No. 249
May-June 2017

FRuiTROP magazine

fruitrop.com
English edition

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Producer country sheet
The kiwi in New Zealand

Citrus

Summer 2017: market tension in Europe

European stone fruits: Initial info on the 2017 harvest

European pineapple market: Pineapple vs. pineapple: the sole issue

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A rough spell for the world of tropical fruits. *And for once, it is not the market conditions which are making life tough for the products. Generally speaking, the markets are in good shape, or even very good. The avocado is being snapped up at sky-high prices, the banana is the springtime star of the shelves, and the mango and pineapple are giving a good account of themselves. In fact it is at the production stage that the malaise is setting in, in several respects; while not very new, they seems to be extending to unprecedented dimensions. I am referring to the social and environmental conditions of production. The banana, pineapple and avocado are bearing the cost of this newfound awareness in a wonderfully coordinated surge. For the banana, this was manifested by Lidl's (rapidly deleted) Tweet of its decision to stop buying Ecuadorian bananas, following accusations made by Oxfam Germany against some producers (study of May 2016). For the pineapple, a cultivation extension project in south-west Costa Rica was halted at the insistence of associations. For the avocado, the sector has come down with palm oil syndrome, especially in Mexico: deforestation, excessive water consumption, etc. Of course, this list will not stop there. Should we conclude that we have entered the age of responsibility, after that of green and social washing? That is up to the companies, and if so, they need to show how they are planning to make the leap. Since the worst thing would be to lapse into the old routines, deny the evidence and continue to think of their opponents as "sandías" (watermelons): green on the outside and red on the inside. For agitators of all kinds, it is also time to think about the consequences on producers and their labourers of the condemnation campaigns. If Lidl implemented its threats, the most vulnerable links in the industry would be deprived of outlets and therefore revenue. As is often the case, the right path lies in consensus and in setting ambitious objectives, sealed in the form of contracts for progress between the upstream and downstream segments. And surely not in denial, ostracism or condemnation.*

Denis Lœillet

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Printed by
Impact Imprimerie
n°483 ZAC des Vautes
34980 Saint Gély du Fesc, France

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

Subscription rate
EUR 300 / 8 issues per year
(paper and electronic editions)

FRuiTROP

Contents

Cover photograph: © ZESPRI

Banana

April/May 2017

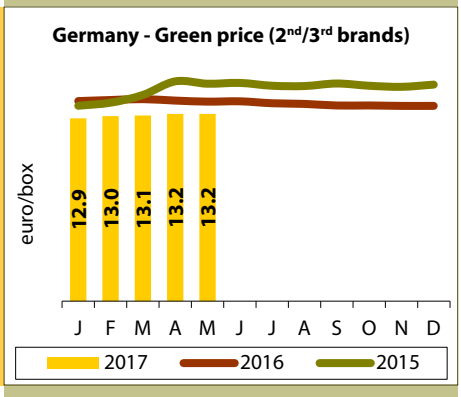
The highly positive market trend moved up a gear in **April**. However spring-like weather finally arrived, helping the seasonal fruit campaigns, which after starting behind schedule, to make decent progress. However, banana sales maintained good vitality across the markets. It was the unexpected fall in the overall supply which was behind the growing tension. The African and dollar supplies fell below average for the season (- 4 % and - 6 % respectively) for the first time this year; with the end of the Colombian peak, Ecuadorian and Costa Rican supply down to less than in 2016, logistical concerns in Côte d'Ivoire, and strong winds in Cameroon. So green banana prices continued to strengthen, regaining average levels for the first time this year.

In **May**, the supply gap started to narrow, with volumes back to near-average levels for the season. The combined Africa-French West Indies supply returned to average with the gradual end of the FWI shortfall, and African volumes back to levels 10 % above average. Meanwhile, dollar banana imports were closer to average after the trough in April (Colombian and Costa Rican decline offset by Ecuadorian increase). Nonetheless, the market remained tight at the beginning of the month, with sales maintaining very good fluidity (temperatures falling again, seasonal fruits still uncompetitive), while green banana prices continued to strengthen, contrary to the seasonal trend, until stabilising at the end of the month.

NORTHERN EUROPE — IMPORT PRICE

May 2017 euro/box	Comparison	
	previous month	average for last 2 years
13.20	**0 %**	**- 10 %**

EUROPE

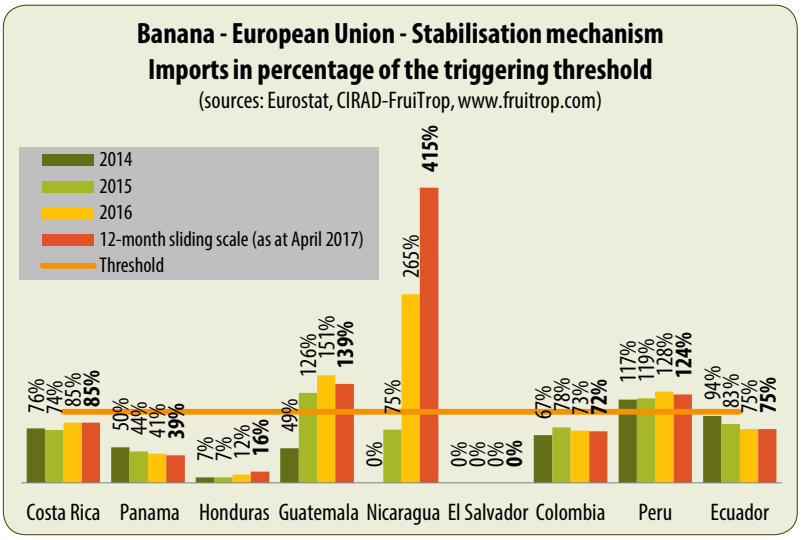


■ Banana imports monitoring system: for peanuts.

Nicaragua, Panama and Peru could not care less about exceeding the guidance thresholds set by the various trade agreements they have signed with the EU. Their relatively low weight on the market is doubtless the reason for a certain lack of interest from the European authorities. They did once again open an inquiry, which concluded, once again, that this breach was non-disruptive. Move along, nothing to see here! Yet the monitoring needs to continue, and indeed be done better, for example by switching from a calendar year view to a 12-month sliding scale, the only representation that provides an understanding of an origin's dynamic on a market. As at April 2017 (Eurostat data), we find Nicaragua at more than 400 % of its guidance quantity, i.e. 56 000 t for a guidance threshold of 14 000 t. Outside of the monitoring system, Mexico is another origin on an exceptionally steep rise. As proof, it registered a growth rate over the first four months of 2017 of 20 %, reaching 25 000 t. True, the volumes in question are relatively small, but given that at the same time Mexico achieved + 35 % on the US market for a volume of 121 000 t, and the Mexican sector has 12 000 ha of Cavendish at its disposal, it is impossible to completely ignore the dynamic of such a country.


© Guy Brehinier

Source: CIRAD

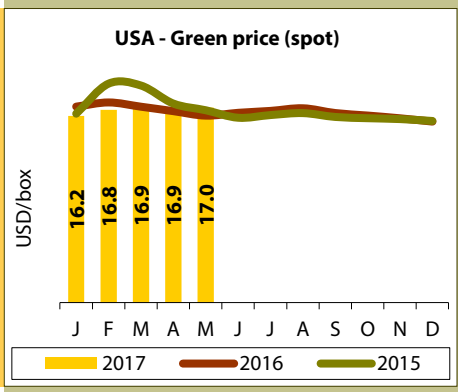


EUROPE - RETAIL PRICE

Country	May 2017		Comparison	
	type	euro/kg	April 2017	average for last 3 years
France	normal	1.70	- 1 %	+ 4 %
	special offer	1.55	- 2 %	+ 9 %
Germany	normal	1.33	- 1 %	- 3 %
	discount	1.12	- 2 %	- 7 %
UK (£/kg)	packed	1.01	- 2 %	- 6 %
	loose	0.76	0 %	+ 6 %
Spain	platano	2.08	- 1 %	+ 7 %
	banano	1.31	0 %	0 %

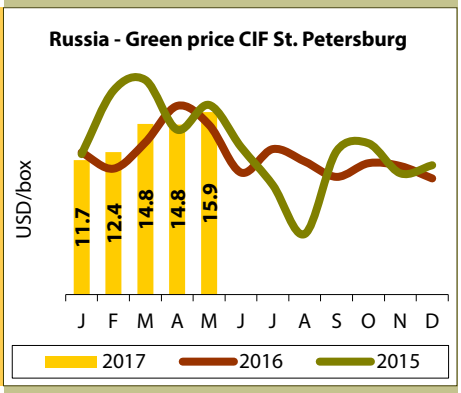
Banana

UNITED STATES



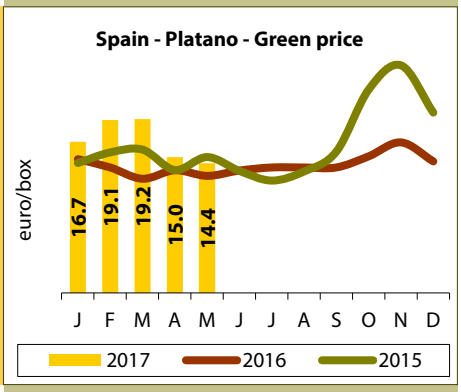
UNITED STATES - IMPORT PRICE		
May 2017 USD/box	Comparison	
	previous month	average for last 2 years
16.95	0 %	+ 3 %

RUSSIA



RUSSIA - IMPORT PRICE		
May 2017 USD/box	Comparison	
	previous month	average for last 2 years
15.87	+ 7 %	+ 2 %

CANARIES



CANARIES - IMPORT PRICE*		
May 2017 euro/box	Comparison	
	previous month	average for last 2 years
14.40	- 4 %	+ 3 %

* 18.5-kg box equivalent

■ **World banana consumption on hiatus in April 2017.** Like the United States, the EU-28 was at a standstill in 2017, reducing its supply by just 0.8 %. However we should guard against concluding that this is a turnaround in trend. Since while there was a fall, it was not because the dollar or ACP origins were going easy; quite the opposite. These two types of origin were up by nearly 2 % in April and 7.5 % over the first four months of the year. It is European production that was struggling. The three heavyweights (Canaries, Martinique and Guadeloupe) saw a reduction of more than 20 %. The effects of Cyclone Matthew in 2017 for the French West Indies and a return to a more normal tempo after 2016 began with a flourish for the Canaries, explain this downward trend. During this time, the dollar origins opened up the taps with a rise of 4.1 % in April 2017 from 2016 and 9.8 % over the first four months of 2017. Just Panama and Guatemala plummeted, while all the other origins soared, even well above their guidance threshold (see previous page) like Nicaragua. The ACPs followed the trend, though with Africa exhibiting a lower profile (+ 1.9 % in April and + 4.9 % over the first four months). As for the Caribbean ACPs, the Dominican Republic was up after the monster floods of late 2016 and will easily exceed 350 000 t in 2017. Over twelve months (May 2016 to April 2017), the European market has still been very promising since it was up by 4.7 %, i.e. 276 000 t of additional bananas. The European market amounted to 6 175 000 t; completely different from the United States, except for the dip in April 2017 (- 17 %), which only confirmed a doddery tempo. Indeed over the first twelve months, demand shrank by 1 % to return to 4 047 000 t. Ecuador seemed to be fleeing this market, with a fall of nearly 40 % between 2016 and 2017 (four months), following in the footsteps of Colombia which conscientiously cut back its shipments in favour of Europe. Guatemala and Costa Rica meanwhile continued to set a very high tempo, up by 18 % and 14 % respectively (first four months).

Source: CIRAD

Banana – EU & USA – Supply from January to February 2017 (provisional)				
000 tonnes	2015	2016	2017	2017/2016 difference
EU-28 - Supply	**2 026**	**2 108**	**2 202**	**+ 4 %**
Total import, of which	1 810	1 880	2 022	+ 8 %
MFN	1 462	1 512	1 659	+ 10 %
ACP Africa	184	214	225	+ 5 %
ACP others	163	154	138	- 11 %
Total EU, of which	217	228	180	- 21 %
Martinique	63	63	25	- 61 %
Guadeloupe	21	19	14	- 26 %
Canaries	126	139	135	- 3 %
USA - Import	**1 554**	**1 563**	**1 573**	**+ 1 %**
Re-exports	184	189	191	+ 1 %
Net supply	1 370	1 374	1 382	+ 1 %

EU sources: CIRAD, EUROSTAT (excl. EU production) / USA Source: US Customs

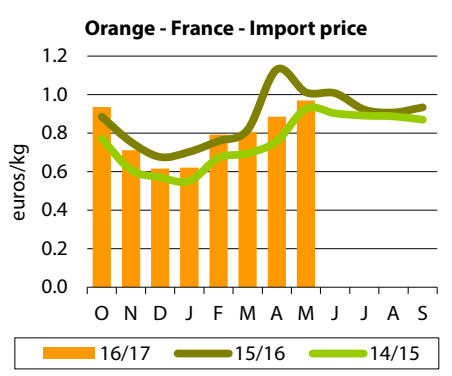
EUROPE - IMPORTED VOLUMES - MAY 2017			
Source	Comparison		
	April 2017	May 2016	2017 cumulative total compared to 2016
French West Indies	↗	- 19 %	- 45 %
Cameroon/Ghana/Côte d'Ivoire	↗	+ 10 %	+ 10 %
Surinam	↗	+ 16 %	+ 7 %
Canaries	↗	+ 6 %	+ 12 %
Dollar:			
Ecuador	↗	+ 5 %	+ 4 %
Colombia*	↘	+ 27 %	+ 13 %
Costa Rica	↘	- 30 %	- 15 %

Estimate made thanks to professional sources / * total for all destinations

Orange

April/May 2017

The shortfall continued in April, with Spanish Navelate on the wane and small shipments of the first Valencia Late. Only late Navel volumes (Navel Powell) exceeded levels from the past two years. Hence rates continued to strengthen, with volumes still insufficient given the lively demand, stimulated by cool temperatures. Despite the rise in imports in May, the market remained under tension. The Navelate season finished with volumes in shortfall. However, Navel Powell remained available in above-average quantities and Valencia Late made considerable headway. Meanwhile, demand started to switch to seasonal fruits. Yet the tension held up, particularly on the table segment, with the prospect of a South African Navel campaign in shortfall.



PRICE

Type	Average monthly price euro/15-kg box	Comparison with average for last 2 years
Dessert orange	15.90	+ 8 %
Juice orange	13.58	+ 3 %

VOLUMES

Type	Comparison	
	previous month	average for last 2 years
Dessert orange	↗	+ 15 %
Juice orange	↗	+ 20 %

VOLUMES

Varieties by source	Comparison		Observations	Cumulative total / cumulative average for last 2 years
	previous month	average for last 2 years		
Spanish Navelate	↘	- 18 %	Early end of campaign, with volumes in shortfall.	- 9 %
Spanish other Navels	↘	+ 26 %	End of campaign, with greater volumes than in recent years (Navel Powell).	- 5 %
Spanish Valencia Late	↗	+ 16 %	Rapid progress in an under-supplied market context.	+ 3 %
South African Navel	↗	- 24 %	Slow start due to production losses. Campaign set to be in shortfall.	- 48 %

■ **Florida Natural launches a new citrus planting incentive campaign.** The Lake Wales cooperative (central Florida), which encompasses a thousand or so producers and 25 000 ha of orchards, has decided to set up a new planting financial assistance programme, after the success of the one launched in 2014. A budget of 13.5 million USD has been set aside (10 million for the orange, 3 million for the grapefruit and 500 000 USD for the lemon). Each tree planted will receive 10 USD of aid, though replanting is ineligible. This amount covers just under quarter of the direct costs of planting, disregarding the orchard maintenance required before it starts to bear fruit (estimated at 35 USD). Producers must for their part commit to supplying the produce from these orchards to Florida Natural for ten years for the orange, and twenty years for the grapefruit. The 1.3 million trees planted should eventually produce just under 3 million field crates.

Sources: Reefer Trends, The Ledger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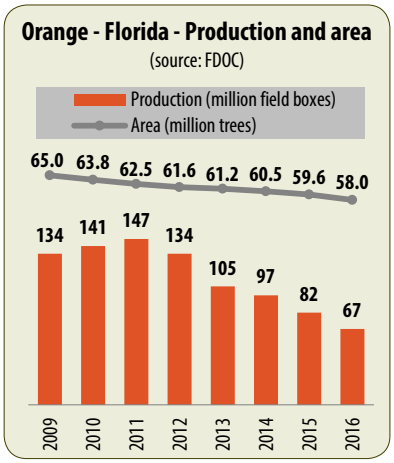
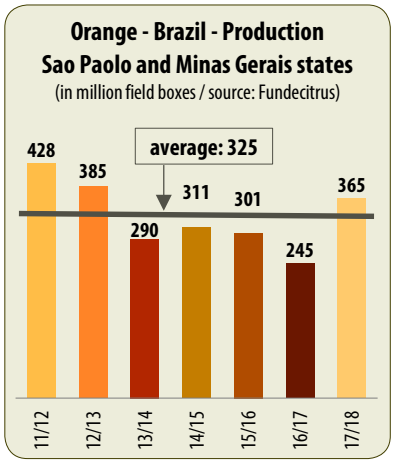
■ **Brazilian orange: back to an above-average harvest in 2017-18.** The combined harvest from the States of Sao Paulo and Minas Gerais, which should be around 365 million field crates, was up a long way from the lean season 2016-17, though is only 10 % above the six-year average. Meanwhile, the juice yield, in the depths for the past two years, should also see a brighter spell. The physical market, hitherto racing to a historic level of 3 000 USD/t into Rotterdam, lost 500 USD. Stabilisation is to be expected, since the level of Brazilian stocks, which weighed down on the market in recent seasons, subsided to an extremely low level.

Source: Citrus BR

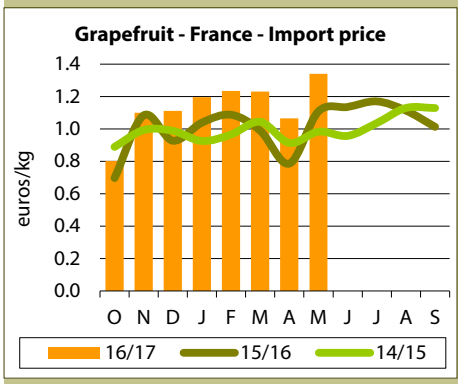




Grapefruit

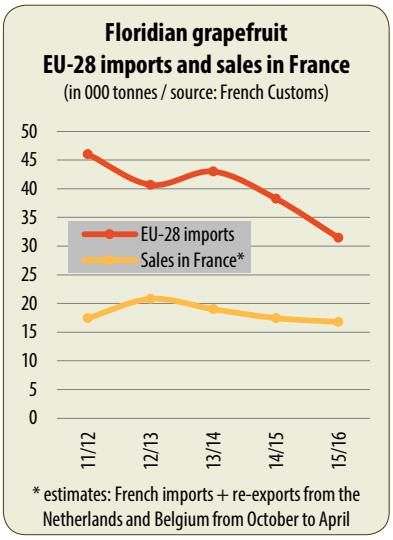
April/May 2017

The transition between winter and summer proceeded smoothly because of the lean supply. The below-average Floridian campaign ended in late April with prices remaining strong and high. The Mediterranean supply waned in May, with volumes in shortfall due to all the origins being ahead of their market schedules (Spain, Turkey and Israel). Only moderate Israeli stocks were available until late May, ensuring the transition with the summer origins. This market window benefitted the incoming origins: Corsica, whose campaign started in April and finished in late May, and South Africa, whose first early shipments arrived in early May, with very limited quantities, with the supply only starting to progress in late May. Hence because of the lean supply during the period, combined with seasonal demand, prices were firm and much higher than for the past two years.



■ 2016-17 Floridian grapefruit review: Matthew piles on the agony! The expected fall in fresh grapefruit volumes traded by Florida was bigger than expected. With 6.5 million boxes, sales across all markets dropped by nearly 30 % from 2015-16, a much greater fall than the 12 to 15 % registered over the previous three seasons. While the damaging effects of greening are still just as marked, this aggravation is largely due to a cyclical factor, namely the passage of Hurricane Matthew in early October. All the markets saw their supply collapse, starting with the main one: volumes placed on the US market fell by more than one million boxes. Shipments to Europe decreased considerably, with the 1.4 million boxes received marking a downturn of 500 000 boxes from the previous season. France continued to represent the core market for Florida, taking in approximately half of shipments arriving into the EU-28. While regular customers among the European distribution centres remained loyal to this premium grapefruit, they often opted for replacements (especially Spanish fruit in France), in particular for their promotions. Conversely, the wholesale customer portfolio shrank considerably.

Sources: Eurostat, French Customs, FDOC



PRICE

Source	Average monthly price euro/17-kg box equivalent	Comparison with average for last 2 years
Israel	16.35	+ 33 %
South Africa	20.40	+ 26 %

VOLUMES

Source	Comparison	
	previous month	average for last 2 years
Israel	↘	- 48 %
South Africa	↗	+ 23 %

Grapefruit – Florida – Fresh sales

in million export boxes	2016-17	2015-16	Last 4 seasons average	2016-17 compared to	
				2015-16	Last 4 seasons average
USA	2.7	3.8	4.8	- 29 %	- 44 %
EU	1.4	1.9	2.4	- 27 %	- 43 %
Japan	1.6	2.1	2.8	- 25 %	- 43 %
Canada	0.4	0.7	0.9	- 39 %	- 55 %
Others	0.4	0.6	0.5	- 30 %	- 22 %
Total	**6.5**	**9.1**	**11.5**	**- 28 %**	**- 44 %**

Source: FDOC

VOLUMES

Source	Comparison		Observations	Cumulative total / cumulative average for last 2 years
	previous month	average for last 2 years		
Israel	↘	- 48 %	Last incoming shipments toward mid-May, with volumes in shortfall. Stocks available until the end of the month.	+ 4 %
Corsica	↘	-	Campaign winding down in May, last incoming shipments toward the end of the month.	-
South Africa	↗	+ 23 %	Early start to the campaign with moderate volumes. Rapid progress compared to other years in late May.	+ 22 %

Pineapple

April/May 2017

During the first half of **April**, rates remained fairly high since the overall supply, although on the rise, was outstripped by demand. However, at the end of the first half-month, the increase in volumes in anticipation of Easter led to prices stabilising and then falling. Only the established brands with very low fruit loads continued to apply high rates. At the beginning of the second half-month, the cumulative supply was distinctly more substantial because of shipping delays. The fruit that arrived too late for the Easter sales weighed down on the market. This tightened up very quickly, and operators started to lower prices in the hope of getting their stocks moving. Meanwhile, the Cayenne supply, hitherto performing well, saw its first major quality concerns, leading to its absence for the last week of the month.

In the run-up to Easter, the air-freight market, still deprived of Beninese Cayenne, was on a positive trend. The school holidays did not impede the fruit's market activity, since the overall supply was outstripped by demand. Despite some quality concerns (lack of coloration due to rains), the Cameroonian supply still sold well. After Easter, demand was less high and sales more difficult, especially for the least coloured fruits. Sugarloaf sales remained complicated throughout the month for green fruit batches, which sold less well. The air-freight supply was topped up by some batches of Sweet from Cuba or the Dominican Rep., offered at €2.50 and €2.70/kg respectively.

With a lean supply throughout the month, the Victoria market maintained a positive trend with high prices. After Easter, rates actually strengthened since the supply was still lean, helping operators to earn better value for the more sought-after sizes 6 and 7.

In **May**, the situation gradually deteriorated. From the first half-month, the operators were informed that the natural flowering phenomenon would disrupt the Costa Rican supply. So Sweet volumes saw a steep rise, while demand constantly shrank, increasingly captured by a supply of seasonal fruits available at low prices. In the course of the first half-month, the operators had to relax their prices, and several sales were made at rates well below those indicated below. The market conditions were aggravated by the fact that the Costa Rican supply was imbalanced, in large part comprising small fruits which were of little interest to purchasers. At the end of the month, the pineapple market activity was much reduced despite a downward trend in rates.

Because of the numerous public holidays in May, the operators opted to cut back imports on the air-freight market to better align supply with demand. While during the first half-month this strategy worked well, it was less effective thereafter. The increase in the seasonal fruits supply very rapidly diverted demand, and pineapple sales were distinctly less fluid, forcing operators to expand their price ranges. On the Sugarloaf market, the chasm was increasingly wide between the coloured fruits supply from Ghana, which sold well and at higher rates (2.30 euros/kg), and the supply of green fruits from Benin, which struggled to sell. Coloured Sweet were more or less well valued at between 2.20 and 2.70 euros/kg. The fall in prices on this market at the end of the month was also substantial following an increase in the seasonal fruits supply.

Throughout the month, the Victoria supply was limited because of either rains in Mauritius, or less abundant production from Reunion. From the second half-month, purchasers' interest in the fruit was lower, forcing the operators to reduce their prices significantly.

EUROPE

PINEAPPLE — IMPORT PRICE

Weeks 14 to 22	Min	Max
Air-freight (euro/kg)		
Smooth Cayenne	1.75	2.30
Victoria	3.00	4.50
Sea-freight (euro/box)		
Smooth Cayenne	6.00	15.00
Sweet	5.00	16.00

PINEAPPLE - IMPORT PRICE IN FRANCE - MAIN SOURCES

Weeks 2017		18	19	20	21	22
Air-freight (euro/kg)						
Smooth Cayenne	Cameroon	1.80-2.00	1.80-2.00	1.80-2.00	1.80-2.00	1.80-2.00
	Ghana	2.00-2.30	2.00-2.30	2.00-2.30	-	2.00-2.30
	Côte d'Ivoire	1.95-2.00	1.90-2.00	1.90-2.00	1.80-2.00	1.80-2.00
Victoria	Reunion	3.00-4.50	3.00-4.50	3.00-4.50	3.00-3.50	3.00-3.50
	Mauritius	3.00-3.40	3.00-3.40	3.00-3.20	3.20-3.40	3.00-3.40
Sea-freight (euro/box)						
Smooth Cayenne	Côte d'Ivoire	6.00-8.00	6.00-8.00	6.00-8.00	6.00-7.00	5.00-6.00
Sweet	Côte d'Ivoire	10.00-11.00	10.00-11.00	9.00-10.00	9.00-10.00	8.50-9.50
	Ghana	10.00-11.00	10.00-11.00	9.00-10.00	9.00-10.00	8.50-9.50
	Costa Rica	6.00-9.00	6.00-9.00	6.00-8.00	5.50-8.00	5.00-8.00

PINEAPPLE - IMPORT PRICE IN FRANCE - MAIN SOURCES

Weeks 2017		14	15	16	17
Air-freight (euro/kg)					
Smooth Cayenne	Cameroon	1.90-2.00	1.90-2.00	1.75-2.00	1.80-2.00
	Ghana	2.00-2.30	2.00-2.30	2.00-2.30	2.00-2.30
	Côte d'Ivoire	2.00-2.10	2.00-2.10	2.00-2.10	2.00-2.10
Victoria	Reunion	3.00-4.00	3.00-4.00	3.00-4.50	3.00-4.50
	Mauritius	3.00-3.60	3.00-3.60	3.00-3.60	3.00-3.60
Sea-freight (euro/box)					
Smooth Cayenne	Côte d'Ivoire	12.00-15.00	10.00-13.00	6.00-7.00	-
Sweet	Côte d'Ivoire	12.00-15.50	12.00-15.50	12.00-13.00	10.00-11.00
	Ghana	12.00-15.50	12.00-15.50	12.00-13.00	10.00-11.00
	Costa Rica	12.00-16.00	11.00-14.00	8.00-10.00	7.00-9.00

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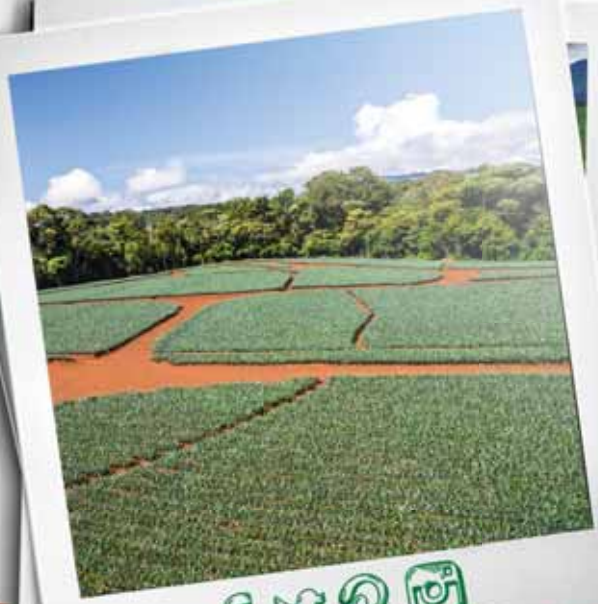

*Pineapple plantations in Costa Rica are SCS certified

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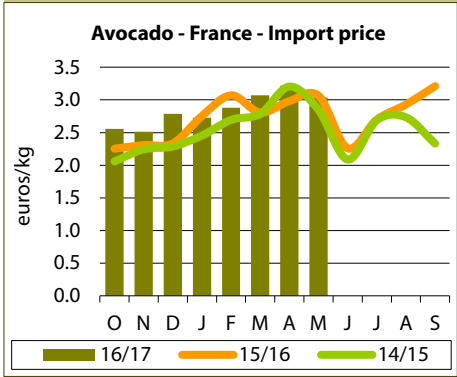
Avocado

April/May 2017

Despite above-average volumes, the winter season (Spain, Israel) finished in April while the summer origins had still barely arrived. The rapidly progressing South African supply could not make up for the Peruvian supply, delayed due to logistical concerns (rains). Rates reached historic levels at Easter, with some operators having difficulty meeting their commitments. In late April, the supply registered a very marked bounce-back, reaching a record level in May. Whereas South African shipments were in shortfall, Peruvian shipments for green varieties and Hass boomed, with some maturity concerns and small sizes plentiful. Stocks of small-sized fruit formed, and prices started to drop in May (especially for 22/24/26), though maintaining high levels for the season.



PRICE

Varieties	Average monthly price euro/box	Comparison with the last 2 years
Green	7.76	+ 13 %
Hass	13.46	+ 14 %

VOLUMES

Varieties	Comparison	
	previous month	average for last 2 years
Green	↗↗	+ 32 %
Hass	↗	+ 32 %

VOLUMES

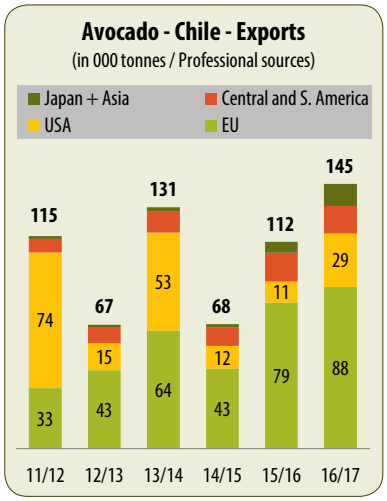
Source	Comparison		Observations	Cumulative total / cumulative average for last 2 years
	previous month	average for last 2 years		
Peru	↗	+ 46 %	After a shipments trough in April (smaller shiploads due to the rains), highly significant rise for May in the Hass supply (+ 37 %), and above all for green varieties (+ 123 %).	+ 35 %
South Africa	↗	- 15 %	Shipments progressing rapidly in April, volumes above average (+ 17 %). Distinct slowdown in May: shortfall in the Hass supply (- 9 %), and above all for green varieties (- 26 %).	- 9 %
Mexico	↘	- 72 %	Campaign ending with volumes much smaller last year, and small sizes plentiful.	0 %

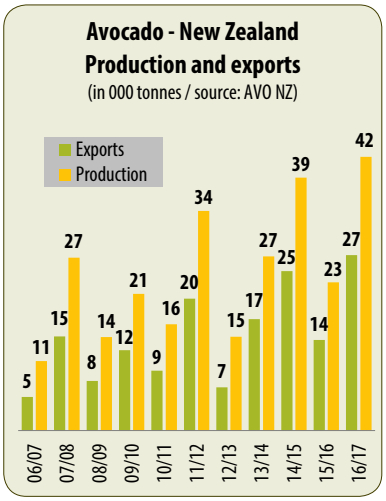
■ **2016-17 Chilean avocado campaign.** While the 2015-16 season review helped Chilean producers to regain their confidence, the 2016-17 season has been fit to rouse some enthusiasm! Prices were exceptional, in both the EU-28 and the United States. In addition, the export volumes of around 145 000 t were by far the best in recent years, and indeed made for the third biggest season on record. Shipments rose to all destinations. With approximately 88 000 t, the EU-28 remained by far the number one market for Chilean "palta". However, there was a big comeback on the US market, with volumes of nearly 30 000 t, practically triple that of the previous season. There has also been renewed long-term interest in the origin by US importers, after practically abandoning it in favour of Mexico in recent years. China too took advantage of this increased potential (12 000 t as opposed to 5 500 in 2015-16). The only parties to have lost out in the change are Chilean consumers. Tension on the international market and a still sluggish domestic economy led to another downturn in local sales.

Source: CIRAD

■ **Hass avocado, soon a major product in New Zealand?** New Zealand is not only an apple and kiwi country. The record results of the 2016-17 campaign show that the avocado industry is continuing to come to the fore, although it remains miniscule compared to the apple and kiwi industries, the country's two export giants. Volumes bound for the international market, with more than 80 % going to Australia, exceeded 27 000 t for the first time. The industry should not stop there. The ambition is to quadruple sales by 2023, especially through tripling productivity, still very low.

Sources: Reefer Trends, NZ Avocado





Mango

April 2017

April was marked by a premature end to the Peruvian campaign, with shipments largely dominating the European supply since the beginning of the year. In the course of week 11, Peru was ravaged by torrential rains, causing massive material damage and the death of several people. The damage to the communication routes put an end to the possibility of sea-freight mango exports. Furthermore, the shipment volumes were already dwindling, after the campaign had started early. Brazil partially offset the reduction in the Peruvian supply, while demand was intensifying for the Easter holidays. This resulted in prices maintaining a high level for a sustained period, in spite of qualitative deterioration of the produce. The phenomenon intensified after Easter because of the fall in import volumes, with the West African campaign only getting started. Some Amélie containers from Côte d'Ivoire were received, selling under good conditions in this context of under-supply.

The air-freight market remained fairly lively, with high prices in the first half-month with the Easter holidays. Rates of the last batches from Peru remained very high, with African mangoes selling at lower prices depending on the varieties and quality of the fruits, overall with little coloration and sometimes insufficiently mature. Kent remained the most sought-after and best valued.

In May, the supply was tumbling with the end of the Peruvian campaign and the late start by the West African origins. In the first half-month, demand was still lively, and the quantities available limited, helping rates maintain a high level for Brazilian and Ivorian fruits. From the second week of the month, revolts in Côte d'Ivoire heavily disrupted mango transport from the production region, located in the north, to the port of Abidjan in the south. These events were aggravated by failure of loading machinery at one of the port's fruit terminals. This disrupted the "docking windows", leading to numerous containers being stored for various durations, under more or less satisfactory conditions. The restoration of calm and repairs to the machinery enabled maritime transport to gradually recover, while export companies closed their shipments. Ten to fifteen days later, the crisis shifted to the European markets where numerous containers were received damaged or with fruits of lower quality, heavily and sustainable hindering sales. Rates rapidly declined, and at the end of the period, clearance sales were made at very low prices.

The air-freight mango market was just as difficult. Only the last batches from Peru earned satisfactory value. West African fruits exhibited average quality overall, with some lacking coloration and maturity. For sure harvested early, they rapidly crumbled, with an unattractive appearance, and suffered from comparison with the last batches from Peru. These qualitative defects, probably due to the fear of infestation by fruit fly larvae, were particularly harmful to marketing. At the end of the month, prices strengthened slightly due to a widening under-supply. Some shipments from Brazil, India, Vietnam and Thailand provided purchasers with an occasional alternative.

EUROPE

MANGO - INCOMING SHIPMENTS
(estimates in tonnes)

Weeks 2017	18	19	20	21	22
Air-freight					
Peru	5	15	3		
Burkina Faso	20	20	15	10	5
Mali	40	40	45	30	20
Côte d'Ivoire	150	80	50	30	30
Sea-freight					
Brazil	1 520	1 000	1 180	1 120	1 320
Côte d'Ivoire	2 650	2 200	2 200	2 650	2 200

EUROPE

MANGO - INCOMING SHIPMENTS
(estimates in tonnes)

Weeks 2017	14	15	16	17
Air-freight				
Peru	110	180	40	15
Burkina Faso	10	15	20	20
Mali	-	40	40	40
Côte d'Ivoire	-	80	200	120
Sea-freight				
Brazil	2 700	2 350	1 930	1 980
Peru	70	-	-	-
Côte d'Ivoire	110	1 100	440	2 200

MANGO - IMPORT PRICE ON THE FRENCH MARKET

Weeks 2017		18	19	20	21	22	May 2017 average	May 2016 average
Air-freight (euro/kg)								
Peru	Kent	5.00	5.00	5.00	5.00-5.25	-	5.00-5.05	-
Burkina Faso	Amélie	2.80	2.80	-	-	-	2.80	-
Burkina Faso	Valencia	3.00-3.50	-	-	-	-	3.00-3.50	3.30-3.50
Burkina Faso	Kent	3.00-3.50	2.50-3.50	2.80-3.00	3.00	3.00	2.85-3.20	3.70-4.25
Mali	Amélie	3.00	-	-	-	-	3.00	2.80-3.00
Mali	Valencia	3.00-3.80	3.00-3.50	2.80-3.20	2.50-3.50	-	2.80-3.50	2.60-3.75
Mali	Kent	3.00-4.00	2.50-4.00	3.00-4.00	3.00-4.00	3.00-4.50	2.90-4.10	3.55-4.35
Côte d'Ivoire	Kent	4.00-4.50	4.00	4.00-4.50	4.00-4.50	4.00-4.50	4.00-4.40	4.75-5.60
Sea-freight (euro/box)								
Brazil	T. Atkins	7.00-8.00	7.00-7.50	-	-	-	7.00-7.75	-
Brazil	Keitt	8.00	7.00-8.00	-	-	-	7.50-8.00	-
Brazil	Palmer	8.00	7.00-8.00	-	-	-	7.50-8.00	-
Peru	Kent	-	-	-	-	-	-	-
Côte d'Ivoire	Kent	6.50-8.00	6.00-7.00	4.50-6.00	4.00-5.50	3.00-5.00	4.80-6.30	5.35-7.10
Puerto Rico	Keitt	-	-	5.00-6.00	5.00-6.00	5.00-6.00	5.00-6.00	5.00-6.50
Dom. Rep.	Keitt	-	-	-	-	5.00-6.00	5.00-6.00	-

MANGO - IMPORT PRICE ON THE FRENCH MARKET

Weeks 2017		14	15	16	17	April 2017 average	April 2016 average
Air-freight (euro/kg)							
Peru	Kent	6.50-7.00	5.00-6.00	5.50-6.00	5.00	5.50-6.00	5.65-6.30
Burkina Faso	Amélie	3.50-4.00	3.50	2.80	2.80	3.15-3.30	2.80-2.90
Burkina Faso	Valencia	3.50-4.50	4.00-4.50	3.20-4.50	3.00-3.50	3.40-4.25	3.00-3.60
Burkina Faso	Kent	4.50-5.50	4.50-5.50	3.50-5.00	3.00-3.80	3.85-4.95	4.00-4.50
Mali	Amélie	-	-	-	3.20	3.20	2.85-2.95
Mali	Valencia	-	-	3.00-4.00	3.50	3.25-3.75	3.00-3.75
Mali	Kent	-	-	5.00	3.50-4.00	4.25-4.50	3.80-4.00
Côte d'Ivoire	Kent	-	-	5.00-5.50	4.00-4.50	4.50-5.00	4.80-5.50
Sea-freight (euro/box)							
Brazil	T. Atkins	-	-	7.00-8.00	7.00-8.00	7.00-8.00	-
Brazil	Keitt	7.00-8.00	7.00-8.00	8.00	8.00	7.50-8.00	-
Brazil	Palmer	7.00-8.00	7.00-8.00	8.00-9.00	8.00-9.00	7.50-8.50	-
Peru	Kent	7.00-8.50	7.00-8.50	8.00-9.00	8.00-9.00	7.50-8.75	6.00-8.50
Côte d'Ivoire	Amélie	6.00	6.00	6.00-8.00	-	6.00-6.65	-
Côte d'Ivoire	Kent	-	-	-	7.00-8.00	7.00-8.00	7.00-9.00

Temperate fruits & vegetables

Charentais Melon – Areas – Forecasts

in hectares	Medfel 2017	Medfel 2016
Dakhla	250	250 - 260
Agadir/Taroudant	50-80	100 - 150
Marrakech/Kenitra	1 250	1 000 - 1 100
Total Morocco	**1 550-1 580**	**1 350 - 1 510**
Almeria	300	290 - 300
Malaga/Murcia	4 300	3 300 - 3 500
Total Spain	**4 700**	**3 590 - 3 800**
South-East	5 700	5 500
South-West	3 500	3 500
Centre-West	4 500	4 700
Total France	**13 700**	**13 700**

Source: Medfel

■ **Mediterranean melon: surface areas still increasing.** The forecasts unveiled in late April at Medfel confirmed the estimates for the Mediterranean. They confirmed the stability of surface areas in Dakhla, a decline in Agadir/Taroudant and an increase in covered surface areas in Marrakech. Surface areas are at most stable in Almeria for green Charentais, though the momentum is holding up in Malaga/Murcia with crops that could arrive fairly late in the season. In this zone, the production peak is expected from 20-25 May, for a campaign which could extend until August. In France, the first unheated high tunnels in the South-East could start around mid-May, and the semi-forcing tunnels from 25 May. Planting is reportedly up slightly in this zone, with production extending over July-August. Surface areas are set to be stable in the South-West region, and down slightly in the Centre-West.

Source: Medfel

■ **2017 frost: a diminished potential, especially for pip fruits.** The frosts which hit Europe in late April and early May caused major production losses in well-defined zones (often at altitude), for non-irrigated orchards and for varieties still in flower. Other less exposed zones saw just varying degrees of thinning. Hence the biggest losses are for the apple, because of temperatures which dropped to -6/-7°C and in view of flowering being a fortnight ahead of schedule due to the warm weather. High-altitude zones were the hardest hit, with Trentino-Alto Adige in Northern Italy, the Alps, Haute-Savoie and Savoie in France, Switzerland, Austria or Southern Germany, and the shores of Lake Constance affected. There was also major damage in Limburg in Belgium, where orchards are not irrigated (50 to 75 % of the zone's production), as well as in Rhineland in Germany on the border with the Netherlands. Losses appear to be smaller and more localised in the latter country, where orchards are often irrigated. There was also damage in the United Kingdom, primarily in Kent (apples). Losses were said to be small in Poland in April, since flowering had barely started, though the cold snap in early May caused major damage, more than 50 % losses according to some. Pears which were at a more advanced stage for small fruits, were also reportedly hit, with extensive physiological droppage expected in Limburg in Belgium. France's ANPP was already announcing a production fall for the 2017-18 campaign of around - 15 to - 20 % from normal across all of its apple and pear members. These figures will be refined in mid-June, once the physiological droppage has advanced sufficiently. Kiwi production was also seriously hit in Italy causing major damage in Piedmont, Lazio, Veneto and to a lesser degree Emilia-Romagna. There should be big grape losses in France, especially on the hills, and to a lesser degree in Spain in the Valencia zone.

Source: ANPP

■ **A warm and wet summer.** The weather forecasts published in early May by the experts at Météo Consult confirmed the initial report, namely a warm and rather wet summer. The low pressure anomaly over the Iberian Peninsula expected for June seems to be in place, and should leave the anticyclone to take position over Northern Europe, resulting in storms from Spain to France (+ 20 % more precipitation, while thermometers could read 0.6°C above average for the season), with warm and dry weather in Northern Europe (+ 2°C). The return of high pressures to France in July should generate drier weather than in June, though probably with storms and temperatures 0.5 to 1.5°C above average for the season. In Scandinavia, they could be 2°C above average. Uncertainty remains over August, with high pressures over Northern Europe and precipitation in the form of rain or storms. Temperatures should be around average for the season, or slightly above-average (+ 0.5°C).

Source: Infofruit

Sea freight

April/May 2017

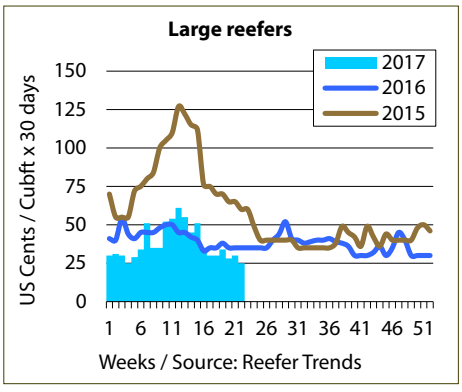
Gone are the days when **April** represented the second half of the charter market peak season. The emphasis instead is on positioning or scheduling vessels away from Chile into New Zealand, South Africa, Argentina or lay-up, as seamlessly as possible. What limited spot activity there was took place in the Pacific, where FCC covered itself for the New Zealand-to-Asia kiwifruit and squash programmes, and Del Monte and Sumifru added tonnage to ship more bananas into the Middle East. At 55c/cbft, the TCE return averaged approximately 20c/cbft more than for any transatlantic business. While activity was flat for the large segment, there has been a step change in the market dynamic for small units: this is partly the result of more vessels being utilized for squid in the S. Atlantic this year and partly because there has been a significant improvement in the ability to do business into Nigeria, the major market for fish. Nigeria has absorbed heavier volumes and from further afield, tieing up tonnage for longer. Reefer operators have also benefitted from a change in strategy by the container lines, which have hiked rates but strangely appear to lack reefer equipment. Also on the positive side, the specialized reefer will continue to benefit from the low oil price in the short to medium term. OPEC no longer holds a critical mass of the global oil trade to have much influence on pricing and its members appear too divided to implement a coherent strategy. Russia and the US have their own agendas – and as long as the global economy underperforms and the geo-political environment remains fundamentally unstable, oil will stay cheap!

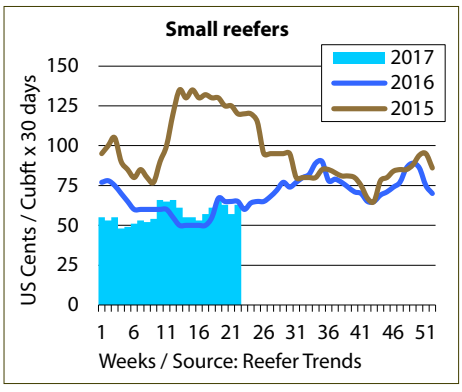
In **May** the combination of a high exit price in Ecuador and a banana market in the eastern Med unsettled by poor quality arrivals curbed any temptation the traders might have had to load fruit additional to contracted volumes, despite the onset of Ramadan when there is typically greater demand for bananas. For the large segment, this absence of spot banana cargoes makes it difficult to calculate a market representative TCE monthly average. The highlights of the month included one sinking, some limited lay-up and some demolition, but not on the scale envisaged at the end of last year once it became clear that several longstanding specialized reefer services were being containerized, thus dumping capacity onto a market that was already over-tonnaged. Is this therefore a vote of confidence in the mode? T the results-to-date and end-of-year yields are not, and will not be great, but the reefer has certainly held on to more market share than it might have expected. With oil prices set to remain low in the short-to-medium term, combined with a tightening in the supply of reefer equipment and the carriers apparently making more of an effort to raise rates, the reefer certainly remains a viable alternative for cargo interests. The easing of trading conditions into Nigeria if compared to last year has had a beneficial impact on the market for the small segment. Despite the 35%-plus increase in bunker prices year-on-year, TCE returns are similar and fewer vessels were in lay-up at the beginning of this June. While the market could not be described as buoyant, supply and demand were in closer proximity and less way time was incurred on a voyage-by-voyage comparison. The mode won some significant Egypt to Black Sea potato business from Russian retailer Magnit and continued to benefit from greater interest and longer voyages from the Faroe Islands into West Africa. Despite concerns over the quality and volume of the Navel orange crop in the Eastern Cape, the South African citrus season started strongly with good demand from the EU and the US. With the Californian Navel crop lower than forecast and finishing earlier than anticipated, and the Valencia crop also projected to be light, it looks as if it might be a good year for S. Hemisphere citrus shippers. Separately, the South African citrus industry and reefer operators had been hoping that China would have approved the specialized mode prior to the start of the season. Although this did not happen, there is talk of a single, trial shipment in a reefer towards the end of the season, which if successful will lead to a heavier shipping programme in 2018. Finally, Cool Carriers maintained its hold on Argentina's Lemon Alliance Med programme. While the rate increase over last year may not be spectacular in relation to the even greater increase in bunker costs, the big news is surely that the operator has managed to grab some cargo from the container lines, which would ordinarily carry fruit destined for Italy.

EUROPE

MONTHLY SPOT AVERAGE

USD cents/cubic foot x 30 days	Large reefers	Small reefers
April 2017	42	53
April 2016	39	51
April 2015	79	126
May 2017	29	57
May 2016	36	62
May 2015	63	122



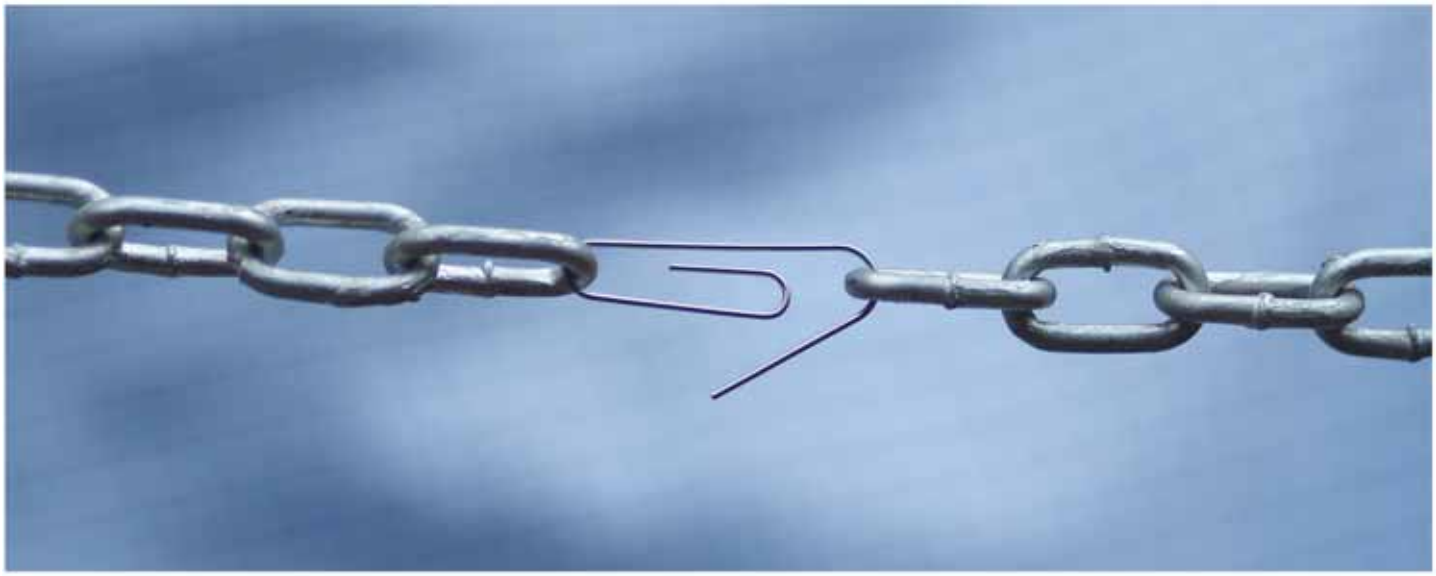


European stone fruits

Initial info on the 2017 harvest

Forecasts for the European stone fruits harvest were unveiled at the Medfel show held in Perpignan from 24 to 27 April, and at the one-day event of 18 May organised in Montpellier. They confirm the very good potential expected throughout Europe, given the very good flowering that the April frosts could not undermine. Apricot production is set for an excellent level, with a total that should be around 572 000 t (+ 17 % on 2016 and 13 % above the 3-year average), in spite of Spain's minor downturn for Bulida. Similarly, the peach and nectarine supply should be abundant, with 3.06 million tonnes (+ 11 % on 2016 and 7 % above the 3-year average). This applies particularly to Pavie (827 000 t, i.e. + 30 % on 2016 and 17 % above the 5-year average) due to production continuing to grow in Spain and Greek production bouncing back. Production should be around average in France and Italy.

Information... your weak link?



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

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

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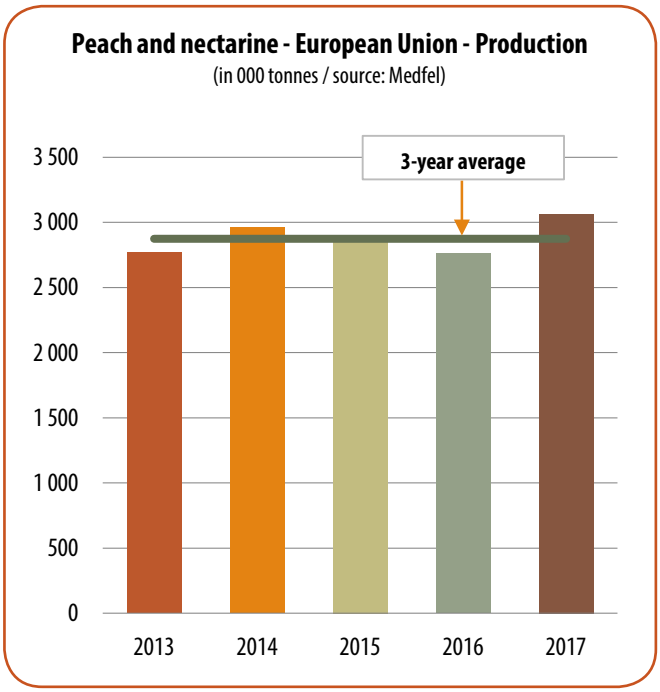

Peach and nectarine

Good production despite the frosts

Little info was issued at the Medfel conference on the European peaches and nectarines harvest, with Europech Member Countries deciding to defer official publication of the figures until 18 May in view of the uncertainties. Ultimately, it seems that little changed, with April's frosts having only a limited impact on stone fruits, unlike pip fruits. Hence an above-normal production level is expected in Spain (9 % above the 3-year average), despite some frosts (including in late April), which had only localised impacts on production. The harvest will be slightly smaller in high-altitude zones which were more exposed. Murcia, Valencia and Lerida are set for a very fine harvest nonetheless. Flat peach production should increase again this year (+ 12 % on 2016). We are also expecting a 10 % increase for Spanish Pavie. Conversely, Spanish operators are still concerned at the Russian embargo which is overloading the European market, causing difficulties for producers in Catalonia and Aragon in particular. Production is for now set to be normal in Italy (+ 5 % on 2016 and 2 % below the three-year average), although it was slightly affected in places by the recent frosts (Venice and Piedmont). France is reckoning on a normal harvest (+ 4 % on 2016 and 2 % below the 3-year average) in every region, and particularly in Rhône-Alpes (+ 8 %), thereby returning to the 3-year average. Greek production should see a strong level, with both the peach and nectarine bouncing back (+ 49 % on 2016 and + 43 % on the 3-year average), as well as Pavie (+ 57 % on 2016).

Peach and nectarine – EU-28 – Evolution of production for main producer countries

in tonnes	2017	2017 compared to	
		2016	Last 3 years average
Spain	1 208 471	+ 9 %	+ 9 %
Italy	1 258 080	+ 5 %	- 2 %
France	209 284	+ 4 %	- 2 %
Greece	390 000	+ 49 %	+ 43 %
Total	**3 065 835**	**+ 11 %**	**+ 7 %**

Source: Medfel / Processed by Infofruit

© Guy Bréhinier

Apricot

A fine harvest taking shape

After a shortfall in 2016, this year should bring a good apricot harvest. Indeed, Greece, Italy and France, after being hit last year by a number of climate vagaries (frost, hail, etc.), are back to optimum production levels, with respectively + 41 %, + 20 % and + 39 % on 2016. Only Spain will register a production shortfall (- 17 %) since although young orchards are entering production, they will not offset the losses suffered, especially in the Murcia zone at the beginning of the year when the Bulida variety in particular seems to have been hit. There will also seemingly be a production fall in the Castilla-La Mancha zone. Losses were reported in Southern Italy due to the frosts, though they will have little impact on the overall potential. Similarly, in France, losses are expected in the Baronnies zone and certain hills in the Rhône Valley ■

Cécilia Céleyrette, consultant
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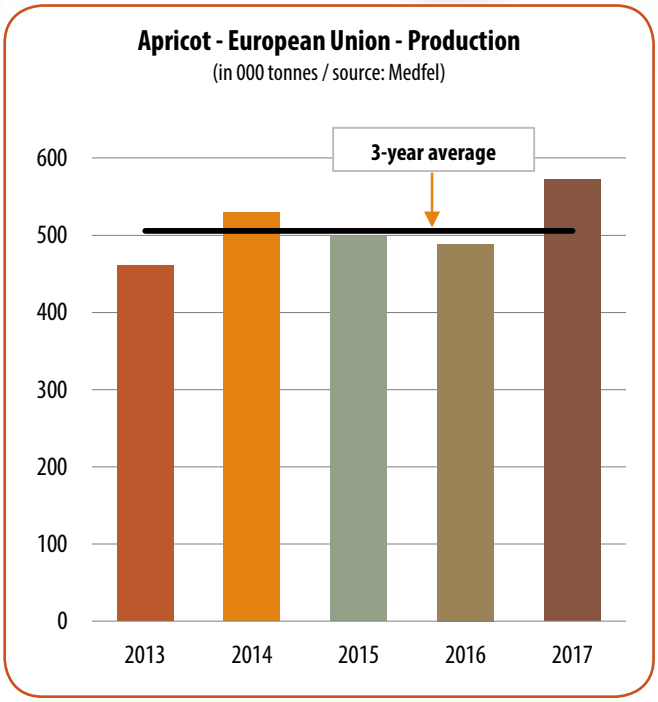
Apricot – EU-28 – Evolution of production for main producer countries

in tonnes	2017	2017 compared to	
		2016	Last 3 years average
Italy	241 736	+ 20 %	+ 18 %
France	151 297	+ 39 %	+ 3 %
Spain	102 571	- 17 %	- 5 %
Greece	77 000	+ 41 %	+ 67 %
Total	**572 604**	**+ 17 %**	**+ 13 %**

Source: Medfel / Processed by Infofruit

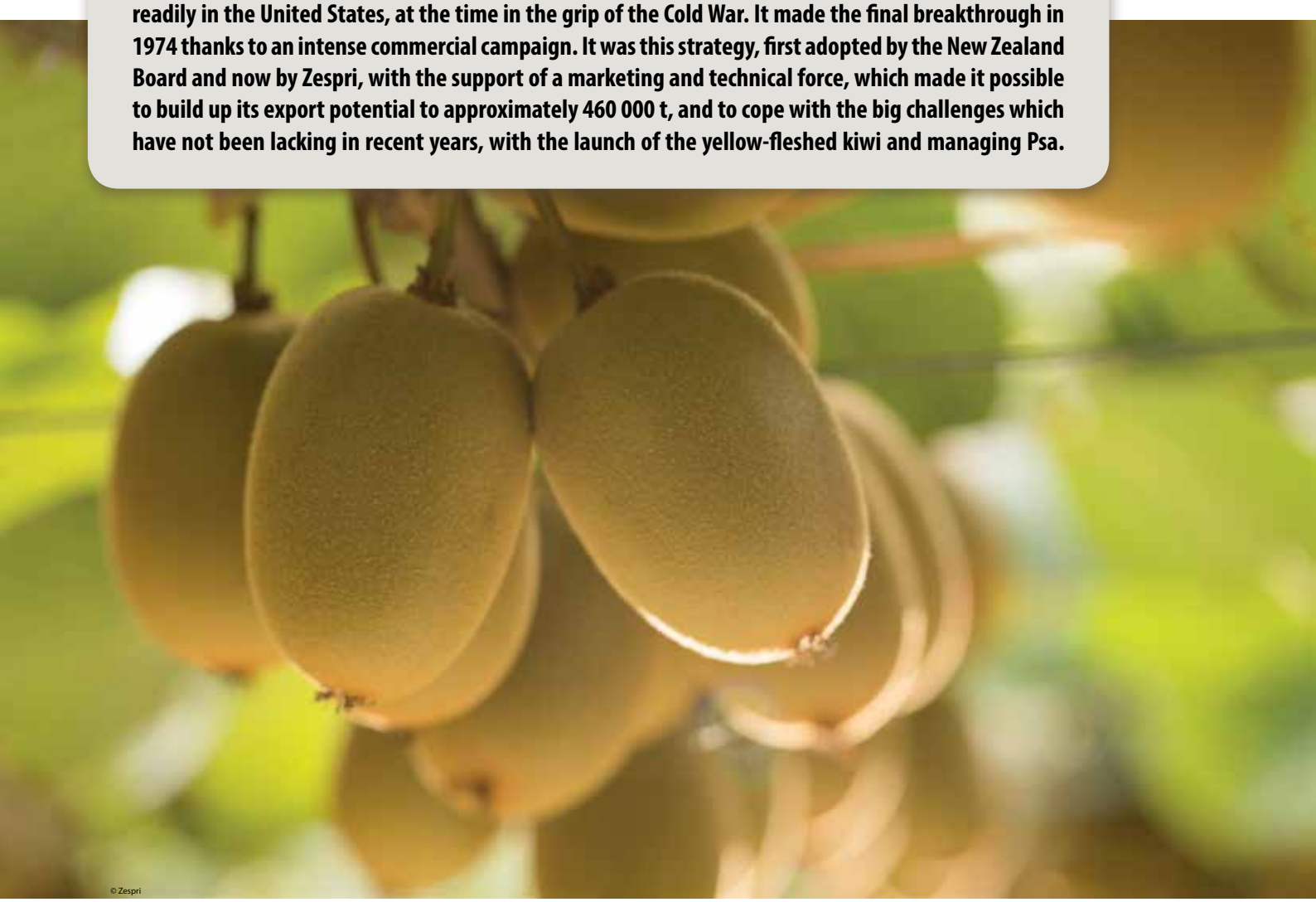


Producer country file

The kiwi in New Zealand

by Cécilia Céleyrette

The kiwi is a major crop in New Zealand. Over 2 500 producers make their living from this fruit, primarily aimed at the export sector. This country has been a driving force in the development of the kiwi since the mid-20th Century. Originating from China, the first *Actinidia chinensis* (or Chinese gooseberry) were described in around 1750 by a French Jesuit (P. Le Chéron d'Incarville). Cultivated in New Zealand from 1904 in domestic gardens, and then for commercial purposes from 1940, this fruit took off from the 1950s when New Zealand producers opted to rename it the kiwi (*Actinidia deliciosa*), after the bird of the same name - an icon of the country - by analogy with its hairy skin. This name would help it sell more readily in the United States, at the time in the grip of the Cold War. It made the final breakthrough in 1974 thanks to an intense commercial campaign. It was this strategy, first adopted by the New Zealand Board and now by Zespri, with the support of a marketing and technical force, which made it possible to build up its export potential to approximately 460 000 t, and to cope with the big challenges which have not been lacking in recent years, with the launch of the yellow-fleshed kiwi and managing Psa.



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Kiwi – New Zealand

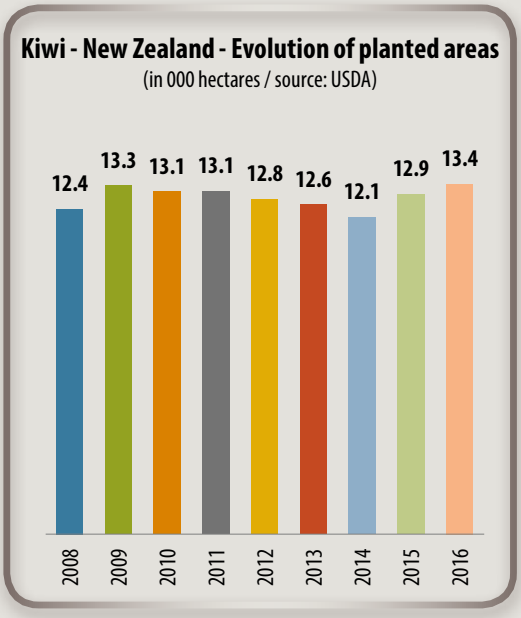
Location

Kiwi production is spread right across New Zealand, but by volume it is primarily concentrated on North Island, with the Bay of Plenty accounting for 79 % of production around Te Puke, Katikati, Tauranga and Opotiki. The plantations are often smallholdings. Growing this fruit in New Zealand requires a certain technical level, since while the sediments of the Bay of Plenty are very suitable, the vines must be fertilised in spring. In addition, these crops must be irrigated in summer because of low precipitation on the East Coast, and must also be protected from the strong winds to which New Zealand is regularly subjected.

Kiwi – New Zealand

Production

Kiwi production in New Zealand has made dazzling progress. Surface areas went from 400 ha in 1970 to a peak of 17 500 ha in just twenty years, according to FAO figures. The cultivation area then dropped back to 12 000 ha in the early 2000s, reaching its lowest level in 2004 (less than 11 000 ha). Innovation once again boosted New Zealand's production with the advent of yellow-fleshed varieties, especially Gold Hort 16A, marketed by Zespri under the brand name Zespri Gold, the result of numerous years of research begun in 1987 by the scientists at HortResearch. It was first commercially planted in 2003. Kiwi growing then took off again, quickly extending to 13 000 ha in 2009. Nonetheless, this momentum was stopped dead in 2010 with the infestation of the stock with Psa (*Pseudomonas syringae* pv. *Actinidiae*), identified from the 1980s in Asia and in the 1990s in Italy. Some of the Hort 16A kiwi stock was uprooted, though the rest was grafted onto a new variety, Gold3, known by the brand name Zespri Sungold, less sensitive to Psa than Hort 16A. So surface areas fell again until 2014, but have taken an upturn since 2015 with some fine prospects. Gold3 surface areas were already 2 500 ha in 2014 and 3 500 ha in 2015, which with the Hort 16 grafts, already totalled 4 800 ha and should increase at a rate of approximately 400 ha/year until 2019. Half of new plantations should now be allocated to green variety grafts.

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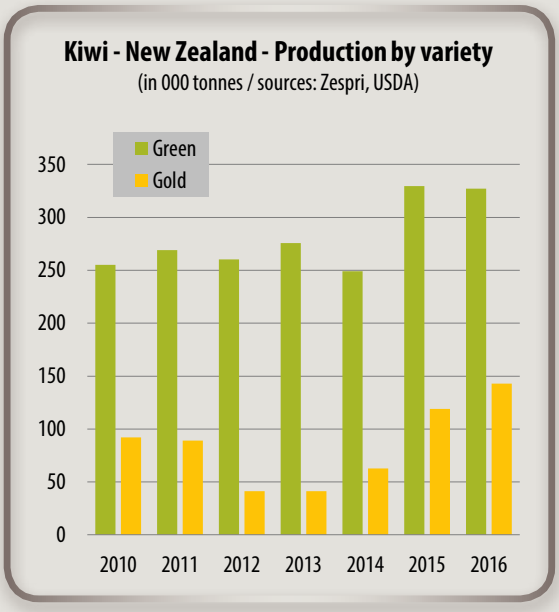
Kiwi – New Zealand

Varieties

New Zealand's industry has always been a driving force in terms of varietal selection. Research has already managed to select varieties producing large-sized fruits (more than 100 grams), whereas the wild fruits (*Actinidia chinensis*) weigh just 20 grams. The Hayward variety appeared in the 1960s, and was improved until the 1980s. The New Zealand supply is still very much dominated by the green varieties, primarily Hayward (approximately 70 %), which is middlingly sensitive to to Psa. However, although yield levels were slashed in the first years of the epidemic, which spread slowly across the country, now affecting 90 % of orchards, they were very good in 2015 and 2016 thanks to the measures taken, but could fall in 2017 because of climate conditions. Yellow kiwi production, once suspended due to the high sensitivity of the Hort16A variety to Psa, resumed its rise with the more resistant Gold 3. The vines are now reaching full maturity, with 70 % of orchards in their third year or older. The other varieties are much more anecdotal: production of Gold 9 amounted to only 5 000 t, and Green 14 production to just over 3 000 t. Note that there are commercial trials in progress for red-fleshed varieties. The harvest in New Zealand begins in April. The first fruits generally reach Europe in early May/mid-May for a marketing campaign which currently extends to December, depending on the potential.



Kiwi – New Zealand – Marketing calendar

	J	F	M	A	M	J	J	A	S	O	N	D
Green												
Gold												

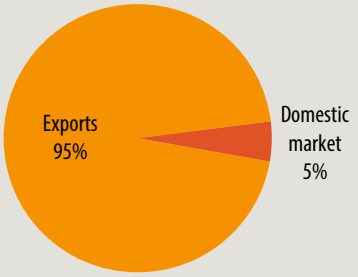
Source: Zespri

Kiwi – New Zealand

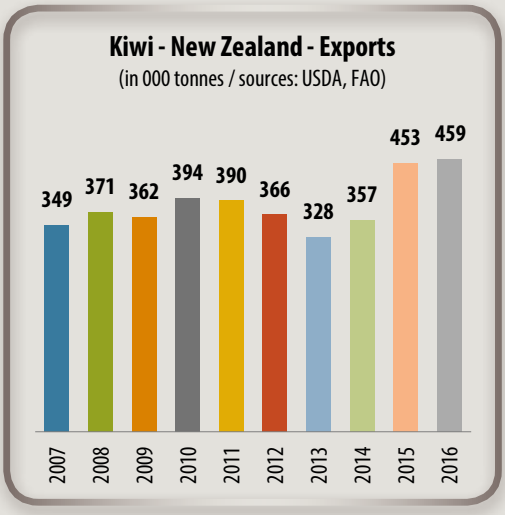
Outlets

The majority of New Zealand's production is of course exported, with just 5 % of tonnages aimed at the domestic market.

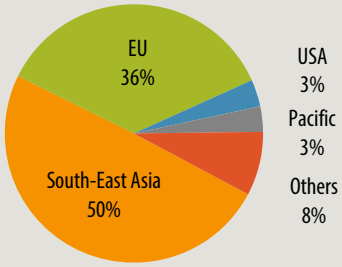
Kiwi - New Zealand - Outlets
(source: USDA)



Kiwi - New Zealand - Exports
(in 000 tonnes / sources: USDA, FAO)



Kiwi - New Zealand - Exports by destination in 2015 (sources: IKO, USDA, HEA)



Exports

Exports have bounced back considerably in the past two years in line with the production tempo set, with Sungold proving a big hit on the Asian markets and in Europe, not to mention the big Zespri marketing campaigns which should be renewed in 2017 to celebrate the brand's twenty-year anniversary. The Sungold kiwi is now exported to 56 destinations worldwide. There has been marked development in South-East Asia, where exports across all varieties exceeded 230 000 t (as opposed to 145 000 t in 2010), with a big increase to China, South Korea and Japan. Shipments also picked up to Europe, with more than 180 000 t imported in total by the EU-28 in 2016 (+ 12 % on 2015 and 27 % above the 3-year average).

Logistics

In total, just under 70 refrigerated ships and 10 500 containers cross the oceans every year to provide the logistics for the New Zealand kiwi. Thirty or so ships are earmarked for Europe, with the first generally arriving toward mid-May, and then on average every ten days until 30 October. Twenty or so ships supply Northern Europe and France via Zeebrugge, while the other ten enter via the port of Tarragona in Spain and Vado in Italy for the South European markets. Zespri works in close collaboration with its service provider Belgian New Fruit Wharf N.V., which manages both the unloading of ships for Northern Europe and the quayside packing station. This can handle up to 850 t of fruits per day, and has a storage capacity of up to 20 000 pallets in the season, enabling it to pack the produce in line with the orders.

Kiwi – New Zealand – Sea freight

Markets	Principales lignes		Transit time
	Port of departure	Port of arrival	
Northern Europe	Tauranga	Zeebrugge	30 days
Southern Europe	Tauranga	Vado	
	Tauranga	Tarragona	

Source: Zespri

European pineapple market

Pineapple vs. pineapple: the sole issue

The sea-freight pineapple has long since lost its qualitative nobility in favour of dazzling development of quantities traded. We can either resign ourselves and look on anxiously at the shiploads out of Costa Rica; or we can try to counteract this loss of nobility by segmenting the market through working on the quality or developing a fresh-cut based supply.

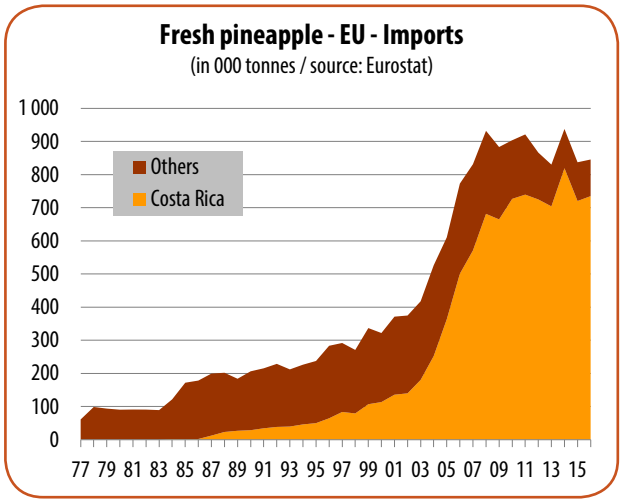
"Desperate case" or "textbook case" - there is no lack of characterisations for the European sea-freight pineapple market. The first option definitely has a little too much finality. The pineapple market will always be a market where volume prevails over quality – this battle is long lost. Advocates of this option, definitely the grouchy sort, observe that the sole value level regulator for imports, and therefore production, is the supply level. Non-price competitiveness has little place in a market operating like this. The weather or producer bankruptcies set the supply level, to which the prices adjust. In a way, it is a perfectly "neoliberal-compatible" market. The supply/demand curve adjusts to the price.

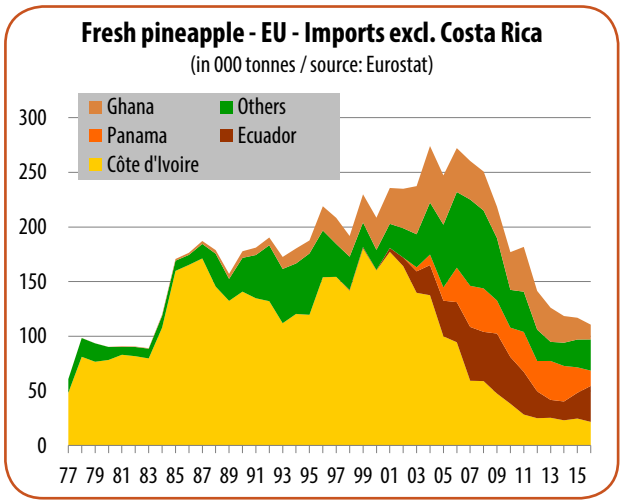
The European figures confirm this hypothesis. In 2014 this market reached breaking point. At the time, the EU imported nearly 940 000 t of pineapples, i.e. a leap of 300 000 t in just a decade. So on the face of it, everything was going well. On the flip side, it was an economic catastrophe! The import price dropped below 7 euros per box, i.e. the lowest point ever reached (by annual average). Serial bankruptcy in Costa Rica, due to piteous economic returns, triggered a fall in supply which from the first months of 2015 resulted in a highly dynamic bounceback in import prices. The 2015 average gained 2 euros per box to reach 9 euros, a level which was fully confirmed in 2016. Consequently, the equilibrium point between a depressed market and a value-creating market appears to be situated below 850 000 tonnes. True, this analysis is limited to comparing annual price and volume results. Things get more complex if we look at this market weekly or monthly. The volatility varies, but in every case depends on the market supply tempo by Costa Rica. This was again the case over the first four months of 2017.

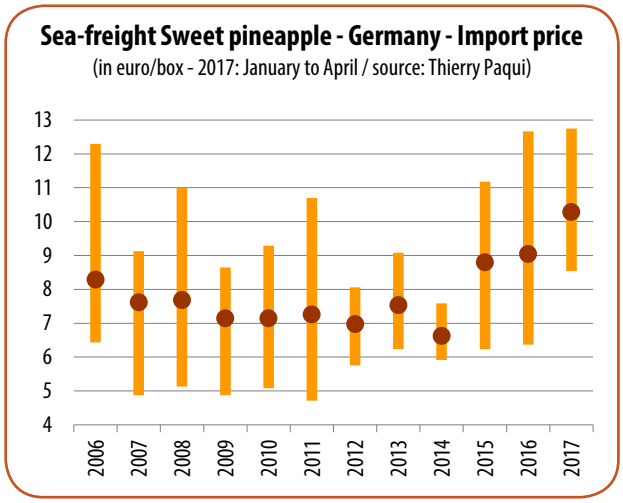
During Q1 2017, Costa Rica cut sail by approximately 10 000 t, compared to the same period in 2016, enough for prices to maintain levels comparable to those of the same period of 2015 or 2016. Unfortunately, this was not down to better management of volumes upstream, but rather the undesirable and uncontrollable effects of bad weather in 2016, due to the dreaded El Niño phenomenon. The upshot was alternating droughts and intense rains at the end of the year, which prevented natural flowering and therefore led to a reduction in shipments from Q1.

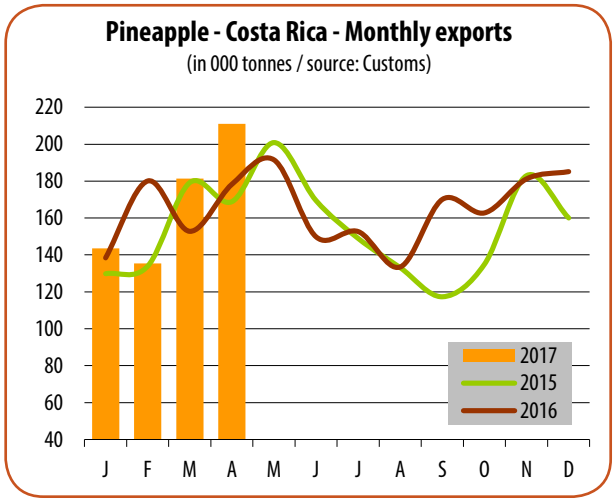
The supply took an upturn in April, though without weighing down on prices, due to a positive demand trend throughout Europe: an auspicious period in terms of demand for tropical fruits (Easter promotions), under-supply in March, very low pressure from competing fruits, cold temperatures, etc. From May, the supply was bigger with prices on a downward trend - QED. Volume and price are invariably in unison for the better, but more often for the worse. Yet invariably need not necessarily mean inexorably.

There is nothing inevitable in this market becoming a mere agricultural commodity. It has a completely different potential. The pineapple enjoys a host of intrinsic values: it is widely known to the public, but retains a highly exotic character,









it has an original set of assets (colour, eyes, crown), its renowned nutritional qualities, etc. So why make it a basic product, even to the point of removing its crown? The destiny of the pineapple is not to be reduced to the plebeian ranks of the potato or banana. On this point I would like to hesitate with the characterisation proposed at the beginning of the article: "textbook case". The same textbook tells us that on a mass market, the supply must be segmented to get ahead. That is what certain operators are doing. The pineapple volumes concerned are still limited, though they are generating enthusiasm since this is the only way out of the poor house for the pineapple.

One of the pineapple's lifelines lies between the fresh and processed sectors. Indeed the ready-to-eat processed pineapple, which has a rather short shelf life (pre-prepared fresh products, fresh-cut, etc.) is gaining space on the shelves. Things are developing rapidly, and many operators are getting into this niche with differentiated strategies: from processing factories on the import markets to cutting fresh fruits in-store. This is along the same lines as orange juice machines, located in transit points but also in the fruits & vegetables section itself. Yet creation of additional added value primarily, or even exclusively, concerns the downstream segment of the industry. Fresh fruit is imported for processing. The quality criteria for this kind of fruit are different to, and on certain points, more permissive than the fresh segment. So this is doubtless very good for consumption in general, though not really revolutionary for the upstream part of the industries.

Another lifeline, this time more conventional, is also being explored or rather rediscovered. What do marketing law texts tell us? Segment to improve your gain. And to segment, you first need to ensure the quality and therefore reassure customers. One way of doing so - for sure not the only way - is to control its supply, i.e. the agricultural and logistical practices upstream of importing. Quality, the watchword par excellence often a little too handy to be honest, can also be a vehicle of real added value, with no green, social or quality washing. Compliance with a degrees brix, a brix/acidity ratio, a coloration (internal more than external), the absence of physiological faults or storage diseases, commitments to good agricultural practices respecting people and their environment, local speciality, etc. Lots of things can be done, and are currently being tried. In the same vein, the customer need to be retaught (consumers and supermarket sector purchasers) that the external coloration of a fruit does not truly indicate its intrinsic quality. So there is a long road, since every time you need to deconstruct the myths of the beliefs anchored for more than twenty years in the customs of the sector and consumers. The distribution sector must also be receptive to these efforts, and support the operators which want to do things differently ■

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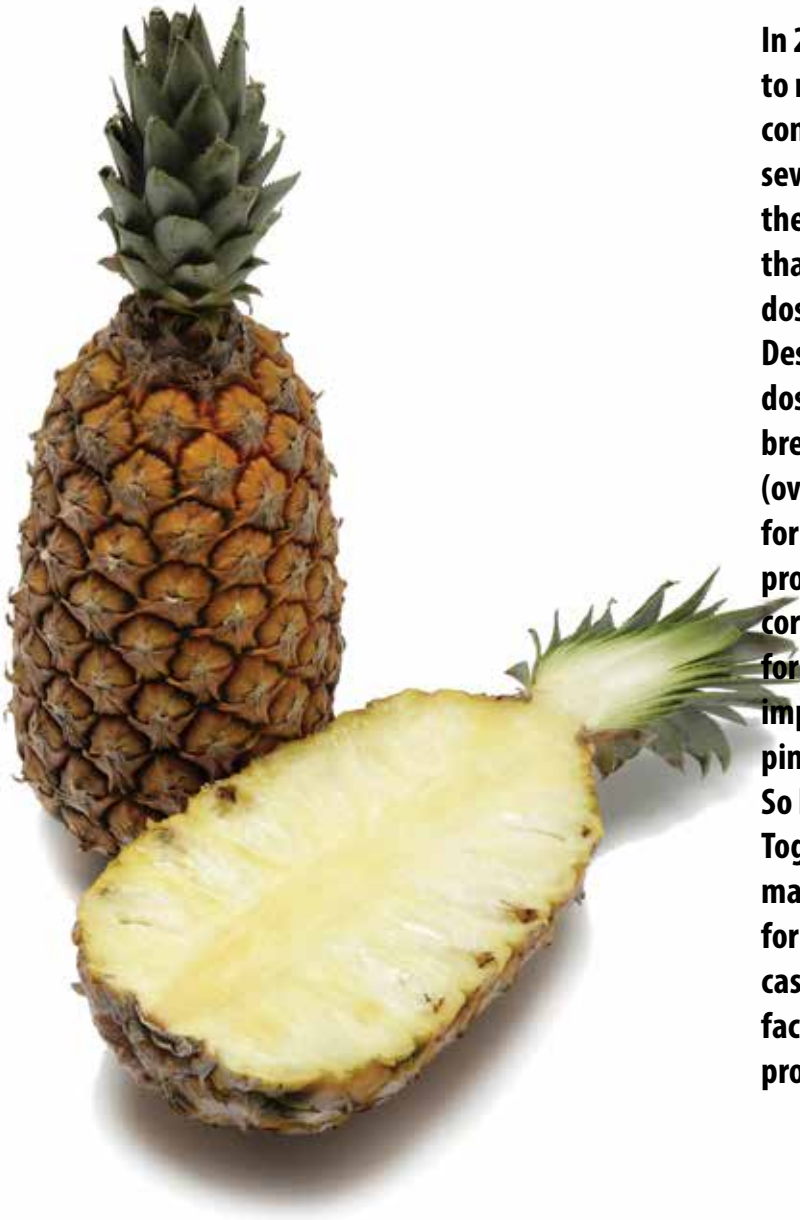
Air-freight pineapple

Sugarloaf – a case of double standards?



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In 2015, Sugarloafs enabled Benin to ramp up its pineapple exports considerably. Unfortunately, in 2016 several interceptions made in France by the fraud prevention services showed that these fruits contained ethephon doses well above the authorised level. Despite several attempts to adjust the doses to comply with the regulations, breaches of MRL remained excessive (over 2 mg/kg). Admittedly, unlike for Cayenne or Sweet, no technical procedure able to dose ethephon correctly has yet been developed for Sugarloaf. Hence it is practically impossible to produce coloured pineapples complying with the MRLs. So how come coloured Sugarloafs from Togo or Ghana can be found on the market despite several interceptions for exceeding the MRL (Togo)? Is it a case of double standards? The very fact of asking the question may well provide the answer.

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for a healthier future

In 2016, on the back of the Sugarloaf inspections, the DGCCRF also began to look at Cayenne and Sweet batches from across all the origins. The results were satisfactory overall, although some more cases of breaching the ethephon MRL were found in Cayenne from Benin.

The Beninese producers' inability to produce coloured Sugarloafs compliant with the ethephon MRL is understandable, insofar as there is no specific technical procedure for this fruit. The Beninese industry has had to take decisions. Some have been beneficial out of necessity, while others have been more surprising.

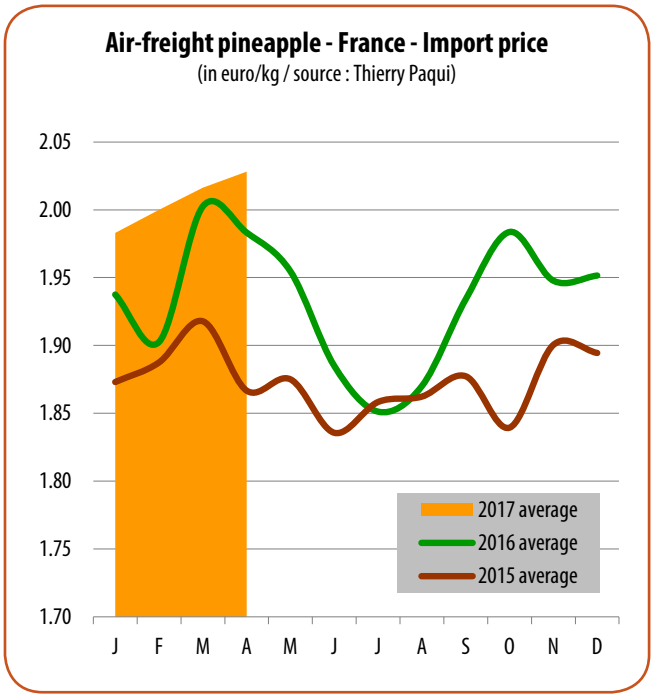
Among the necessary measures, we can mention the cessation of applying ethephon on

Sugarloafs, which has had the consequence of exports of green fruits, their natural coloration. The main importers have put in a great deal of work to explain to consumers that the green colour has in no way altered the fruit's taste quality. Meanwhile, it also helped Beninese producers to tidy up their structure, which had not previously been the case.

Unfortunately, we cannot help but observe that since then sales have constantly declined. Certain importers claim that they are currently able to offload less than 40 % of the volumes previously imported. In addition, the presence of a coloured Sugarloaf supply from Togo and Ghana complicates the sale of these green fruits, and completely blurs the message that the producers and importers are trying to convey. While the green batches are struggling to find takers at between 1.90 and 2.00 euros/kg, the coloured batches from Togo and Ghana are selling easily at between 2.30 and 2.50 euros/kg!

Since December 2016, while the operators were getting ready to launch their air-freight pineapple campaign in earnest, the Beninese authorities have decided to suspend exports of all coloured pineapples. As laudable as this decision may be, it remains incomprehensible in more than one respect. First of all, there is a technical procedure specific to Cayenne which makes it possible to have coloured fruits without breaching the ethephon MRL. Why prevent their exports? In addition, certain exporters commissioned inspections by their importers and complied with the maximum authorised limits. Why penalise them in the same way as those failing to comply with these MRLs? Thus this decision led to a redefinition of the air-freight market supply.

Benin, which was one of the key players in the Cayenne supply along with Cameroon, Côte d'Ivoire and Ghana, has disappeared. Its market share has been divided between the origins that were its competitors.




© Régis Domergue

In the absence of the Beninese Cayenne, the air-freight market was less heavily laden, and sales were more fluid overall. Indeed, volumes on the market found takers fairly easily, although some quality concerns could be observed at times here and there (on certain Cameroonian batches especially).

Since the beginning of the year, Côte d'Ivoire seems to be the origin that has best taken advantage of the absence of Benin to strengthen its position with specialised dealewrs.

The Ghanaian supply, which is at the top of the table in price terms, remains very limited in volume. Only a few operators will work with this origin, given the high transport costs.

We might have believed that the disappearance of one of the players would create a shortage, and indeed a spectacular increase in rates, but this was not the case. Prices of fruits from origins competing against Benin have strengthened, and purchasers have gradually got out of the habit of procuring from this origin. We have also seen the development of a highly coloured top-up Sweet supply from Cuba, Panama and the Dominican Republic, which although still limited, is selling on a stable footing of between 2.40 and 2.70 euros/kg!

By opting for the easy solution to prevent any MRL breaches on Cayenne exports, the Beninese authorities may, unwittingly, have led their export pineapple sector offside ■

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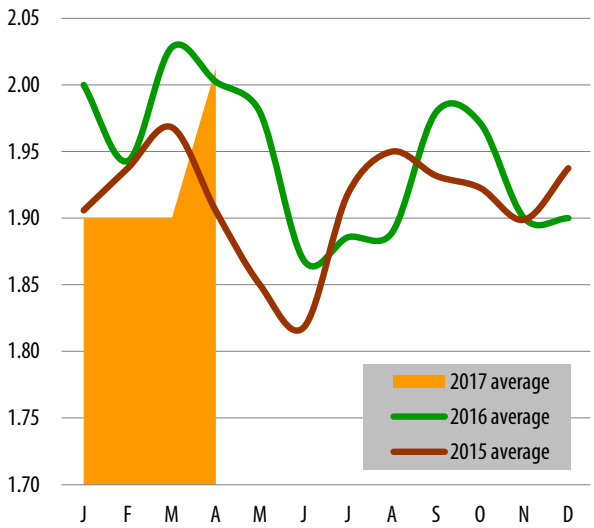
Air-freight Sugarloaf pineapple - France - Import price
(in euro/kg / source: Thierry Paqui)



Sea-freight pineapple

Highs and lows


© Agnès Delefortrie

For two years, the pineapple market has continued to offer up exceptional periods. The exception relates above all to the fairly high prices obtained at certain times of year, but also the duration of these periods. However, it is difficult to really celebrate, since these exceptional moments are haphazard and have little to do with operators' choices or strategic decisions. Indeed there are very few operators which have cut back their Sweet supply with a view to restoring substantial and stable price levels, in both the short and long term. So the market remains subject to climate vagaries or logistical concerns which have once more shown that the European market has the resources to provide good value for a mass product like the pineapple, whose fate had long been thought set in stone.

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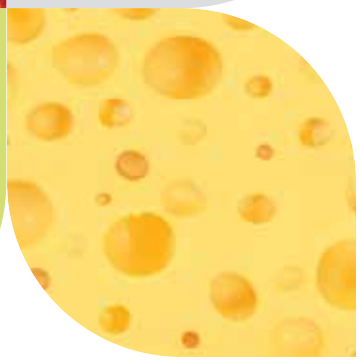

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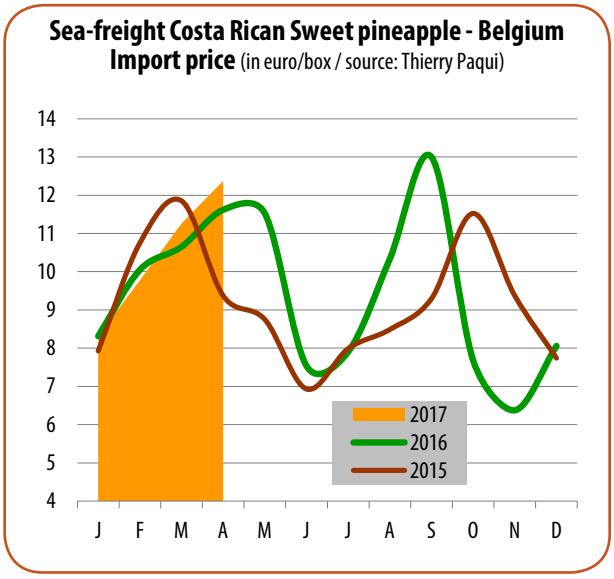
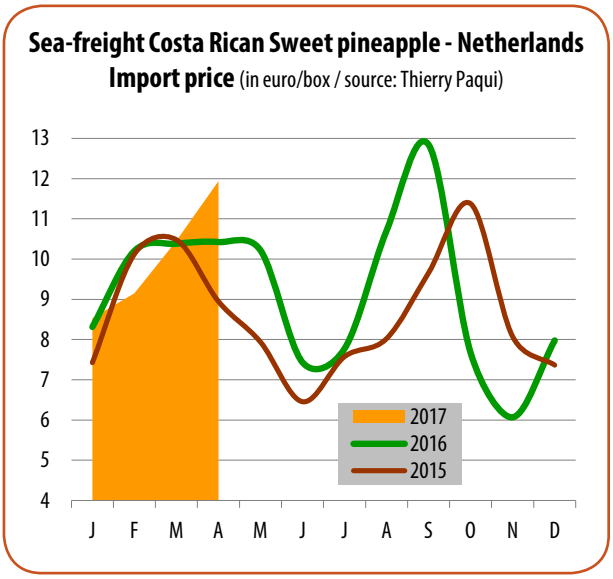
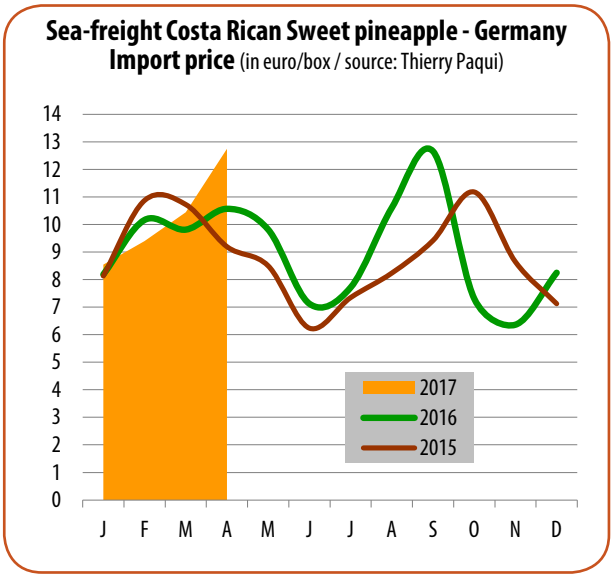
Over the decade following the introduction of Sweet to the market by Del Monte in 1996, this fruit supplanted its great rival Cayenne. More regular and better suited to consumer expectations, Sweet initially sold at distinctly higher prices than Cayenne. Thereafter, prices gradually fell, stabilising as volumes imported by the European market grew. In 2004, European imports broke the 500 000-t mark, and in 2014 they reached well above the 900 000-t mark.

The proliferation of origins and brands of Sweet over the past decade has contributed to a slump in prices, which have overall seen levels of between 6.00 and 8.00 euros/box depending on the size, outside of periods of crisis or the rare bright spots.

In 2015, the fall in Sweet exports to Europe (837 000 t), especially from Costa Rica which had suffered from bad weather, resulted in average rates strengthening. They were between 7.00 and 9.00 euros/box during the 2014-15 campaign, and between 8.00 and 11.00 euros/box in 2015-16, with peaks of 13.00 euros/box. The rates currently observed show that these thresholds have risen further, with average prices per box reaching and even exceeding the 12-euro mark for several weeks, with occasional peaks of 16 euros!







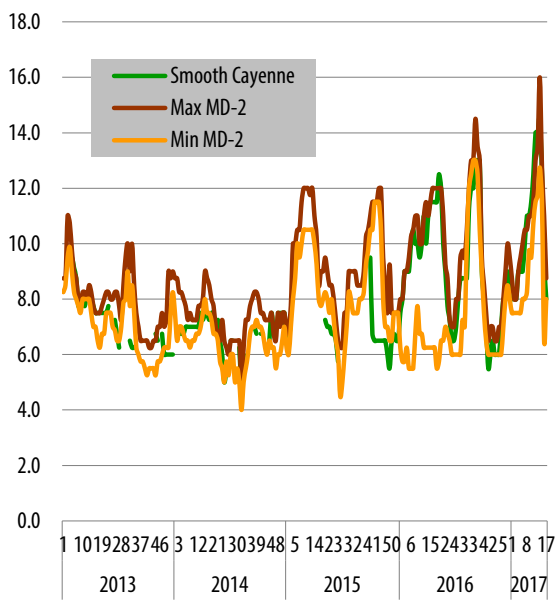
However, as comforting as these figures may be, they cannot conceal some concerns. From October to December 2016 (weeks 40 to 52), the pineapple market was quiet. True, this is often a complicated period. Hence over the past two campaigns, pineapple sales for the end-of-year holidays have been fairly laborious. However, the flatness of the market was most marked in late 2016, and several batches were available at post-sale prices. The Costa Rican supply continued its rise, while the market was not interested in the fruit. While Hurricane Otto spared the origin's production zones, the floods it caused prevented several ships from loading their cargo. So the market received less fruit for ten or so days before Christmas, enabling it to absorb the outstanding batches. Demand, without being high, was invigorated and helped prevent a steeper fall in rates, which saw levels of between 6.00 and 8.00 euros/box (outside of post-sale prices).

At the beginning of the year, the heavy rains in Costa Rica limited its export capacities. Demand, although quiet, nonetheless outstripped the supply, and the market followed a positive trend until late February (week 8), with high though reasonable average rates of between 8.00 and 11.00 euros/box.

In late February, the operators received confirmation that the overall Sweet supply would be well below demand, at least until Easter. On top of the lack of availability, there were various shipping delays which heightened the impression of under-supply in certain weeks. We might also mention the juice and canning industries, which contributed to limiting fruit availability for the export market. At this point prices soared on the European market, giving rise to speculative sales before Easter (week 15). Average rates were between 10 and 14 euros/box, with sales sometimes at distinctly higher prices (18 euros/box).


© Agnès Delahaye

Sea-freight pineapple - European Union - Import price
(in euro/box per week / source: Thierry Paqui)



Before Easter, the fall in the overall supply enabled the established brands to charge high rates over a fairly long period. Yet as we were already saying, these brands had undertaken a structured supply cutback approach in order to strengthen their prices. A host of small brands also took advantage of the paucity of the overall supply, and sold at prices never previously reached.

The shipping delays in week 15 caused the market to swell after Easter, at a time when demand was shrinking. A fairly marked phase of falling rates then began, which intensified with the increase in Costa Rican volumes. In late April, the Costa Rican supply was set to be bigger over the coming weeks because of the natural flowering phenomenon.

We cannot help but observe that pineapple demand often exhibits flat spots. The operators probably need to refocus on quality of supply and cutting back volumes, to be able to charge high prices over long periods, as the big brands already do ■

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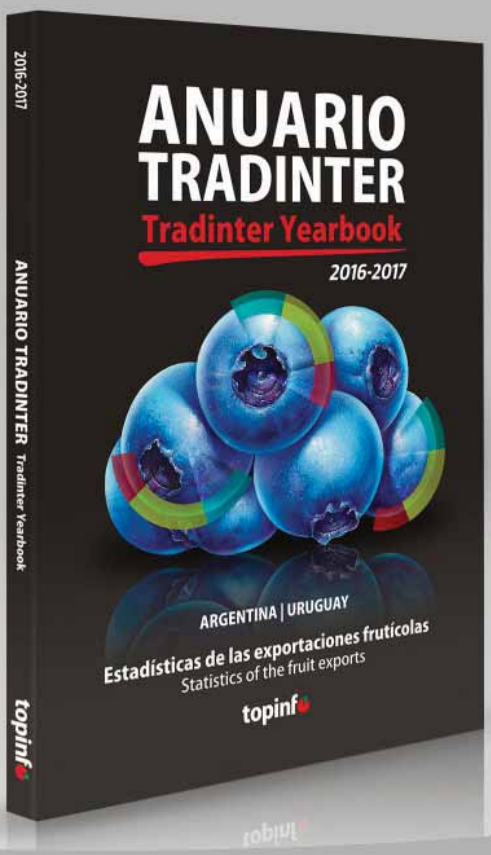
Summer citruses – 2017 forecast

A season of market tension in Europe, with one exception

Yes, the citruses market too can show vitality! While world trade is exhibiting some listlessness in most of the big citrus families during the winter season, the summer market is clearly progressing. FruiTrop offers this review of the main trends on this market, as well a detailed forecast for each product.


© Carolina Dawson



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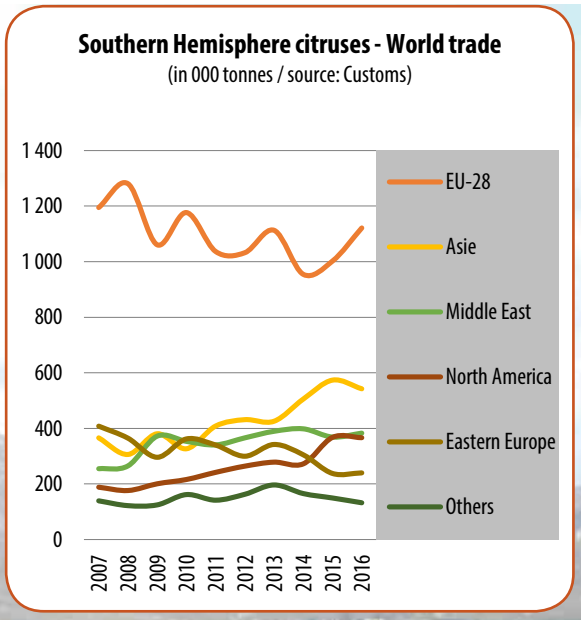
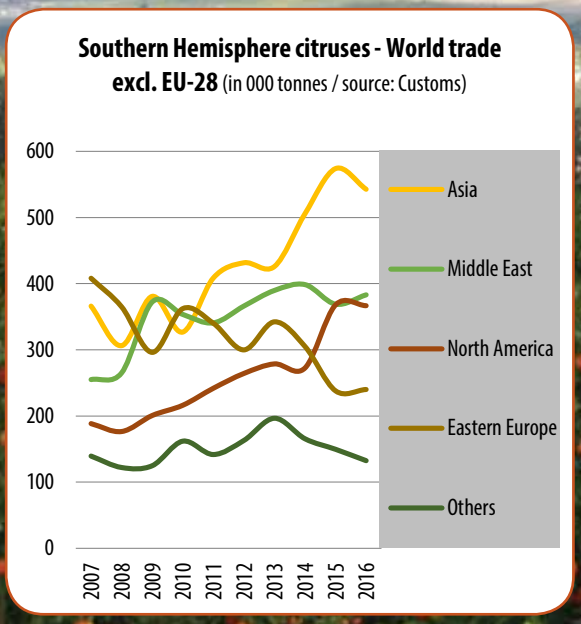
With 2.8 million tonnes going to market, citrus volumes from the Southern Hemisphere remain modest, representing barely more than 20 % of total world trade (excluding locally marketed produce). However, the market has seen strong growth, expanding by approximately 200 000 t between 2011 and 2016.

Asia and North America the driving forces of growth

While there is a rise overall, it is far from across the board. The Community market, which remains the number one outlet for counter-season citruses, taking in just over 50 % of volumes, is clearly falling. Imports, nearly 1.3 million tonnes in 2008, fell below the one-million tonnes mark in 2015. As for many products, the summer citruses trade has become globalised. The recovery registered in 2016 in the EU was purely cyclical, and due to the big shortfall in Spanish production in 2015-16. Mediterranean producers have been able to develop a late range competing directly with Southern Hemisphere citruses. Some of this produce will continue to come to the fore in the coming years. This is the case in particular for the lemon and easy peelers, with the orange cultivation area no longer expanding and near maturity in Spain, which controls 50 to 55 % of the Community citrus market. Growth is now to be found on two big markets. Asia is without any doubt the one exhibiting the clearest progress, with imports more than doubling since 2010. This phenomenon should be credited mainly to China, which on its own is responsible for nearly all of the rise. North America too is highly dynamic, though for a product range practically reduced to easy peelers only. The other main world markets are stable (Middle East) or in decline e.g. Eastern Europe, primarily due to the Russian monetary crisis and the political crisis in Ukraine.






© Eric Imbert

Big peach and nectarine harvests in Europe in 2017

The context is mixed on the Community market for the campaign getting underway. Competition from winter citruses is set to be rather limited for most products, except for the lemon. Conversely, the stone fruit campaigns are set to be abundant, despite the heavy frost which has hit certain production zones. The European peach and nectarine harvest is distinctly above average, especially due to the bumper production in Italy and above all Greece. Similarly, apricot production is abundant, with the Spanish shortfall offset by Italy and Greece in this case too. Production is considerably ahead of the normal schedule for both these products ■

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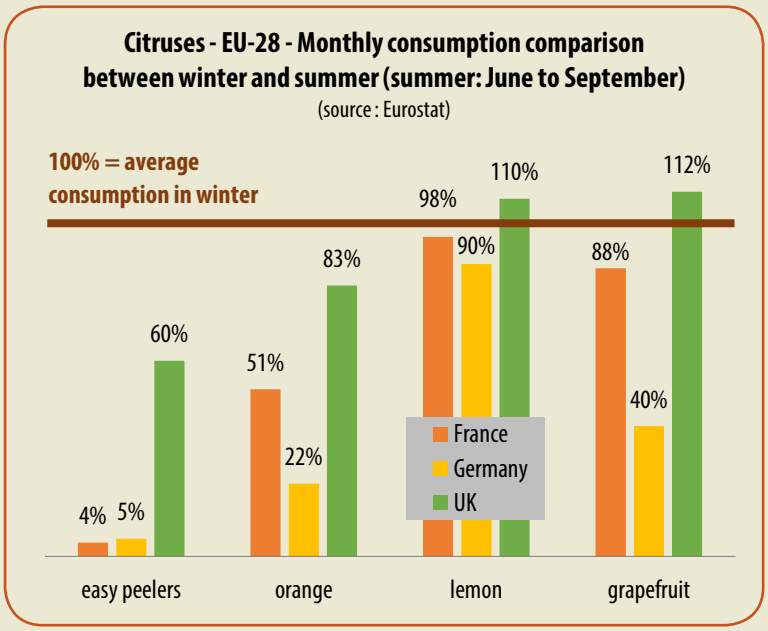
Stone fruits – European Union
2017 production forecast

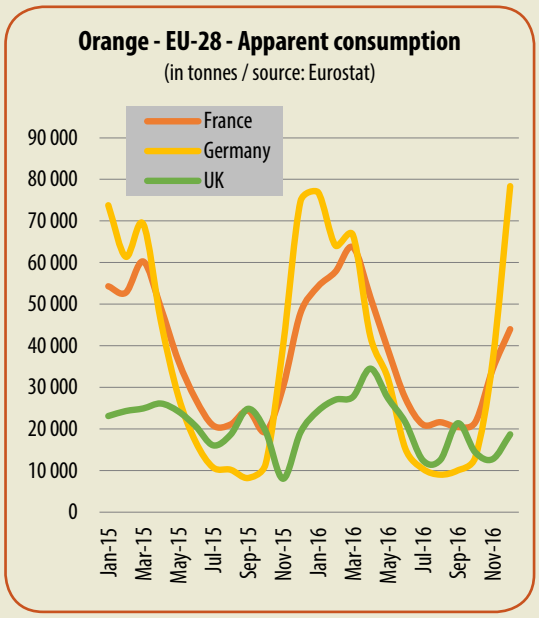
in 000 tonnes	2017	2017 compared to	
		2016	3-year average
Peach	1 276	+ 15 %	+ 3 %
Nectarine	1 476	+ 8 %	- 1 %
Apricot	0.57	+ 17 %	+ 13 %

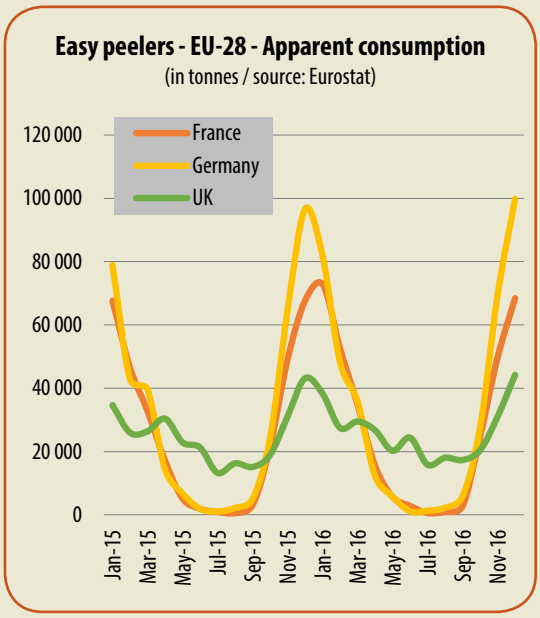
Source: Europêch

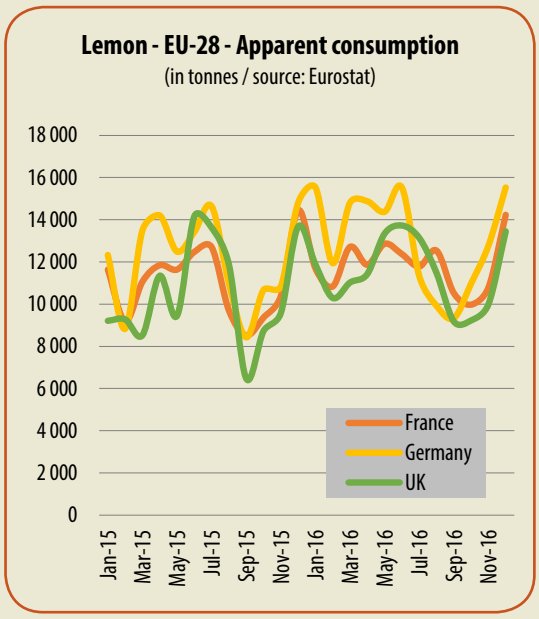
Summer citruses consumption in the EU-28:
very different scenarios, reflecting highly contrasting distribution models!

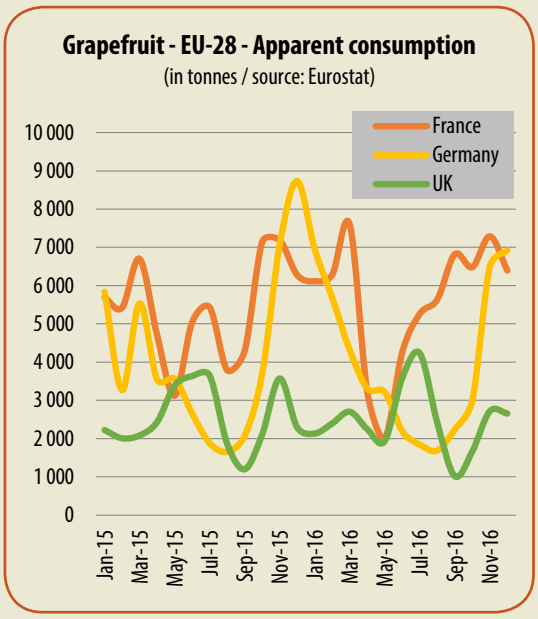
Citruses remain winter products on the Community market. Volumes on the market during the trading period of Southern Hemisphere produce, which lasts approximately five months, represent less than 20 % of total annual trade. The lemon is the sole exception, with the share of volumes traded by the Southern Hemisphere climbing to 33 % of total quantities on the market annually, while the increasingly significant left-over Mediterranean production remains on the market during the summer period. Furthermore, the apparent consumption figures for this product show that the monthly volumes taken in during the summer season are similar to the winter season on our three reference markets: France, Germany and the United Kingdom. Which is nothing astonishing, as this condiment citrus lends itself well to summer uses: fruit juices, salad seasoning, accompanying grilled fish, etc. For the rest of the range, seasonality is highly marked as a general rule, with one notable exception. Citrus sales appear to be very even in the United Kingdom, with the long-term contract system established between the distribution sector and its suppliers probably generating a smoothing effect. Summer consumption represents for all the products from 38 % to just over 50 % of a relatively low annual consumption; however, the orange, lemon and grapefruit lie within a narrower range of 45 to 53 %. Conversely, Germany seems to be the most seasonal market in light of these figures. Besides the lemon, counter-season citrus consumption is low (just 5 to 30 % of total consumption), with the annual marketing peaks corresponding to the period when the Mediterranean harvest is at its height and production stage prices are most attractive. This is probably the result of the omnipresent discounters seeking out the best purchasing opportunities. France finds itself in between the two aforementioned markets, with the citruses shelf melting away in the heatwave in favour of stone fruits; though it remains securely established, except for clementines and other hybrids. Furthermore, the ridiculous space reserved for easy peelers on all Europe's markets is questionable: just 4 to 5 % of annual consumption during the summer period in Germany and France. The Southern Hemisphere supply is increasingly high-quality (in particular the late slot), while mandarins and other hybrids remain handy for consumption, and furthermore are refreshing. The supermarket sector seems to be starting to take a slightly closer interest in the subject.











Orange

Nice and less nice surprises

2017 will probably be a season of high prices. The overall supply is set for only an average level, while the European market is astonishingly open and consumption growth on the North American and above all Asian markets should continue.

The South African behemoth, which now controls more than three-quarters of the world market, is registering only an average production level, lower than expected. This is down to Navel, whose export potential should be considerably below average (- 10 to - 15 % according to the CGA estimates from early May). A wave of unprecedented physiological fruit droppage has hit the Eastern Cape, which packs in approximately 40 % of production, with some of the fruits also exhibiting skin defects. This phenomenon, probably due to the drought and high temperatures which have ravaged the south of the country, has also affected, though to a lesser degree, the Western Cape, which is home to a quarter of production. Conversely, the export potential for Valencia type oranges, produced mainly in the north of the country spared these climate vagaries, should return to average.

Australia, which despite its high production costs is managing to maintain its place as the world number two exporter by concentrating its flows to the developing markets in Asia, is set for a high potential similar to 2016. The four main South American players now represent barely 15 % of world exports. Argentina should continue its plunge into the depths, with unfavourable weather in the Entre Rios region on top of the country's structural problems of competitiveness. The export potentials for Uruguay, Chile and Peru are reportedly stable, and 10 to 15 % above average.

The Community market, which remains the main outlet for Southern Hemisphere oranges although it now absorbs just over one third of volumes, appears to be very open. Which is surprising, going against the initial harvest forecast and the structural trend of Spanish production. The Spanish campaign for late and super-late table oranges such as Lanelate wound down as early as in 2016, with production proving more limited than forecast due to climate disruptions in the winter and a fairly early start to the campaign. Furthermore, Asia, whose market share has climbed to 25 % in recent years, should continue to surge. This phenomenon is, due largely to the consumption boom in China, whose orange imports from the Southern Hemisphere have tripled in ten years, to in excess of 200 000 t. Similarly, the growth trend in the United States and Canada should continue, especially with the lean Californian harvest (1.9 million tonnes, i.e. approximately 130 000 t below average).

Orange – European Union – Imports from Southern Hemisphere

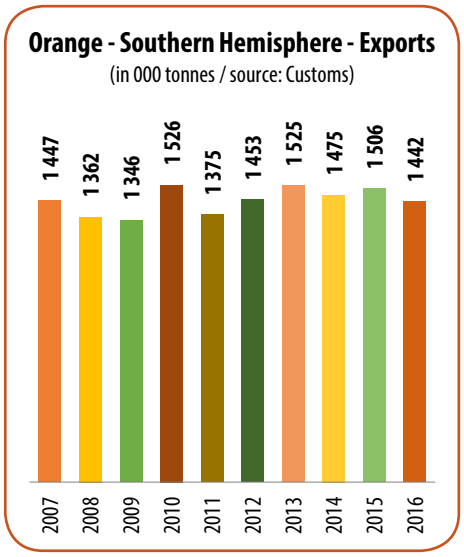
in tonnes	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
South Africa	260 034	341 031	296 973	448 674	453 956	333 211	416 018	338 664	396 015	433 637	380 210	428 472	403 441
Argentina	79 584	75 607	81 906	114 628	96 350	81 413	86 702	80 720	47 971	49 653	44 737	36 607	49 128
Zimbabwe	16 215	30 153	13 342	25 488	16 582	13 517	23 705	11 645	19 257	28 903	31 918	27 642	28 000
Uruguay	51 825	75 145	64 930	72 261	57 700	59 293	71 279	57 610	36 012	50 268	48 413	34 508	27 779
Brazil	50 414	20 459	47 937	34 066	26 091	16 217	33 903	26 872	13 276	21 248	18 690	21 192	23 261
Peru	81	166	454	5 921	12 361	2 678	6 192	9 892	7 254	10 565	8 672	6 315	10 232
Swaziland	13 645	10 375	13 654	19 274	14 878	12 983	9 566	11 879	12 005	9 801	2 494	6 526	5 070
Chile	4 019	4 426	10 105	9 006	21 385	8 609	6 899	4 716	5 730	2 208	1 557	800	547
Australia	1 113	4 315	1 041	5 250	1 730	1 640	1 045	243	553	487	318	188	179
Total	**476 929**	**561 676**	**530 340**	**734 565**	**701 032**	**529 560**	**655 309**	**542 240**	**538 071**	**606 770**	**537 007**	**562 251**	**547 636**

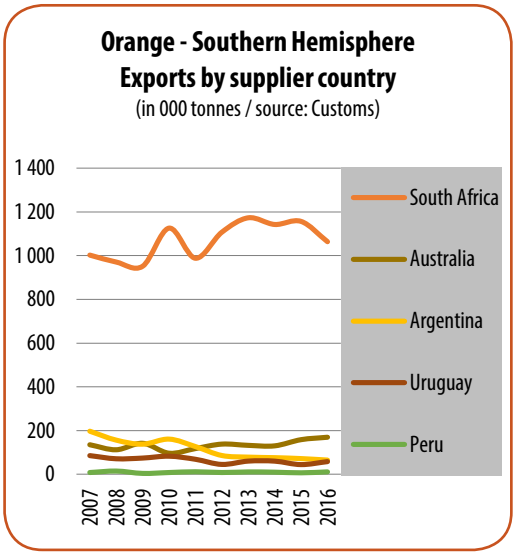
Source: Eurostat

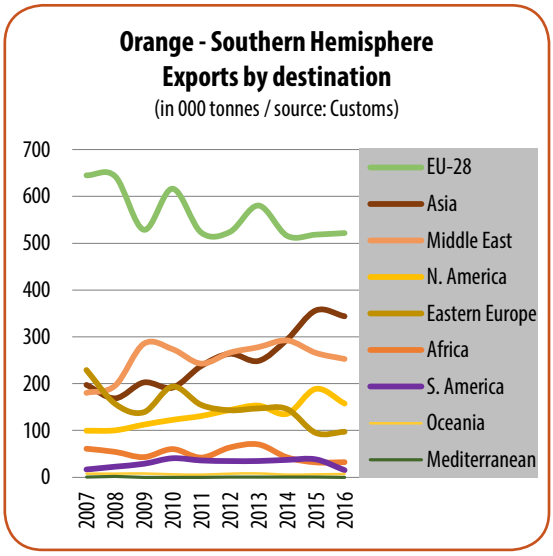
Orange – Southern Hemisphere – Export forecast

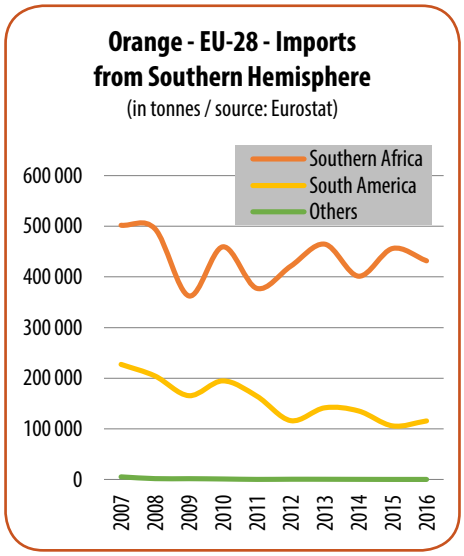
in tonnes	2017	compared to	
		2016	2013-2016 average
South Africa	1 100 000	+ 3 %	+ 3 %
Argentina	45 000	- 31 %	+ 61 %
Peru	1 000	- 91 %	+ 836 %
Uruguay	60 000	+ 4 %	- 7 %
Australia	165 000	- 3 %	- 11 %
Chile	75 000	0 %	- 9 %
World	**1 446 000**	**0 %**	**+ 3 %**

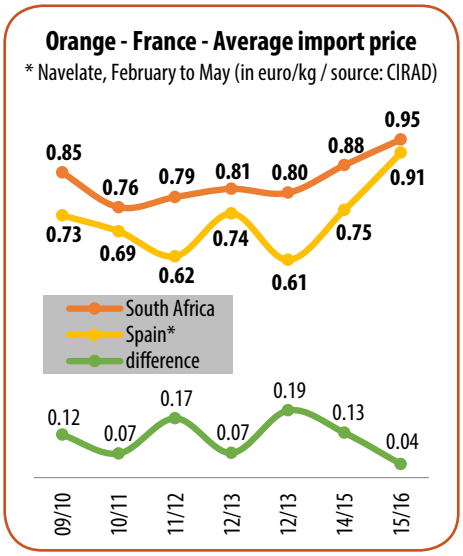
Professional sources, Shaffe, CGA







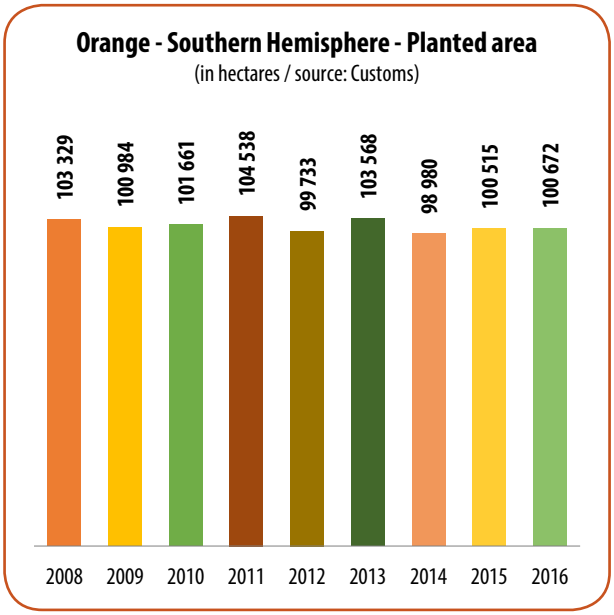


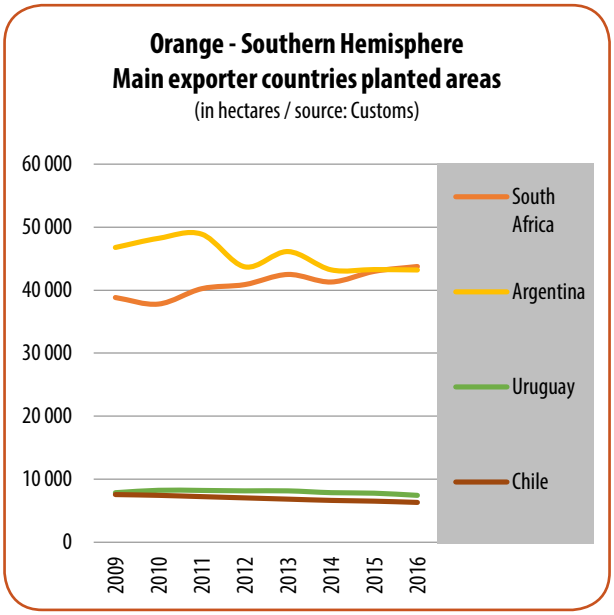


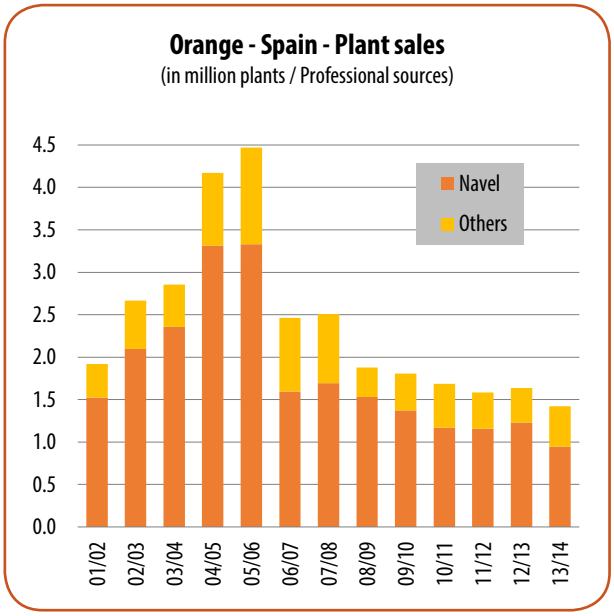
Orange

Medium-term forecasts

We should not overestimate the prospects for the development of world trade. The two growth markets this season, namely Asia and North America, are alone in exhibiting a steady development dynamic. They alone have risen by on average 30 000 t per year over the past five years (20 000 t for Asia and 10 000 t for North America). The fine openness of the Community market observed since 2016 is in no way structural. The imports trend should remain rather in decline. Indeed the late and super-late cultivation area has practically stabilised in Spain since the beginning of the decade, though production of young trees has not reached full maturity. Imports from the Middle East seem to have stabilised, and Eastern Europe is fluctuating between stability and decline, depending on the value of the rouble. The growth vectors of Africa and South America are still hypothetical. Nonetheless, the world cultivation area seems to have gotten the measure of these limited prospects. Only the South African cultivation area is currently growing (+ 700 ha per year on average for the past five years, primarily in Valencia). It is shrinking or has shrunk for all South American exporters. Nearly 6 000 ha were lost during the same period in Argentina, which has seemingly been following a stabilisation trend for the past two years. Uruguay and Chile have seen their surface areas contract by 800 to 900 ha.







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Late Navel oranges – Mediterranean Basin – Harvest calendar

Varieties	D	J	F	M	A	M	J
Washington Navel							
Lane Late							
Rhode Summer Navel							
Barnfield							
Powell Summer navel							
Chislett Summer Navel							

Professional sources

Valencian Community
(50-55 % of Spanish orange production)
2014-2016 estimate

- **Washington Navel: 130 000 to 150 000 t**
- **Lanelate and Navelate: 450 000 to 550 000 t**
- **Powel/Chislett/Barnfield/Rhode: 75 000 to 100 000 t**

Easy peelers

All well... for the moment

Unsurprisingly given the overall expansion in surface areas, the Southern Hemisphere easy peelers supply will continue to expand in 2017. Nonetheless, the expected increase in volumes is relatively moderate, and within the reach of the very open world market, especially the European and the US markets. Conversely, the forthcoming campaigns are set to be more heavily supplied.

All the supplier countries, except for Argentina, have registered rising or at least stable export potentials. Volumes from South Africa, the origin which controls more than one third of the world market, are reportedly up by 8 % to reach the 200 000-t mark for the first time. This increase should of course be credited primarily to the late varieties, whose export potential has doubled in four years. Peru, which in just a few years has become the world number two exporter, also has a rising potential (+ 8 %). Chile is not to be outdone, with its volumes available for the world market exceeding 100 000 t for the first time, and practically doubling in the space of four years. Australia and Uruguay, more modest suppliers with exports of around 40 000 to 50 000 t, have registered stable potentials. Only Argentina, which was still head-and-head with South Africa at the beginning of the decade among the world's top exporters, will continue its plunge into the depths for both cyclical (weather) and structural reasons.

Meanwhile, the context seems more promising. As the bulk of the increase in the counter-season supply is in the late slot, interference with Californian or Mediterranean production remains limited. However, the boom in the late easy peelers cultivation area is just as spectacular in the Mediterranean (see **FruiTrop** 246).

Easy peelers – European Union – Imports from Southern Hemisphere

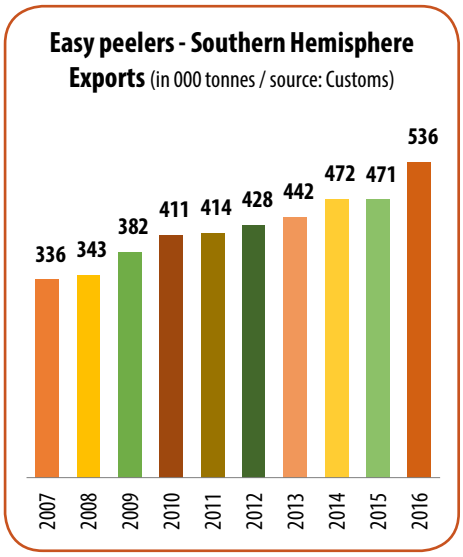
in tonnes	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
South Africa	53 378	52 683	54 790	68 412	70 389	65 261	65 100	57 755	70 030	80 939	85 306	94 938	115 396
Peru	16 611	24 924	25 728	18 469	30 981	23 414	33 200	41 925	48 536	44 139	48 733	47 125	47 840
Uruguay	23 548	33 519	36 336	34 359	31 046	33 948	37 200	24 160	19 431	15 421	17 028	10 061	5 954
Argentina	33 023	26 403	39 271	33 022	36 243	47 020	39 800	32 130	24 025	15 818	11 998	4 068	3 915
Chile	10 925	6 770	7 618	6 950	4 886	2 249	1 400	1 560	1 314	1 012	1 481	3 318	2 869
Australia	756	456	710	652	926	2 214	500	220	463	1 903	665	1 918	821
Brazil	2 584	3 288	2 059	93	441	378	200	102	310	112	336	269	-
Total	**142 647**	**148 776**	**167 143**	**162 971**	**175 929**	**175 157**	**177 400**	**157 853**	**164 109**	**159 344**	**165 547**	**161 696**	**176 795**

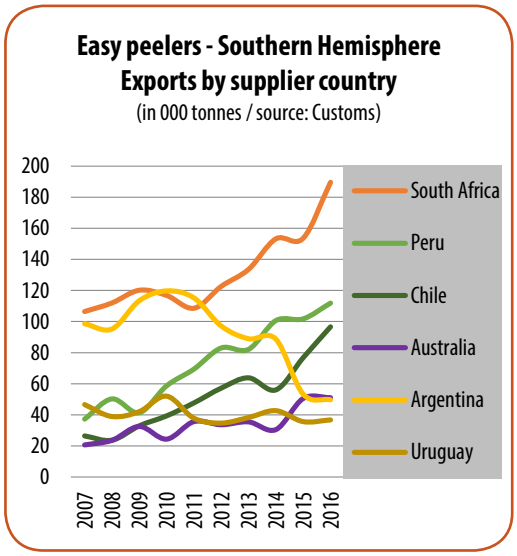
Source: Eurostat

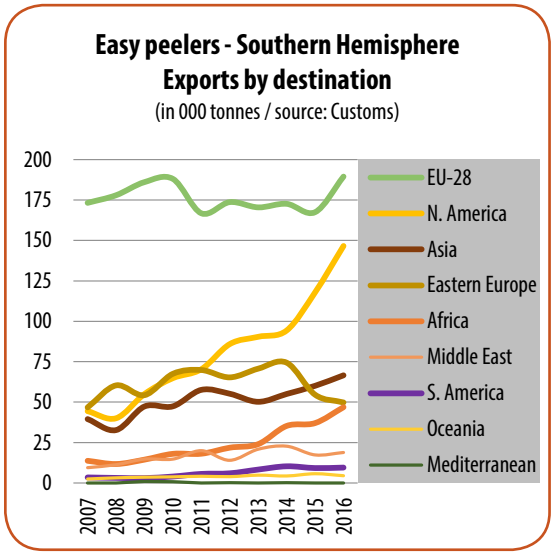
Easy peelers – Southern Hemisphere – Export forecast

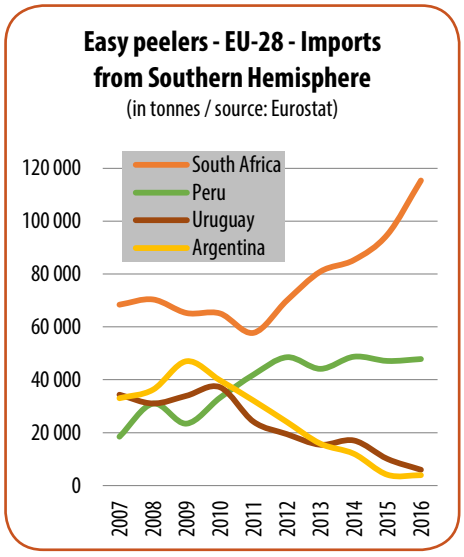
in tonnes	2017	compared to	
		2016	2013-2016 average
South Africa	200 000	+ 5 %	+ 27 %
Argentina	33 000	- 34 %	- 53 %
Peru	120 000	+ 7 %	+ 21 %
Uruguay	36 000	- 2 %	- 6 %
Australia	50 000	- 2 %	+ 19 %
Chile	110 000	+ 14 %	+ 50 %
World	**549 000**	**+ 3 %**	**+ 14 %**

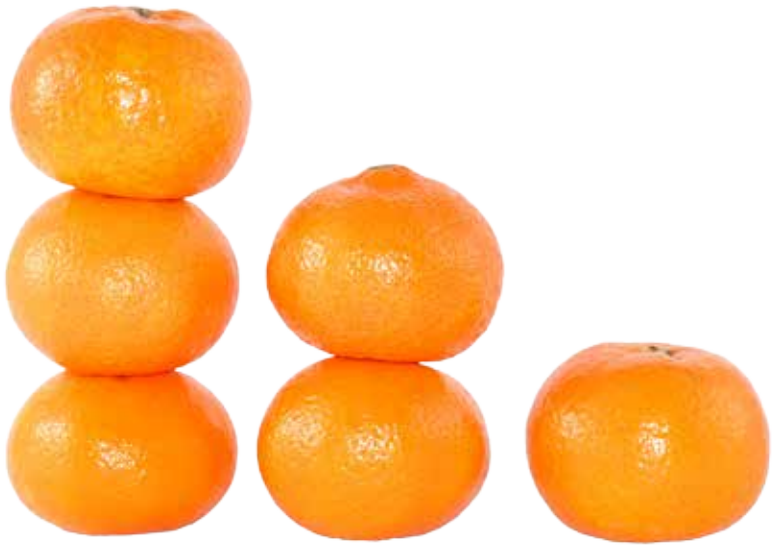
Professional sources, Shaffe, CGA











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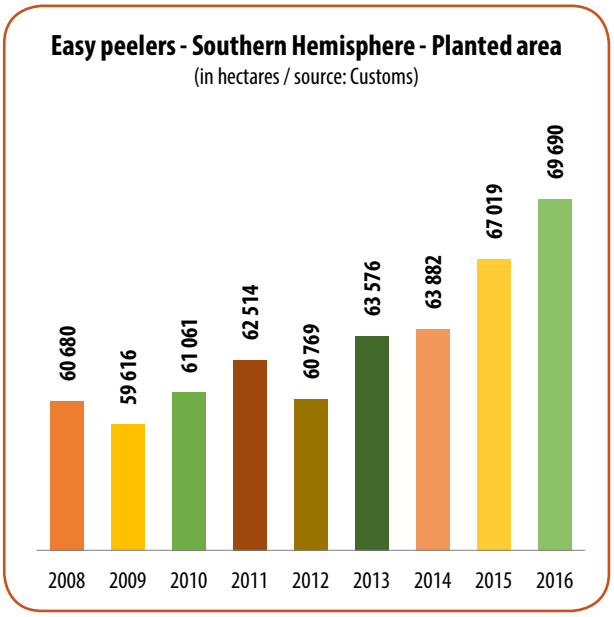
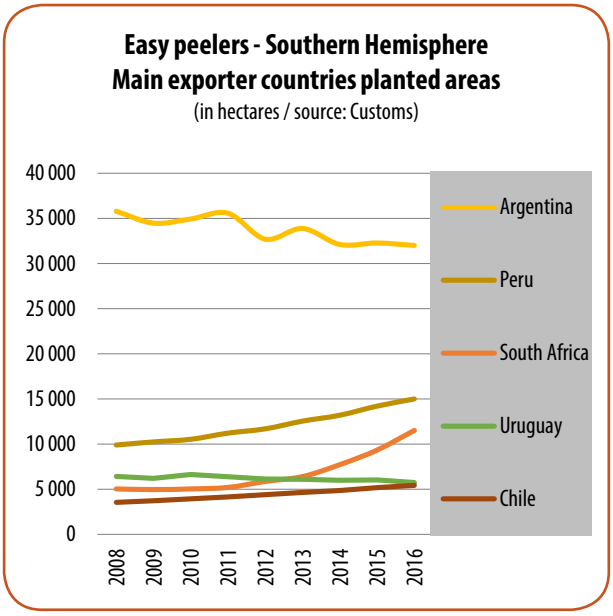
Easy peelers

Medium-term forecasts

The medium-term prospects seem much less bright. The excellent profitability of the late varieties means that there is a lot of easy peeler planting, probably even too much, in the Southern Hemisphere. Surface areas have literally soared for the past five years in South Africa, for Nadorcott, still well ahead in plant sales, but also for Tango, Or, Nova and since 2016 Leanri. The annual rate has gone from approximately 600 ha in 2012 to more than 2 000 ha in 2016. The export potential should exceed 20 million 15-kg boxes by 2025, with late varieties representing more than 70 % of the supply. Similarly, Peru is planting between 700 and 1 000 ha per year. Its export cultivation area was estimated at 8 000 ha in 2015, out of the country's 14 000 ha. Chile is also expanding its cultivation area (5 400 ha in 2016, aimed both at local sales and the international market), on a more modest annual basis of an additional 250 to 300 ha approximately. The Uruguayan cultivation area is shrinking (approximately 400 ha lost over the past five years, taking overall surface areas to below the 5 800-ha mark), though surface areas of export varieties remain stable (Nules) or are expanding slightly (W. Murcott, with approximately 500 ha planted). The trend is probably similar in Argentina, although there are no detailed statistics to confirm. Overall, the combined planting by these players were at least between 3 000 and 4 000 ha in 2015 and 2016.

Can the world market absorb such volumes? There can clearly be some doubt given the current state of demand. We should emphasise that the exports boom of the past five years from countries such as South Africa (+ 80 000 t), Chile (+ 50 000 t) or Peru (+ 40 000 t) is not solely due to the growth of the world market, but also to the collapse of Argentina (more than 60 000 t lost during the same period). True, consumption is rising very steeply in North America (+ 50 000 t over the past two years). This market should rapidly catch up the EU-28, still in the lead but with consumption stagnant. The British market, which still takes in more than 50 % of volumes during the summer period, is continuing to grow (+ 30 000 t in five years), but on the continent things are practically at a standstill. Certain markets such as France are showing encouraging signs, with the distribution sector starting to place excellent late varieties on the market in September, though volumes remain limited. Meanwhile, Asia is progressing but at a stately pace. Overall, growth of the world market can now be estimated at between 25 000 and 30 000 t per year, while the production that can be expected from the surface areas planted in 2015 and 2016 requires at the least 4 to 5 times more. It is vital to get a grip of the problem. Easy peelers have genuine assets in terms of practicality, taste and freshness to promote over the summer period, and consumption is still very limited across the board. Investing in promotion is no longer an option, but a must.





Easy peelers late hybrids – Mediterranean Basin – Exports

000 tonnes	Varieties	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17 forecast	2016-17 / 2015-16
Morocco	Nadorcott	42	67	65	99	106	135	+ 27 %
Spain	Nadorcott	122	135	132	150	157	160	+ 2 %
	Or	-	-	-	-	26	33	+ 27 %
Israel	Or	49	49	53	65	68	90	+ 33 %
Total		**213**	**251**	**250**	**314**	**357**	**418**	**+ 17 %**

Professional sources

Late easy peelers – Mediterranean Basin – New varieties in production now or in the medium term

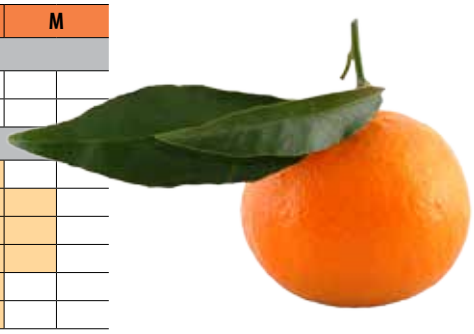
Sources	Varieties	Planted areas	Indicative export potential	Comments
Morocco	Nadorcott	5 200 ha (2016)	210 000 t	6 production centres in the country: Gharb, Beni Mellal, Safi, Chichaoua, Souss, Marrakech
Israel	Or	5 500 ha (2016)	150 000 t	
Spain	Nadorcott	4 520 ha (2015)	180 000 t	40 % Valencian Com. (Valencia/Alicante), 18 % Murcia, 41 % Andal (Huelva/Sevilla)
	Or	2 200 ha* (2015)	80 000 t	40 % Andalusia (Huelva 29 %), 14 % Murcia, 46 % Valencian Com. (Valencia 27 %)
Sub-total		**17 450 ha**	**620 000 t**	
Spain	Tango	3 000 ha ? (2016)	120 000 t ?	No official figures on planted areas. Production conditions?
	Others (Mor, GN, Tahoe, etc.)	low?		

*Areas under licence / Professional sources, ORC, CVVP

Easy peelers 2nd half of the season – Mediterranean Basin – Marketing calendar

Varieties	Sources	D	J	F	M	A	M
Clementines							
Nour	Morocco						
Hernandine	Spain						
Hybrids							
Nadorcott	Morocco						
Nadorcott	Spain						
Or	Spain						
Ortanique	Spain						
Tango	Spain						
Or	Israel						

Professional sources


© Régis Domergue

Lemon

A bumper campaign, with more expected to follow

Despite the inelasticity of demand for this product, the world lemon cultivation area has seen a spectacular boom for several years in a good many major exporter countries in the Northern and Southern Hemisphere. The volumes available for this 2017 counter-season campaign will start to reflect this progress, and let's also hope, encourage the upstream segment to slow the planting rate.

Seen from Europe, the season does not look exceptional like the 2016 campaign, which will remain in the memory for the historically high price levels achieved. On the one hand, the market context appears much more competitive, with leftover volumes from the Northern Hemisphere much bigger than in 2016. Spain, which provides 75 to 80 % of the supply to the EU-28, has regained an average production level after a big shortfall in the 2015-16 season. This origin will end its season with high volumes, with the harvest of the late variety Verna returning to a normal footing of 300 000 t (as opposed to 193 000 t in 2016), and going onto the market later than in 2016. Italy, the other big supplier to the Community market, also has bigger leftovers, with production more abundant than in 2015-16. On the other hand, the export potential of the big Southern Hemisphere exporter countries is registering a high level, above even the exceptional levels of 2016, achieved we should reiterate once more in a very different market context. Argentina has an average production of only approximately 1.4 million tonnes (as opposed to more than 1.6 million tonnes in 2016). The abundant flowering was in part cut short by a spell of frost, which was in addition followed by a very rainy spring and summer heatwave. Nonetheless, volumes dedicated to fresh exports are significantly above average. Rates of derivatives are registering good levels again this season, though they have fallen for essential oils (32 000 USD/tonnes in May 2017, as opposed to 39 000 USD one year earlier, and more than 50 000 USD in 2014 and 2015). Furthermore, South Africa should overtake Argentina in 2017 in terms of fresh exports, and for the long term this time in view of the expansion of its cultivation area. Production and export potential have registered another considerable rise and a record level (17.5 million 15-kg boxes earmarked for the international market, i.e. 16 % more than in 2016). Only Chile, after diverting significant volumes away from its core market the United States to an extraordinarily attractive EC market in 2016, has a below-average potential.

Volumes exported outside the EU-28, which now represent 50 to 60 % of total volumes, should continue to grow at a steady but moderate rate (approximately + 15 000 t per year). There is real growth on the Middle Eastern and Asian markets, the world number two and number four markets respectively, but it is limited (6 000 t per year gained on average by the Middle East, and 3 000 t per year for Asia). The dynamic of the US market, which is in 5th position, could be more significant this year. Local production, mainly Californian, is slightly in shortfall (19 million 36.3-kg field crates, as opposed to more than 20 million the previous two seasons). The USA should siphon up some of the volumes from Argentina (15 000 to 20 000 t according to APHIS projections), as this country has just won back partial access to this big market, closed since 2001 (North-East States only in 2017 and 2018). Shipments to Russia, the world number three Southern Hemisphere lemon importer, should continue to stagnate, especially because of the weakness of its currency. In this context, volumes aimed at the EU-28 should be fairly big, and prices should see lower footings than in the past two seasons.

Lemon – European Union – Imports from Southern Hemisphere (summer season)

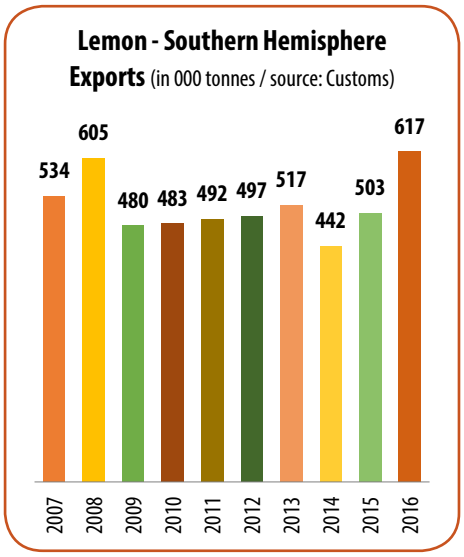
in tonnes	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Argentina	249 449	185 303	219 942	267 893	163 969	182 387	158 391	159 063	182 580	187 449	105 118	130 267	196 745
South Africa	46 571	42 466	30 722	64 830	39 007	45 633	44 532	45 233	41 385	25 363	36 482	41 364	63 163
Chile	95	25	187	1 353	1 888	9 275	3 211	3 217	5 751	6 333	5 505	9 168	23 761
Uruguay	13 512	11 983	9 342	10 002	10 166	10 762	8 064	8 280	9 959	9 194	10 194	8 933	7 948
Dom. Rep.	3	38	99	237	1 172	1 947	1 198	1 943	1 256	632	658	1 075	1 115
Zimbabwe	415	-	2	3	-	-	-	-	2	32	120	119	-
Brazil	1 573	2 366	96	477	652	5	136	-	92	249	190	408	-
Total	**311 618**	**242 182**	**260 389**	**344 793**	**216 854**	**250 009**	**215 532**	**217 737**	**241 025**	**229 253**	**158 266**	**191 335**	**292 732**

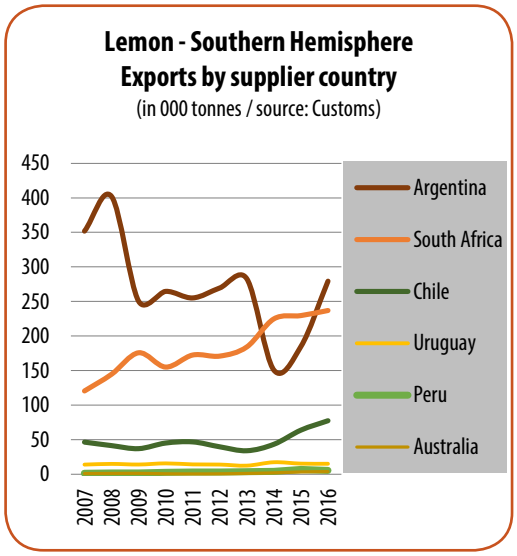
Source: Eurostat

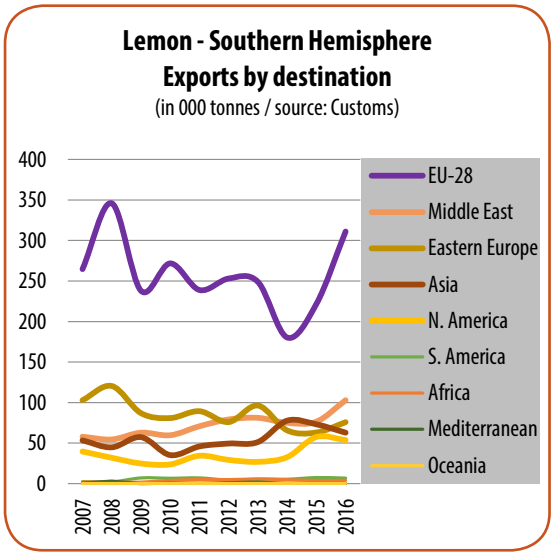
Lemon – Southern Hemisphere – Export forecast

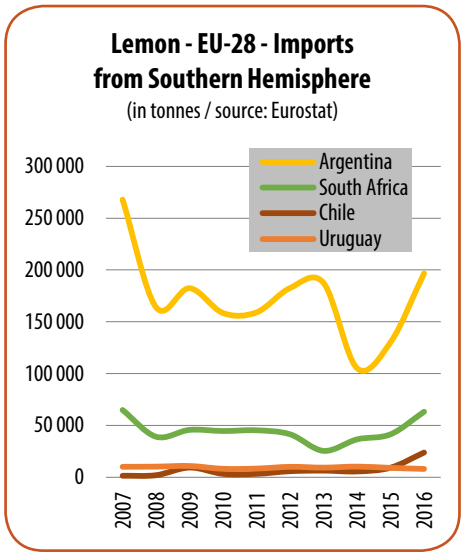
in tonnes	2017	compared to	
		2016	2013-2016 average
South Africa	260 000	+ 10 %	+ 19 %
Argentina	260 000	- 7 %	+ 16 %
Uruguay	15 000	0 %	+ 1 %
Chile	72 000	- 7 %	+ 32 %
World	**607 000**	**0 %**	**+ 18 %**

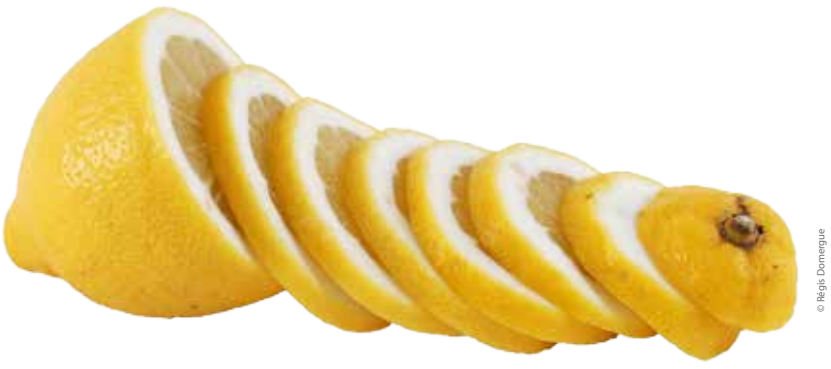
Professional sources, Shaffe, CGA











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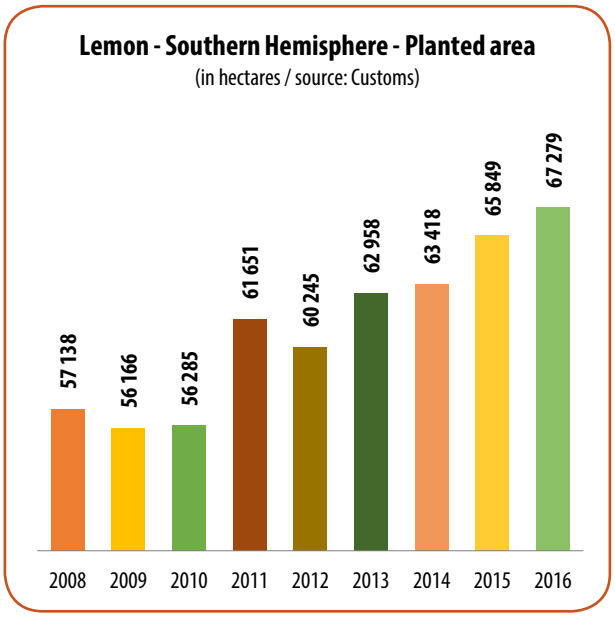
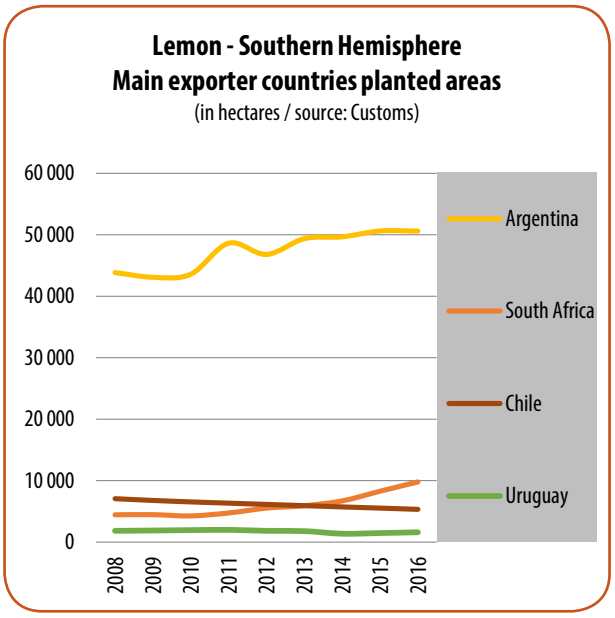
Lemon

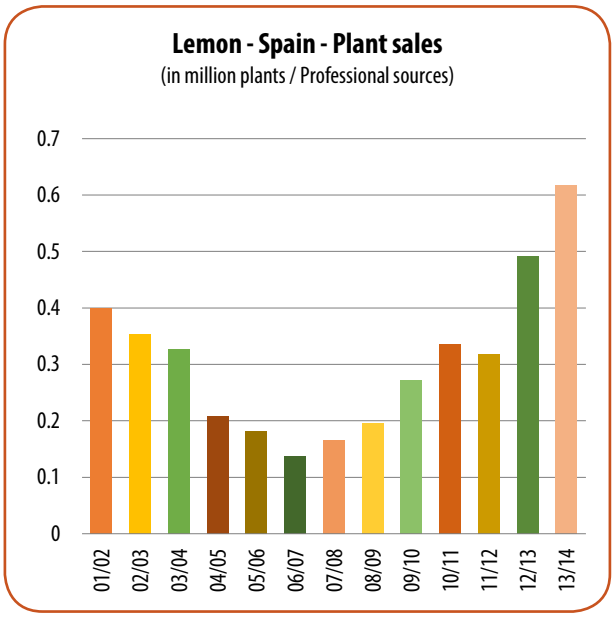
Medium-term forecasts

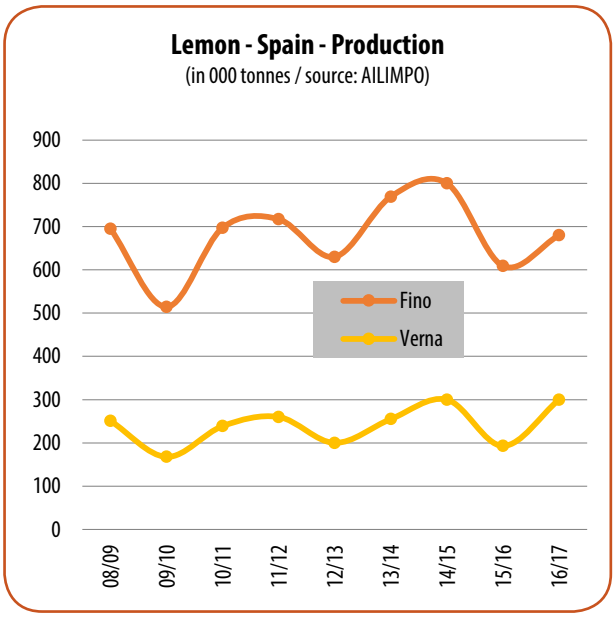
The shift to a considerably higher supply tempo will be even more distinct in the coming years. The South African cultivation area has literally exploded, with surface areas more than doubling between 2010 and 2016 (from 4 000 ha to nearly 10 000 ha, with the rise affecting both the historic Sundays River zone in Eastern Cape and the more recently developed Limpopo, an early-season zone). The planting rate has still tended to increase in recent years (from 600 000-700 000 plants from 2010 to 2013 to nearly 2.3 million in 2016). Hence the South African export potential should exceed 30 million boxes by 2021. Argentina is not to be outdone with this product, the only one to escape the debacle of the citrus export sector. The cultivation area gained 7 000 ha between 2010 and 2015, taking surface areas to in excess of 50 000 ha (more than 38 000 ha of which in the Tucuman zone). Meanwhile, productivity has increased, especially with the near-disappearance of the lowest-tech smaller facilities (now 90 % of production is concentrated in the hands of plantations of more than 50 ha in Tucuman). Just two countries, which between them control just 15 % of the world market, saw their surface areas wane. This applies to Chile, where 1 000 ha were lost out of a total of 6 300 ha between 2010 and 2016 (mainly in the Valparaiso region). It also applies to Uruguay, whose cultivation area is smaller than in 2011 (just under 1 600 ha in total, i.e. a fall of 400 ha) due to the collapse of the historical production centre in the south of the country (Montevideo, Canelones). However, the north (Salto, Paysandu) is seeing distinct growth.

Meanwhile, the competition from the winter origins is promising to be increasingly intense in the EU-28. Economic results, also excellent in recent seasons for Spain, have encouraged producers to resume planting. Plant sales went from approximately 300 000 at the beginning of the decade to 500 00 in 2012-13, and more than 600 000 in 2013-14, the last figure available.









Lemon – Spain – Marketing calendar

Varieties		O		N		D		J		F		M		A		M		J		J		A		S	
Primofiori/Fino																									
Verna	Cosecha																								
	Rodrejo																								

Professional sources

Eureka

Fino

Verna

Grapefruit

Another fine campaign forecast

The counter-season grapefruit market has seen a string of fine seasons since 2015, and this trend should extend into 2017. South Africa, the only significant supplier, has a higher export potential than in the lean 2016 season, though the level is only average (15.6 million 15-kg boxes). The sizing is a very good level, with the north of the country, where the bulk of production is concentrated, enjoying fairly abundant rainfall unlike last campaign. Furthermore, the market context is excellent both in the EU-28 and in Japan, destinations absorbing more than 80 % of the Southern Hemisphere supply on their own. The Floridian campaign was leaner still than in 2015-16, and finished even earlier than previous years on both markets. Finally, the Asian diversification markets should continue to rise. Exports to China have tripled since 2012 to exceed 30 000 t in 2016, with exports to South Korea going from zero to 10 000 t at the same time. Prices, though they should be high, will still depend on the export calendar. The risk of an accumulation of volumes at the beginning of the season is high, given the very high rates charged in early May and the desire by certain producers to pick and pack the grapefruits quickly so as to be able to start the Valencia campaign early due to the lack of Navel (see orange forecast). The supply management system in place for the past few campaigns is nonetheless a decent safeguard.


© Eric Imbert

Grapefruit – European Union – Imports from Southern Hemisphere

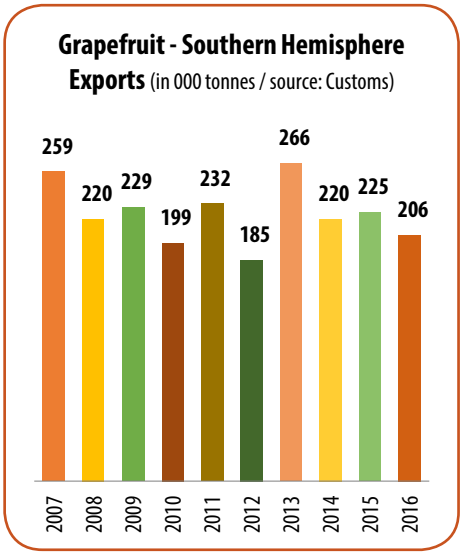
in tonnes	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
South Africa	55 833	97 170	72 924	90 825	86 852	88 616	78 897	94 006	75 412	104 725	76 707	90 017	89 752
Swaziland	5 369	7 197	7 210	10 085	9 260	6 707	9 906	14 986	8 480	2 328	3 933	647	4 604
Chile	200	474	2 513	959	719	70	363	18	176	105	64	1 660	2 883
Zimbabwe	1 436	5 001	2 227	3 556	1 409	1 947	2 053	2 228	1 360	2 414	2 133	2 139	1 939
Argentina	19 583	26 869	17 627	23 186	24 171	14 828	9 129	8 276	1 485	1 080	59	-	375
Uruguay	401	576	2 063	775	298	213	140	-	-	-	-	115	-
Mozambique	780	919	120	-	-	240	669	1 016	840	89	-	-	-
Others	75	85	87	180	83	255	251	-	457	721	556	917	287
Total	**83 676**	**138 291**	**104 771**	**129 566**	**122 792**	**112 876**	**101 410**	**120 529**	**88 210**	**111 461**	**83 451**	**95 494**	**99 840**

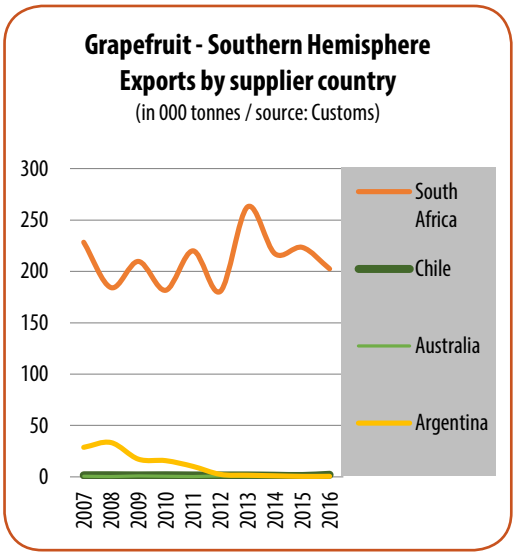
Source: Eurostat

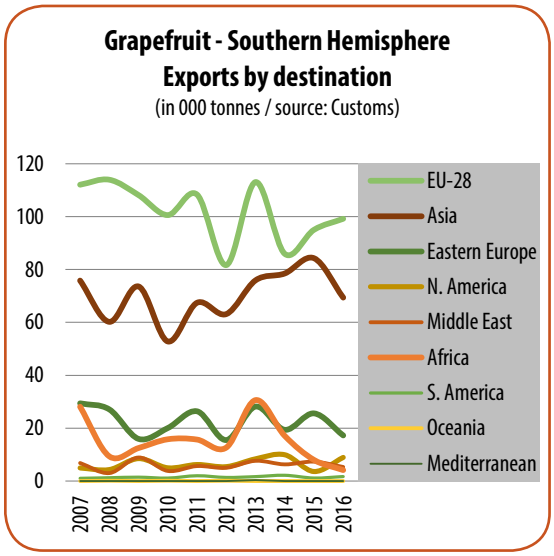
Grapefruit – Southern Hemisphere – Export forecast

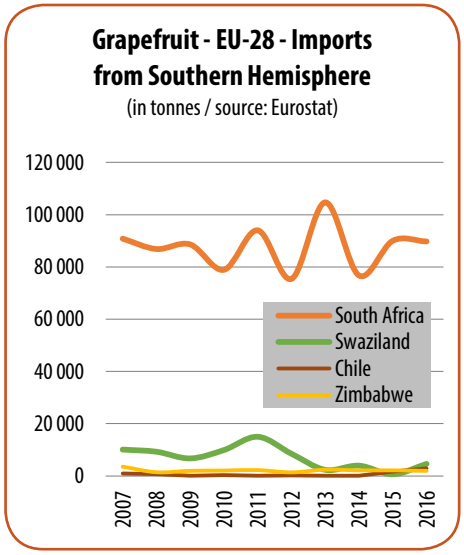
in tonnes	2017	compared to	
		2016	2013-2016 average
South Africa	235 000	+ 16 %	+ 4 %

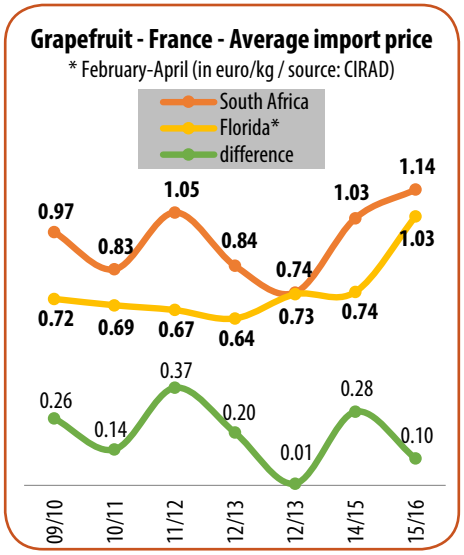
Professional sources, Shaffe, CGA







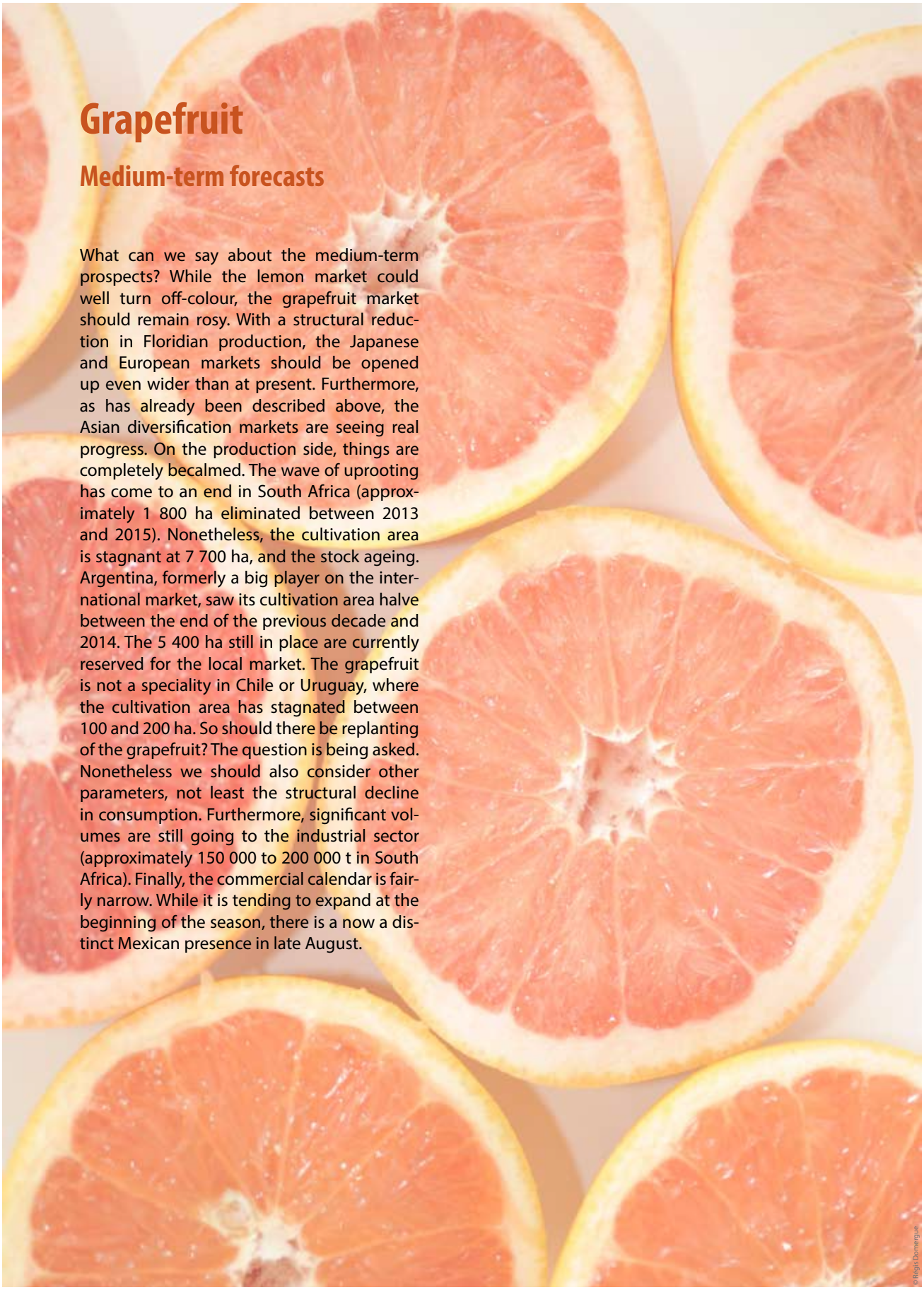




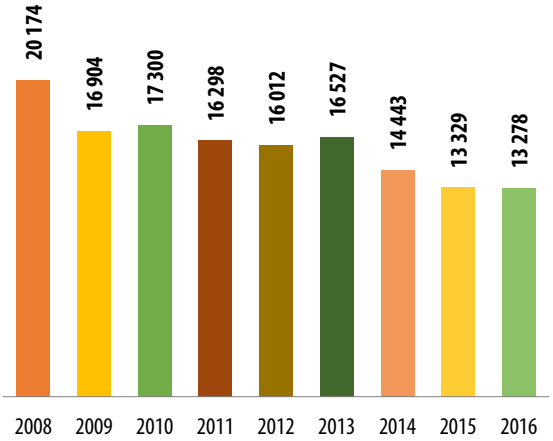
Grapefruit

Medium-term forecasts

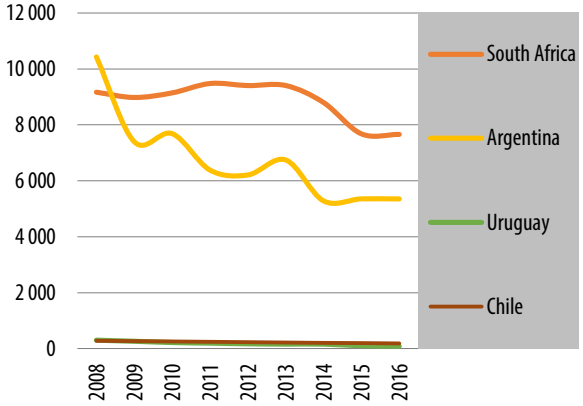
What can we say about the medium-term prospects? While the lemon market could well turn off-colour, the grapefruit market should remain rosy. With a structural reduction in Floridian production, the Japanese and European markets should be opened up even wider than at present. Furthermore, as has already been described above, the Asian diversification markets are seeing real progress. On the production side, things are completely becalmed. The wave of uprooting has come to an end in South Africa (approximately 1 800 ha eliminated between 2013 and 2015). Nonetheless, the cultivation area is stagnant at 7 700 ha, and the stock ageing. Argentina, formerly a big player on the international market, saw its cultivation area halve between the end of the previous decade and 2014. The 5 400 ha still in place are currently reserved for the local market. The grapefruit is not a speciality in Chile or Uruguay, where the cultivation area has stagnated between 100 and 200 ha. So should there be replanting of the grapefruit? The question is being asked. Nonetheless we should also consider other parameters, not least the structural decline in consumption. Furthermore, significant volumes are still going to the industrial sector (approximately 150 000 to 200 000 t in South Africa). Finally, the commercial calendar is fairly narrow. While it is tending to expand at the beginning of the season, there is a now a distinct Mexican presence in late August.



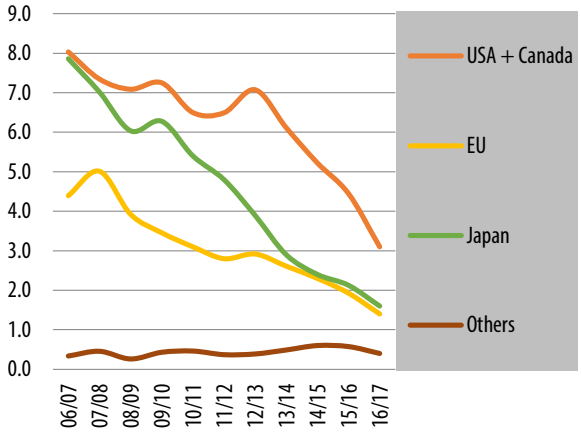
Grapefruit - Southern Hemisphere - Planted area
(in hectares / source: Customs)



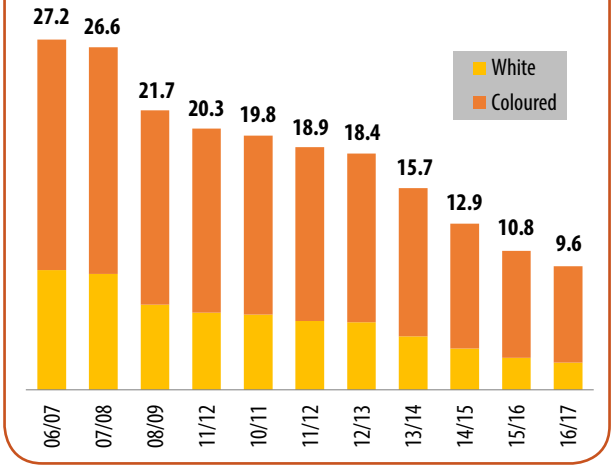
Grapefruit - Southern Hemisphere
Main exporter countries planted areas
(in hectares / source: Customs)



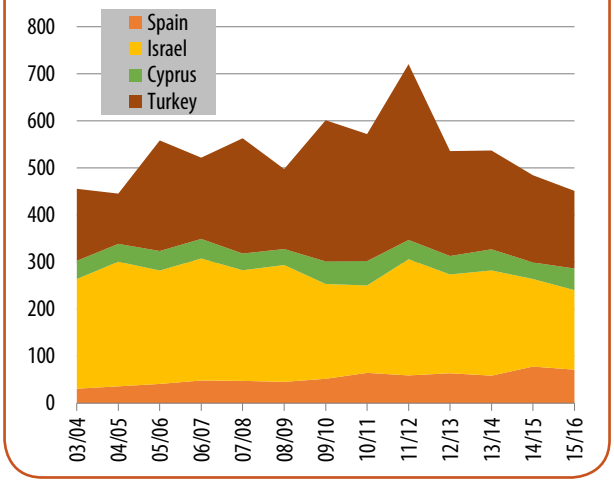
Grapefruit - Florida - Exports
(in million export boxes / source: FDOC)



Grapefruit - Florida - Production
(in million 38.6-kg boxes / source: FDOC)



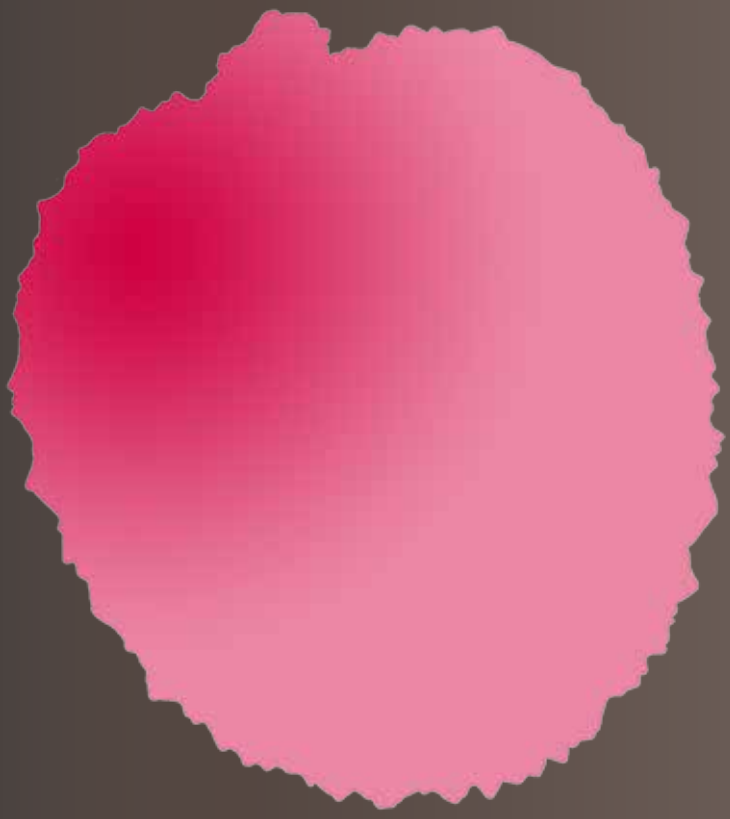
Grapefruit - Mediterranean Basin - Production
(in 000 tonnes / source: CLAM)



Litchi

A report by
Pierre Gerbaud

Contents



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Litchi
Madagascar

A heaven-sent campaign?

Since the restructuring of the Madagascan litchi industry, six years ago now, there has been a string of positive campaigns for the upstream and downstream operators, and consequently for the consumers. The 2016-17 campaign did not buck the trend, which seems increasingly to be standing the test of time. We know the vagaries and obstacles that any agricultural industry encounters, whether natural or commercial. However, it seems that the Madagascan litchi industry has been spared for several years, escaping the vicissitudes that regularly beset it before 2010. The 2016-17 campaign doubtless represents one of this industry's finest successes. It worked based on a well-controlled organisation plus some particularly favourable external factors.

A more abundant air-freight campaign

With estimated exports of 370 t, the 2016-17 campaign marked to some extent a return by Madagascar to among the leading air-freight litchi suppliers to the European market. The share of air-freight litchis has constantly dwindled in recent years, hammered repeatedly by the competitiveness of neighbouring origins in this specific niche. From more than 500 t in 2010-11, this proportion had gradually been eaten away until last year, when it totalled 300 t, its lowest score. The air-freight campaign, which opens the season, is proving ever more complex given the number of origins, products, qualities and volumes shipped onto the European market in a period which in the end is fairly short. The three to five weeks' marketing of air-freight litchis are particularly hard-fought before the arrival of the first sea-freight litchis, which reshape the campaign completely. Exports started in early November. This time of year is often a transition between seasonal supplies and the entry into the European counter-season, when tropical fruit imports rise to top up the conservation fruits still available. In this context, we might believe that the litchi would quickly find a vast commercial niche. It is an easy fruit to eat, delicious and highly rated by consumers. Yet the small quantities compared to competing products and its image as a festive fruit limit its consumption. The air-freight litchi remains an expensive product at the retail stage and therefore not widespread. Its consumption is curbed even more since consumers know,

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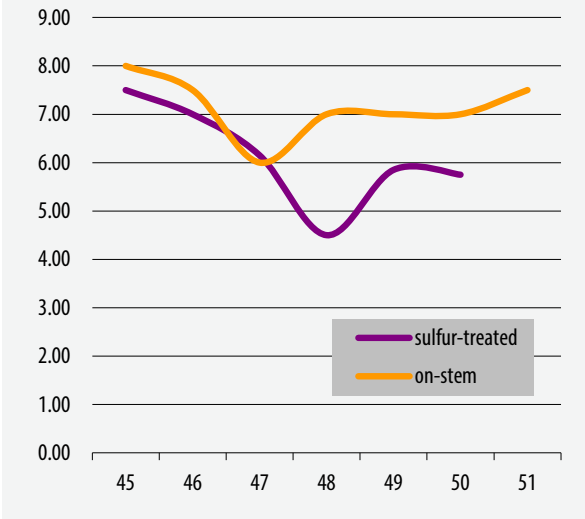
from experience, that they can find litchis at distinctly more attractive prices during the end-of-year holidays.

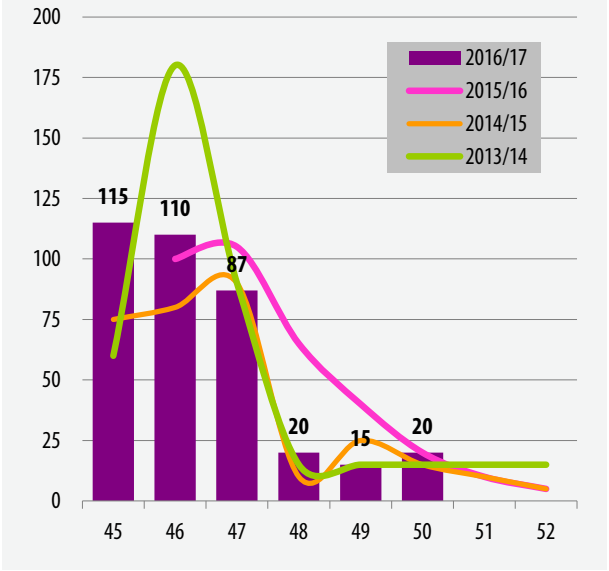
The harvest was very early, in terms of volumes even more than previous years, which themselves were early. From week 45, the tonnages available on the European market were substantial. Madagascar, which enjoyed bumper production, opened the campaign with charter flights. In the three weeks of the campaign, Madagascan exporters exported 65 t more than in four weeks the previous year. Driven back into their corner in previous years because of a higher cost price, Madagascan operators this year offset their lack of competitiveness by exporting ahead of the other origins, in massive quantities straight away. Sale prices fell as per the same pattern from previous campaigns, except that the majority of the volumes sold while prices were still high and the competition pressure lower. In week 47, volumes were falling while prices were subsiding. By end of the campaign all that was left were some fresh litchi shipments to an aficionado clientele at stable and high prices.

In addition to winning back market share, the strategy of the Madagascan industry partly avoided direct completion with the other origins, always detrimental to prices charged. This dodge, which proved favourable this year, may not be repeatable, since it was highly dependent on the earliness and magnitude of the quantities of fruit exportable at the very beginning of the campaign.

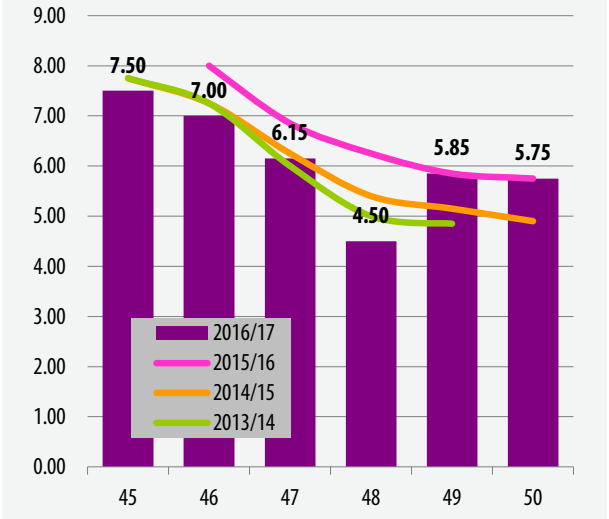
Air-freight Madagascan litchi
Average import price in France in 2016-17
(in euro/kg per week / source: Pierre Gerbaud)



Air-freight Madagascan litchi
Evolution of arrivals in France
(in tonnes per week / source: Pierre Gerbaud)



Air-freight Madagascan litchi
Evolution of average import price in France
(in euro/kg per week / source: Pierre Gerbaud)



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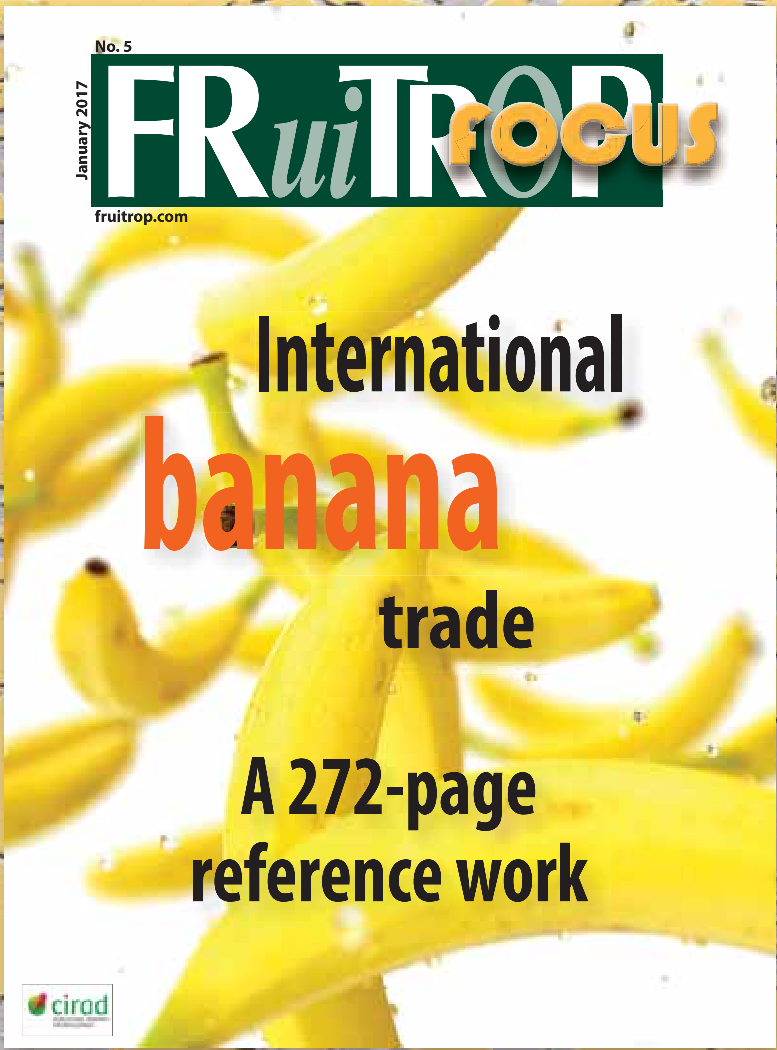

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An ideal sea-freight campaign?

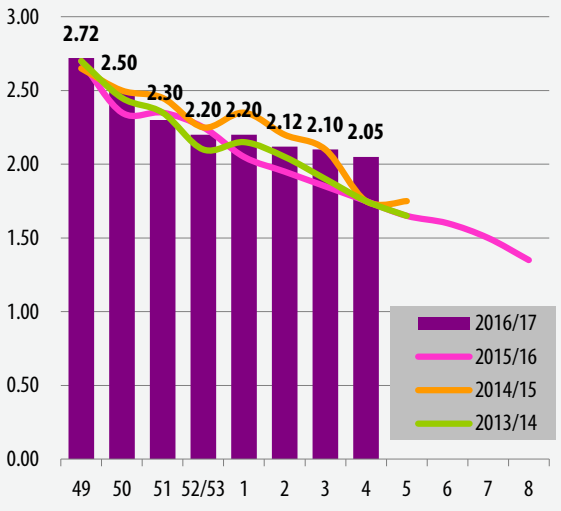
The organisers of the Madagascan litchi marketing campaign continued the consolidation of the industry this year. Already operational for five years, the monitoring and inspections of sanitary aspects of exports were at the centre of operators' concerns. This was about developing the GlobalGap certification already obtained by the exporters, by adopting new measures in social practice risk (Grasp). The approach was undertaken by several export facilities, which should represent a driving force for the Madagascan industry in the years to come. Another aspect of the certification has also been developed with the set-up of producers' groups which, through their access to the certification (as for the green bean industry in Kenya), should enable better fruit traceability.

As for the commercial aspects, the operators adjusted their exports in an attempt to correct supply/demand mismatches observed over the course of the previous campaigns. While the overall volumes were more or less the same as in 2015-16, their breakdown was a bit different. Hence the air-freight campaign was activated more quickly and more abundantly than previously. The same applied for the sea-freight campaign, with a programme of two conventional ships as in previous years. The main change occurred at the end of the campaign, with fruits transported by container. The volumes of this latter phase of the campaign were down by more than 500 t, relieving the market generally less dynamic in January-February and faced with competition from South Africa.

This strategy was all the more effective since it enjoyed a convergence of particularly favourable external factors:

- The very early production, combined with a favourable calendar, formed the perfect framework for the campaign. Between the arrival of the first conventional ship and the end of the year, importers had the benefit of four weekends to sell, a scenario rarely observed. This convergence of positive factors helped sell the cargoes of two conventional ships at the end of the year. There too, this phenomenon remains exceptional. In previous campaigns, there were always varying amounts of fruits from conventional ships left over at the beginning of the year, while the first containers arrived in Europe, causing a distortion within the industry between fruits from storage and incoming fruits. Given that the operators had limited their container shipments, the end of the campaign – generally swollen, protracted and of little economic interest – turned out to be rapid and more stable in terms of price. In summary, Madagascan litchis sold at higher rates for bigger quantities for air-freight fruits at the beginning of the season, and at less low prices for smaller quantities at the end of the period.

Sea-freight Madagascan litchi
Evolution of average import price in France
(in euro/kg per week / source: Pierre Gerbaud)



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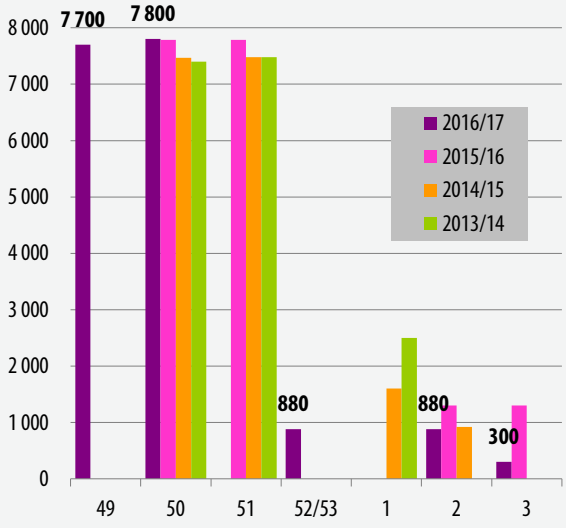
- The earliness of production could not on its own explain the good results of the 2016-17 campaign. The weather conditions during litchi flowering and fruit-bearing were good, though a lack of precipitation in the month preceding the harvest limited fruit growth. Nonetheless, it is clear that quality was particularly satisfactory this year. The fruit diameter remained heterogeneous, though the taste quality was unanimously recognised, as well as the good conservability. These two aspects were probably the best promotional pitches for Madagascan litchis. Good organoleptic quality and fine fruit coloration accompanied the sales throughout the campaign, contradicting the impressions surveyed over the past several years on their insipid taste and their often unattractive colour. We can only rejoice at this observation, yet will this phenomenon repeat itself in this future, is it simply reproducible or the result of fleeting coincidence?

- The quality of Madagascan litchis generated positive reactions beyond consumer appreciation. Purchases more readily switched to Madagascan fruits which they had abandoned more rapidly in previous years due to their lack of flavour. And in commercial terms, this fruit quality apparently proved to be a formidable weapon against the competition, particularly from South Africa. South African fruits were less tasty than in previous years, and especially kept less well. This helped keep sale prices high for Madagascan fruits at the end of the campaign, and rapid sales. The marketing campaign finished early, as it had started, though under good sales conditions.

Sea-freight Madagascan litchi
Evolution of arrivals in Europe
(in tonnes per week / source: Pierre Gerbaud)



- The campaign organisation also remains a crucial factor in marketing the Madagascan litchi. On their own, the external factors mentioned above cannot explain the good results from this iconic campaign. True, they contributed the "je ne sais quoi" and "pinch of something" which make for a successful season, but cannot replace the constant, less visible work of the operators. The logistics also represents one of the essential steps of the litchi campaign. It is rarely in question insofar as it is not subject to disruption, as was the case in the more distant past. It has been improving over the years through strict control of transport equipment, technical monitoring of routing and improvement of practices and merchandise handling equipment.

With an export total estimated at 17 930 t in 2016-17, Madagascar remains the leading fresh litchi supplier to the European market. This total is down from last year by only approximately 550 t, but is this not the same amount which during the previous campaigns sold poorly or was partly rejected from the market for qualitative reasons? To the nearest 100 t, the quantities sent by conventional shipping remained unchanged (15 500 t as opposed to 15 570 t), but it was the container volumes which saw more considerable cuts, with 2 060 t as opposed to 2 600 t. These are the very volumes that are hardest to sell at the end of the campaign, and definitely the least profitable for the operators.

Will the exceptional conditions of the 2016-17 campaign recur during the next campaign? That is the best that can be expected for this industry. Yet unfortunately its history tends to show that every season is distinct from the previous one, and there are no immutable rules, especially for the external factors whose full significance can be seen in this case... ■

Pierre Gerbaud, consultant
pierregerbaud@hotmail.com

A fly in the ointment?

The litchi campaigns are often disrupted by a more or less concerning external phenomenon. You will recall, in no particular order the shipping route modifications for security reasons on the approach to the Suez Canal, plague epidemics on Madagascar over which there were fears of spreading by means of fruit exports, etc. This year too brought a fresh batch of unforeseen events. In February, "Le Monde" newspaper bore the headline: "In India, mystery of a fatal disease solved" (2 February 2017).

At the same time every year (May to July), the health services in Bihar, a State in northern India, lament the development of an epidemic of acute infantile encephalopathies causing children's deaths, mainly in the age range one to five. Indian, American and European scientific researchers have studied this phenomenon since the 1990s without finding a satisfactory answer as to its origin. The infectious diseases route has bit by bit been excluded, and scientists ended up identifying the source of the problem: apparently it is the litchi causing this epidemic. It has been verified that, under certain absorption conditions, the fruit could cause this disease. Young children apparently consume a great deal on their way through the orchards, especially fruits that are not ripe. At this stage they contain toxins which, if not followed by food intake, appear to trigger behavioural disorders, and vomiting often leading to a coma. Similar cases have been described in Northern Vietnam. This phenomenon has not been mentioned in Madagascar.

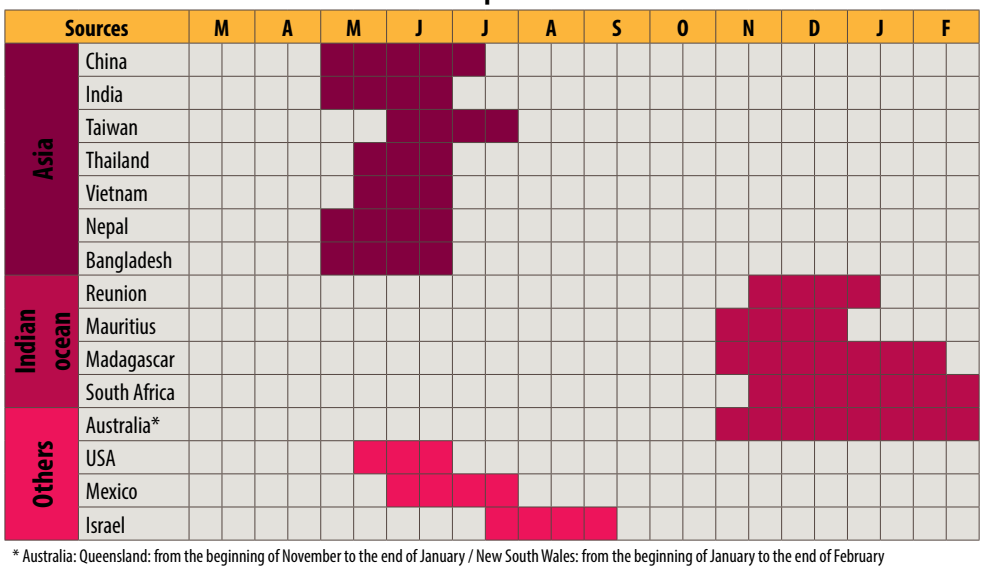
Besides the dramatic aspect of these events, their exploitation by certain media could have highly adverse effects on the marketing of this fruit, while the risks for the European consumer would appear to be zero. Articles with eye-catching titles, such as "lethal litchi", appeared in the weeks following the appearance of the article in "Le Monde", often lacking the full explanation on the relationship between the fruit and the disease. All of which goes to show that shortcuts can often be detrimental to the litchi campaigns. Since the articles were released after the end of the 2016-17 campaign, this campaign was barely affected, and the interval separating it from the next is long enough to minimise any consequences. However, the Madagascan industry operators will have to remain vigilant regarding this information that could potentially endanger their business.

Litchi, tamarind, cashew apple, jackfruit, sapotilla, carambola, passion fruit, pitahaya — EU imports

Tonnes	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17*
Total	**25 037**	**22 287**	**17 661**	**21 816**	**21 714**	**21 760**	**22 827**	**21 624**
Madagascar	19 750	17 715	14 040	16 220	17 430	17 790	18 475	17 930
South Africa	3 340	2 660	2 000	3 600	2 450	2 030	2 900	1 500
Reunion	240	400	200	420	540	460	440	895
Mauritius	115	180	110	270	140	160	150	235
Mozambique						40	55	106
Israel	447	308	622	470	270	410	100	200
Mexico	80.2	249.2	96.9	120.6	134.2	191.6	107	100
Thailand**	1 065	775	593	716	750	679	600	658

* Estimate / ** Hypothesis: 50% are litchi imports / Professional sources, data collected and processed by P. Gerbaud, Eurostat - code 08109020 (litchi, tamarind, cashew apple, jackfruit, sapotilla, carambola, passion fruit, pitahaya)

Litchi — Import calendar



* Australia: Queensland: from the beginning of November to the end of January / New South Wales: from the beginning of January to the end of February

Litchi

South Africa

A mediocre campaign

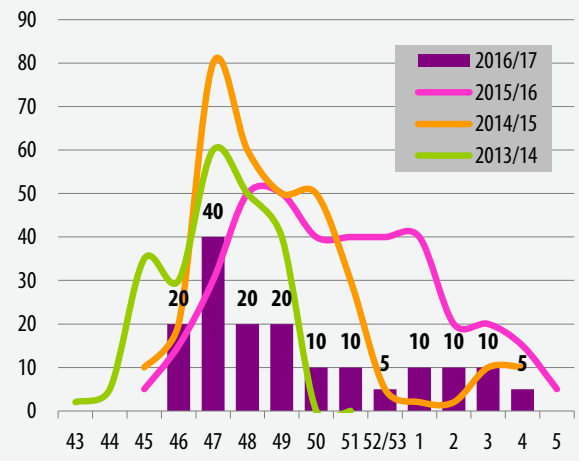
South Africa, the number two supplier to the European market during the winter, has had a lean and mixed campaign this year. It is hard to know the exact figures of the shipment quantities, as European Customs classifications bracket the litchi together with several other tropical fruits also exported by this country. We might roughly estimate that South African exports were around 1 500 t for the last campaign, as opposed to nearly 2 900 t the previous year.

The first air-freight batches reached the European market in week 46, at the same time as for competing origins. After the sale of some Fai Zee Siu variety batches at high prices, Mauritius variety litchis struggled to find a place on a sluggish market already abundantly supplied. In the previous campaigns, South African litchis quite naturally found their place thanks to their sizing and their taste quality. This year, lacking coloration and taste, they were often abandoned by the distribution sector and consumers in favour of Madagascan fruits, which better met their expectations in spite of their more heterogeneous sizing and their sometimes higher prices. In week 49, the price drop led to a near-suspension of the air-freight campaign. However, it resumed at the beginning of the year for four to five weeks, with on-stem fresh fruits firstly of the Mauritius variety, and then in the second half of the month, Red McLean variety. This beautifully coloured produce revived the economic results of the air-freight campaign, with high and stable prices. The volumes sold doubtless meant that the delay in the start of marketing could not be made up, but did mitigate the adverse impact.

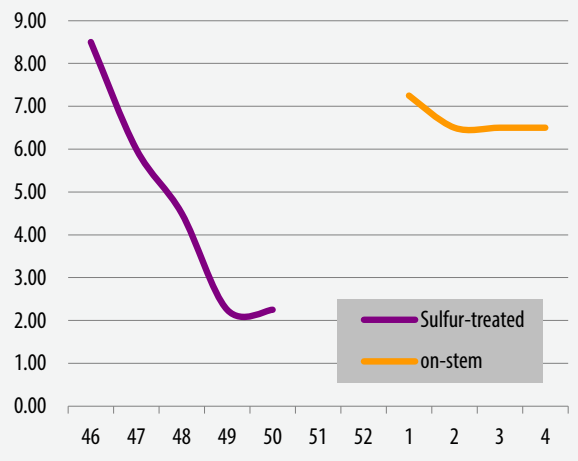
The sea-freight campaign proved to be no better. The first volumes, received in week 51, were apparently well below those of previous campaigns. The weather conditions and in particular heavy precipitation in the production zones delated or even prevented harvests. They also had an influence on fruit quality. Three-quarters of the batches comprised small sizes, which struggle to earn value. There too, the lack of coloration and mediocre flavour of the fruits counted against the product. In addition, their short storage life, with the appearance of mould, ended up repelling customers, all the sooner as the Madagascan supply was exhibiting good quality. Against this competition, the South African campaign finished rapidly in mid-January, despite some marginal batches sold in February, but without rates picking up and with no interest from consumers, who considered that the litchi season was already over ■

Pierre Gerbaud

Air-freight South African litchi
Evolution of arrivals in Europe
(in tonnes per week / source: Pierre Gerbaud)



Air-freight South African litchi
Average import price in France in 2016-17
(in euro/kg per week / Source: Pierre Gerbaud)

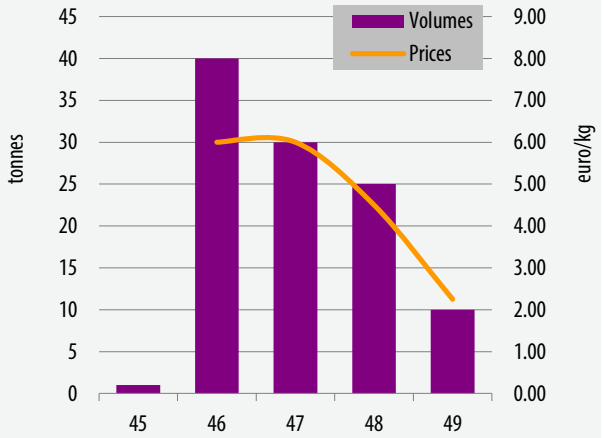


Litchi
Mozambique
In South Africa's wake

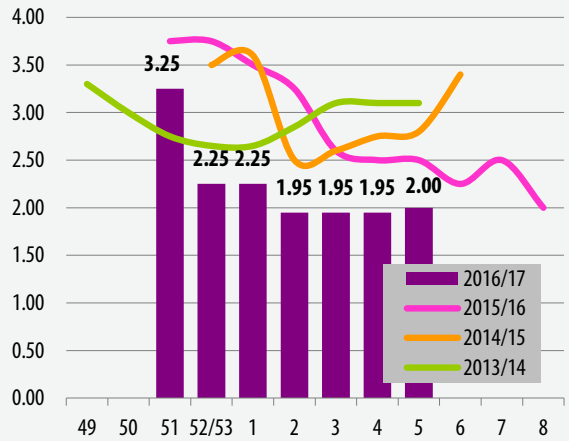
For the third consecutive campaign, Mozambique took part in the litchi marketing campaign with just over 100 t, thereby marking a small rise and a foothold on the European markets. The campaign followed a similar pattern to South Africa's. Rates rapidly deteriorated in a context of lively competition for average-quality produce. Mozambique's exports remain closely linked to South Africa's, with most of the facilities involved in the product being subsidiaries or branches of South African companies. The country's potential is probably distinctly greater than what it has achieved in recent campaign. Yet this origin has recently gotten into this venture, and it will take a few more years to establish a long-term presence on the European markets. The boom is over, a consolidation phase must follow ■

Pierre Gerbaud

Air-freight Mozambican litchi
Arrivals and average import price in France in 2016-17
(source: Pierre Gerbaud)



Sea-freight South African litchi
Evolution of average import price in France
(in euro/kg per week / source: Pierre Gerbaud)



Litchi
Mauritius

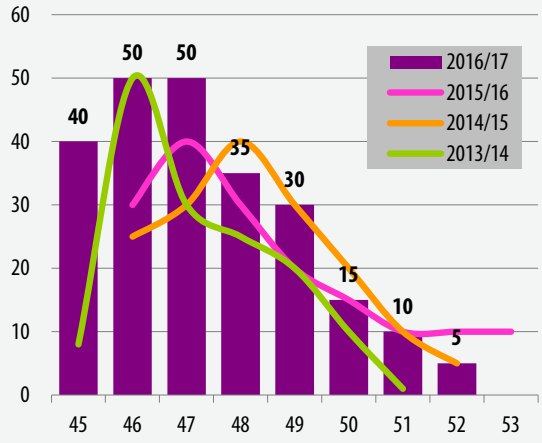
Increasing exports

With an estimated 235 t of exports in 2016 as opposed to 165 t the previous year, Mauritius confirmed and consolidated its position as a top-up litchi supplier to the European Union. True, this exporter country is not involved in the international litchi market in the same way as Madagascar, with its 18 000 t of exports. However, it is still in the fray of the fierce seasonal competition. More sensitive to weather and market variations, Mauritius is nonetheless there year on year. The earliness of its campaign, with "early produce" fruits, which represented one of the origin's special features, has faded over the years because of the early calendar across all of the Indian Ocean origins. Mauritian exporters are now playing more readily on the market's specificities, tailoring their supply to the trends of the moment. The exclusiveness of air-freight exports and the speed of response by the operators support this particular position.

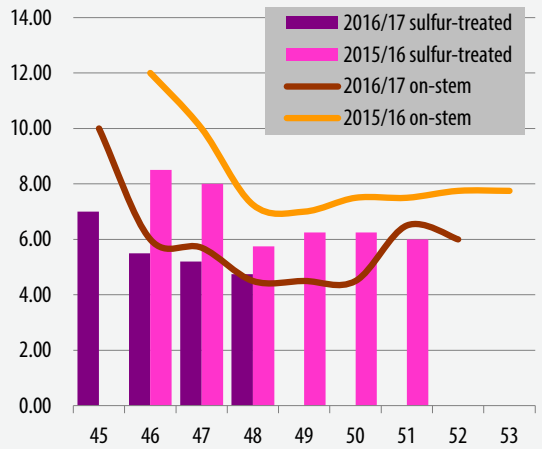
The first Mauritian batches were received in week 44. They comprised fresh on-stem litchis and sulfur-treated/destalked litchis. As the market supply was small, these products obtained considerable success, selling rapidly. The supply expanded from the next week, in a still favourable context, given the moderate shipments from the other Indian Ocean origins. However, the fruits lacked maturity and could not generate enthusiasm among distributors or consumers. In week 46, their rates dropped under pressure from volumes received from across all origins. The supply which hitherto matched a hesitant early-campaign demand, now far outstripped the consumption level of this product highly-priced at the retail stage still a long way before the festive period. Until week 48, competition from other origins was particularly lively, with a big presence of Madagascan products. Mauritian litchis were reaching their peak at the same period, holding up against the competition thanks to more competitive cost prices than in the neighbouring countries, especially its distinctly lower air-freight costs. From week 49, the arrival date of the first ship from Madagascar, Mauritian operators only sent fresh on-stem fruit, to avoid direct competition with this produce cheaper for the distribution sector. The Mauritian campaign continued until the end of the year, with tonnages well down and prices recovering for the end-of-year festivities. Like Reunion's operators, Mauritian exporters segmented their supply this year, shipping trussed fresh fruits. This niche is of particular interest to retailers wishing to put on a visually appealing promotion on their shelves, thereby creating a more festive look that is closer to the fruit's production conditions ■

Pierre Gerbaud

Mauritian litchi
Evolution of arrivals in Europe
(in tonnes per week / source: Pierre Gerbaud)



Mauritian litchi
Evolution of average import price in France
(in euro/kg per week / source: Pierre Gerbaud)



Litchi
Israel

A hesitant return

2015 was a particularly difficult year for Israeli litchi exports to the European market. Shipments numbered just tens of tonnes, behind schedule in August and September. The particularly poor weather conditions seem to have cut this country's production capacities right down. Already on the wane since the 2000s, Israeli exports reached their lowest level. Available in August and September, and on top of that exhibiting mediocre quality, the fruits obtained highly variable prices, more linked to their rarity than their exotic and organoleptic appeal. 2016 marked a return by the origin to European markets, with production on the rise and over a more suitable period for marketing the product. Nonetheless, the Israeli campaign is in no way comparable to the end-of-year Indian Ocean campaign. It should be recognised that the time when operators sought to offer this product year-round seems to have gone for good. The concept of seasonality remains marked for this fruit.

The 200 tonnes shipped by Israel in 2016 from early July to the second half of August marked a return by the origin compared to the previous year. Yet the quantities available and prices charged on the European markets put the product among the small exotics topping up a wider range, rather than making it a dynamic player on the shelves in the summer. Promotion of this fruit is becoming increasingly limited during the European summer, when consumers are more readily attracted by seasonal fruits, which are an integral part of eating habits and are generally abundant, and very often less expensive. There is now just the top-end or specialist exotic products niche (hospitality, fruit baskets, luxury grocers) left to sell Israeli volumes which have been running out of steam over the last decade ■

Pierre Gerbaud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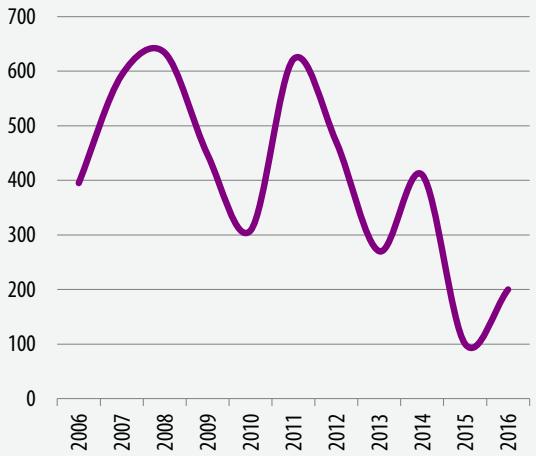
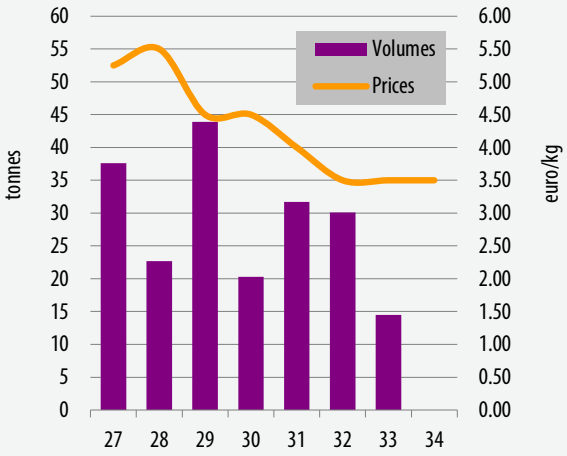
© Guy Brehinier

Israeli litchi
Evolution of exports to Europe
(in tonnes / sources: Israeli Ministry of Agriculture, Pierre Gerbaud)



Israeli litchi - Arrivals in Europe
and average import price in France in 2016
(sources: Israeli Ministry of Agriculture, Pierre Gerbaud)

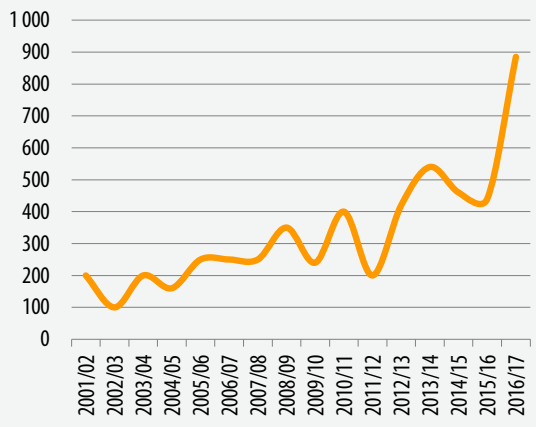


Litchi
Reunion

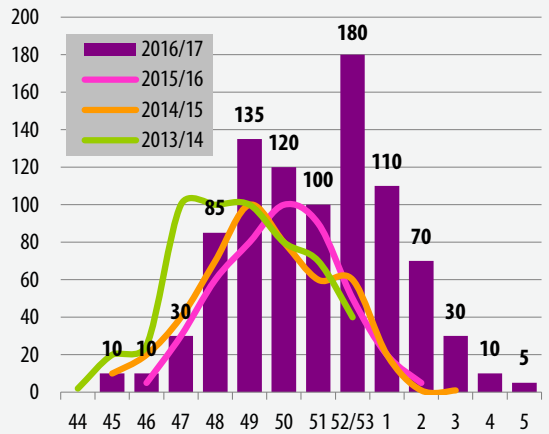
A quantitative boom

The biggest surprise of the 2016-17 campaign without a doubt lies in Reunion's achievements. After the slight downturn registered in 2015-16 with shipments of 440 t, Reunion doubled its shipments in 2016-17, with a total of 885 t according to estimates. The production capacities of this French Overseas Department have often been underestimated in view of the quantities sent each year to Mainland France. People were unaware that they were on the rise, and interest in this fruit was largely shared between the local market, intercontinental exports and a processing industry able to take in varying volumes. Conversely, it was hard to imagine fresh exports doubling. However, this is what seems to have occurred this year. Like all Indian Ocean origins, Reunion saw an early start to its export campaign. The first shipments were made from week 45, i.e. one week earlier than previous years. True, volumes shipped remained limited for the first two weeks of the campaign, though they then rose more rapidly. In week 47, the deterioration in market conditions proved particularly marked, and there was a considerable fall in rates. The quiet demand and expansion of the supply across all origins plunged the market into the doldrums. There was a strong consumer reticence to the product, which even lowering the rates could not change. The implementation of promotions at attractive prices (5.95 euros/kg at the retail stage) barely modified the lack of market fluidity. Reunion fruits particularly suffered from this situation due to perishability of fresh litchis, a factor further accentuating the fall in rates. In this market configuration, the price gap between the various types of presentation (destalked, on-stem, trussed) narrowed.

Reunion litchi
Evolution of exports to Europe
(in tonnes / source: Pierre Gerbaud)



Air-freight Reunion litchi
Evolution of arrivals in France
(in tonnes per week / source: Pierre Gerbaud)

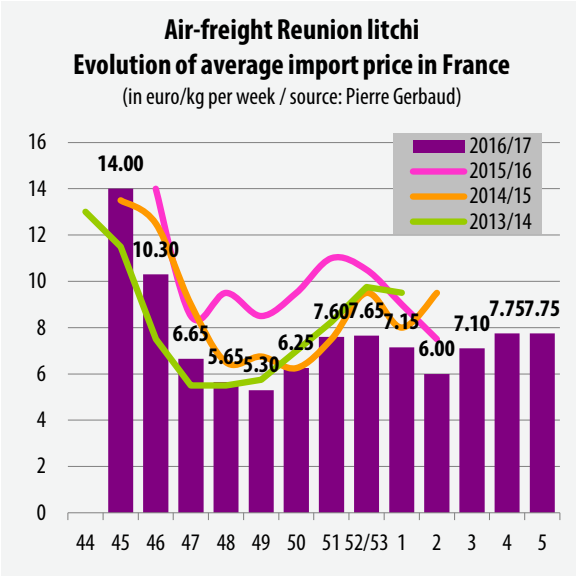


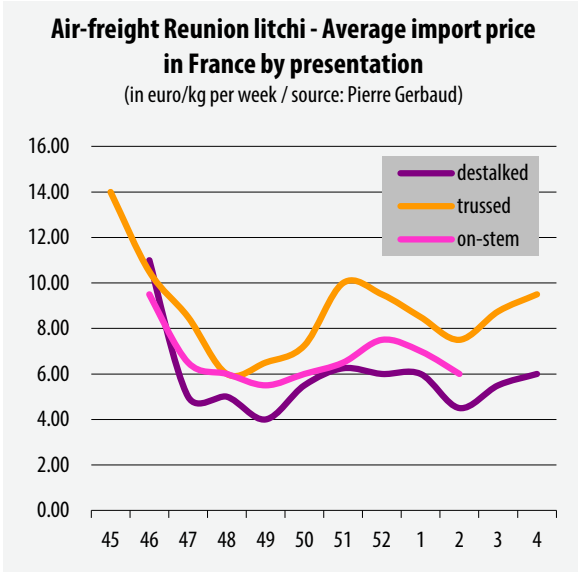
It was not until week 51, in the run-up to the end-of-year holidays, that demand became more intense, sales picked up and prices recovered. They remained firm in week 52, while shipments reached their high point. They dropped thereafter until the second week of January, when volumes were still substantial. The drop in quantities shipped in the middle of the month was accompanied by a price increase until the end of the campaign.

Reunion, which over the years had forged a top-end reputation with litchis primarily distributed by stores specialised in exotic fruits, has modified its strategy by somewhat broadening its outlets. Price swings have never been as great, with values occasionally as low as the competing sulfur-treated products. This fall in rates is not surprising, although in absolute terms the quantities on the market were not all that great. Sales difficulties and the price falls which accompanied them must not be considered in isolation, but in a global market where the supply was particularly large and highly diverse. By doubling its volumes, Reunion registered a decrease of 2.00 euros/kg on sale prices from the 2015-16 campaign. Was this loss from one year to the next not ultimately offset by the volumes sold?

The segmentation of Reunion's litchis is at present a benchmark, with differentiated prices when the overall supply is not excessive. In the over-supply phase, the various presentations trade at distinct rates, though the gap between them is greatly narrowed, doubtless limiting the usefulness of the additional costs incurred. Though copied in part by exporters from Mauritius, but also South Africa, the presentations developed by Reunion remain its preserve ■

Pierre Gerbaud





Litchi quality defects

Ageing fruits – dull appearance – shell browning and drying

Puffy fruits

Fruits picked too early

Ageing fruits – too long a gap between harvesting and sale

Puffy fruits

Unattractive colour resulting from lack of sorting

Oxidation of the shells of non-treated fresh litchis

Aborted and double fruits

Satisfactory colour (for reference)

Uneven colouring resulting from sulfur treatment

Different sizes in the same packaging

Stalk torn off

Moulds (*Penicillium*)

Black rot (*Aspergillus* spp. and *Pestalotiopsis*) and mould

Mould spots (*Penicillium*)

Heavy mould attack (*Penicillium*)

Sulfur dioxide burn damage and double fruit

Spread of mould spots (*Penicillium*)

Black rot (*Aspergillus* spp.) and mould

Sulfur burns as the fruits were wet before treatment

Rots and isolated moulds (*Penicillium*)

Black rot (*Aspergillus* spp.)

Burn caused by sulfur treatment and moisture

Litchi

Cultivation

by Christian Didier

Requirements of litchi

Specific climatic conditions are required for litchi growing but the tree is not very fussy about soils. It also has low susceptibility to viral diseases.

Cultivation zones

Litchi requires a warm, humid climate. In order to flower, it needs a vegetative resting period induced by a cool, dry season. A slight fall in temperature and relative humidity may induce flowering in some humid zones. A good supply of moisture is essential from the appearance of the flower spikes until harvesting.

Windbreaks

The position of the land must allow good lighting. Poorly drained low-lying land should be avoided, as should steep slopes that hinder the mechanisation of maintenance work. The land must be sheltered from the prevailing winds and from sea spray near the coast. If there is no natural protection (relief, vegetation), windbreaks are installed around the field and even inside if it is large or very exposed. Wind breaks consist of fast-growing trees with good anchorage in the ground (filao, shisham, acacia and others) planted in dense rows and require maintenance (fertilisation, irrigation and pruning). They must be allowed sufficient space.

As far as possible, wind breaks should be installed a year before the litchis are planted to give protection from planting onwards. A wind break provides protection for a distance equal to ten times its height. They should be planted closer together on sloping land. They sometimes do not have any effect in extreme cases.

Soils

Litchi adapts to numerous types of soil but prefers slightly acid soils (pH 5.5 to 6.5 and 8 or higher in some parts of India) that are rich in organic matter, deep and well drained. Although it can stand having 'wet feet' temporarily near rivers, prolonged submersion can be harmful. Drainage is all the more important as litchi is grown in zones with high rainfall and often in low-lying areas protected from wind.

Orchard creation

Soil preparation

Planting in recently cleared land in which stump and root debris enhance the development of root rots should be avoided. If necessary, surface drainage is ensured by levelling and subsoil drainage by a network of ditches. If cultivation can be mechanised, deep subsoiling is followed by ploughing, possibly after the application of manure and phosphate and potassium fertiliser (in light of the results of soil analysis). When the trees are planted in holes, inputs are applied at this stage.

Plants

Propagation is usually by air layering using trees noted for the quality of their production. The layers obtained during the hot, humid season from branches 10 to 15 mm in diameter and 0.50 to 0.70 m long have a small necrotic root point at the cut that heals quickly. The root system is also better balanced with the aerial part. After separation, the marcots are cultivated in pots in a nursery for 3 or 4 months before being transplanted to the orchard.

Plantation density

The litchi tree displays considerable growth. Today, planting distances are 10 x 10 m or 8 x 10 m, that is to say a density of 100 or 125 trees per hectare. Nevertheless, planting at 8 x 6 m (208 trees per ha) or 8 x 5 m (250 trees per ha) can be envisaged in more intensive cultivation. Annual pruning is necessary in this case. The orchard can be thinned by gradually cutting back the trees when they begin to hinder each other and then, in the absence of an effective pruning method, by felling one tree in two along the row.

Planting

Planting must be performed with a strict layout and perfectly aligned in each direction. If cultivation is not mechanised, a 0.8 x 0.8 x 0.8 m (500 litres) hole must be dug at the position of each seedling. The soil removed is then mixed with about 2 kg potassium sulphate + 2 kg natural phosphate + 25 to 30 kg well-rotted manure. The hole is then refilled with this mixture. A slight mound is formed as a result of the manure application and the expansion of the soil. The plants are installed in the mound and staked.

Marcots are planted inclined in the opposite direction to the wind and staked. They are thus less exposed to the wind and root better. The plants must always be watered abundantly after planting. In cool zones, they must be sheltered during the winter following planting.

Orchard maintenance

Training pruning

As for other fruit species, it is sought to train the tree on a single trunk with horizontally spaced, regularly distributed main branches. Care must be taken in the early years to prevent formation of shoots on the trunk or the main branches that have a very closed angle, following the natural tendency of litchi. These shoots are extremely weak points in strong wind.

Soil maintenance

The soil must be bare along the rows or under the foliage in the early years. Spontaneous inter-row vegetation must be kept down. Short-cycle, small growth intercrops can possibly be grown during the first three years and managed in such a way as not hinder the trees.

Irrigation

Litchi is very susceptible to water stress throughout the fruit growth period and the vegetative growth period that follows the harvest. Irrigation is necessary in case of shortage of water. Stress during fruit setting causes substantial fruit drop. Different irrigation systems can be envisaged. Microjet irrigation is satisfactory. At least 200 mm water per month must be applied (according to soil type, the age of the trees, the climate, etc.).

Maintenance pruning

The fruits are clustered at the extremities of the branches. The latter are broken at harvesting. However, this practice does not control the tree volumes. The removal of dead wood, of small inner branches and branches that prevent sunshine from entering the tree is recommended.

Litchi growth is fast and soon becomes exuberant. The trees must therefore be controlled. For this, annual pruning is performed just after the harvest. The trees are usually too dense. The aim is to aerate them by allowing as much light as possible on the foliage and to keep them at a suitable height to facilitate harvesting. The final result of pruning should be dome-shaped trees.

Fertilisation

Fertilisation is an important factor. It promotes good vegetative growth after the harvest and makes up for mineral loss to the fruits. After the active vegetative growth period of about four months, litchi needs a short period of stress (nutritional, water, heat or other) to induce flowering.

Doses are modulated according to the date of application:

- after the harvest: 1/2 of the dose;
- at panicle emergence: 1/4 of the dose;
- after 'June drop': 1/4 of the dose.

Fertiliser is applied to the ground beneath and at the limit of the foliage. Trace elements are applied by leaf spraying at fruit setting (boron, calcium).

Harvesting

Traditional harvesting is performed by hand with 'bunches' of fruits of the branch stored in bales or crates containing 10 to 15 kg only so that the fruits at the bottom are not crushed. These hand-made bales conserve good humidity around the fruits, preventing them from drying out. It is better to use slightly ventilated plastic crates to avoid crushing the fruits. The fruits are rapidly treated and taken to market to avoid the peel discoloration resulting from drying. Litchi is not a climacteric fruit and its biochemical characteristics change little after harvesting, except for gradual deterioration. Fruit maturity is generally appraised on the basis of colour, peel texture and tasting. It is considered that a soluble dry matter/acidity ratio of 2.1 to 2.7 corresponds to optimum quality.

Litchi - Applications recommended
Grams per tree

Years	N	P	K	MgO
1	50	10	40	15
2	80	10	60	20
3	140	30	105	40
4	210	45	160	55
5	230	65	265	80
6	380	85	345	105
7	470	105	430	125
8	570	125	520	155
9	670	150	610	180
10 years and above	920	210	840	240

Pests and diseases

Warning: treatment must be applied in compliance with the regulations in force in the producer country and in the destination country.

Main fruit pests

- *Cryptophlebia peltastica* and fruitfly

  Cryptophlebia lays eggs on immature fruits. The small caterpillars bore into the fruit to the seed for the nymph stage. The wound opens the way for other pests, especially fungi and fruit flies.

Main foliage pests

- Scales

  Scales can infest fruits, leaves, stems, branches and the trunk. When numerous, they cause the withering of leaves and shoots. Leaves often display yellow spots where they have been pricked. Scale infestation is often accompanied by sooty mould.

- Mites: *Aceria litchi* (Erinose mite)

  A major pest in India and China, which attacks the flowers and leaves. The leaves wither, and their bottom side is covered with a brown film.

Trunk and branch pests

- Bark-borer caterpillars (*Indarbela quadrinotata* and *I. tetroanis*)

  Very common in India. Damage is caused by the larvae that bore into bark and trunk, reducing sap movement and affecting growth.

- Bark borer: *Salagena* spp.

  The larvae feed on the bark and wood of the tree. The tree does not die but the branches wither. Treatment: these larvae can be controlled by stopping the holes with cotton wool soaked in systemic insecticide.

- Thrips

  Dolicothrips indicus and *Magalurothrips usitatus* cause damage to flowers. *Selenothrips rubrocinatus*, *Heliothrips haemovoidalis* and *Franklinella cephalica* cause the withering of flowers and leaves.

Diseases

- Root rot

  This is caused by the fungus *Clitocybe tulescens*. Much damage is reported in Florida. *Botryodiplodia theobromae* can cause sudden death of the tree (Australia).

- Aerial system

  Leaf necrosis caused by *Gloeosporium* spp. This is observed in certain poorly managed orchards.

C. pelastica

Fruitfly

Leaf-borer caterpillar

Bark borers

Anthracnose

Post-harvest and sulfur treatment

A feature of litchi is that it does not ripen after picking and so it is essential to harvest the fruit when it is fully ripe. However, it deteriorates very rapidly at ambient temperature. The shell browns, dries and becomes brittle in two or three days. Loss of colour results from the oxidation of anthocyanin pigments, an irreversible reaction. The fruit is then more subject to bursting and secondary contamination by fungi.

To prevent senescence before the fruit is sold, litchi can be fumigated with sulfur dioxide; this inhibits respiration and thus conserves texture and organoleptic qualities for several weeks. Sulfur has a fungicidal, anti-oxidant effect that keeps the shell flexible. This treatment can be applied to destemmed fruits or bunches that are sound, ripe, free from spotting, insect pricking and traces of damp on the shell. Sulfur is burned in a closed chamber containing the fruits. It causes the shells to turn yellow, whereas they are naturally pinkish red when the fruits are ripe. The fruits are then sorted again and packed. They remain yellow for as long as they are kept chilled. The colour gradually changes to pink ochre or purplish red when under warmer, moist, ventilated conditions to eliminate the sulfur.

Sulfur treatment is the cornerstone of litchi marketing insofar as it lengthens conservation time, providing access to sea transport and hence large-scale exports. The procedure is used for several other fruits such as table grapes and dried fruits and it is also used for wines. The main difference is that litchi shells are not edible. Sulfur treatment is permitted in Europe under certain conditions. Consumer health protection regulations stipulate that the residual sulfur content must not exceed 250 mg/kg in the shell and 10 mg/kg in the fruit pulp. Numerous experiments have been conducted to define treatment procedures so that these limits are respected. Both professionals and the European authorities pay close attention to the issue. Numerous control operations are performed throughout the life of the fruit in order to ensure that the regulations are respected. The gradual implementation of certification by operators should enhance product traceability and the mastery of treatment operations.

The continued use of sulfur is questioned from time to time. Indeed, with the regulations generally moving towards the protection of consumer health, there is a great risk of heading towards a reduction in residue levels at best and at the worst banning treatment. One of the roles of the sector is therefore to pay great attention to changes in the regulations concerning this point. A search for new conservation methods can also be an important approach. Unfortunately, litchi does not have sufficient economic weight to mobilise the resources required for such research, as is the case for other fruits.

Temperature during storage and transport is another key component in maintaining fruit quality over time. Indeed, chilling after harvesting, treatment and packing is performed by the transport facilities used. Here, it will be noted that litchi is one of the few tropical fruits that can withstand low temperatures (1°C ± 0.5°C). The combination of sulfur treatment and chilling allows good conservation of litchi. Fast chilling to the heart of the fruit is important for maintaining quality. Chilling must then be maintained to ensure as long a life as possible for the fruits. Any change in temperature may cause fruit deterioration and senescence.

Before sulfur treatment

After sulfur treatment

Photos © Christian Didier

Litchi

Varieties

by Christian Didier

Litchi sinensis Sonn.
Sapindaceae
Origin: Southern China (Canton region)

A great number of varieties exist around the world. Only those seen on export markets are mentioned here.

Shahi

(Muzaffarpur)

The fruits are medium-sized (20 to 25 g), bright pink and in clusters. The pulp is sweet. This is the most common variety in Bihar State in India. It is of very good export quality but susceptible to cracking and sun-scorch. The trees are vigorous with steady production (80 to 100 kg per tree).

Kwaï mi

(Mauritius, Tai So)

The fruits are medium-sized (22 to 25 g) and bright red in clusters of 12 to 30. Fruit quality is good. This is the most widespread variety in the Indian Ocean. Production is steady with little alternate bearing. The trees are of medium vigour and slender.

Haak Yip

(Black leaf)

The fruits are medium-sized (20 g), dark red and in clusters of 15 to 25. The peel is smooth and hard. The stones are medium to large. The flesh is good to excellent, sweet and aromatic and forms 70 percent of the fruit. The trees are of medium vigour, compact, straight and bear well.

Chakrapad

(Emperor)

A large heart-shaped fruit (32 g). The skin is thin and flexible, dark red with yellow patches. Moderately juicy, the pulp may remain slightly acid. Fairly large stone. The trees are of average vigour with an erect habit, long branches and dense foliage.

Rose scented

The fruits are medium-sized (16 g), globular and heart-shaped. The pulp is very sweet with an aroma of roses, whence its name. The variety is grown mainly in Uttranchal in India.

Photos © CIRAD Réunion

Wholesale market prices in Europe

April/May 2017

					EUROPEAN UNION - IN EUROS				
					France	Holland	UK	Germany	Belgium
AVOCADO	Air	TROPICAL	BRAZIL	Box	15.20	16.50			
	Sea	FUERTE	ISRAEL	Box	10.00				
			KENYA	Box	10.75				
			PERU	Box	8.63	10.50	9.07		
			SOUTH AFRICA	Box	8.88	10.25	10.58		
		HASS	BRAZIL	Box	12.33				
			COLOMBIA	Box	12.33	13.25		11.00	
			ISRAEL	Box	13.50				
			KENYA	Box	10.13	10.75		11.00	
			MEXICO	Box	12.33	15.00			
			PERU	Box	12.29	14.75		14.50	
			SOUTH AFRICA	Box	12.33	13.75		13.50	
		PINKERTON	ISRAEL	Box	12.00				
			KENYA	Box	10.50				
			SOUTH AFRICA	Box	9.13	10.50			
		ARDIT	ISRAEL	Box		10.00			
		ETTINGER	ISRAEL	Box	11.00				
			PERU	Box	6.75	8.25			
		ZUTANO	PERU	Box		10.25			
	Truck	HASS	SPAIN	Box	18.50				
BANANA	Air	SMALL	COLOMBIA	kg	6.80				
			ECUADOR	kg		5.83			
	Sea	RED	ECUADOR	kg		2.78			
		SMALL	ECUADOR	kg	2.10				
CARAMBOLA	Air		COLOMBIA	kg			4.53		
			MALAYSIA	kg		6.67			
	Sea		MALAYSIA	kg		3.75			
COCONUT	Sea	NOT DETERMINED	COTE D'IVOIRE	Bag	10.75	12.83	15.25		
			SRI LANKA	Bag			8.82		
			VIETNAM	Bag		14.50			
DATE	Sea	DEGLET	ALGERIA	kg	4.80	2.19			
		MEDJOOL	ISRAEL	kg	9.00	7.11			
			SOUTH AFRICA	kg		10.04			
		NOT DETERMINED	ALGERIA	kg		2.80			
			ISRAEL	kg			5.51		
			TUNISIA	kg		2.00	1.87		
		BAHRI	PERU	kg		6.57			
GINGER	Sea		CHINA	kg	1.80	1.19	1.27		
			THAILAND	kg	2.00	1.36			
GUAVA	Sea		BRAZIL	kg			3.05		
LIME	Sea		BRAZIL	kg	2.05	1.30	1.29		1.22
			MEXICO	kg		1.41	2.39		1.44
MANGO	Air	KENT	COTE D'IVOIRE	kg	5.38				
			PERU	kg		6.33			
			BURKINA FASO	kg	3.86				
			MALI	kg	4.36				
		NAM DOK MAI	THAILAND	kg		8.00			
		AMELIE	BURKINA FASO	kg	2.77				
		KEITT	BRAZIL	kg	3.33				
		PALMER	BRAZIL	kg		4.92			
		VALENCIA	MALI	kg	3.28				
	Sea	ATKINS	BRAZIL	kg	1.84	2.00	2.09	1.63	
			COSTA RICA	kg	1.60	1.88			
			SOUTH AFRICA	kg	1.50				
			GUATEMALA	kg		1.81			
		KENT	COSTA RICA	kg					2.13
			COTE D'IVOIRE	kg	1.80	1.63			1.75
			PERU	kg					2.13
			SOUTH AFRICA	kg	1.75				
			BURKINA FASO	kg		1.75			
			MALI	kg					1.75
			GUINEA	kg					1.75
		KEITT	BRAZIL	kg	2.00	2.15			
			COTE D'IVOIRE	kg					1.75
			SOUTH AFRICA	kg	1.75				
			MALI	kg					1.75
			GUATEMALA	kg		1.75			
			GUINEA	kg					1.75
			PUERTO RICO	kg		1.75			
		PALMER	BRAZIL	kg	2.00	2.10			
MANGOSTEEN	Air		THAILAND	kg		9.00			
			INDONESIA	kg		10.00			
			MADAGASCAR	kg		10.00			

					EUROPEAN UNION - IN EUROS				
					France	Holland	UK	Germany	Belgium
MANIOC	Sea		COSTA RICA	kg	1.43	1.33			
MELON	Air	CHAR. GREEN	MOROCCO	kg	2.45				
		CHAR. YELLOW	DOMINICAN REP.	kg	4.90				
			SENEGAL	kg	2.60				
	Sea	CHARENTAIS	BRAZIL	kg	1.58				
			HONDURAS	kg		1.45			
		CANTALOUP	BRAZIL	kg	1.45		1.00		
			COSTA RICA	kg	1.60	1.20			
			HONDURAS	kg		1.35	1.03		
		GALIA	BRAZIL	kg	1.20		2.59		
			COSTA RICA	kg		2.10			
			HONDURAS	kg		1.60			
		HONEY DEW	BRAZIL	kg	1.18	0.80			
			COSTA RICA	kg		0.89	1.01		
			HONDURAS	kg		0.95			
			GHANA	kg			0.95		
		WATERMELON	BRAZIL	kg			1.11		
			COSTA RICA	kg	0.96	0.39	0.88		
			PANAMA	kg	1.07	0.35	0.69		
			MOROCCO	kg		0.55			
		PIEL DE SAPO	BRAZIL	kg	1.00	0.38	1.02		
			COSTA RICA	kg		0.40			
			SENEGAL	kg	0.85				
		CHAR. GREEN	MOROCCO	kg	0.73				
		SEEDLESS WATER	COSTA RICA	kg	1.05				
PAPAYA	Air	FORMOSA	BRAZIL	kg		3.22			
		NOT DETERMINED	BRAZIL	kg	3.60	3.33	4.27		3.57
			ECUADOR	kg		2.64			
			JAMAICA	kg		3.71			
	Sea		BRAZIL	kg			1.50		
			ECUADOR	kg		2.07			
PASSION FRUIT	Air	NOT DETERMINED	BRAZIL	kg			4.56		
			COLOMBIA	kg	5.50	7.19	5.28	5.00	6.00
		PURPLE	BRAZIL	kg			4.54		
			KENYA	kg		6.25			
			SOUTH AFRICA	kg		7.25			
			VIETNAM	kg	8.50				
			ZIMBABWE	kg		7.00			6.00
		YELLOW	COLOMBIA	kg		9.25			
			ECUADOR	kg		8.42			
PHYSALIS	Air		COLOMBIA	kg	10.00	6.67	7.63		
	Sea		COLOMBIA	kg	5.67	5.52			
PINEAPPLE	Air	MD-2	COTE D'IVOIRE	kg				1.54	
			BENIN	kg	2.19				
		VICTORIA	MAURITIUS	Box		13.50			
			MAURITIUS	kg	3.80				
			REUNION	kg	4.40				
	Sea	MD-2	COLOMBIA	Box		9.00			
			COSTA RICA	Box		7.97		8.25	7.63
			COSTA RICA	kg	1.09				
			COSTA RICA	Piece			1.17		
			COTE D'IVOIRE	kg	1.14				
			COTE D'IVOIRE	Piece			0.99		
			ECUADOR	Box		8.50			
			PANAMA	Box		8.25			
PITAHAYA	Air	RED	VIETNAM	kg		7.50			
		YELLOW	ECUADOR	kg		10.00			
PLANTAIN	Sea		COLOMBIA	kg	1.10				
			ECUADOR	kg	1.05	1.08			
			WINDWARD ISL.	kg			1.32		
POMEGRANATE	Air	WONDERFUL	ISRAEL	kg	2.75				
			PERU	kg	3.25	2.83			
			SOUTH AFRICA	kg	2.90	3.00			
		SMITH	PERU	kg	3.35				
		ACCO	PERU	kg	2.20				
			SOUTH AFRICA	kg	2.90	3.00			
		HERSKOWITZ	SOUTH AFRICA	kg		3.00			
		BAGHWA	INDIA	kg		2.86			
	Sea	NOT DETERMINED	CHILE	kg		2.63			
			PERU	kg			1.91		
			SOUTH AFRICA	kg			2.34		
		WONDERFUL	ISRAEL	kg	2.50				
			PERU	kg	2.90	2.17			
			SOUTH AFRICA	kg	2.90				
		HERSKOWITZ	SOUTH AFRICA	kg		2.37			

Note: according to grade

These prices are based on monthly information from the Market News Service, International Trade Centre UNCTAD/WTO (ITC), Geneva.
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