	121	158	608	437

Source: COMTRADE

tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>18 723</b>	<b>14 285</b>	<b>15 760</b>	<b>23 225</b>	<b>21 902</b>	<b>27 299</b>
Chile	7 247	5 470	4 378	9 139	10 450	16 413
Brazil	2 884	2 356	1 442	2 897	3 232	4 025
Mexico	2 887	1 610	2 563	2 928	3 981	3 736
Ecuador	4 200	3 043	1 749	3 719	948	1 035
Colombia	360	177	75	347	502	746
Argentina	118	137	3 052	2 898	870	710
Costa Rica	469	515	497	580	686	634
Bolivia	558	977	2 004	717	1 233	-

Source: COMTRADE

\* 2019-2020 or calendar year 2019  
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Lemon - European Union - Main supplier countries						
tonnes	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
<b>Total</b>	<b>853 847</b>	<b>939 877</b>	<b>1 003 645</b>	<b>1 021 032</b>	<b>1 036 093</b>	-
<b>Total winter, incl.</b>	<b>662 512</b>	<b>644 722</b>	<b>747 074</b>	<b>705 139</b>	<b>772 496</b>	<b>749 837</b>
Spain	552 582	468 583	580 090	525 289	571 565	602 400
Turkey	75 684	108 926	105 179	112 395	130 568	74 277
Italy	29 539	44 568	47 092	45 013	48 251	47 725
Greece	2 792	15 386	8 102	13 621	12 592	14 019
Egypt	166	1 264	3 527	4 100	4 470	4 736
Cyprus	635	1 205	1 473	3 527	4 100	4 470
Morocco	443	1 886	748	613	559	1 524
United States	42	331	64	15	-	609
Iran	99	103	38	49	50	51
Israel	492	1 214	299	270	167	26
Tunisia	38	1 257	463	247	174	-
<b>Total summer, incl.</b>	<b>191 335</b>	<b>295 155</b>	<b>256 571</b>	<b>315 893</b>	<b>263 597</b>	-
Argentina	130 267	198 344	158 437	185 036	123 194	-
South Africa	41 364	63 145	78 631	110 263	118 787	-
Uruguay	8 933	7 948	7 323	8 225	10 996	-
Chile	9 168	23 910	10 785	9 568	9 986	-
Dominican Rep.	1 075	752	970	844	586	-
Zimbabwe	119	-	0	-	24	-
Brazil	408	1 056	425	1 957	24	-

Source: EUROSTAT

Lemon - Other West European countries - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>29 588</b>	<b>32 739</b>	<b>35 103</b>	<b>36 653</b>	<b>38 168</b>	<b>38 782</b>
Switzerland	20 558	22 804	24 038	25 453	26 899	27 531
Norway	8 241	9 004	10 181	10 279	10 380	10 357
Iceland	789	931	884	921	889	894

Source: COMTRADE

Lemon - Russia - Main supplier countries						
000 tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>192 278</b>	<b>193 910</b>	<b>188 898</b>	<b>209 766</b>	<b>217 700</b>	<b>227 000</b>
<b>Total N. Hemis., incl.</b>	<b>133 634</b>	<b>128 763</b>	<b>128 260</b>	<b>129 708</b>	<b>146 214</b>	<b>137 326</b>
Turkey	104 036	117 777	105 708	118 653	130 049	100 553
China	773	3 844	14 021	2 438	10 623	27 244
Egypt	293	1 400	3 877	1 607	1 783	4 086
Morocco	4 219	5 416	3 710	6 931	3 738	5 291
Israel	1 329	326	944	79	21	152
<b>Total S. Hemis., incl.</b>	<b>54 933</b>	<b>61 493</b>	<b>56 999</b>	<b>75 021</b>	<b>68 830</b>	<b>79 833</b>
Argentina	23 378	29 473	38 738	43 837	40 312	51 348
South Africa	29 720	30 324	16 966	29 916	26 937	28 008
Uruguay	1 835	1 696	1 295	1 268	1 581	477
Others	3 711	3 654	3 639	5 037	2 755	3 144

Source: COMTRADE

Lemon - Ukraine - Main supplier countries						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>52 872</b>	<b>39 818</b>	<b>46 286</b>	<b>45 569</b>	<b>52 245</b>	<b>53 024</b>
<b>Total N. Hemis., incl.</b>	<b>43 036</b>	<b>31 224</b>	<b>32 590</b>	<b>32 324</b>	<b>38 168</b>	<b>33 620</b>
Turkey	36 243	25 854	29 914	29 019	37 278	32 941
Spain	6 653	5 352	2 368	3 051	687	679
Egypt	124	9	299	224	203	-
Israel	16	9	9	30	-	-
<b>Total S. Hemis., incl.</b>	<b>8 125</b>	<b>7 627</b>	<b>7 605</b>	<b>11 135</b>	<b>12 380</b>	<b>10 819</b>
Argentina	4 758	4 807	6 647	9 790	10 816	9 485
South Africa	3 367	2 820	958	1 345	1 564	1 334
Others	1 711	967	6 091	2 110	2 025	2 553

Source: COMTRADE

Lemon - Japan - Main supplier countries						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>47 299</b>	<b>47 160</b>	<b>49 293</b>	<b>50 800</b>	<b>54 920</b>	<b>56 497</b>
<b>Total N. Hemis., incl.</b>	<b>29 938</b>	<b>30 503</b>	<b>30 374</b>	<b>30 487</b>	<b>34 042</b>	<b>33 386</b>
United States	29 234	30 370	30 215	30 107	31 689	31 168
Mexico	704	133	159	380	2 353	2 218
<b>Total S. Hemis., incl.</b>	<b>17 360</b>	<b>16 654</b>	<b>18 805</b>	<b>20 275</b>	<b>20 558</b>	<b>22 786</b>
Chile	16 027	15 486	17 282	18 194	18 069	20 068
New Zealand	913	816	1 001	1 292	1 488	1 685
South Africa	420	352	522	789	1 001	1 033
Others	1	3	114	38	320	265

Source: Japanese Customs

Lemon - Other Asian countries - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>159 553</b>	<b>143 711</b>	<b>139 217</b>	<b>146 687</b>	<b>137 767</b>	<b>155 304</b>
China	100 303	56 460	50 297	62 004	52 734	45 883
Malaysia	15 058	18 278	21 952	18 962	22 046	24 592
South Korea	13 610	17 793	15 823	16 234	18 355	19 455
Philippines	2 669	3 033	3 245	6 222	11 449	18 311
Singapore	16 970	20 432	14 278	13 259	8	14 466
Azerbaijan	554	9 957	9 223	11 848	14 746	13 941
Indonesia	5 539	9 729	14 066	11 646	11 138	11 138
Kazakhstan	4 116	7 277	6 429	5 882	6 302	6 448
Kyrgyzstan	734	752	3 904	630	989	1 070

Source: COMTRADE

Lemon - Persian Gulf - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>241 285</b>	<b>273 965</b>	<b>303 143</b>	<b>343 575</b>	<b>292 049</b>	<b>314 070</b>
United Arab Em.	100 220	118 098	121 857	144 639	110 130	144 304
Saudi Arabia	87 786	104 131	120 962	128 074	122 637	126 861
Kuwait	25 817	27 351	28 290	39 129	27 849	15 205
Qatar	7 888	9 117	12 403	11 685	12 579	11 417
Bahrain	13 112	9 402	9 988	10 786	10 586	10 603
Oman	6 462	5 866	9 643	9 262	8 268	5 680

Source: COMTRADE

Lemon - Mediterranean - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>21 222</b>	<b>25 389</b>	<b>17 667</b>	<b>21 684</b>	<b>25 672</b>	<b>25 977</b>
Jordan	10 447	15 076	14 204	16 836	13 512	13 512
Syria	7 529	5 405	160	486	9 879	10 439
Turkey	2 419	2 982	3 082	4 024	2 185	1 979
Lebanon	721	534	121	337	96	44
Tunisia	-	7	32	1	-	3
Algeria	106	1 385	68	-	-	-

Source: COMTRADE

Lemon - Oceania - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>8 823</b>	<b>8 570</b>	<b>9 425</b>	<b>7 756</b>	<b>6 285</b>	<b>6 042</b>
Australia	7 665	6 754	7 378	5 597	4 185	3 821
New Zealand	1 158	1 816	2 047	2 159	2 100	2 221

Source: COMTRADE

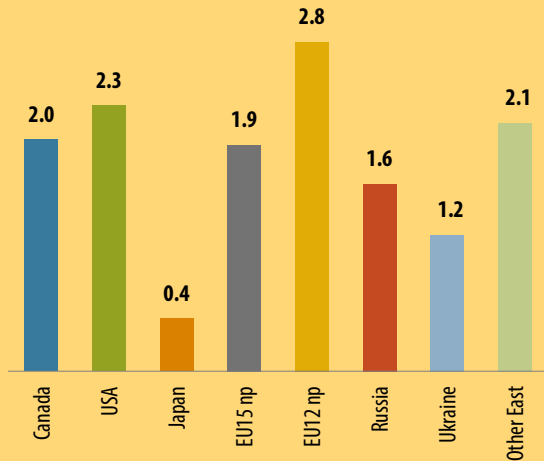
Lemon - Other East European countries - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total, incl.</b>	<b>50 737</b>	<b>64 981</b>	<b>55 211</b>	<b>61 439</b>	<b>64 674</b>	<b>68 049</b>
Serbia	15 286	16 865	17 600	20 305	22 672	24 045
Bosnia	7 794	9 263	9 176	10 312	10 984	11 938
Belarus	13 517	22 014	10 674	11 094	9 346	8 392
Macedonia	5 320	6 190	6 232	6 623	7 060	7 313
Moldova	3 570	3 752	3 772	3 756	4 277	4 906
Montenegro	2 407	2 720	2 959	3 402	3 575	4 246
Albania	1 351	2 553	2 759	3 866	3 968	3 968
Armenia	1 492	1 624	2 039	2 081	2 792	3 241

Source: COMTRADE

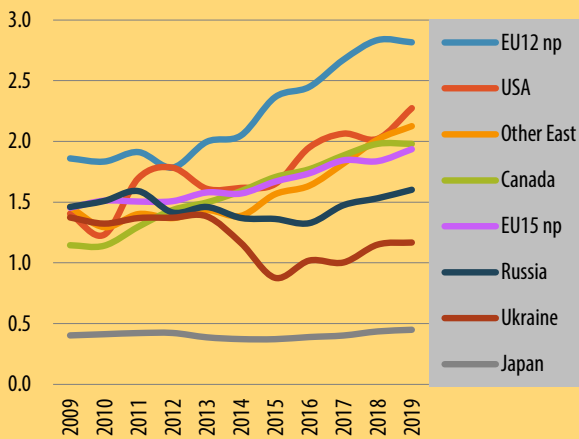
## Consumption (2019)



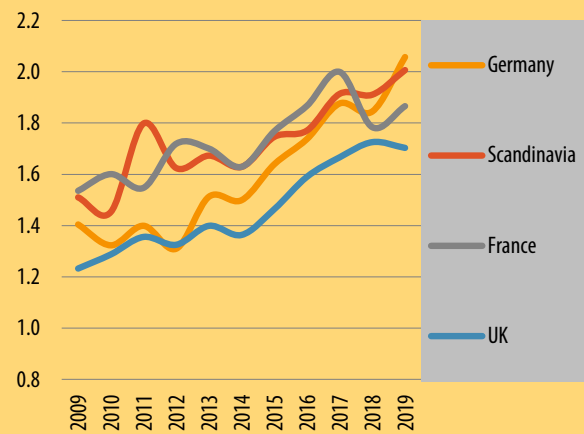
**Lemon - Consumption in 2019**  
(np: non-producer country | in kg per capita  
sources: Customs, Trade map, professionals)



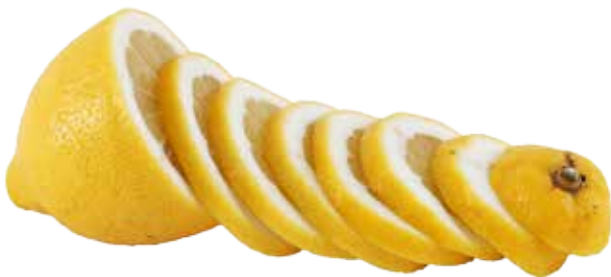
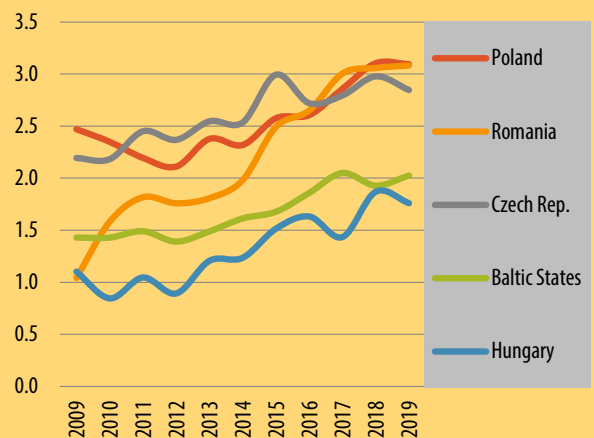
**Lemon - Evolution of consumption on the leading markets**  
(in kg per capita | sources: Customs, Trade map, professionals)



**Lemon - Evolution of consumption on leading West European markets**  
(in kg per capita | sources: Customs, Trade map, professionals)



**Lemon - Evolution of consumption on leading East European markets**  
(in kg per capita | sources: Customs, Trade map, professionals)



# Spanish citrus 2020 campaign review

## What does the future look like for Spanish citrus?

by **Paco Borrás**, consultant  
paco@pacoborras.com

**Certain major changes have occurred in Spain over the past two decades in production and marketing, which have raised questions over the future of Spanish citrus growing. In the present article, we will attempt to address this issue, which the citrus sector has been pondering in recent years, and provide as reasoned an answer as possible, albeit subjective.**

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Spain has played a key role worldwide since citrus exports began. While the USA has been a crucial player in trade and standardisation, its industry has received continuous support from demand on its own domestic market. Production developed initially in Florida, and then California, to supply consumption markets situated in the East Coast States. Spain, meanwhile, has always exported to the UK and France, its main markets in Central and Northern Europe, at first slowly from the end of the 18<sup>th</sup> Century, and then more intensely from the mid-19<sup>th</sup> Century.

Spain's entry into the European Union, but above all the establishment of the European Single Market in 1993, opened up the doors to what was the biggest free trade area at the time. For the following two decades, from 1985 to 2005, the country hoisted itself up to practically the world number three citrus exporter, though without ever reaching the same position in terms of production – China, Brazil and the USA having always dominated the world citrus producers ranking. However, Spain remained among the leading exporters, making nearly 25 % of the world's exports, taking a clear lead in mandarins, sharing first place with Egypt for oranges and Mexico for lemons (and limes), though without earning distinction for grapefruits. As regards production, India and Mexico lead the way. If we add the USA, which is in decline, this trio alone produce 7 000 000 tonnes.

Certain major changes have occurred in Spain over the past two decades in terms of production and marketing,

which have raised questions over the future of Spanish citrus growing. It seems clear that the citrus production and value chain structures, having kept Spain at the top of the world citrus exporters' chart for 150 years, are undergoing changes leading to serious concerns for the coming years. The 2018-2019 campaign was the first to exceed the 7 500 000-tonnes mark in production; it may also be the worst in history for mandarins and oranges, but not for lemons and grapefruits. It is behind a wave of unprecedented social mobilisation in the traditional production zones of Castellón and Valencia, and social agitation widely covered in the media which has mobilised the administration, both within the Valencian Community and at State level. Among the analyses conducted into the origin of this situation, one of the most advanced can be found in the work published by Cajamar, "Una hoja de ruta para la citricultura Española" (road map for Spanish citrus growing). Of course, the storm that the industry has gone through this campaign, dubbed the "Tormenta perfecta" (perfect storm), is having effects far beyond mandarins and oranges, as we mentioned above, i.e. citrus consumed for dessert and with a different mode of consumption from lemons and grapefruits. Fresh lemons, in terms of consumption, represent a top-up, while grapefruits are widely used in the form of juice.

In the present article, we will attempt to address the issue that the citrus sector has been pondering in recent years, and provide as reasoned an answer as possible, albeit subjective.

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# 1. Results from recent campaigns



The table opposite presents the net production results for the past twelve campaigns (from 2008-09 to 2019-20) based on official exports value data (Intrastat), actual figures from the cooperatives, information published in the media, and data from the sector operators.

The key to the classification for the various campaigns is defined as follows:

- **Loss** – Annual production costs not covered, nor depreciation on investments or real estate value.
- **Break-even** – All production costs, as well as depreciation, are covered, though the producer does not receive any profit.
- **Good** – The producer draws a net profit which contributes to the proper maintenance and renewal of the farms.
- **Very good** – The net results are sufficiently good to drive a crop change in terms of varieties and citrus types, or a search for new production zones, despite the need to invest in irrigation or change of land allocation.

**Table 1**  
**Citruses – Spain – Compilation of producers’ net results**  
**2008 to 2020 campaign**

Varietal group	% of harvest	Loss	Break-even	Good	Very good
Clementines	20 %	8	1	3	0
Royalty-free hybrids	6 %	3	3	5	1
Club hybrids	4 %	0	0	1	11
1 <sup>st</sup> half-season Navels	19 %	6	3	2	1
2 <sup>nd</sup> half-season Navels	18 %	3	3	3	3
Salustiana	5 %	3	3	5	1
Valencia late	7 %	2	3	2	5
Primofiori lemon	13 %	0	2	4	6
Verna lemon	5 %	0	1	5	6
Star Ruby grapefruit	1 %	0	0	7	5

Source: personal estimate



We can see in this table that clementines in general, and early Navel in particular (Naveline and classic Navel), historically present in the provinces of Castellón and Valencia, have obtained less good results. Conversely, the best results have been achieved by club hybrid mandarins (Nadorcott, Tango, Orri, etc.), lemons and grapefruits.

Club mandarins have seen growth in following the growth of the clubs in general, and are currently nearing a production level of 250 000 tonnes, which is maintaining its momentum thanks to new planting over nearly 12 000 hectares, which could in a few years represent 500 000 tonnes of production. Lemons also have seen a big increase, in terms of both renewing and improving historic plantations, and new plantations, which will enable Spain to exceed the 1 500 000-tonnes mark within a few years. For the other oranges, as for clementines, copyright-free hybrid mandarins and early-season Navel, the results have led to abandonment of small plots in historic zones, as well as crop conversions, as with Ribera del Xúquer in Valencia, which has converted 20 000 hectares of orchards to persimmon, and a few tentative attempts at planting avocado or pomegranate in old citrus orchards.

These results, correlated with the evolution of costs, which are hitting smallholdings much harder, are the primary cause of on the one hand the structural changes to the farms, and on the other hand of the changes to the production zones, to which we will return later.

## 2. Evolution of citrus farms

In this part, we will look at the results of the survey on agricultural facilities conducted by the Ministry of Agriculture in 2003 and 2016, published by the INE (National Institute for Statistics), and which provide a fairly true reflection of the events which took place over the first two decades of this century.

In this analysis, the concept of a farm is based not on a plot, but on the total surface area belonging to or managed by a natural person or legal entity. So we need to bear in mind that in the traditional citrus production zones, particularly in the Valencian Community, a citrus farm comprises several plots which in most cases are not adjoining. In the provinces of Castellón and Valencia, numerous farms of 1 to 5 hectares comprise a set of plots often measuring approximately 0.5 hectares.

Graph 1 illustrates the evolution of the number of farms as a function of size over these years. They have been classified in two categories: farms of less than 20 hectares, and the biggest ones.

In just 13 years, 35.17 % of farms measuring less than 20 hectares disappeared, while those measuring more than 20 hectares increased by 21.61 %. Furthermore, an in-depth examination of farms of less than 1 ha indicates that their number has dropped, going from 52 758 in 2003 to 33 678 in 2016, which provides an idea of the state of citrus smallholding in Spain, which we should recall was the driving force behind the vast Spanish agricultural sector for more than 150 years.

Graph 2 illustrates the overall evolution of surface areas in Spain over the same period. Using the same analysis framework as in the previous graph shows us this time the breakdown of each category out of total Spanish surface area.

Farms of less than 20 ha represented 68.68 % of the total in 2003, as opposed to just 53.64 % in 2016. It is very likely that farms measuring more than 20 ha will have overtaken those measuring less than 20 ha by the next agricultural survey. The size of the citrus farms is increasing as quickly as the number of smallholdings is decreasing.

**Table 2**  
Citruses – Spain – Evolution of the number of farms between 2003 and 2016

Farm size	2003	2016	Difference	Difference in %
Less than 20 ha	134 998	87 518	- 47 480	- 35.17 %
More than 20 ha	3 562	4 333	+ 771	+ 21.61 %
<b>Total</b>	<b>138 560</b>	<b>91 851</b>	<b>- 46 709</b>	<b>- 33.71 %</b>

Source: INE (National Institute for Statistics)

**Table 3**  
Citruses – Spain – Evolution of area according to farm size between 2003 and 2016

Farm size	2003 (ha)	2016 (ha)	Difference (ha)	Difference in %
Less than 20 ha	187 811	144 229	- 43 582	- 23.21 %
More than 20 ha	85 625	124 640	+ 39 015	+ 45.56 %
<b>Total</b>	<b>273 436</b>	<b>268 869</b>	<b>- 4 567</b>	<b>- 1.67 %</b>

Source: INE (National Institute for Statistics)

### 3. Production zones

In parallel, their average productivity is increasing. Graph 3 brings together the FAO's surface area and production data from recent years.

Over the past 20 years, Spanish productivity went from 19 500 to 22 700 t/ha. There can be no doubt that the small plots deteriorated over the years prior to disappearing from the survey. They were unable to undergo conversion, or obtain access to club varieties because of the conditions imposed to obtain the licences. Conversely, the biggest plantations proved more agile when it came to renewing their ageing crops, and to accessing new varieties, both club and copyright-free.

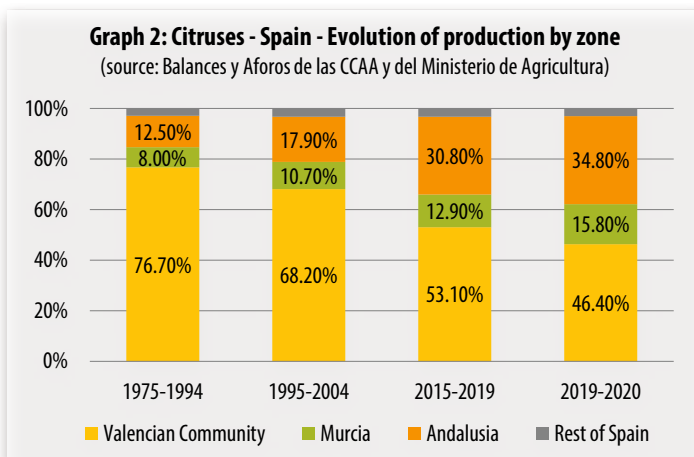
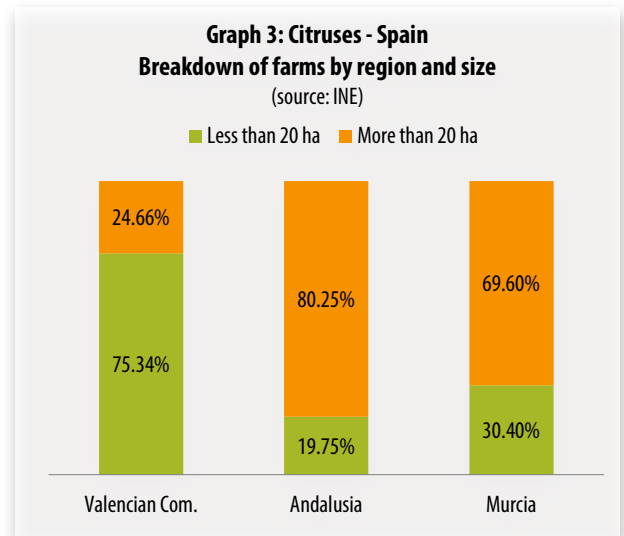
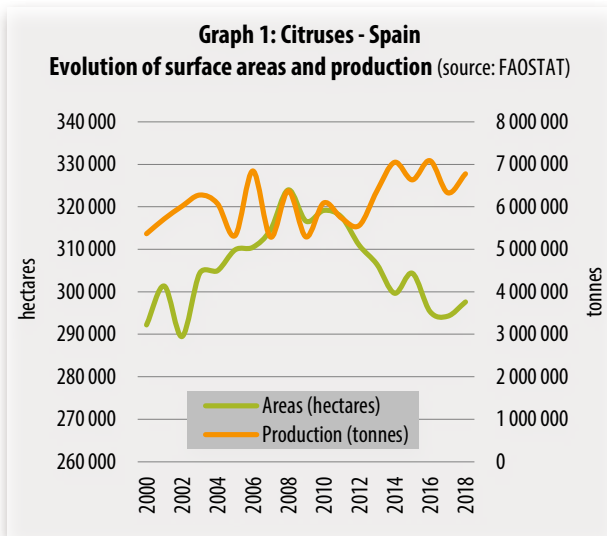
This situation gave rise to a paradox: while Spain was losing hectares of citrus orchards, production increased to set new records. Hence although the surface area decreased by 1.67 % between 2003 and 2016, as graph 2 shows, a first production record was set in 2014-15 with 7 000 000 tonnes, and then again in 2016-17, which itself was beaten in the 2018-19 campaign with 7 550 000 tonnes. Forecasts for the 2020-21 campaign are pointing to a volume of at least 7 000 000 tonnes.

Fundamentally, the evolution of Spanish citrus production zones can be characterised by stabilisation of volumes from the Valencian Community within the same range, between 3 100 000 and 4 100 000 tonnes, since the 1996-97 campaign, when the level reached was 4 000 000 tonnes. Over the same period, Murcia and Andalusia saw constant growth. In 20 years, Murcia went from 701 000 tonnes to a capacity of 916 000 tonnes this year, while Andalusia went from 1 100 000 to 2 321 000 tonnes.

The contribution of the various zones to total Spanish citrus production saw a distinct change, as graph 4 reveals.

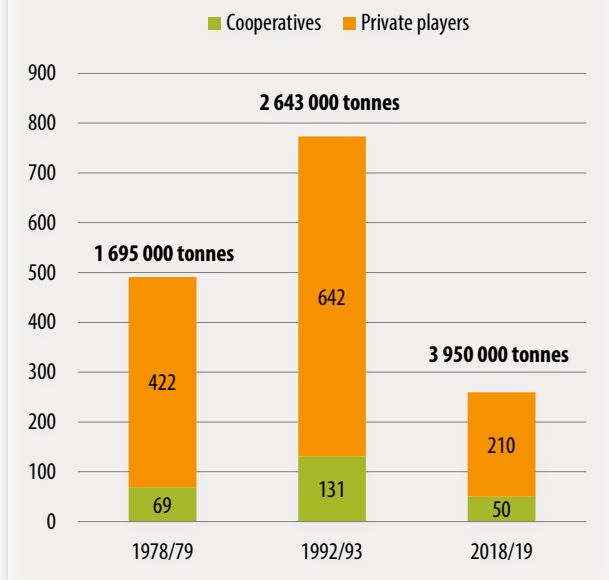
Yet the common highlight from these three production zones, revealed by the 2016 survey and which distinguishes them the most, is the proportion of farms measuring more than 20 ha (see graph 5).

The presence of smallholdings in the Valencian Community remains to this day a clearly visible heritage, while the new farms in Murcia and Andalusia have taken these zones toward a system largely dominated by farms measuring more than 20 ha.



**Graph 4: Citruses - Spain**  
**Evolution of the number of export companies**  
**and of exported volumes**

(sources: 1978/79 et 1992/93 - Memoria Campaña de cítricos Ministerio de Economía y Comercio ; 2018/19 - Datacomex and personal estimate)



## 4. Evolution of marketing company size

Marketing, which encompasses the collection and packing of the citruses, both for consumption on the Spanish market and for export, was handled from the birth of the industry by companies owning packing stations, most often a single station, although it might receive fruit from various production zones in the country. These companies can be found in two models, private and cooperative.

An analysis of the number of companies of each model compared to the exports volume is presented in graph 6.

In the first phase, the graph reveals a big increase in the number of exporters, whether private players or cooperatives, which coincides with the progress made by the exports sector. In the second phase, which covers the trend for the past 25 years, we can note the disappearance of 66 % of exporters, private and cooperative, despite a constant increase in export volumes, or even a more marked increase than in the first phase of the analysis.

This result means that today the traders are much bigger than 25 years ago. And this ongoing trend concerns both private players and cooperatives. We can also observe an ever-increasing number of traders with more than one packing station. These stations are specialised by product category, mandarins and oranges, or dedicated to specific products such as organic or zero pesticide residue fruit, and are based in Andalusia. We will not undertake here an analysis of the medium-term effects of the recent entry of investment funds into the citrus industry, and of their major role with some leading traders. In this framework, some operations involved integrating several packing stations belonging to different entities within a new network of companies.

The breakdown of citruses harvested in Spain in recent years exhibits the following general structure:

- fresh fruit domestic market: 25 %
- fresh fruit exports: 55 %
- processing industry: 20 %

The graph above also includes traders both supplying the domestic market and exporting. These are the same companies which in turn market the 300 000 tonnes imported directly by Spain from the Southern Hemisphere, although of course a large proportion is re-exported to Europe, in particular France, Italy, Switzerland and Belgium.

However, the weight of the processing industry in terms of absolute value represents a strategic advantage due to its flexibility to absorb volumes according to the campaign. Hence the average volume of fruit processed in recent years is 950 000 tonnes, with variations ranging from 1 050 000 to 1 563 000 tonnes.



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## 5. Characteristics of the citrus value chain

Graph 7, drawn up by Professor Raúl Compes from Valencia Polytechnic University, provides a description of the circuit followed Spanish by oranges, mandarins, lemons and grapefruits from orchards to consumers in over 90 countries, on all the continents. In this scenario, we disregard the 20 % of the harvest normally sent for processing. The proportion of the harvest transported directly from the tree to the processing sector remains a modest part of the total.

Based on the distribution channel for the four types of grower stated in graph 7, and taking into account their specific characteristics, as well as their contribution to world production, we propose the following estimate – which is only an estimate since there are no complete official statistics enabling us to establish the facts precisely:

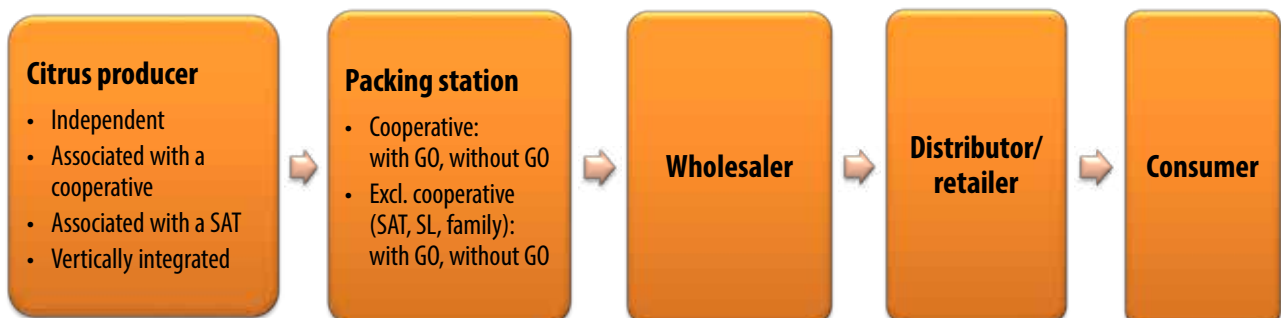
- **Growers associated with cooperatives.** These are citrus farms belonging to a cooperative which acts as a packing station, in general for a long period, and at least for a five-year period. They represent approximately 20 to 22 %.
- **Growers associated with SATs.** An SAT [processing company] is normally associated with a packing station in a long-term relationship. They make up approximately 12 to 15 %.
- **Vertically integrated growers.** This category covers farms belonging directly to private companies or families which own them. This is the category which has made the most progress in the last three decades, and which within its farms has a highly representative proportion of club varieties. They make up approximately 8 to 10 %.

The three integration models above have very high vertical market integration, since generally speaking the farms involved know when the packing stations will handle the preparation prior to marketing, and through which commercial structures the products will be made available to the various wholesalers and retailers specialising in Spanish citrus.

- **Independent growers.** They currently represent between 55 and 60 %, i.e. the majority of farms. They are derived from the traditional model using brokers, known as "corredores", described in chapter 2 of the Cajamar book mentioned above (see inset).



**Graph 5: Citruses – Spain – Value chain**



## The independent non-association citrus growing model

Citrus growers are at the bottom of the pyramid. In the first decades of the modern expansion of Spanish citrus growing – the late 19<sup>th</sup> to early 20<sup>th</sup> Century – a large proportion of non-association professional farmers – with a marked predominance of small and medium farmers, also known as “llauradors” – wanted to sell their fruit at packing stations, known as “comercios”, which represented the second link in the circuit, in charge of preparing the fruit prior to marketing. It was these first generations of non-association citrus growers which formed the basis of this model.

In the present day, after more than a century in existence, a large part of citrus are still sold via these traditional channels. The foundation of this model has remained the same, based on growers retaining their independence from other commer-

cial operators, with no integrated association, production or commercial structure. Hence there are tens of thousands of growers who are free to decide which citrus they want to grow, in what quantity, how and to whom to sell. They are often the main suppliers to the “comercios”, which purchase their fruit from them via brokers known as “corredores”, paid on commission. They are still essential because of the large number of citrus growers, from whom they purchase their fruits directly at the orchard, and their in-depth knowledge of the production and quality of each grower.

*Source: Una hoja de ruta par la citricultura española - Cajamar. Chapter 2. Cadena de valor y modelos organizativos en la citricultura valenciana. 2.3. El modelo de citricultura independiente no asociada. De Raúl Compés López, Francesc J. Cervera Ferrer and Alberto San Bautista. Valencia Polytechnic University.*



This model using “corredores” can also be found in Murcia and Andalusia, but to a much lesser degree due to the average size of the farms situated in these zones. They play an important role, since they currently channel the majority of Spanish citrus production, from the orchard to the packing centre. Yet these brokers create a sort of forward market, weeks or even months before the campaign phases actually take place, at grower meeting venues or in the field, based on events from the previous campaign for particular varieties, on optimistic or pessimistic harvest forecasts, on orders that they have already received and the grower’s state of mind.

Clearly, this model proves to be highly sensitive to speculation, and sometimes the state of the market reflected is a long way from the reality. In situations of fruit shortage, word of mouth between growers and “corredores” can generate upward speculation. Yet when the market is idling, all the factors for a catastrophe fall into place, as during the 2018-19 mandarins and oranges campaign, when a wave of panic broke over independent growers, resulting in them delivering their fruit solely to get rid of it, triggering a collapse in prices.

Furthermore, it should be pointed out that for more than 150 years, sales agreements have been largely informal, with no valid contract or legal basis, and this particularly concerns small and medium-sized growers. The transactions of the “corredores” are sealed by a handshake, with good faith. However in recent times we have observed the appearance of various standard contracts which sector professionals are trying to apply, and at present the predominant model is the Ailimpo type.

Conversely, the other three models mentioned, i.e. cooperatives, SATs and integrated farms, know well before the start of the campaigns the circuit planned for their fruit, from the packing stations to the commercial structures, and so maintain a more real contact with the market. This enables them to make more strategic decisions, especially the possibility of self-regulation, and obtain better net results during difficult campaigns. It is these three models, each with its own particularities, which will ultimately control all of the production. The vulnerability of independent farms is growing with each market jolt, and their negotiating power is declining as vertically integrated growers gain ground.

## 6. Inter-professional associations, promotional activities and supranational associations

Intercitrus was established in 1993, with the objective of integrating all the sectors involved in Spanish citrus growing: growers' unions and associations, cooperatives and their growers' organisations, private traders and their growers' organisations, as well as the processing industries. This inter-professional association covered all production zones and citruses. Its headquarters were set up in Valencia. In 1998, a split by the lemon and grapefruit sectors led to the creation of Ailimpo, which was set up in Murcia.

Intercitrus rolled out its operations mainly between 1998 and 2008, as during this decade the inter-professional association was able to invest an annual average of 8 000 000 euros for ten years in a row in promotion campaigns. The funds were supplied by the European Union, the Spanish and Greek Ministries for Agriculture, Icx, the Italian agency for agricultural supply and professional associations in Italy and Greece (Intercitrus report, 1998-2008 – *La década naranja*). During the year 2008, the contribution by production in financing the promotion of easy peelers and oranges, collected by Intercitrus via a fee decreed mandatory, was 0.24 euros per tonne. Only the internal tensions on certain subjects between sectors represented within the inter-professional association – namely who finances the advertising campaigns, or what profit should go to the farmer after investing in these campaigns – ended up paralysing the organisation, whose decision-making process was based on unanimity. The same year, promotions were frozen and Intercitrus found itself bogged down in an inextricable situation, from which it has still not emerged to this day.

From the outset, Ailimpo has been seen as a poor relation, until the end of the 1990s representing just 16 % of the Spanish citrus sector, with lemons and grapefruits, in terms of both volume and value. During recent campaigns, these two citruses attained 19 % by volume and 24 % by value. Furthermore, the activities carried out by Ailimpo are widely hailed by its affiliates, but also by the public administrations, both national and European. After a decade of good results for the sector, Ailimpo is currently undertaking a promotion campaign worth 6 500 000 euros, aiming for two programmes in three years. One is targeting France

and Germany, the other Canada and the USA. The sector will contribute directly to this promotion campaign via a fee set at 0.12 euros per tonne.

At supranational level, the first association to operate in the commercial field was CLAM, which brought together the Mediterranean citrus producer countries. This organisation did a remarkable job for more than 50 years, from its HQ in Spain, before disappearing a few years ago.

Freshfel, a fresh fruits & vegetables association based in Belgium, has for several years woven ties between the citrus growing organisations from several countries, which over time led to the creation of what is now the WCO (World Citrus Organisation). It currently comprises representatives from Spain, South Africa, Argentina, Brazil, Chile, Peru, Egypt, Morocco, Turkey and private companies from these countries. Furthermore the publication of the present article coincides with the first world citrus conference, on 5 November 2020, unfortunately held online because of the worldwide pandemic at large.

On this point, it is regrettable to note that the Spanish mandarin and orange organisations are refusing to take part in this organisation, as described perfectly by Tomás García Azcarate in his blog in the Mercados magazine, published on 9 October 2020:

***“Hablando se entiende mejor la gente***

*(Talking is how we understand each other better).*

*Thirdly, in my experience, this type of organisation proves useful in limiting the fierce competition between growers from different countries. The citrus industry, like the apple industry, has a problem of transition between the production from the two hemispheres. In the case of apples, the situation has improved thanks, among other things, to a comparable organisation, the WAPA (World Apple and Pear Association), founded in 2001.”*

We hope that in the end common sense will win out, and that the Spanish citrus sector as a whole will end up committing to the WCO.



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## 7. What does the future look like for Spanish citruses?

Looking forward over the next twenty years, and observing and following the trends of the Spanish citrus sector registered over the first two decades of this century, we can predict:

- the continued decline in the number of citrus farms, in particular smallholdings, and an increase in large-scale farms;
- citrus surface areas maintaining a level of around 275 000 hectares, but with a continued increase in productivity up to 9 000 000 tonnes;
- concentration of packing and commercial facilities, within both private companies and cooperatives;
- harmony prevailing within the inter-professional associations established;
- closer relationships between production and the processing industry.

And all this due to the fact that Spain enjoys a premium unique in the world citrus sector, since:

- Spanish citruses are generally of good, or even very good quality;
- our know-how is historical and well-known, in both production and marketing;
- we are physically present in Europe, on a market comprising 600 million consumers, free from taxes and customs duty;
- it takes only 48 to 72 hours to reach our big consumption markets;
- our production calendars are relatively balanced in terms of each citrus family;
- our food safety level is above the world average, thanks to the EU's standards;
- respect for the environment is an integral part of our crop cultivation;
- our carbon footprint from transport is smaller than for the majority of the world's other production zones.

As we wait to see what the future holds for us, the Spanish citrus industry retains an essential place in world trade, which it is not about to relinquish ■





# Citruses diseases and pests

There are numerous pests and diseases, which can have serious economic impacts, possibly requiring quarantine (material subject to regulations concerning movement) and the prohibition of exports to other production zones to prevent the spread of harmful organisms. The use of tolerant rootstocks is an effective measure in the control of several organisms, but the choice of variety is often dictated by the market. In addition to the production of healthy plant material, the control of these pests and diseases generally combines genetic, biological and chemical components in an integrated control framework.



<b>DISEASES</b>	<b>TRISTEZA</b> Virus: <i>Citrus Tristeza Closterovirus</i>	<b>HUANGLONGBING (greening)</b> Phloeme: <i>Liberibacter africanum, L. asiaticum</i>	<b>CITRUS CANKER</b> Bacterium: <i>Xanthomonas axonopodis pv. citri</i>
<b>Distribution</b>	All regions except some Mediterranean countries.	Asia, subtropical and tropical Africa, Middle East.	Asia, South America, Florida, certain regions of Africa.
<b>Symptoms</b>	Dieback of varieties grafted on bitter orange (except lemon trees), vein clearing and stem pitting.	Shoot yellowing, leaf mottling, small poorly coloured fruits.	Corky pustules on leaves and fruits.
<b>Susceptible species</b>	Lime, orange and grapefruit trees.	Broad host spectrum. Affects orange and mandarin above all.	Broad host spectrum. Above all grapefruit, orange, lime and some mandarins.
<b>Transmission</b>	Aphids ( <i>Aphis gossypii</i> , <i>Toxoptera citricida</i> ).	Psyllas ( <i>Diaphorina citri</i> , <i>Tryza erytrae</i> ).	By air and water.
<b>Economic impacts</b>	Loss of trees and decreased production.	Tree dieback, shorter orchard life.	Harvest loss.
<b>Quarantine organism</b>	Present in the EU.	Not present in the EU.	Not present in the EU.



<b>PESTS</b>	<b>FRUIT FLY</b> Diptera Tephritidae: various species of the genera <i>Ceratitis</i> , <i>Anastrepha</i> , <i>Dacus</i> , <i>Bactrocera</i> , etc.	<b>THRIPS</b> Thysanoptera: thripidae. <i>Scirtothrips</i> spp. ( <i>S. aurantii</i> , <i>S. citri</i> , <i>S. dorsalis</i> )	<b>DIASPINE</b> Hemiptera: Diaspididae. Genera <i>Aonidiella</i> , <i>Unaspis</i> , <i>Chrysomphalus</i> , <i>Cornuaspis</i> , etc.
<b>Distribution</b>	Americas: <i>Anastrepha</i> . Africa: <i>Ceratitis</i> , <i>Dacus</i> . Asia-Pacific: <i>Bactrocera</i> .	Variable according to the species. Present in the Mediterranean area: <i>Tetranychus urticae</i> , <i>Panonychus citri</i> .	Variable according to the species. Present in the Mediterranean area: <i>Aonidiella aurantii</i> , <i>Cornuaspis beckii</i> , etc.
<b>Symptoms</b>	Holing caused by females laying eggs in the fruits.	Greyish patches in a ring around the fruit stalk (thrips feeding on young fruits).	Scale on leaves, shoots and/or fruits, trees weakened in case of large populations.
<b>Susceptible species</b>	Mandarin, orange, grapefruit. Mandarins and thin-skinned oranges susceptible.	Orange, mandarin, tangor, tangelo, lemon, etc.	Broad host spectrum.
<b>Economic impacts</b>	Harvest loss.	Deterioration of the external appearance of fruits.	Deterioration of the external appearance of fruits.
<b>Quarantine organism</b>	Not present in the EU.	Not present in the EU.	Not present in the EU.

# Citruses cultivation

*The world's leading fruit crop grown between the latitudes 40° N and 40° S, citrus fruits were domesticated in Asia. Ancient texts refer to sour citrus fruits in India from 800 BC onwards, and mandarins, oranges and grapefruit in China at the time of Confucius. Trade and military conquests contributed strongly to the spread of citrus. This was first overland via Asia Minor and the Middle East as Roman and Greek influence spread (citron fruit, bitter orange) and then through Islam and the Crusades (sour citrus). The citron fruit was the first species grown in the Mediterranean several centuries before the Common Era. New citrus fruits such as sweet oranges were introduced around the Mediterranean basin in the Sixteenth Century thanks to Portuguese navigators and the possibility of direct maritime trade with the Far East and China. These species were then disseminated in Africa and America. The first mandarins were introduced in the Mediterranean region much later. The fruit is mentioned at the beginning of the Nineteenth Century in Italy and not until 1850 in North Africa. However, the Mediterranean has been an important diversification zone for the three most important economic species—orange, mandarin and lemon. The grapefruit, *C. paradisi*, a natural hybrid of shaddock, is one of the few commercial citrus fruits to have originated in the Caribbean.*

## AGRONOMY

The most suitable soils for growing citrus are slightly acidic and well-filtering. The choice of rootstock is one of the essential factors for success, giving tolerance or resistance to biotic (soil pests and diseases, degeneration diseases) and abiotic constraints (acidic or alkaline soils, salinity, reaction to cold or drought, etc.). It strongly influences factors such as vigour, the start of production, and fruit yield and quality. The risk of contamination by tristeza has led to Poncirus hybrids (Citrange, Citrumelo) being favoured over the sour orange. Disease-free plant material must be used. Today, new rootstocks are bred by hybridisation or using biotechnologies.

Certification plans have been set up in many countries. They combine the use of healthy plant material and prevention of possible recontamination by inoculum or a disease spread by an insect vector by siting outdoor nurseries in clean zones or by sheltered production in risk zones. The rootstocks are sown, replanted and then shield budded or chip budded, using a bud from a shoot of the desired variety.

It is recommended that the base of the trunk should be set in a slightly raised position at planting to limit attacks by Phytophthora. Tillage is reduced after planting so as not to damage the surface roots. The base of the trunk must be weeded. The maintenance technique used (permanent plant cover, chemical or mechanical weed control) depends on soil/climate and economic constraints.

Preliminary pruning is performed in the early years. Annual maintenance pruning then balances and aerates the foliage and ensures the renewal of fruit-bearing

shoots. Irrigation is essential in dry areas and can be in the form of subfoliar sprinkling or trickle irrigation (soakers, drip, etc.). Fertilisation can be combined with irrigation in this case (fertigation) to save inputs and ensure steady mineral nutrition.

Mineral fertilisation must make up for losses via fruits and pruning, and ensure the growth of the vegetative organs. Fertilisation includes nitrogen, phosphorus and potassium. Trace elements are sprayed on the foliage. Fertilisation is based on the results of mineral analyses of leaves and soil.

Among growth regulators, gibberellic acid improves the setting of clementines and synthetic auxins increase fruit grade.



## THE INFLUENCE OF CLIMATIC CONDITIONS

Citruses originated in South-East Asia. The climate there is equatorial, tropical or subtropical according to the latitude and always strongly marked by a monsoon regime. The year features a hot, wet season (the monsoon season) and a fairly rain-free, often cooler season. The developmental cycle of citrus is keyed into these seasons. The hot, wet period is one of intense physiological activity, with shoot and fruit growth. Vegetative growth halts in the cool, dry period, a feature all the more marked in case of severe drought or low temperatures. A marked halting of vegetative growth is essential before any flowering of certain citruses such as mandarin, orange, grapefruit and shaddock. Others with repeat-flowering such as citron, lemon and lime have less strict requirements but react to the same phenomena.

Temperatures between 21 and 30°C are optimum for physiological activity. This is strongly reduced when the temperature is significantly higher than 35°C or lower than 13°C for a sustained period. Citrus growing is in fact limited by threshold and ceiling temperatures. Citrus trees are partially or totally destroyed at temperatures below 0°C. The extent of the damage depends firstly on frost duration and intensity, and secondly on the susceptibility of plant parts and the type of citrus. Thus flowers, young leaves and fruits are more sensitive than branches and trunks. Citron, lime and lemon are more sensitive than mandarin, orange and grapefruit. Temperatures lower than -7°C are generally lethal for citrus trees. Temperatures higher than 50°C also cause damage.



Strong insolation is also better tolerated when the water supply is satisfactory. Irrigation must be used in citrus growing in arid or very dry regions. Plant water requirements are directly correlated with the climatic parameter total radiation (the main feature) related to insolation, temperature, wind, relative humidity, etc. These parameters are used in water requirement models and irrigation management tools.

Temperature plays an important role in the changes of fruit pigmentation as maturity approaches. Temperatures lower than 15°C cause the disappearance of chlorophyll pigments from the epidermis. This reveals carotenoid pigments. The synthesis of carotenoids (yellow and orange) and lycopene (red, specific to shaddock and grapefruit) is enhanced by a temperature of between 15 and 35°C. Red anthocyanin pigments (blood oranges) require lower temperatures but still higher than 12°C.

The synthesis and senescence of the various pigments are thus strongly affected by ambient temperature. In the tropics, the absence of low temperatures means that chlorophyll pigments do not disappear and the fruits remain green. Anthocyanin synthesis does not take place for the same reason and blood oranges remain blonde. In contrast, the red pigmentation of grapefruit is more intense. The alternate high daytime temperatures and cool nights in Mediterranean zones create an optimum environment for the breakdown of green chlorophyll pigments and the synthesis of the yellow, orange and red pigments of the various types of orange, mandarin and lemon. The external colour of the fruits is thus very well expressed.

# Citruses main varieties

## ORANGE

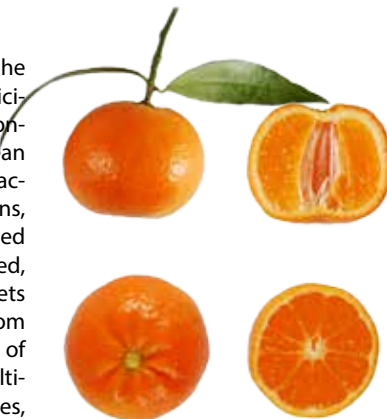
### VALENCIA LATE

Originating in the Azores, Valencia is the most commonly planted variety in the world. This medium-sized variety is round and slightly oblong. The peel is thin, well-coloured and slightly grainy. The flesh is very juicy, with 2 to 4 seeds. It is also known as Maroc Late (from Morocco) and Jaffa Late (from Israel).

## EASY PEELERS

### CLEMENTINE

This group of varieties is probably the result of hybridisation of *Citrus deliciosa* and an orange. Its success – considerable around the Mediterranean – is related to the useful fruit characteristics (seedless in pure plantations, good colour and flavour) combined with a long sales period. Indeed, clementines are present on markets in the Northern Hemisphere from the end of September to the end of February thanks to the different cultivars (Marisol, Oroval, Oronules, Nules, Common or Fine, Hernandine, Nour, etc.).



### NAVEL

A round to oval dessert orange with a strongly developed navel. The peel is grainy, thin and fairly well coloured. The flesh is crisp, fine and not very juicy. Early cultivars (Naveline) and late cultivars (Navelate, Lane Late) in the Navel group are available on Northern Hemisphere markets from October to May.

### NOVA

Present on markets from mid-November to January, this medium-sized fruit is the result of a cross between common clementine and Tangelo. It has useful qualities: marked skin colour, a deep orange tender juicy seedless pulp, and sweet flavour with low acidity. The fruits must nevertheless be picked rapidly to prevent swelling of the peel. It is widely grown in Spain (Clemenvilla), Israel (Suntina) and Morocco.



### MALTAISE

This high-quality well-coloured orange is grown almost only in the Cape Bon region of Tunisia, where conditions bring out its full potential. It is medium-sized and slightly oval. The soft peel is slightly grainy and easy to remove. The tender, juicy flesh has little colour for a blood orange. The flavour is particularly pleasant with sweetness balanced by a good level of acidity.

### MINNEOLA

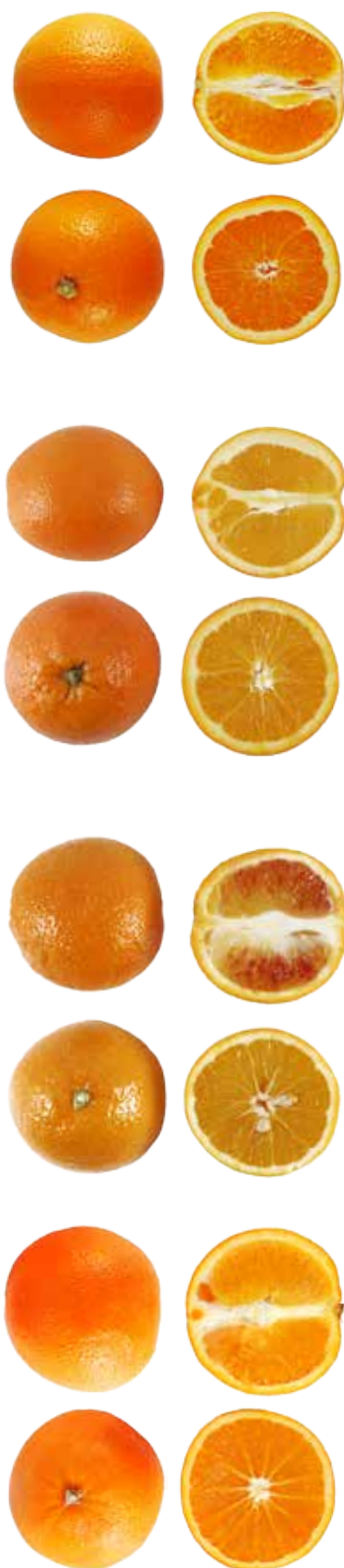
A hybrid between tangerine and grapefruit, this large round fruit is characterised by a pronounced stem-end neck. The peel is a particularly strong reddish orange colour. The pulp, with few seeds, has a very special flavour. The variety is grown mainly in Israel and Turkey.



photos © Régis Domergue

### SALUSTIANA

Very popular in Spain, this blonde juice orange is medium-sized to large. The peel is of medium thickness with fine granulation. The flesh is delicate and sweet with a very pleasant taste. It is also seedless.



# LEMON

## EUREKA

This variety, little planted in the Mediterranean, forms the majority of world production. It is widespread in the Southern Hemisphere. The fruit is of average size, elliptic to oblong in shape with a medium-sized apical nipple that is slender at the base. The peel is fine to medium thick. The pulp is generally seedless and rich in juice with high acidity.



## FINO

This cultivar dominates Spanish production and is abundantly grown in the Murcia region. The fruit is a regular spherical or oval shape. The nipple is shorter than that of Verna. The peel is thin and smooth. The pulp contains 5 to 8 pips and is juicier than that of Verna.



## VERNA

The fruit is medium to large with a pronounced, broad-based nipple. The rough epidermis is fairly thick. The juice has high acidity but only a medium extraction yield. One of the main Spanish varieties.



## LIMES

The Tahiti lime (*Citrus latifolia*) is a triploid variety and is the most widespread of the sour limes. The peel is green/yellow to pale yellow and contains an essential oil with a very characteristic odour. The pulp is generally seedless, yellowish green and rich in very sour juice. Another variety, Mexican lime (*Citrus aurantifolia*), is little exported as it contains a large number of seeds.



A report by  
Carolina Dawson  
and Thierry Paqui

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# Pineapple





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# Pineapple European market

## 2020 - a year of crisis

by **Carolina Dawson**, CIRAD  
carolina.dawson@cirad.fr

The heights reached in 2018, with a record-smashing world pineapple supply, inevitably seemed to foreshadow a predictable classic cycle of value destruction through 2019 and 2020. While all the signs of this well-understood prediction were apparent in 2019, we were far from being able to imagine the combination of events, worthy of an apocalypse film, which the annus horribilis 2020 would bring, and which sent the pineapple tumbling into one of the worst crises of its recent history.



© Thierry Lescot





**AS BEAUTIFUL  
OUTSIDE**



**AS DELICIOUS  
INSIDE**



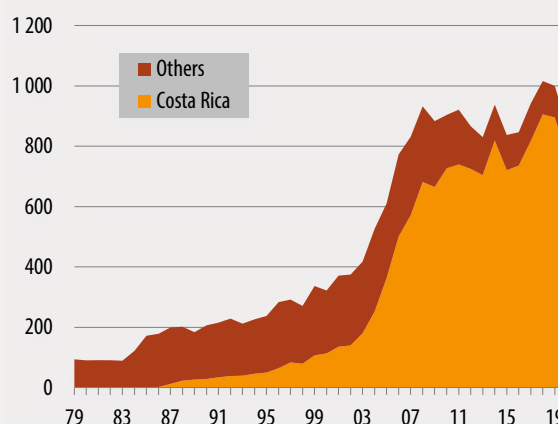
**A**fter 2018 brought a historic peak for European pineapple imports (1.015 million tonnes into the EU-28, an absolute historic record), 2019, the second highest point, marked the start of the traditional downward cycle for the supply. The saturation of the markets and the resulting crisis led to a fall in grower revenue. The effects on the supply were not long in coming, since any fall in revenue is synonymous with disinvestment in treatments or fertilisation, or even uprooting. Hence according to CANAPEP, while in 2019 Costa Rica's net planted area was more than 43 000 ha, in early 2020 surface areas had dropped to 40 000 ha.

So 2020 was inevitably set to continue to follow this downward trend in supply. Looking at previous cycles, while we could anticipate a downturn, it should have been a moderate one. Yet not the even the wisest holy man or finely attuned shaman could have predicted what 2020 had in store for humanity, and the consequences for the pineapple industry. The Covid-19 crisis was the catalyst for a dizzying drop in worldwide consumption, and in particular on the European market, thereby sending the sector plummeting into one of the worst crises in its history.

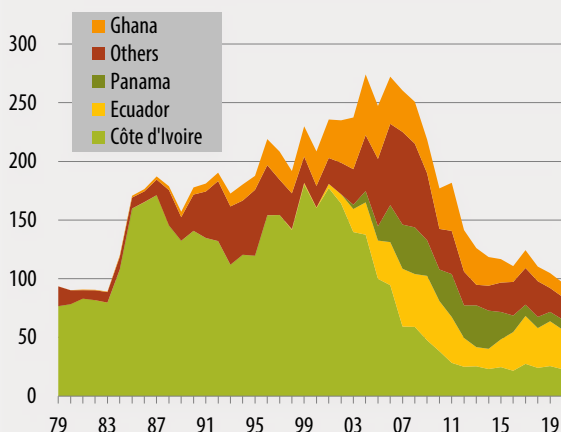


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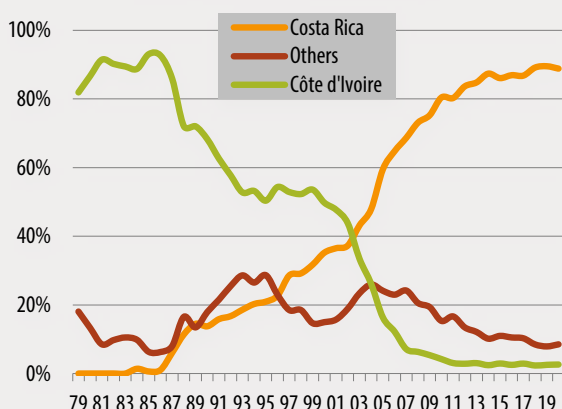
**Fresh pineapple - EU - Imports - 2020: estimated**  
(in 000 tonnes | source: Eurostat)



**Fresh pineapple - EU - Imports excluding Costa Rica**  
**2020: estimate** (in 000 tonnes | source: Eurostat)



**Fresh pineapple - EU - Market shares by origin**  
**2020: estimated** (source: Eurostat)



## Marked downturn by the European market, triggered by the Covid-19 crisis

Over the first eight months of 2020, the European pineapple supply saw a fall of more than 13 % from 2019, and 15 % down on the same period in 2018. According to our forecasts, by the end of 2020, the EU-28 will have imported 870 000 t of pineapples, i.e. a really long way off the 2018 record, and off the 2019 level, in excess of one million tonnes. We need to go back to 2012 and 2016 to find similar levels.

And the fall did not concern solely the Costa Rican giant, the number one supplier to the EU, which with more than 770 000 t and a 90 % market share, was down by 14 % in 2020. All of the origins were affected by the crisis. Ecuador, the number two supplier to the EC market (with a market share of 4 %), was down by 11 %, followed by Côte d'Ivoire (- 10 %). We can also note the near-disappearance of minor origins such as the Dominican Republic, Cameroon, Colombia or Brazil, which came undone to a much greater extent.



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## A disastrous Covid effect

While Covid-19 proved to be a boon for fruits such as the banana, imports and consumption of which rose considerably at a European and world level, especially during the first lockdown period in March and April 2020, it was quite a different story for the pineapple. Imports into the EU-28 in April and May literally collapsed: 27 % and 26 % below the two-year average, respectively.

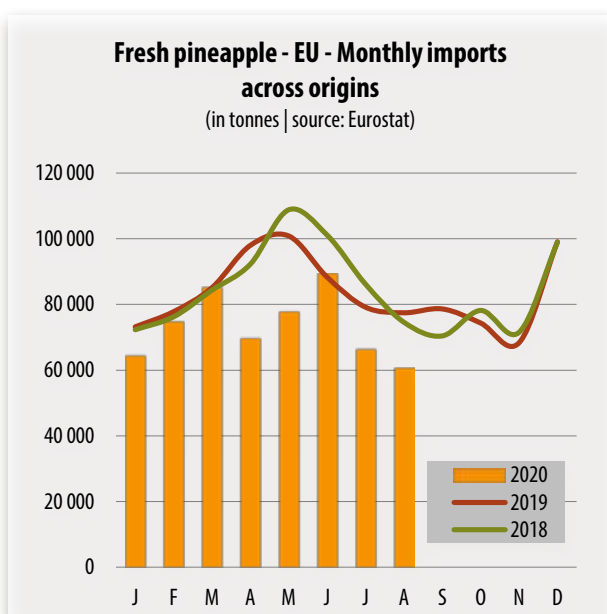
As surprising as it might appear, and to the great consternation of the industry operators, the pineapple was one of the products which suffered the most from the lockdown measures implemented to combat the spread of Covid-19.

On the one hand, the OOH (out-of-home) segment, which represents 20 to 25 % of the pineapple's outlets, was shut down overnight! On top of this came the subsequent closure of open-air markets, which generated great difficulties on the wholesale segment, which indeed underwent a near-complete shutdown, with merchandise having to be destroyed due to the lack of outlets.

On the other hand, the refocusing of sales to the supermarket sector seems to have benefitted the product, or at least partially offset the losses due to the disappearance of the other distribution channels, thanks to the consumption transfer, as was the case for the banana or citruses. Yet the pineapple was doubly penalised by the supermarket sector's desire to simplify merchandise flows, tightening their range around a few flagship products. In order to ensure during the crisis period uninterrupted flows of "mainstay foods", the considerations for "luxury foods" were put to one side, thereby explaining the abandonment of ranges deemed secondary, such as exotics. It seems we can draw the unfortunate conclusion from this observation that the pineapple is no longer an essential fruit in the consumer shopping baskets.

In addition, due to the scaling back of personnel in the cutting workshops, as well as in-store, pineapple segmentation operations had to be suspended. Yet it has to be acknowledged that these make a very distinct contribution to boosting sales, enabling a 5 to 6-fold increase in consumption by volume. Without these levers which stimulate in-store sales, consumption itself collapsed, with sales practically stationary until mid-April.

Finally, on top of all that, there was also the difficulty encountered by air-freight fruit, in particular because of the reduction in air traffic and the increase in freight costs. It was all rather like the ten plagues of Egypt!



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choosing between a pineapple  
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The *Suprême* pineapple is cultivated on rich, sun-soaked land. After reaching full maturity on site, it is hand-picked, selected with extreme care and transported to you under the very best conditions. Recognisable by its fine orange colouration and its mild, sweet flavour, it will reintroduce you to the real taste of pineapple, and transform every bite into a unique sensory experience.

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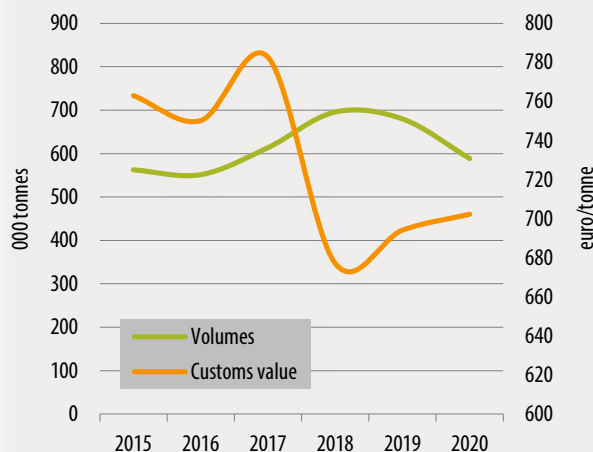
## No better in post-lockdown phase

The end of the lockdown and the return to an average supply in June did herald the return to normal which everyone was wishing for. Alas, this was only a fleeting illusion. Another big fall in the supply was registered in the summer, which was reflected in the import figures by a slump to below average, with - 16 % in July and - 22 % in August. This time it was no longer due to a lack of demand, but rather to a downturn in the Costa Rican supply, which suffered the effects of highly vigorous natural blooming and a lack of investment in production by many growers on the edge of ruin. On top of this, some sizing problems observed at the beginning of the summer, as well as excessively high retail prices, can explain among other things why demand remained flat. Despite the scaled-back supply, the economic picture was desperate, with no rise in prices. Indeed customs values plummeted to their lowest levels, from the 2018 crisis.

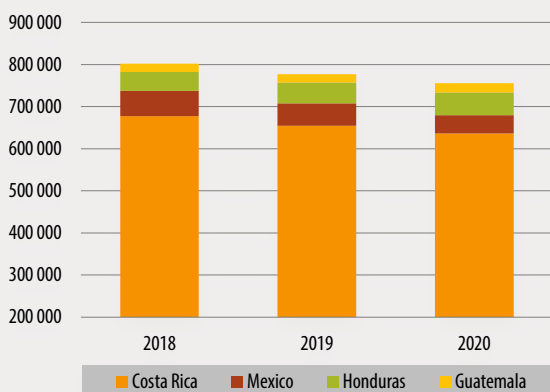
Hence the flip side of a flat and non-lucrative European market was Costa Rican volumes being refocused on the US market.

**Fresh pineapple - EU - Comparison of imports for the first 8 months from 2015 to 2020 - Volume and Customs value**

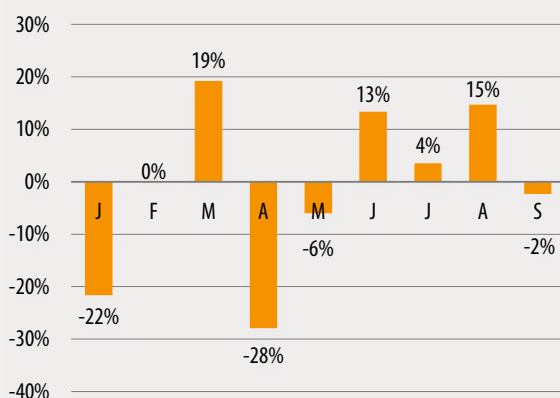
(source: Eurostat)



**Fresh pineapple - USA - Cumulated imports from January to August (in tonnes | source: Customs)**



**Pineapple - USA - 2019/20 monthly supply (source: Customs)**



## US market less affected

While the picture in the USA was the same as in the EU, the figures seem much less dramatic. It is true that pineapple imports over the first eight months were down on the same period of 2019 and 2018, but the drop was much less steep: - 2 % on 2019, and - 5 % on 2018. This downturn concerned only the leading two suppliers to the US market, Costa Rica (- 3 %) and Mexico (- 18 %), while Central American origins such as Honduras and Guatemala have maintained a constant upward dynamic over the past five years. They registered growth of + 9 % and + 13 % respectively over the first eight months of 2020.

The first wave of the Coronavirus pandemic in spring 2020 had the same disastrous effect on consumption in the USA as in Europe, with fairly similar intensities. Imports in April and May were down by 28 % and 6 % respectively, with the closure of the OOH segment playing a major role in this tumble. However, the shortfall trend observed in the EU in the summer was not echoed in the USA, with volumes climbing to levels 13 % above 2019 in June, 4 % above 2019 in July and 15 % above 2019 in August. While there was a production fall in Costa Rica during this time, the trade-off in favour of the USA from a still depressed and non-lucrative European market came into play.

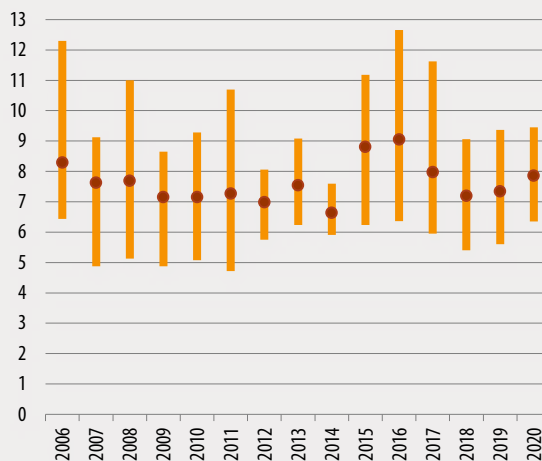
## Uncertain prospects for the end of the year

Alas, the Coronavirus crisis is a long way from over. With Europe currently going through the second wave of the pandemic, more or less strict measures are being taken in the various EU countries, changing day to day. In countries such as France or Germany, where national lockdown measures have been implemented, this second period is not having the same depressive effect as the first (no complete restructuring of the distribution circuits, OOH affected but not 100 % closed). However, sales are a long way from recovering their normal tempo. In addition, on the import markets, the economic effects, whether present or anticipated, are already making themselves felt on consumption. So the sector is having difficulties in short and medium-term planning, especially since the prospects for the end-of-year festivities, a traditional period of strong sales and product promotion, seem highly uncertain.

In view of disastrous returns for production, the uprooting operations in progress are set to continue. It is possible that the transit of two devastating cyclones across Central America in November 2020, ETA and IOTA, may contribute to widening the shortfall further. So 2021 will be marked by another production fall. If demand regains some vitality, in spite of the forthcoming world economic crisis, this umpteenth value destruction cycle of the pineapple, after peaking in 2020, might just come to an end too ■

**Sea-freight Sweet pineapple - Germany - Import price**

(in euro/box - 2020: Jan. to Sept. | source: Thierry Paqui)



© Carolina Dawson

# European market

## Sea-freight pineapple

### Crownless pineapples: the new golden opportunity for the industry?

by **Thierry Paqui**, consultant  
paqui@club-internet.fr

While the supply of fresh Sweet pineapple (MD-2) is as impressive as ever, with more than one million tonnes imported into Europe in 2019, we have to recognise that demand for the whole fruit often lacks vitality and regularity. The pineapple, which has become a mass consumption product available in large quantities year-round, has seen the supermarkets really step up their marketing efforts. Indeed, the supermarket sector now represents the only alternative able to absorb the big volumes of pineapple entering the market. However, this symbiosis between pineapple importers and the supermarket sector, as profitable as it may be for both parties, comes rather at a detriment to price. So the main operators are constantly seeking new opportunities enabling them to add extra value to their pineapples. Hence after developing highly coloured ranges, limited in scope but earning high rates, certain key operators are increasingly turning to the crownless pineapple market, which prior to the Covid-19 pandemic represented a restricted and highly lucrative niche.

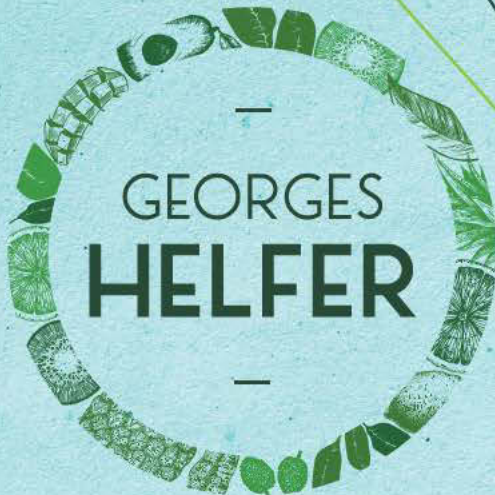
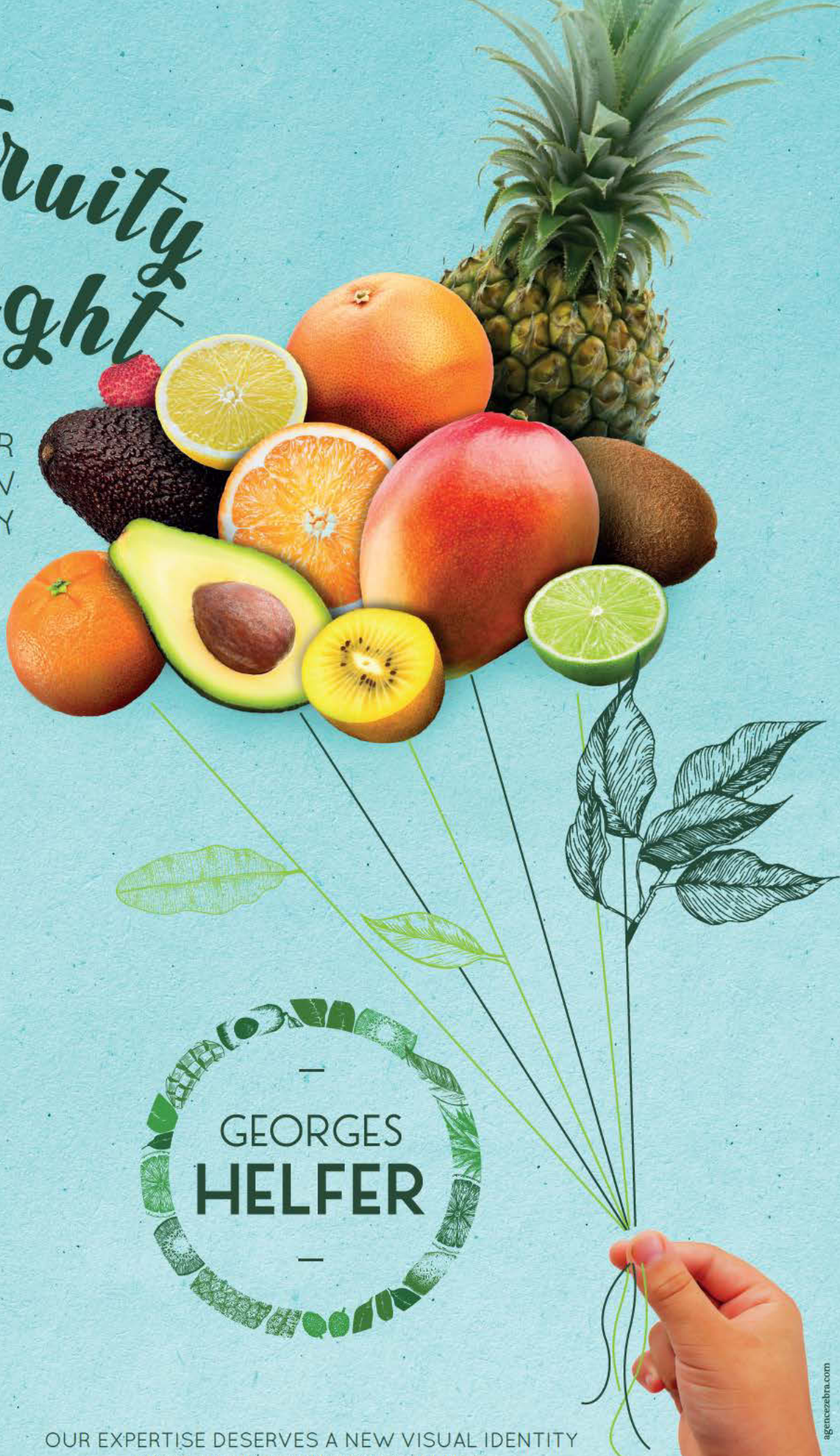


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# Fruity Flight

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MORE IN LINE WITH OUR VALUES



Crownless pineapples are for the moment aimed at three markets, in order of size: industry (processing), out-of-home (OOH) or catering, and retail. The increasingly big share of supermarket shelves occupied by the fresh cut section provides a glimpse of the potential of this market.

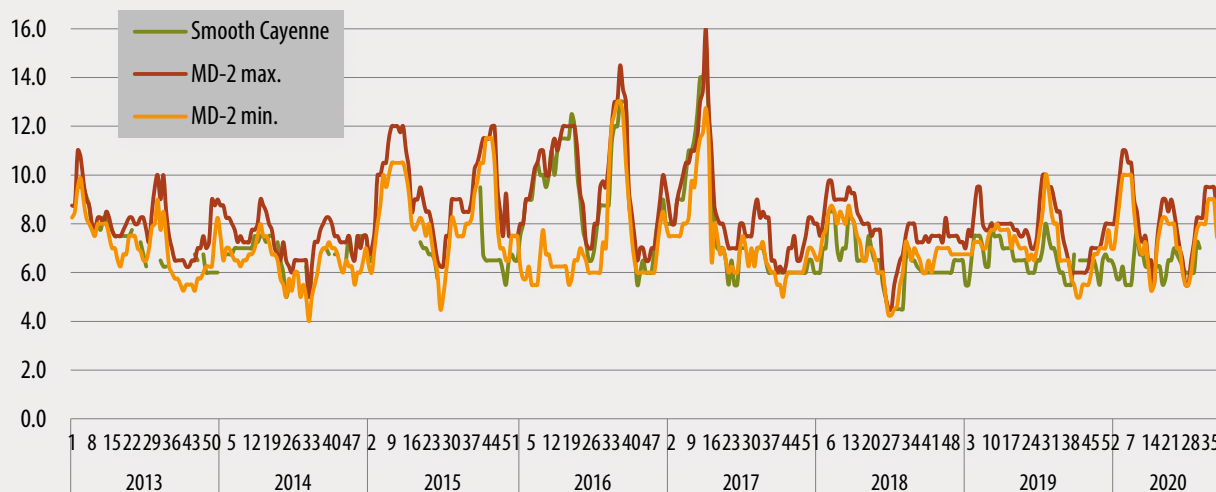
The crownless pineapple is definitely progressing, albeit in a low-key way. It is hard to calculate or evaluate, but some operators recognise that between 20 and 25 % of the volumes that they import are aimed at this market, which, in view of import volumes from 2019, could put the figure at between 150 000 and 250 000 tonnes. So it is a fairly significant market which remains for now hard to really pinpoint, so limited are the volumes handled. What is clear is that all the Sweet producer countries are involved, though with volumes differing between the origins and the brands.

We can understand the reticence of the operators established on this market to discuss it, since it is fairly atypical compared to the whole fruit market (i.e. fruit with the crown). The prices charged are fixed and distinctly more lucrative than those agreed, for example, for supplying the supermarket sector. While the contracts with the supermarket sector for whole pineapples are signed on footings of between 7.00 and 8.00 euros/box (according to size and country), those involving the crownless pineapple are reportedly between 10.00 and 11.00 euros/box, according to size and end recipient. However, we should note that crownless pineapple boxes contain two fruits more per size than whole pineapples.

The quality criteria stipulated for crownless pineapples are however much stricter than those stipulated for whole pineapples. And this is quite understandable, since the fruit has to be perfect, with uniformly coloured flesh and fairly high Brix percentages. All this fruit is intended for delivery and marketing, which leaves very little margin for fruit with internal flaws.

### Sea-freight pineapple - European Union - Weekly import price

(in euro/box | source: Thierry Paqui)



The Covid-19 pandemic, which led to the implementation of lockdown measures in several countries, hit crownless pineapple sales hard, especially those aimed at the OOH sector. Hence operators had to considerably scale back their imports, if not suspend them, at the height of the health crisis.

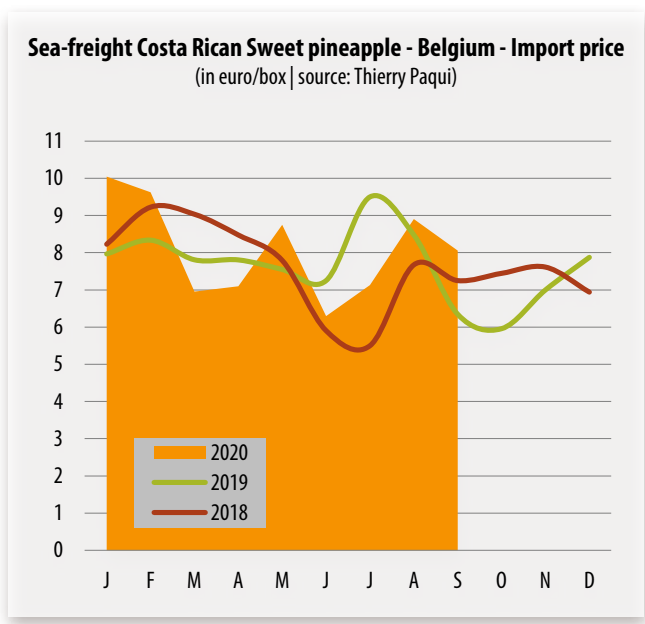
The Covid-19 pandemic took a heavy toll on crownless pineapple sales, and continues to do so. This has shown the limitations of the crownless pineapple market. While it is highly lucrative (as any good niche market should be), the advent of a pandemic such as the world is currently going through has brought it to a standstill, though pineapple production volumes have remained substantial.

Might the solution lie in restoring better profitability in whole pineapple sales? This profitability, as we already mentioned several times, will need to be achieved by scaling back the overall Sweet supply, or more precisely by scaling back the Costa Rican supply. The profitability recovered in the 2015 and 2016 campaigns, during which the Costa Rican supply was smaller at certain times, tends to confirm this hypothesis.

In 2019, Costa Rica was still the main origin supplying the European Sweet market, with a share of more than 89 %. 2019 was a very difficult year for the operators, which all complained of a lack of buzz or enthusiasm for the fruit. And once again, the worst was avoided thanks to the supermarket sector. In a context of flat demand, only the operators contracted with the supermarket sector could emerge unscathed. The spot market, on which the operators sometimes count to make up for losses, was ailing, if not non-existent.

The tough sales conditions for the pineapple led to several independent growers shutting down in Costa Rica. Will these closures, as dramatic as they might be in terms of job losses in Costa Rica, lead to structural changes for the origin? Will these structural changes result in the Costa Rican supply being scaled back, or mean the pineapple earning better value over the months to come? That is far from certain. Niches such as the crownless pineapple will continue to be able to progress without arousing too much envy, and we will perhaps have better access to the information on this fairly lucrative market, which of course we will not neglect to share with you.

The campaign described below started in week 40 2019, and finished at the end of week 39 2020. While throughout this campaign the operators constantly pointed to flat demand, other factors such as social movements and of course the Covid-19 pandemic also affected pineapple marketing. Overall, the average spot market rate fluctuated between 6 and 9 euros/box, with average peaks of up to 11 euros/box. Yet there were also periods of tension, with genuinely low prices.



## Costa Rican supply unbalanced, and spot market highly irregular

In October and November (weeks 40 to 49 2019), the situation on the pineapple market was fairly complicated. Average rates on the spot market fluctuated between 5 and 7 euros/box, when it was possible to talk about market prices.

In October, the Costa Rican supply was heavily unbalanced by an excessive proportion of sizes 9 and 10, for which there was no demand. Poor sales abounded for these sizes, and some stocks formed, very quickly weighing down on the market. Several operators had to resort to sales at open prices to ease the pressure on their stocks, with average rates managing to drop to 5 euros/box.

The sluggishness in demand then spread to sizes 7 and 8, though their availability was low. Several supermarket chains were forced to considerably scale back their orders (sometimes halving them), and consequently their promotions. Hence the volumes rejected by the supermarket sector swelled up the spot market, already in trouble, forcing operators into clearance sales with a view to clearing up the market for November.

Once eased in this way, the market regained some fluidity, thanks in particular to the supermarket sector, which once more played a key role in pineapple marketing. Unfortunately this bright spell was not advantageous for all spot sales. Some operators were able to turn to the East European markets to sell off their fruit. For the rest, the market conditions remained fairly complicated, though not to the point of needing to resort to clearance sales again.



## A marked fall in the Costa Rican supply, followed by spot market prices recovering

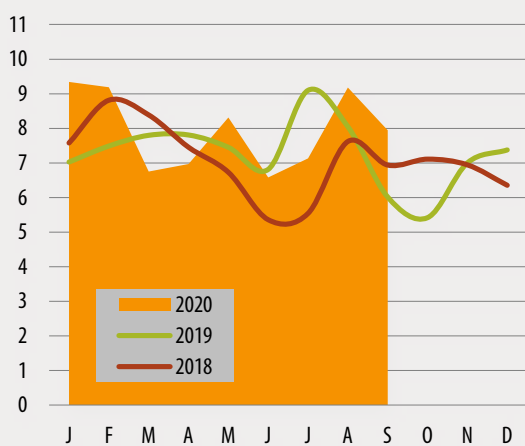
From December to February (week 50 2019 to week 9 2020), the Costa Rican supply shrank fairly significantly, leading to spot market prices recovering, to fluctuate between 8 and 11 euros/box. It is important to temper somewhat the enthusiasm that these prices might spark, by remembering that for pineapple market operators the rule remains contracts with the supermarket sector, set at pre-determined prices.

In early December, the social movements (strikes) in France and the Netherlands raised fears for the worst for pineapple sales, especially since festive demand was struggling to make itself felt, as has been the case for several years. It was then that the Costa Rican supply started to subside. The main reasons for this fall are fairly broad, ranging from lower availability of fruit from production, because of poor climate conditions, to several shipping delays. This low point was reached in week 4 2020, when Costa Rica was practically absent from the market, thereby enabling the competing origins to earn better value.

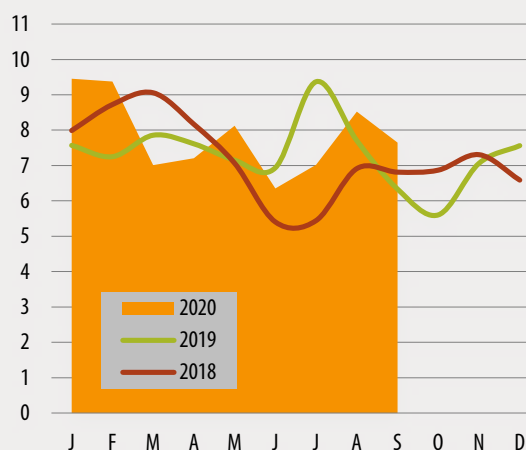
In January, the paucity of the overall supply often prevented operators contracted with the supermarket sector from meeting their agreements, which led to spot market rates recovering. And although these spot sales did not involve the majority of fruit on the market, the fact remains that they gave rise to speculative rates, insofar as certain operators were sometimes forced to pay for fruit at distinctly above market prices, to meet their commitments and avoid being delisted by the supermarkets.

At the end of the period, the start of the winter holidays across parts of Europe, while the supply was becoming more regular, led to a slump in demand. The operators had to heavily scale back their spot market prices to maintain some sales fluidity. It was also at the end of this period that the last Ivorian sea-freight Cayenne exports were carried out. The origin is continuing its Cayenne shipments by air-freight only.

**Sea-freight Costa Rican Sweet pineapple  
Netherlands - Import price**  
(in euro/box | source: Thierry Paqui)



**Sea-freight Costa Rican Sweet pineapple  
Germany - Import price**  
(in euro/box | source: Thierry Paqui)





## The Covid-19 pandemic and its repercussions on the pineapple market

From March to May (weeks 10 to 22), the pineapple market had to face the Covid-19 pandemic, spreading gradually across Europe. In early March, Italy seemed to be the hardest hit European country, and the lockdown implemented there hit pineapple demand hard on other markets. Several batches initially bound for Italy were forwarded to other destinations. We then saw spot market sales at open prices, often below 3 euros/box, in order to prevent stocks from forming.

As the pandemic spread, lockdown measures were implemented in several countries. Only the supermarkets, deemed to be the essential sector, remained active. Unfortunately, at first exotic fruits were not among consumer priorities. Demand only returned to exotics from April onwards, with the supply to the supermarket sector uninterrupted.

In April, the Costa Rican supply was smaller. The working conditions at the production stage were also affected by the pandemic. The implementation of very strict measures in the Costa Rican packing stations (distancing between employees, mask wearing mandatory, having to work with plastic sheaths in hot conditions) contributed to reducing the supply.

The supermarket sector played its full part, and absorbed the volumes available, while demand on the spot market remained non-existent. The closure of OOH premises put crownless pineapple sales in trouble, while sales of whole fruit remained steady and fluid in the supermarket sector, aided by a smaller supply, which meant that promotions continued even after Easter.

In May, with the end of the lockdown measures, demand gradually switched to the seasonal fruits supply promoted by the supermarkets. The Costa Rican supply was a bit more substantial because of the natural blooming phenomenon.

## Abrupt slowdown

From June to mid-July (weeks 23 to 28), demand on the pineapple market underwent a fairly abrupt slowdown. The arrival of seasonal fruits in larger quantities and at very attractive prices led to an increase in poor pineapple sales, as well as a drop in rates on the spot market. It was difficult under these conditions to talk about market prices, since the operators often resorted to sales at open prices to prevent stocks from forming. The lack of interest from the supermarket sector, which hitherto absorbed practically all of the Sweet supply, led to the market swelling up, though the supply remained fairly moderate. The market conditions deteriorated greatly, with the supermarket sector only taking small quantities of fruit, forcing operators to sell their volumes on spot markets with very little interest in the pineapple.

## Costa Rican supply more limited, and better market conditions, despite flat demand

The last period, from mid-July to September (weeks 29 to 39), was marked by a considerable fall in the Costa Rican supply. Initially this fall contributed to reducing the pressure on the pineapple market. Hence the operators were able to sell off the outstanding volumes which were weighing down the spot market. Meanwhile, the supermarket sector renewed its interest in the pineapple.

The fall in the Costa Rican supply which followed the natural blooming phenomenon is very familiar to operators. Conversely, what really did surprise them was the size of this fall. When the Costa Rican supply was at its lowest, certain operators at times received 40 to 60 % less volumes than usual.

The market has regained some fluidity, as well as price stability on the spot market. Nonetheless, there was no surge in spot market rates, since demand was particularly diffident. So it was thanks to the paucity of the supply and to steady purchasing by the supermarket sector that the market regained a semblance of balance. We should also note that the euro/dollar exchange rate, which was fairly advantageous, enabled the operators to obtain better returns from their suppliers, without necessarily having to raise prices on the European markets.

At the end of September, the trajectory of the market was fairly uncertain. Demand was still just as flat, and the supermarket sector again scaled back its purchasing, as the Costa Rican supply was set for an increase at the end of the year ■

## The end of sea-freight Smooth Cayenne exports

The last Ivorian company still producing and exporting Smooth Cayenne pineapples has just shut down its sea-freight exports, to dedicate itself fully to the air-freight market. Even more than the end of an era, it is yet another reaffirmation of the hegemony of the Sweet variety on the international market. Marginalised with a market share shrivelling up, sea-freight exports of Cayenne are well and truly buried.

To understand the drama which has just taken place, let's look back to a time that those aged under 20 will find it hard to imagine: when the Ivorian pineapple industry was the driving force behind exports from the ACP origins (Africa, Caribbean and Pacific) to Europe. Côte d'Ivoire was among the main origins supplying the European market with the Smooth Cayenne variety. This was at the beginning of the introduction of Sweet, produced and developed in Costa Rica, and spread by Del Monte.

The Sweet hybrid completely transformed the hand on the pineapple market. Before its introduction (1996), pineapple exports from Côte d'Ivoire represented 52 % of volumes imported into Europe, while exports from Costa Rica (Champaka variety) made up only 22 %.

In just over a decade after the introduction of Sweet, pineapple imports into Europe saw a rise of over 300 %, going from 230 000 t to more than 920 000 t in 2008. Ivorian exports now represented barely 6 % of the European market.

With Sweet, the pineapple market found its champion. This has been confirmed over the years, since in 2019, Costa Rica represented 89 % of the market share. Several factors affected Ivorian pineapple growers, preventing them from carrying out a varietal change which could have been beneficial for the origin, but definitely not for Cayenne, whose epitaph seems to have been written upon the introduction of Sweet.

The Ivorian brand (ANADOU) which oversaw these changes, and which resolutely chose quality over volumes, carried out its varietal change and now exports only Sweet.

And now for an observation clear to those who experienced the times when the Ivorian Smooth Cayenne was still the mainstay of the pineapple market: Sweet, a sweeter, less acidic variety, more resistant and better-suited to sea-freight transport, has managed to make a variety like Smooth Cayenne unfashionable, and force it out of the sea-freight sector. Could it be about to pull off the same feat on the air-freight sector? That really would be the end of an era.



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# European market

# Air-freight pineapple

## Is it still possible to save the West African air-freight pineapple industries?

by **Thierry Paqui**, consultant  
paqui@club-internet.fr

The situation on the air-freight pineapple market is becoming a little more complicated, especially because the main African origins are struggling to come to terms with the fact that this is a niche market, albeit lucrative, but extremely demanding in terms of quality. Only the best worked and best presented fruit will find a place there, and so it is not by chance that the most successful origins in this niche are those whose exports are based on solid infrastructures, enabling them to market fruit of homogeneous quality week after week.

© Pauline Feschet



If we exclude the Victoria pineapple (which is deemed rather to be a small exotic), the air-freight market is occupied by three varieties: Smooth Cayenne, Sugarloaf and Sweet.

The Smooth Cayenne variety is historically the oldest in the air-freight slot. The Cayenne batches available on the market primarily come from Benin, Cameroon, Côte d'Ivoire and Ghana. Despite a wide variety of origins, Cayenne increasingly seems to be losing speed, its market share shrinking constantly for the past few years. These market share losses do not really seem to be due to lack of consumer interest, since demand remains good, though only for certain brands, whose quality has been consolidated over the years. Unfortunately, these brands do not have very large volumes. So the excessively heterogeneous quality of fruit entering the market in recent years has ended up putting off purchasers, who have either focused on certain brands, or focused on other varieties such as Sugarloaf or more recently Sweet.

The Sugarloaf pineapple, recognisable for its quite peculiar conical shape, at first struggled to hold up against its illustrious senior, the Smooth Cayenne. The first Sugarloaf batches from Ghana were very green (bottle-green coloured), an unappealing colour for purchasers. The fruit flesh, rather whitish upon maturity, also struggled to establish itself against the yellow-orange flesh of Cayenne. Benin had to provide coloured batches of Sugarloaf for demand and consumption of the variety to take off. Unfortunately, this coloration, obtained after application of ethephon, was poorly managed and led to the origin being listed by the European authorities for exceeding the maximum residue limits (MRLs). Benin then tried to supply green fruit with the Protected Geographic Indication (PGI) stamp, but the damage had already been done. Purchasers no longer recognised the Sugarloaf from Benin, especially since Ghana and Togo were supplying Sugarloaf degreened by ethephon.

This dichotomy in the supply (coloured fruit and green fruit) is maintaining a degree of confusion, even though it is the green fruit that is winning out in the supermarket sector.

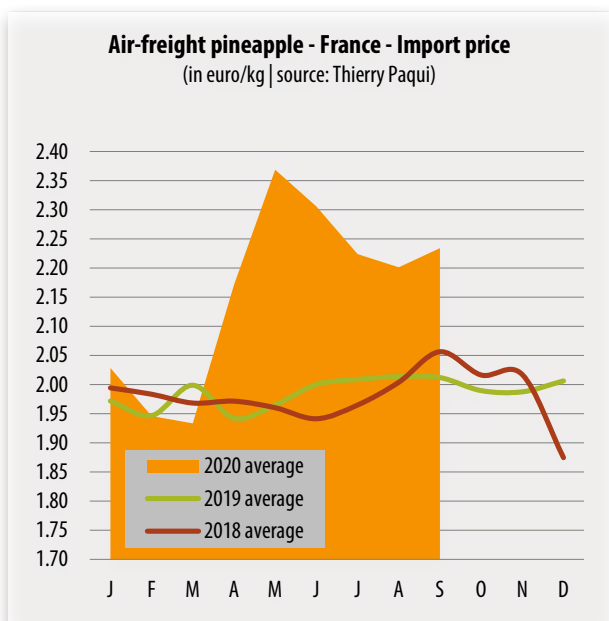
It is in this context that the Sweet supply entered the air-freight market, with well-worked, highly colourful and sweet fruit. Above all the quality was homogeneous, despite the proliferation of origins supplying the fruit, either from Central America (Costa Rica, Panama, Cuba, Dominican Republic), or from Africa (Ghana and Kenya).

For several years, the air-freight pineapple supply has been sold by the wholesale markets or by specialised dealers. Yet with the increase in volumes on the market, the role of the supermarket sector in France, which is the leading air-freight pineapple market in the European Union, has taken on increasing importance.

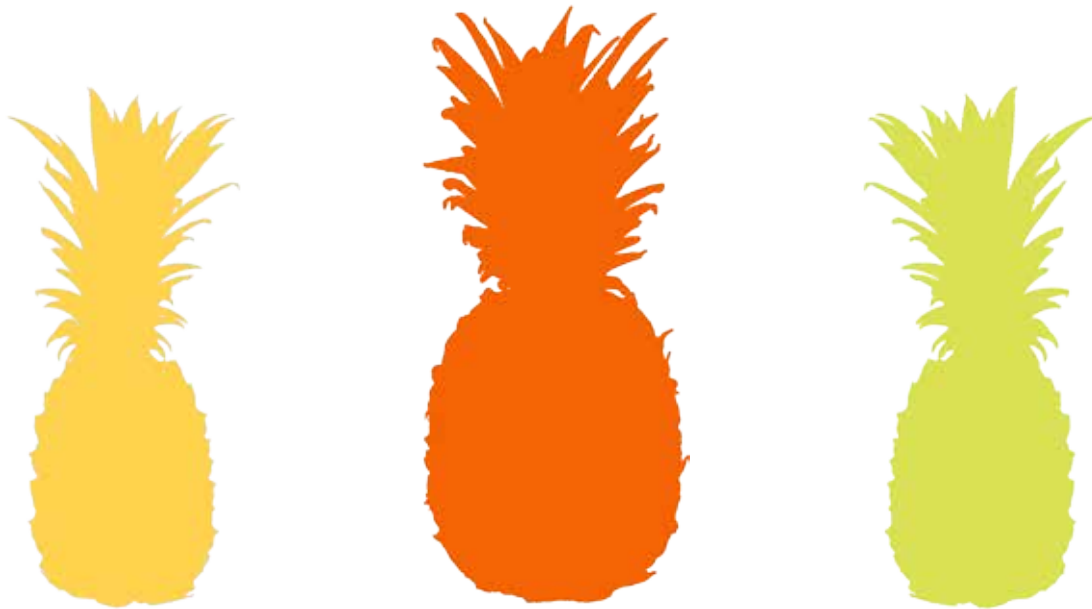
Two forms of collaboration have been established with the supermarket sector. There are chains which have adopted the air-freight pineapple year-round (such as Grand Frais), while others (Auchan, Carrefour and Leclerc among others) only arrange spot promotions at certain times of year. Working with the supermarket sector entails maintaining



© Guy Bechinger







homogeneous quality, and more than ever complying with the requested sizes/weights. Several West African exporters are continuing to operate at the field-side, bypassing the essential packing station step. It is practically impossible under these conditions to be able to supply fruit complying with the criteria set by the supermarket sector.

Without harmonisation of cropping practices, supported by proper post-harvest work under good conditions, small African growers are giving pride of place to the African brands and competing origins, which from the start understood that entry to the niche market and remaining on it were dependent on systematically applying the fundamentals.

## Outline of the air-freight pineapple campaign

The last campaign (from week 40 2019 to week 39 2020) emphasised a little further the difficulties of holding up on a niche market such as air-freight, with produce of imprecise quality and presentation. Brands which invested in quality managed to hold up, while the others had some difficulties, which explains the occasional absence of certain origins.

Pineapple sales suffered particularly from the implementation of the lockdown measures, which led to border closures and regular flights being suspended. Resorting to cargo companies such as DHL generated a huge increase in air-freight costs, de facto ruling out any fruit deemed too rough.

In October and November 2019 (weeks 40 to 48), the air-freight pineapple market was in trouble. Demand really struggled to switch to the pineapple since, in October, the last seasonal fruit batches were still capturing the bulk of demand. Operators heavily scaled back their Cayenne imports in an attempt to revitalise demand. It has to be acknowledged that a good majority of the fruit then available was of highly heterogeneous quality. Sugarloaf sales, usually fairly fluid, were also slower. The so-called coloured supply was drab, and less appealing to purchasers. The

Sweet supply from Costa Rica was more limited because of the rains in the production zones, helping Ghanaian batches sell better.

From December to February (week 49 2019 to week 9 2020), the supply was more substantial, and the market split in two. Operators with access to the supermarket circuits remained fluid, thanks to the promotions implemented. For the rest, sales were more complicated. The supply, on the rise before the end-of-year festivities, was smaller and in line with demand at the beginning of the year. Some concerns over MRL breaches for origins such as Cameroon and Ghana forced certain operators to step up their self-monitoring measures, thereby limiting volumes on the market. The rains in Costa Rica continued.

From March to May (weeks 10 to 21), the Covid-19 pandemic and its repercussions affected the air-freight market. The lockdown measures first heavily restricted the supply and then sales of pineapples. Groups such as Grand Frais then considerably scaled back their purchases. The overall supply saw a considerable fall, in proportion to the scaling back and then suspension of passenger flights. Only cargo companies such as DHL continued to supply the market, albeit with freight costs considerably revised upward. Ghana, thanks to its diversified supply (Cayenne, Sugarloaf and Sweet), was the most abundant origin on the market.

Because of the high freight costs, the few batches available sold at very high prices. Yet we also saw the disappearance of batches of medium to low quality, with the operators unable to obtain sufficiently high prices to absorb the freight costs.

From June to September (weeks 22 to 39), the arrival and increase in the seasonal fruits supply thereafter nearly captured demand in full. There was a fairly marked lack of interest in the air-freight pineapple, forcing operators to scale back their imports considerably. Unfortunately, this was not sufficient to prevent batches being sold for post-sale prices, so static was pineapple demand. Hence given the still high freight costs, numerous batches were sold at below-cost prices. In September, the market supply remained small. However, sales were more fluid as demand improved, though without prices taking off ■



## A PGI for the Beninese Sugarloaf

Bearing the slogan “one land, one fruit, one authentic taste”, the Beninese Sugarloaf pineapple, will henceforth be marketed under a Protected Geographic Indication awarded by OAPI (African Intellectual Property Organization). On 28 October OAPI officially issued the PGI registration certificate for the “Allada plateau Sugarloaf pineapple, Benin” to the Beninese governmental authorities. This was a victory for Benin, since there are few African countries with a PGI.

The awarding of the PGI was supported by the Beninese Government, the Beninese Inter-Professional Association for the Pineapple, the European Union and AFD [French Agency for Agriculture and Rural Development]. This was Benin’s first Geographic Indication. It should enhance its pineapple sales, both at a sub-regional level and on the international markets.

With its 300 000 tonnes of Sugarloaf production, Benin is one of the world’s leading producers of this highly peculiar variety: white flesh, very sweet, green-coloured, bottle-shaped.

The “Allada plateau Sugarloaf pineapple, Benin” enjoys a historic reputation, drawing on the highly particular climate and pedological conditions of the production zones, as well as the know-how of the producers.

The geographic production and packing area of this PGI is situated in Atlantic Department, in Southern Benin. It comprises the six districts of the Allada plateau: Abomey-Calavi, Allada, Kpomassè, Toffo, Tori-Bossito and Zè.

Yet numerous challenges remain. Establishing a PGI requires compliance with highly strict specifications, relating to the mode of pineapple production (compliance with approved technical procedures, identification with approved technical procedures, etc.) and packing (establishing the product’s traceability, compliance with quality standards, fruit labelling, etc.).

The establishment of inspection plans and approved packing sites poses challenges which the industry will need to face. The uptake of new working methods will certainly require substantial guidance from the backers and the Beninese Government, who supported this project.

The Beninese Inter-Professional Association for the Pineapple is well aware of this. The industry players will need to redouble efforts to protect the PGI and promote the product, in a context where Benin’s market share in Europe has collapsed in recent years ■

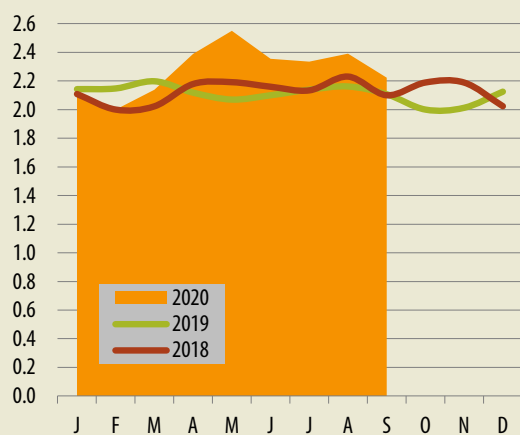
Virginie Pugnet



### Sugarloaf pineapple (air-freight) - France

#### Average import price

(in euro/kg | source: Thierry Paqui)



# European market Victoria pineapple

The Victoria market:  
exclusive domain of the Indian Ocean origins?

by **Thierry Paqui**, consultant  
paqui@club-internet.fr

Although other origins (South Africa, Ghana, Sri Lanka, Thailand, the Philippines) export Victoria pineapple to the European Union, these volumes remain fairly modest all in all. It is only Reunion and Mauritius which are managing to supply fairly substantial quantities to the European market. It is seemingly both the quality and cultivars provided by these two origins that explain the consumer appeal of the fruit that they offer.

© Denis Loelliet





**V**ictoria, which is classified as a small exotic, is often considered to be a highly festive fruit. Volumes on the market remain fairly limited, and tend to peak at Easter and Christmas time. It is true that the supply is fairly small, and often entails self-consumption in the producer countries.

Over the past campaign, the overall supply was very limited, which helped the fruit on the market earn better value. The Victoria supply was particularly affected by the measures taken to contain Covid-19, which meant a reduction in passenger flights, followed by a suspension.

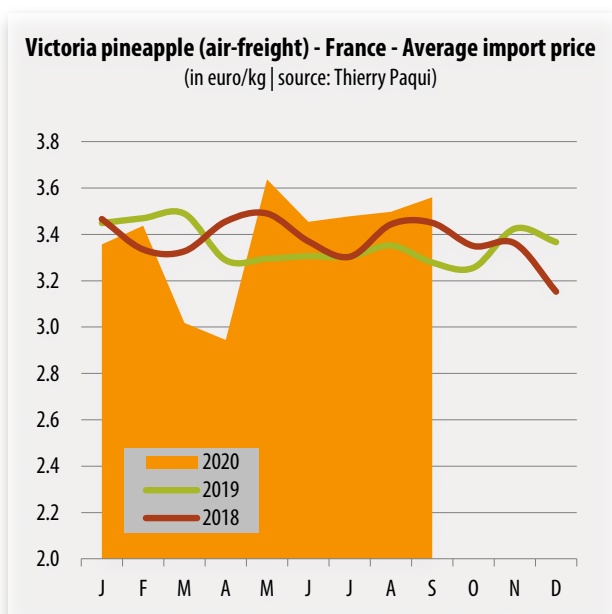
The supermarkets played a bigger role in marketing the fruit, especially through some promotions.

The bigger Mauritian supply sold as usual just as well with specialised dealers as in the supermarket sector. The fruit marketed by the origin was mainly regular in size.

Fruit from Reunion, which was scarcer, remained highly popular and was better valued than its Mauritian counterpart. Unfortunately, as per usual the supply was less regular in terms of sizing.

Attempts by Ghanaian to establish itself have not borne fruit, with the origin struggling to take root, at least on the French market, against fruit from Reunion and Mauritius.

The campaign described below ran from week 40 2019 to week 39 2020, and was above all marked by an overall scarcity of Victoria.



## Supply rising and heavily imbalanced

From October to December (weeks 40 to 52 2019), the Victoria supply embarked on a rise in anticipation of the end-of-year festivities. Unfortunately, in October, demand remained fairly lukewarm, and struggled to absorb all the fruit entering the market. The supply from Reunion, bigger and more imbalanced (too many size 10 pineapples), had a bit more difficulty selling. The start of the autumn holidays somewhat affected demand, but thanks to the supermarket sector the market regained some fluidity before Christmas. As over the previous campaigns, festive demand was late in taking hold. The supply from Reunion, still imbalanced but now with size 8 predominant, sold fairly well, although demand was rather on the lookout for sizes 6 and 7, which were scarcer.

## Demand distinctly lower after the end-of-year festivities

From January to February (weeks 1 to 9 2020), demand for Victoria was less steady, once again confirming the festive nature of the fruit. Operators had a lot of trouble selling their fruit, especially since the supply had seen a big rise in anticipation of the holidays. Several operators opted to scale back their imports, which was actually facilitated by the poor climate conditions prevailing in the Indian Ocean. The near-absence of fruit from Reunion enabled Mauritian fruit to earn rather good value, despite its heterogeneous quality due to the rains.

## Supply still limited because of the Covid-19 pandemic

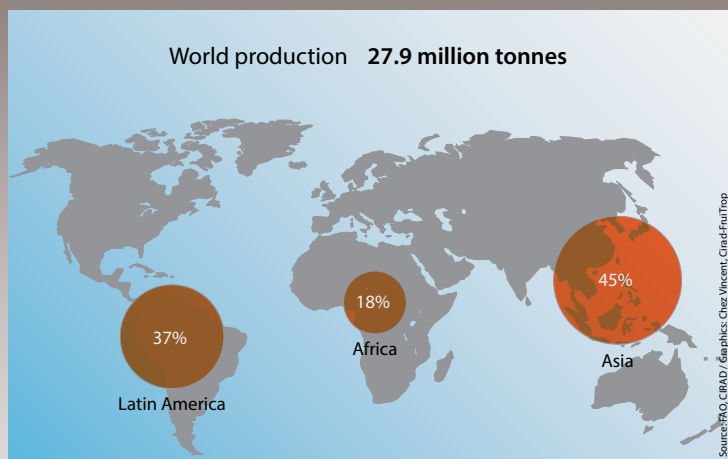
From March to May (weeks 10 to 22), the overall supply was very limited. Initially, the climate conditions remained difficult, impairing the quality of the fruit that was available. By the end of the month, the closure of Mauritian airspace by the authorities reduced the overall fruit supply a bit further. The reduction and sometimes ban on passenger flights had the effect of boosting self-consumption on Reunion, as well as in Mauritius. Ahead of Easter, the few Mauritian batches present on the market were those carried by cargo companies such as DHL, which led to big price increases for this fruit. Exports out of Reunion were very much self-regulated, in view of the higher transport costs.

## Fall in demand and overall supply still limited, despite better availability of passenger flights

From June to September (weeks 23 to 39), the overall supply hardly saw any rise. Upon the arrival of the first seasonal fruit, demand turned away from Victoria, as per usual, especially since the fruit available was fairly expensive. The operators scaled back their imports a little further, in line with demand. Sales remained fairly fluid, with fairly high rates over the period, since fruit availability was very low ■



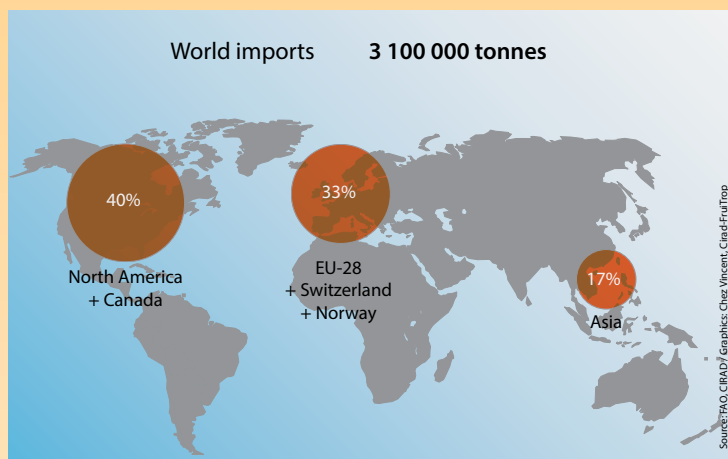
## PINEAPPLE - Production (2018)



Pineapple — Top 10 producer countries	
tonnes	2018
Costa Rica	3 418 155
Philippines	2 730 985
Brazil	2 650 479
Thailand	2 113 380
China	2 005 555
Indonesia	1 805 506
India	1 706 000
Nigeria	1 664 510
Mexico	999 593
Colombia	900 395

Source: FAO

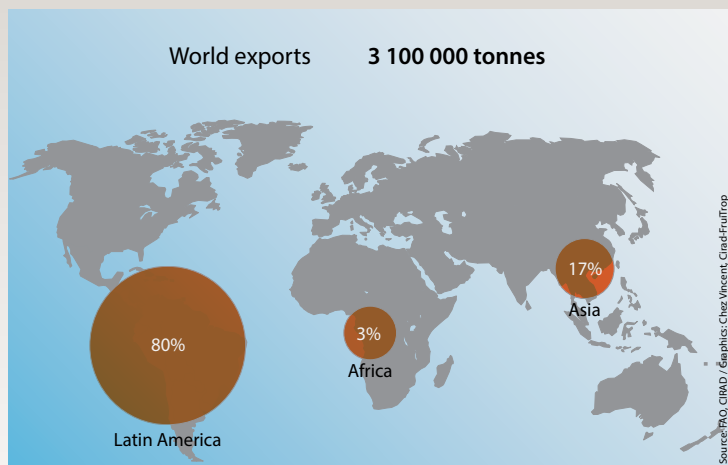
## PINEAPPLE - Imports (2019)



Pineapple — Top 7 importer countries	
tonnes	2019
United States	1 143 787
Netherlands	325 500
China	264 700
Spain	172 653
United Kingdom	160 307
Italy	160 166
Japan	153 070

Source: national Customs

## PINEAPPLE - Exports (2019)



Pineapple — Top 6 exporter countries	
tonnes	2019
Costa Rica	2 216 372
Philippines	625 569
Ecuador	89 002
Honduras	78 360
Mexico	50 256
Guatemala	31 503

Sources: national Customs, professionals

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USA - Imports - Main supplier countries						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>1 047 066</b>	<b>1 028 693</b>	<b>1 076 517</b>	<b>1 152 953</b>	<b>1 164 941</b>	<b>1 143 787</b>
Costa Rica	938 281	868 779	910 092	976 603	1 001 907	989 451
Honduras	38 154	47 734	48 008	53 790	57 401	62 872
Mexico	40 634	75 165	82 358	85 250	72 888	58 939
Guatemala	14 858	15 956	19 772	23 397	22 588	21 859
Panama	4 522	5 276	5 116	6 054	5 829	3 937
Ecuador	3 883	5 972	3 140	542	917	2 877
Thailand	3 466	2 336	2 759	2 550	1 791	1 879
Others	3 268	7 474	5 272	4 767	1 620	1 973

Source: US Customs

Canada - Imports - Main supplier countries						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>126 289</b>	<b>109 493</b>	<b>118 539</b>	<b>127 600</b>	<b>126 506</b>	<b>119 823</b>
Costa Rica	118 079	100 461	108 122	112 695	115 455	107 412
Honduras	2 008	1 835	3 007	6 547	4 952	7 218
USA	2 649	2 687	2 365	2 321	1 551	1 594
Ecuador	1 342	1 033	728	695	724	481
Others	2 211	3 477	4 317	5 342	3 824	3 118

Source: COMTRADE

Central and South America - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>71 432</b>	<b>90 957</b>	<b>99 695</b>	<b>109 229</b>	<b>86 704</b>	<b>93 469</b>
Chile	30 292	35 187	37 496	47 410	55 117	41 278
El Salvador	16 624	20 154	22 184	22 234	26 391	31 339
Argentina	11 890	11 564	13 621	16 689	13 652	14 003
Uruguay	1 155	1 507	1 747	2 211	2 893	2 534
Paraguay	881	812	849	805	727	519
Costa Rica	7	16 118	18 128	14 859	310	7
Peru	153	1	-	1	1	5
Mexico	760	511	1 258	263	494	-

Source: COMTRADE

European Union - Imports - Main supplier countries						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total Extra-EU, incl.</b>	<b>937 491</b>	<b>836 875</b>	<b>847 087</b>	<b>941 887</b>	<b>1 015 989</b>	<b>1 000 304</b>
Costa Rica	819 207	720 418	736 274	817 016	905 773	895 418
Ecuador	17 225	23 540	33 031	40 827	34 009	38 189
Côte d'Ivoire	23 060	24 666	21 624	27 333	24 079	26 168
Ghana	24 407	19 954	13 530	15 134	12 474	12 733
Panama	32 508	23 300	13 991	9 600	9 504	7 988
Colombia	2 790	4 444	8 480	13 945	10 974	5 453
Togo	1 342	1 829	1 736	2 825	3 132	2 620
Cameroon	2 594	3 481	3 888	3 931	3 063	2 383
Dom. Rep.	1 603	2 267	3 000	1 579	2 022	2 057
Honduras	3 574	3 905	3 072	2 359	3 259	1 526
Benin	3 675	3 647	2 949	945	807	748
Brazil	115	66	204	146	49	64
Others	5 392	5 359	5 310	6 249	6 846	4 958

Source: Eurostat

Other West European countries - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>27 735</b>	<b>26 334</b>	<b>25 920</b>	<b>26 832</b>	<b>25 849</b>	<b>24 731</b>
Switzerland	20 797	20 079	20 090	20 841	20 086	18 706
Norway	6 444	5 744	5 231	5 351	5 183	5 496
Iceland	494	511	599	640	580	529

Source: COMTRADE

Russia - Imports - Main supplier countries						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>44 797</b>	<b>32 229</b>	<b>33 381</b>	<b>45 867</b>	<b>52 697</b>	<b>51 181</b>
Costa Rica	37 001	28 592	28 418	40 101	47 565	43 373
China	1 547	1 252	2 118	3 519	2 994	4 124
Ecuador	2 746	736	1 477	1 022	1 146	2 205
Philippines	1 040	537	406	267	436	572
Panama	1 497	312	40	8	40	456
Ghana	123	215	111	54	14	60
Cameroon	22	31	39	49	39	16
Brazil	3	-	26	12	5	-
Côte d'Ivoire	533	398	82	-	-	-
Others	285	156	664	835	458	375

Source: COMTRADE

Other East European countries - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>10 350</b>	<b>6 603</b>	<b>5 465</b>	<b>7 845</b>	<b>10 712</b>	<b>11 403</b>
Ukraine	5 686	2 554	3 022	4 087	6 052	6 052
Serbia	1 111	1 092	1 443	2 169	2 675	3 366
Belarus	3 553	2 957	1 000	1 589	1 985	1 985
Bosnia	663	535	742	974	1 157	1 237
Moldova	732	560	579	675	1 016	1 016

Source: COMTRADE

Japan - Imports - Main supplier countries						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>166 295</b>	<b>150 598</b>	<b>143 173</b>	<b>156 992</b>	<b>159 040</b>	<b>153 070</b>
Philippines	164 389	147 525	135 911	145 724	148 832	146 130
Costa Rica		770	4 895	7 246	6 362	3 816
Taiwan	885	1 254	1 126	657	682	982
Malaysia	86	38	196	900	908	338
USA		33	82	1	16	1
Others	935	978	963	2 464	2 240	1 803

Source: Japanese Customs

Other Asian countries - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>193 830</b>	<b>200 222</b>	<b>222 363</b>	<b>271 010</b>	<b>323 314</b>	<b>365 124</b>
China	89 047	102 828	117 295	162 455	201 632	264 700
South Korea	75 420	68 373	77 375	78 998	77 520	70 651
Singapore	22 835	22 060	22 558	22 415	24 242	21 160
Kazakhstan	2 950	2 221	1 848	3 556	3 645	3 452
Malaysia	2 537	2 646	2 324	2 169	2 662	2 788
Azerbaijan	1 041	2 094	963	1 417	1 892	2 373
Others	7 815	10 614	10 877	8 796	11 721	-

Source: COMTRADE

Oceania - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>8 094</b>	<b>8 831</b>	<b>9 181</b>	<b>9 295</b>	<b>11 477</b>	<b>9 430</b>
New Zealand	7 905	8 377	8 829	9 148	11 362	9 361
Australia	189	454	352	147	115	69

Source: COMTRADE

Near East - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>22 893</b>	<b>24 285</b>	<b>26 734</b>	<b>35 231</b>	<b>41 022</b>	<b>39 727</b>
Turkey	14 771	14 894	15 948	16 851	19 364	20 973
Morocco	3 066	3 493	4 477	6 473	9 169	9 448
Israel	754	940	1 168	6 908	6 972	6 972
Lebanon	3 036	3 694	4 021	3 724	4 248	1 685
Jordan	1 266	1 264	1 120	1 275	1 269	649

Source: COMTRADE

Persian Gulf - Main markets						
tonnes	2014	2015	2016	2017	2018	2019
<b>Total</b>	<b>93 929</b>	<b>103 974</b>	<b>82 677</b>	<b>105 447</b>	<b>96 270</b>	<b>117 307</b>
Un. Arab Emir.	48 138	49 011	42 095	46 630	46 163	62 859
Saudi Arabia	19 546	21 982	18 837	21 922	23 632	27 550
Iran	9 069	13 107	13 450	23 000	8 877	12 839
Kuwait	5 648	4 757	4 097	5 268	5 436	3 861
Qatar	4 127	5 097		4 738	4 900	3 343
Oman	3 617	2 702	3 590	2 964	3 434	3 027
Yemen	3 784	7 318	608	925	3 828	3 828

Source: COMTRADE



# Pineapple quality defects

Photos © Pierre Caribaud



**Internal browning**



**Internal browning**



***Thielaviopsis paradoxa* on a lateral blemish**



**Incipient *Thielaviopsis paradoxa* on peduncle**



***Thielaviopsis paradoxa* external appearance**



**Sun scald on 'Victoria'**



**Sun scald on 'Victoria'**



**Over-ripeness**



**Scales**



**Attack by insects**



**Crack malformation or deformity**



**Colour variation in the same batch**



**Damaged, scorched crown**



**Crown too long and crushed by box lid**

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**Incipient internal browning**



**Incipient internal browning in 'Victoria'**



***Thielaviopsis paradoxa***



**Incipient *Thielaviopsis paradoxa* on a blemish**



**External symptom of *Penicillium funiculosum* on Sugarloaf**



**Internal symptom of *Penicillium funiculosum* on Sugarloaf**



**Translucent**



**Mould (*Penicillium*) on peduncle after transport**



**Mould after transport (*Penicillium*)**



**Micro-bruising**



**Dry bracts on 'Victoria'**



**Peduncle cut irregularity**



**Irregular crown size**



**Poorly reduced crown**



**Double crown**

## **A tight market in the grip of an unprecedented health crisis**

*While the start of the campaign in October went well, the second lockdown has completely destabilised the winter tomato market. Most of all, it could be highly competitive, in particular for small fruit.*

© Eric Imbert

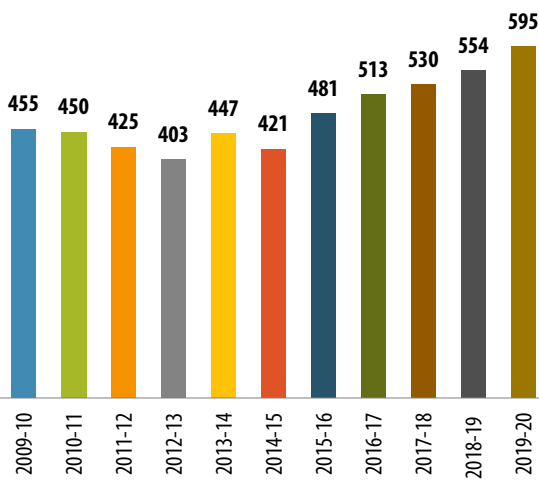


**W**hile Spain still dominates the European market, Morocco has taken market share in recent years. Spain's planted areas once again registered a big fall this year. In Morocco, shipments have been disrupted by some administrative measures applied to trucks entering European territory. Furthermore, Israel has become practically non-existent as an origin (15.5 tonnes), even for Russia (21 tonnes).

Other origins have been taking market share in Europe, such as Albania (17 890 tonnes during the 2019-20 campaign) or Egypt (1 679 tonnes). While Senegal has remained as an origin, it has dropped by 2.6 % between the last two campaigns, with volumes of no more than 8 500 tonnes - a long way from the 10 000 tonnes seen a few years ago.

One thing is for sure, the second lockdown has weighed heavily on the counter-season tomato market. In week 45, it was flat. The massive shipments from Morocco (7 800 tonnes in the week), which could not find any takers, caused an abrupt price drop on the Saint Charles market in Perpignan, of at least 20 %.

**Tomato - EU28 - Extra-Community imports**  
**October to May** (in 000 tonnes | source: Eurostat)



## Spain losing lead position to Morocco

With more than 628 000 tonnes shipped in 2019-20, Spain dominates the European winter or counter-season tomato market. Yet once more this year, surface areas in the Iberian Peninsula planted with tomatoes decreased by around 20 % for the loose round tomato, in favour of other vegetables, with lower production costs. The Spanish tomato is becoming less and less profitable on the European market against other origins, and its volumes are down year on year. Spanish farmers are investing in new, less labour-intensive crops such as the aubergine, courgette or sweet pepper, in the main production region, Andalusia (Campo de Nijar and El Ejido). In Spain, the minimum wage has seen a big increase. As during the previous lockdown, Spanish tomatoes have faced a sudden halt to orders in favour of domestic tomatoes, especially in France. Finally, Spain is seeing strong competition from Morocco, which has lower production costs and is taking more and more market share, in particular for speciality segment tomatoes (cocktail, cherry, etc.). There is a tenfold production cost difference between the two countries. Nonetheless, while the counter-season tomato is getting bad press, it remains big business throughout Europe, and a market not to be neglected. Especially since the Spanish tomato does not require heating or additional light, unlike in other European production zones.





## Moroccan tomato feeling the full force of lockdown

After a good October, the Moroccan tomato has been hit by the second lockdown. On the 1st of November, the market fell flat. The Kingdom is increasingly specialised in cherry tomatoes, cocktail tomatoes and in punnets. Yet due to the lockdown, the out-of-home sector was practically shut down, with the closure of restaurants and corporate canteens. The Moroccans have long dropped the round tomato in favour of more profitable speciality segments. While the announcement of lockdown triggered a rush, everything came to a halt thereafter, with sales collapsing. The same measures have been applied in France, the Netherlands, Poland and the United Kingdom. All the programmes have been cancelled.

Meanwhile, Morocco is making more exports this year to Saudi Arabia, due to lack of outlets in Russia (due to phytosanitary barriers; last year, more than 200 tonnes were blocked at the port of St. Petersburg). We can also observe some renewed trade to Western Africa, which has affected shipments to Europe. Furthermore, throughout October, Moroccan operators have had relationship troubles with Spain, a veritable gateway for them to Europe. At the port of Algeciras, under the reinforced controls, Moroccan truckers have been forced to top up in Spanish service stations because of the fuel restriction. This measure, dating from 2012, has been revised to limit Moroccan competition, by forcing trucks to carry no more than 200 litres of fuel in their tank, or face prosecution. In mid-November, everything was sorted out, but there remains work to do for the Ministry of Foreign Affairs, since transporters are requesting a renegotiation of the 2012 bilateral agreements between Morocco and Europe to prevent this type of conflict.

## ToLCNDV appears in France

Tomato Leaf Curl New Delhi Virus (ToLCNDV) has appeared in the French market gardening sector this year, especially on the tomato. First identified in the New Delhi region (India), this virus was then reported in several parts of the Indian Sub-Continent, several Asian countries (Indonesia, Pakistan, Bangladesh, Philippines, Thailand, Sri Lanka and Taiwan). In 2013, it was reported for the first time in Spain (Andalusia and Tarragon), and in 2015 in Tunisia, and then Italy, Greece, Portugal and Morocco. On 23 October 2020, INRA reported its recent appearance in France. The outbreaks were detected in PACA and Occitanie in September 2020, on the courgette.

This virus has been detected on several products: the courgette, cucumber, melon, sweet pepper and tomato. In the case of the tomato, the leaves present slight chlorosis and deformation of the middle and apex leaves. This virus can be confused with TYLC virus (Tomato Yellow Leaf Curl).

Its main vector remains the whitefly *Bemisia tabaci* in persistent circulation mode. To detect the presence of the virus, the visual diagnostic is not very specific, and is unable to distinguish between TYLC and ToLCNDV. The PCR test is the most reliable, providing specific and sensitive identification of the virus.

To combat this new virus, we need to monitor the zones where the vector is present. There are no known means of curing an infected plant. So management is based on prevention and using certified sound stock, disposing of sick plants and controlling whitefly populations.

### Tomato – EU-28 – October to May imports

in tonnes	2019-20	2019-20 compared to	
		2018-19	3-year average
<b>Spain</b>	<b>628 036</b>	<b>- 9 %</b>	<b>+ 7 %</b>
Morocco	453 163	+ 6 %	+ 8 %
Turkey	93 227	+ 25 %	+ 7 %
Tunisia	15 907	+ 13 %	+ 20 %
Senegal	8 638	- 3 %	- 4 %
Israel	15	- 86 %	- 94 %
Other Extra-EU suppliers	24 019	- 21 %	- 19 %
<b>Total Extra-EU suppliers</b>	<b>594 969</b>	<b>+ 1 %</b>	<b>+ 2 %</b>

Source: Eurostat

## Morocco, a big supplier to Europe

Morocco has increased its tomato exports to the EU to 453 162 tonnes, up by 6.36 % over one year. According to Eurostat data, it is Europe's number two supplier behind Spain. Morocco has bit by bit taken market share from Spain.

At the beginning of the season, the Moroccans were hoping for rain, with the three years in a row of drought. All the crops are under threat in all the production areas (Souss, Haouz, Oriental, Beni Mellal, Doukkala, Chaouia). This will have a definite economic impact, and an enormous social cost. Farmers have been heavily in debt for the past two years, and this year of Covid must not be a wasted year.

So water is an issue of utmost importance for Morocco. For some, the solutions found by the State are neither viable nor sustainable, and desalination will be too expensive for agriculture, as well as highly polluting. Finally, the State is financing drip irrigation, but there is little monitoring of its management and use. As a result, some plots are often flooded.



© Catherine Sanchez

## Water, the key factor for Moroccan agricultural expansion

In the draft budget for 2021, the Moroccan Ministry for Transport and Infrastructure has announced an investment of 1.57 billion euros for the construction of large dams, and 55.5 million euros to support irrigation of agricultural land. It has to be said that over the year Morocco has very low water input figures. This year, reserves were at a level of no more than 4 810 million m<sup>3</sup> (36 %) as at 5 October, i.e. 35 % below the ten-year average. Tomato surface areas actually irrigated were 143 % greater than planned.

As for the seawater desalination plant near Agadir, it is due to be commissioned in 2021. With a cost of 3 billion dirhams, this plant was partly financed by the farmers: a first in Morocco. In turn, the State has undertaken to supply low-cost desalinated water (5 dirhams per m<sup>3</sup>). It will produce 275 000 m<sup>3</sup>/day, with a maximum capacity of 450 000 m<sup>3</sup>/day. It is intended to irrigate some 15 000 ha of agricultural land in the Chtouka Aït Baha area ■

Anne-Solveig Aschehoug, consultant  
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## New port of Dakhla- Atlantique progressing!

As at 31 October 2020, Dakhla's new port was taking shape. It is among the investments planned by the Moroccan Ministry for Transport and Infrastructures. It is a deep-water commercial port to be built 40 km north of Dakhla, on the Ntireft site, in a zone within the El Argoub district in the Western Sahara. Its construction was announced on 6 November 2015 by the King of Morocco, Mohammed VI. There are plans for the development of a new industrial and logistical zone near the port, as well as a seawater desalination plant, a purification plant, and a power plant. The objective is to support regional economic, social and industrial development, including the agricultural sector, provide the region with modern logistical facilities to match its development ambitions, and seize coastal navigation opportunities to West Africa. The work budget is 10 billion dirhams, and the studies are currently being finalised.

## ToBRFV: two new resistant tomato varieties, and two new tests

ToBRFV (Tomato Brown Rugosis Fruit Virus) is a virus which can appear on the tomato, sweet pepper and chilli pepper. It is closely related to TMV, tobacco mosaic virus, and to tomato mosaic virus (ToMV), with these three viruses belonging to the Tobamovirus group. Tobamoviruses are extremely contagious, and can easily spread through contact, especially agricultural tools, workers' hands, plants, water, soil, etc. In addition, they are transmissible to young plants via the seeds. ToBRFV, which can also infect petunias and other ornamental plants, was discovered in 2014 in Jordan and Israel, and then spread to Germany, the USA and Mexico, causing major economic damage to tomato growers. The addition of ToBRFV to the list of pathogen agents was discussed at the September meeting of the International Seed Federation. It has been an EU-regulated quarantine organism since 1 October 2019. Strict requirements have been imposed on seed batches since late August 2020.

### Two new ToBRFV resistant varieties coming to the market soon

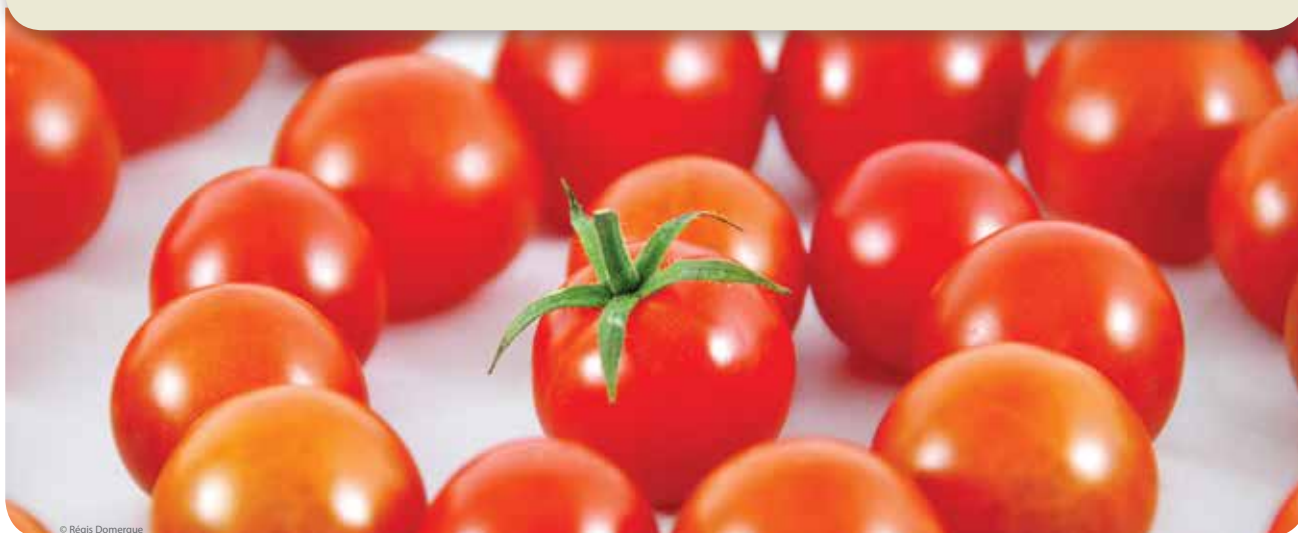
These are Roma tomatoes which will soon be available on a large scale. The aim is to help growers combat ToBRFV. They are claiming intermediate resistance (IR) to ToBRFV, and will be tested in Mexico. These two varieties are asymptomatic carriers of the virus, which means that despite the presence of viral particles, the plants may present little or no symptoms of the virus in the leaf or fruit if the crops are

infected. These varieties are set to enter the market in 2021 in Mexico, and then all the world's markets.

### Two new tests

Prime Diagnostics, part of Wageningen University, has just developed a new antiserum which can specifically detect ToBRFV in infected plant stock or seeds. This antiserum is intended for use in the DAS-ELISA test, a method commonly employed by inspection services and quality laboratories for seed companies. This test can help seed producers and nursery operators worldwide to obtain certainty over the good health of the seed batches and young plants. The antiserum reacts specifically with ToBRFV, and shows low reactivity to other Tobamo viruses in the tomato and sweet peppers. The antiserum is now available for routine quality inspections.

In the USA, on 28 October 2020, the Policy and Procedures Advisory Board of the NSHS (National System for Seed Health) approved a new ToBRFV detection method, using the quantitative technique RT-PCR, on tomato and sweet pepper seeds, known as NSHS Method So 7.1. It has become urgent to find a test, especially for seed companies, because of the EU's import requirements, while other seed importing countries may have other requirements. NSHS accredited laboratories wishing to obtain this method in their seed health accreditation will need to complete the Expansion of Scope application, which is downloadable from the NSHS website. An audit will be required once the application has been received.



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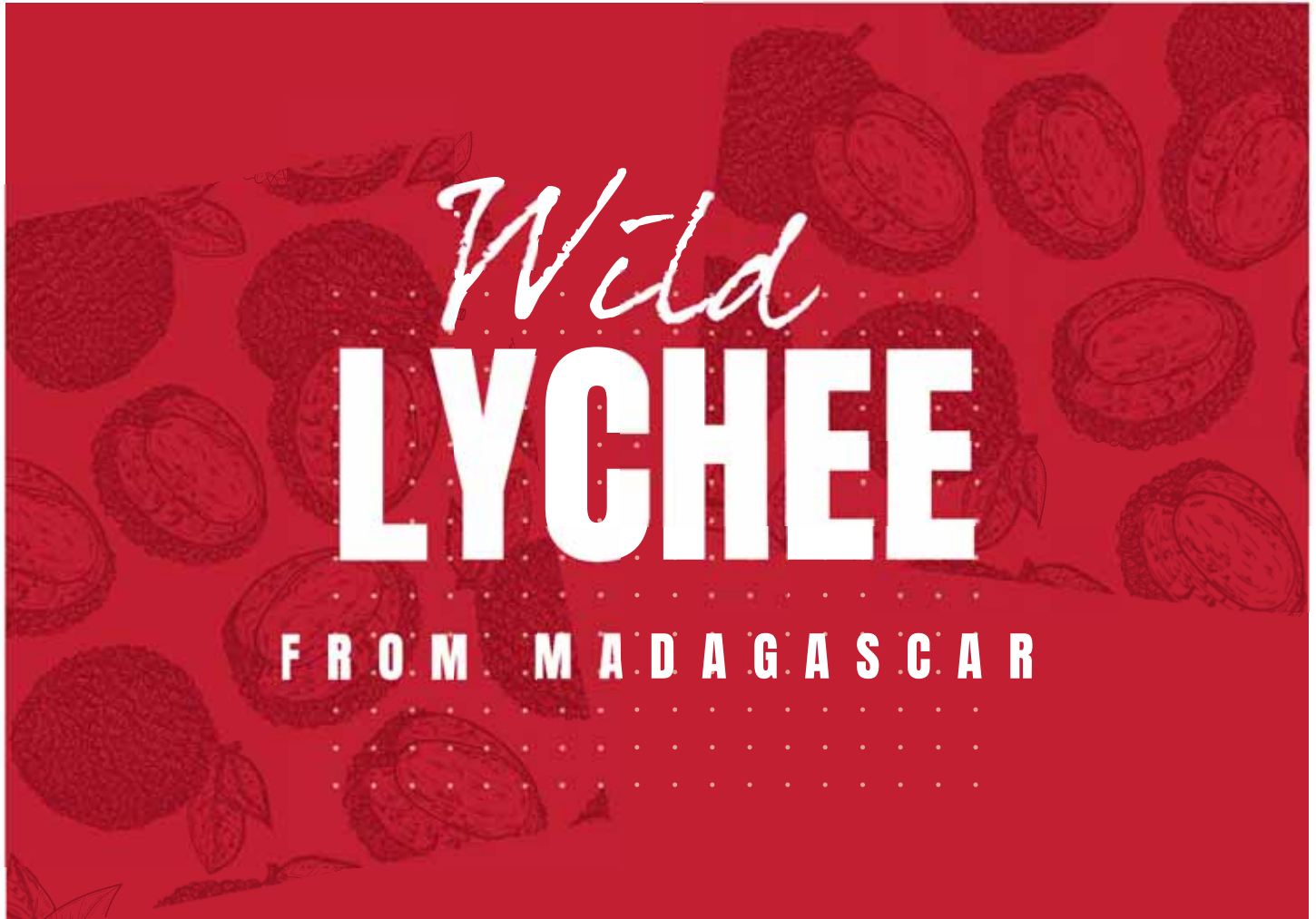
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