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English edition

Pineapple

On the move again!

Litchi

Forecast for
Madagascar

Counter-season tomato:
A market doing quite nicely

Côte d'Ivoire mango:
A backward step?

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In this post-truth age when fake news, conspiracy theories or beliefs have a profound effect on shaping opinions, it is reassuring to observe that reason is still holding up. Twenty years ago, Cirad organised a conference at the Paris Agriculture Show on the theme "Banana & Environment". Despite being viewed as kamikazes or even saboteurs, the organisers had the satisfaction of opening up a debate which has never been closed since. At the time, the operators had observed, rather depressingly, that a commercial strategy and marketing plan promoting the fact that the bananas underwent less treatment would be doomed to failure. Without doubt, this "less" would represent for the consumer a quasi-divine revelation that fruits are (mis)treated. With this debate and the best intentions in the world, Cirad seemingly drove the sector toward industrial and commercial mishap, whereas the idea was to show a possible avenue for progress. Two decades later, we cannot help but observe that opinions have changed. A wide range of products free from insecticides, antibiotics, or from this, that or the other, are being put forward as the new big thing in food progress, which is of course good news. The concept is now even being harnessed commercially! Ultimately, innovations in small strides are worthy of their place alongside breakthrough innovations, spearheaded by the organic sector. So the consumer is now all grown up. All that remains is for the producers and distributors to continue to implement their minor revolutions together, and above all not to fall into the comfortable trap of a latter-day green washing.

Denis Lœillet



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Cover photograph: © Thierry Lescot

Banana

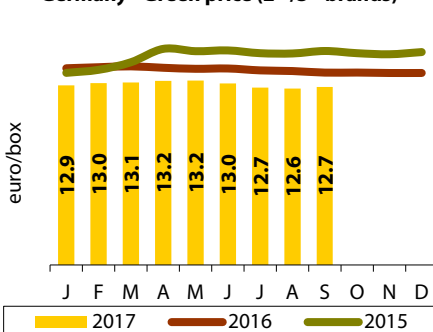
September 2017

The pressure gradually subsided over the course of September. The European market regained some balance, though only a hesitant brighter spell in terms of prices was observed. The overall supply was slightly down from August, maintaining levels similar to last year. Imports from Africa and the French West Indies were in shortfall (African seasonal increase delayed, FWI volumes shrinking). Despite shiploads being restricted by certain importers, incoming dollar banana shipments remained above average: Colombia reached its production peak (better efficiency) with large volumes, and Ecuador maintained higher levels than in previous years in Europe. Furthermore, demand was livelier and in step with the supply available in Western Europe, helping restore the balance. After a very sluggish summer, sales picked up thanks to the new school year, the fall in temperatures and above all the implementation of large-scale promotions promoted by limited competition from seasonal fruits (summer fruits ending early, autumn fruits in shortfall). In Eastern Europe, although demand did not really pick up, the markets recovered because of the end of clearances from Western Europe, which disrupted the markets this summer. Hence green banana prices rose only slightly from August, remaining lower than in previous years. It was only in Spain that prices were able to recover seasonal levels, thanks to livelier demand and in spite of the seasonal increase in volumes of Canaries platano.

NORTHERN EUROPE — IMPORT PRICE

September 2017 euro/box	Comparison	
	previous month	average for last 2 years
12.75	+ 1 %	- 12 %

Germany - Green price (2nd/3rd brands)



■ **Ecuadorian banana: slight fall in minimum price per export box in 2018.** The government has taken the decision to support the export sector, albeit half-heartedly, in the ritual negotiations aimed at setting the minimum guaranteed price for producers in 2018. Exporters were arguing for a substantial reduction, to compensate for the fall in prices registered in 2017 on the international market, and restore some competitiveness to the Ecuadorian Cavendish banana, roughly treated in their opinion by increased competition from other South American producers. This argument is somewhat disputable with a look at the figures, which show a considerable drop in exports to the United States where Guatemala continues to gain ground (- 34 % as at late July!), but a rise in overall shipments, due in particular to increasingly strong positions in the EU-28 since the reduction in Customs duty (+ 11 % as at late July). There is no surprise in this context that the State's

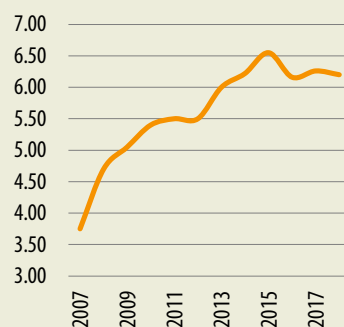
decision has a foot in both camps; true with a reduction, but of 0.06 USD (barely - 1 %).

Source : CIRAD

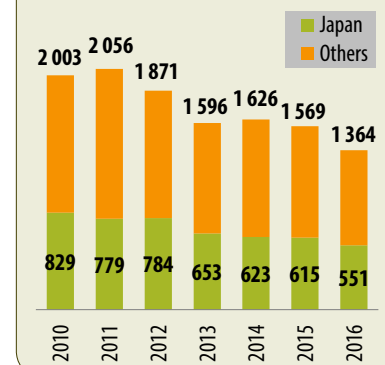
■ **Philippines: banana sector under attack from all sides.** All the players in the Philippine banana sector are getting worked up and demanding State support in the face of a crisis, which according to them could lead to their business being wiped out. The latest problem to date is the insecurity due to the government's fight against armed Islamist groups on the island of Mindanao, where martial law has been declared. Professionals are asking for army protection for the plantations. Furthermore, the industry must cope with a large-scale infestation of race 4 Fusarium, detected in 2008, and major competitiveness problems. Exports collapsed by more than 20 % between 2011 and 2016, especially to the country's two key markets, Japan (- 25 %) and China (- 15 %).

Source : CIRAD

Banana - Ecuador - Official minimum price paid to producer
(in USD per 43-lb box)



Banana - Philippines - Exports
(in 000 tonnes / source: PBGFA)



EUROPE - RETAIL PRICE

Country	September 2017		Comparison	
	type	euro/kg	August 2017	average for last 3 years
France	normal	1.56	- 7 %	0 %
	special offer	1.25	-	- 1 %
Germany	normal	1.29	- 1 %	- 5 %
	discount	1.09	- 1 %	- 10 %
UK (£/kg)	packed	1.02	+ 1 %	- 5 %
	loose	0.79	+ 1 %	+ 6 %
Spain	platano	2.00	- 1 %	- 2 %
	banano	1.24	- 2 %	- 4 %

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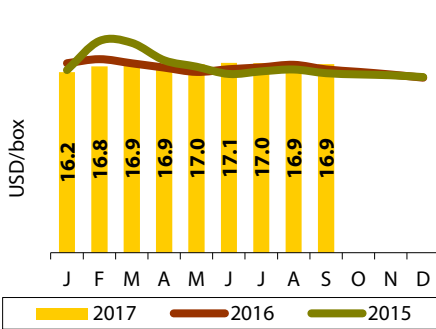
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Banana

UNITED STATES

USA - Green price (spot)

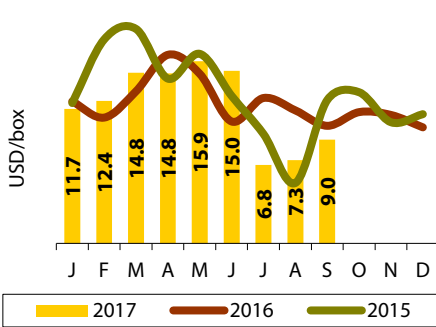


UNITED STATES - IMPORT PRICE

September 2017 USD/box	Comparison	
	previous month	average for last 2 years
16.93	0 %	+ 4 %

RUSSIA

Russia - Green price CIF St. Petersburg

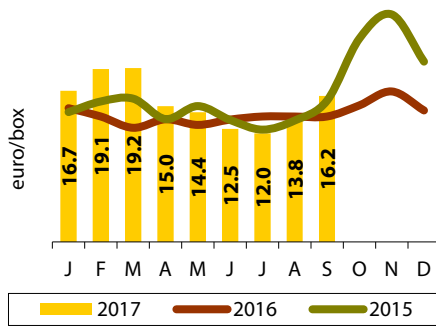


RUSSIA - IMPORT PRICE

September 2017 USD/box	Comparison	
	previous month	average for last 2 years
9.02	+ 24 %	- 21 %

CANARIES

Spain - Platano - Green price



CANARIES - IMPORT PRICE*

September 2017 euro/box	Comparison	
	previous month	average for last 2 years
16.20	+ 17 %	+ 10 %

* 18.5-kg box equivalent

■ **All going well in the banana world... at the least in terms of volumes consumed.** The EU-28 imported nearly 3.9 million tonnes over the first eight months of 2017, i.e. a dizzying rise of 7 % from 2016, and indeed 11 % above the 2014-2015-2016 average. Among the dollar origins, all those shipping more than 50 000 tonnes were up by more than 10 %, except for Costa Rica (+ 2 %) and Peru (+ 3 %). While Costa Rica favoured the United States (+ 17 %), Peru went through a sticky patch in production. Within the ACP group, it is the Dominican Republic (- 18 %) which struggled, and will continue to do so for another year due to the considerable damage caused by the recent flooding. Cameroon is also down by nearly 3 %, unlike its alter-ego Côte d'Ivoire, up by 8 %. Also in Africa, Ghana leapt up by 30 %, a growth which should be set for the medium term. Across the Atlantic, Belize (+ 9 %) picked up after a bad patch due to flooding. Surinam is on a downward slope, slowly (- 2 %) but surely (- 39 % in 4 years). Over



eight months, European production lost 12 %. The effects of the cyclone season in progress will impede the trend further, especially for French production. The Canaries are seeing no progress, but their supply has stabilised. In total, European consumption (imports + production) amounted to 4 270 000 t over the first eight months (+ 270 000 t) and to 6 083 000 t over twelve months (+ 285 000 t). In the United States, growth is running out of steam. It still has a rate of 3 % over eight months, but only 0.6 % over the last twelve, with Ecuador and Honduras strongly driving the downward trend.

Source: CIRAD

Banana – EU & USA – Supply from January to August 2017 (provisional)

000 tonnes	2015	2016	2017	2017/2016 difference
EU-28 - Supply	3 892	4 071	4 270	+ 5 %
Total imports, of which	3 479	3 622	3 874	+ 7 %
MFN	2 775	2 874	3 152	+ 10 %
ACP Africa	362	407	427	+ 5 %
ACP others	341	339	295	- 13 %
Total EU, of which	413	450	396	- 12 %
Martinique	127	136	94	- 31 %
Guadeloupe	41	43	35	- 19 %
Canaries	231	258	254	- 1 %
USA - Imports	3 114	3 146	3 250	+ 3 %
Re-exports	371	377	389	+ 3 %
Net supply	2 743	2 769	2 860	+ 3 %

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

EUROPE - IMPORTED VOLUMES - SEPTEMBER 2017

Source	Comparison		
	August 2017	September 2016	2017 cumulative total compared to 2016
French West Indies	↘	- 28 %	- 28 %
Cameroon/Ghana/Côte d'Ivoire	⇒	- 28 %	+ 3 %
Surinam	↘	- 46 %	- 8 %
Canaries	↗	- 4 %	- 2 %
Dollar:			
Ecuador	=	+ 19 %	+ 14 %
Colombia*	↗↗	+ 4 %	+ 12 %
Costa Rica	↘	- 4 %	+ 3 %

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

France
 Reveal continuing slowly, but improvement still to come on the French market. The sales tempo has maintained an average level, still higher for green than yellow bananas. The smaller presence of competing fruit and those promotions that are in place are equally helping interest in the banana. In addition, the supply has been more moderate. African volumes have maintained a downward trend, with levels nonetheless above average. The FWI showed more interest very early (EPA) and some dollar banana supplies have been available. Hence the stocks accumulated at the end of the year are slow in disappearing, though they are subsiding, and green banana prices have strengthened slightly, though levels are still disappointing and below average.

EU Arrivals
 FWI Arrivals
 Arrivals Côte d'Ivoire

Week 2: Arrivals EU FWI / Africa / Surinam			
Origin	ETA	From	To
Pointe du Diamant	Lu 07	Burkina	Amiens
Pointe du Diamant	Lu 09	Mali	Dunkirk
Pointe du Diamant	Lu 09	Guadeloupe	Amsterdam
Columbian Star	Di 08	Cameroon	Amsterdam
Columbian Star	Di 08	Côte d'Ivoire	Amsterdam
Columbian Star	Di 08	Ghana	P. Venetie/Vap
Columbian Star	Di 08	Cameroon	P. Venetie/Vap
Lady Rose	Ja 12	Ghana	Orléans
Lady Rose	Ja 12	Ghana	Orléans
Lady Rose	Ja 12	Côte d'Ivoire	Orléans
Dixie Pointe comments	ND		

Arrivals EU FWI / Africa / Surinam					
Week	Week	W / W-1	Tot 2017	Y / Y-1	Y / 12
Martinique	2	787	28%	1 350	-75%
Guadeloupe	563	927	-33%	1 552	-10%
TOTAL FWI	1 188	1 714	-31%	2 902	-59%
Ivory Coast	5 291	5 910	-10%	10 812	10%
Cameroon	5 305	1 092	-39%	1 851	25%
Ghana	759	12 523	-9%	23 873	19%
TOTAL Africa	11 355	799	-35%	1 319	-24%
Surinam	520	15 006	-13%	28 099	-5%
TOTAL	13 063	15 006			

EU - 28 reference price
 Trend
 Week 2 / Week 1
 2017 / ave 14-16

Green Prices
 2nd / 3rd brands
 € / box
 11.50 / 12.50 (13.00)

Retail Prices
 Retail Prices Germany
 Wholesale Prices Germany
 Retail Prices German Discounters
 Retail Prices German Discounters

Reference price
 Trend
 Week 2
 11.65 US \$ / box
 -0.25 \$
 -5 %
 Week 1 / 2017 / ave 14-16

Germany
 German market struggling to pick up and ease. Fruit availability has remained greater than market needs. On the one hand, incoming shipments have remained large and the stocks accumulated over the previous weeks have remained available. In the meantime, sales on the local market have only risen slightly, but not weak to absorb the fruits available. Similarly, on the export markets, despite picking up slightly, the pressure had held up and prices have remained competitive. In this context the market has not yet regained its balance, and despite a slight rise, the market prices remain unsatisfactory for this season.

Green Prices
 2nd / 3rd brands
 € / box
 11.50 / 12.50 (13.00)

Retail Prices
 Retail Prices Germany
 Wholesale Prices Germany
 Retail Prices German Discounters
 Retail Prices German Discounters

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Grapefruit

September 2017

The balance prevailed, with the transition between origins proceeding in a clear market context. Although demand was a bit livelier thanks to the end of the summer holidays and the new school year, sales did not prove particularly dynamic. The overall supply remained highly moderate. On the one hand, the final incoming shipments from South Africa were in shortfall, and what stocks were available gradually cleared, especially the large sizes. On the other hand, the Mexican season started with limited volumes because of the delayed picking (rains at the production stage), with fruits occasionally of heterogeneous maturity. Hence the switch from South African lines to Mexican ones proceeded slowly, taking effect at the end of the month. Prices remained stable, and slightly above average (+ 6 %) for the final South African batches, and at average levels (+ 2 %) for the Mexican fruits.

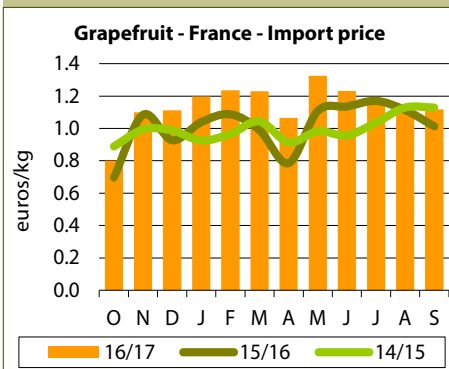
■ **2017-18 Floridian grapefruit campaign: Irma, or double sanction.** Just under 5 million field crates, i.e. 190 000 t, is all that reportedly remains of the Floridian grapefruit harvest, caught this season between the crossfire of Cyclone Irma and long-term greening, as virulent as it is omnipresent. These meagre volumes are nearly 40 % down on those achieved in 2016-17, and represent less than half of their 2015-16 level. Just as in 2004-05, the last campaign disrupted by a major cyclone, producers should concentrate on the fresh market to the detriment of the industrial sector (barely more than 40 % of the harvest was processed into juice in 2004-05, as opposed to 53 to 54 % in recent seasons). Nonetheless, the expected export shortfall should be considerable. Europe is set for a late start to the season, with the first significant quantities not expected until around mid-November. Florida controlled approximately 12 % of the European grapefruit market during the 2016-17 winter season, with volumes of approximately 23 000 t.

■ **Chinese shaddock wins back ground in the EU-28.** After the boom period from 2005 to 2010, Community imports of Chinese shaddock saw a recession against a backdrop of breaches of levels of certain pesticides. The product, which has become much more reliable in terms of food safety, seems to have enjoyed some renewed interest in recent seasons. European imports even reached a record level, approaching the 100 000-t mark in 2016-17. Consumers from the East of the EU-28 and Germany are fond of this large and cheap citrus. French distributors meanwhile have been loyal to the product, with certain chains even deciding to make it available year-round, referencing a counter-season supply from Vietnam or South Africa.

Source: CIRAD



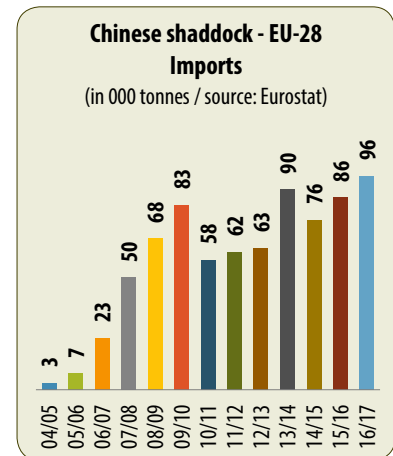
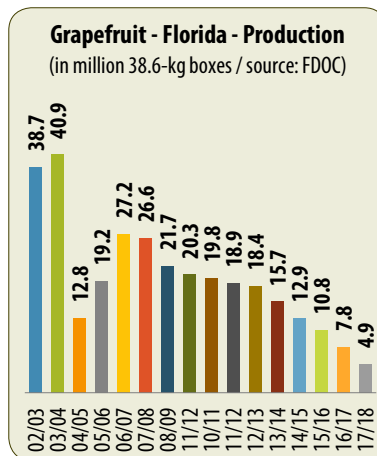
Source: FDOC



PRICE	Source	Average monthly price	Comparison with average for last 2 years
		euro/17-kg box equivalent	
	South Africa	16.80	+ 6 %
	Mexico	15.98	+ 2 %

VOLUMES	Source	Comparison	
		previous month	average for last 2 years
	South Africa	↘	- 24 %

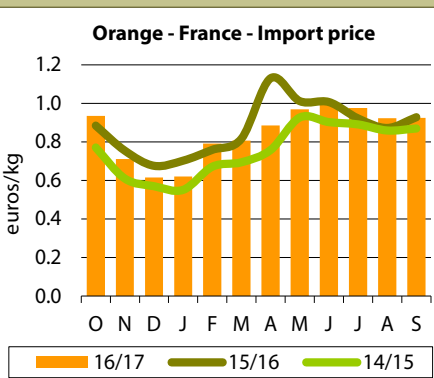
VOLUMES	Source	Comparison		Observations	Cumulative total / cumulative average for last 2 years
		previous month	average for last 2 years		
	South Africa	↘	- 24 %	Volumes in shortfall toward the end of the campaign, especially for large sizes (32/35).	+ 11 %
	Mexico	↗	-	Start of campaign with shipments at a low due to delayed picking following the rains caused by Hurricane Harvey in the Gulf of Mexico.	-



Orange

September 2017

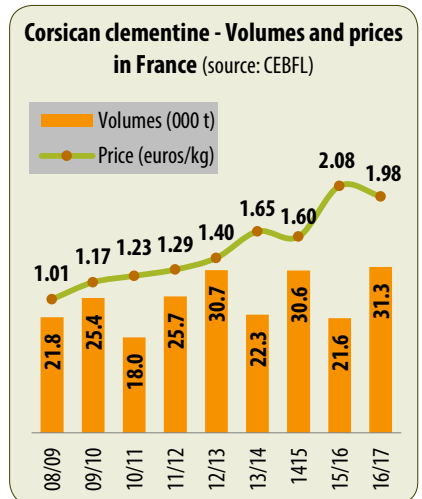
The orange market, tight at the beginning of the month, gradually regained a better balance. The table orange supply remained below average for the season. After a campaign well below par, the South African Navel finished early with small volumes (-38%). However, as regards juice oranges, after the early and high incoming shipments peak in August, Valencia Late shipments from South Africa stabilised at levels still above average for the season (+8%). While demand did not prove particularly lively for the orange, the absence of competition enabled the South African Valencia Late to enjoy relatively dynamic sales, helping sell off the large volumes entering the market since August. Valencia Late prices, after rising steeply at the beginning of the month, slumped back down to lower levels than last year.



■ **Spanish oranges and easy peelers: lean harvest expected in 2017-18.** The 2017-18 Spanish citrus harvest will be among the leanest in recent years. The 6.4 million tonnes expected marks a drop of 11% from the 2016-17 season, and of 7% on the four-year average. The fall will be particularly significant for the two heavyweights of the Iberian citrus industry, i.e. easy peelers and the orange, 14% and 8% below average, respectively. A major trough is expected in particular in the mid-season (highly marked shortfall of Nules clementines and Naveline oranges). The trend will be completely different for the lemon, another big speciality of the country, with the harvest set to be 13% above average, thanks in particular to the massive planting in recent years. The downturn in Iberian production is wholly attributable to the Valencian Community, with the production potentials practically stable in Andalusia and in the Murcia region. So the consequences on prices of oranges and easy peelers aimed at the international market should be considerable, with the Valencian Community on its own accounting for more than two-thirds of Spanish citrus exports. Nonetheless, the season is really struggling to get started at the time of going to press, with the Indian summer adversely affecting demand and the aesthetics of the produce, which is still under-sized in this first month of the campaign.

■ **Corsican clementine: lean harvest in 2017-18.** The 2016-17 campaign set new records across the board for Corsican producers. Volumes to market and the average campaign price reached historically high levels. This performance, achieved in a highly competitive context of abundant Spanish production, shows success of the island's producers' positioning policy for this iconic clementine. Production will be much more restrained in 2017-18 (25 000 t expected, i.e. down 20% from 2016-17), because of the alternate bearing effect and a cold spell in the spring. The season is set to be early (first volumes arriving from 15-20 October).

Source: CIRAD



Source: CIRAD

Citrus – Spain – Harvest

in 000 tonnes	2013-14	2014-15	2015-16	2016-17	2017-18	2017-18 compared to	
						2016-17	2013-18 average
Easy peelers	2 204	2 372	2 037	2 367	1 938	- 18 %	- 14 %
Orange	3 914	3 499	3 052	3 654	3 231	- 12 %	- 8 %
Lemon	1 024	1 154	802	1 090	1 150	+ 6 %	+ 13 %
Grapefruit	66	85	72	81	61	- 25 %	- 20 %
Total	7 209	7 110	5 963	7 192	6 381	- 11 %	- 7 %

Sources: GVA, Ailimpo, Junta Andalucia

PRICE	Type	Average monthly price	Comparison with average for last 2 years
		euro/15-kg box	
	Dessert orange	13.80	+ 11 %
	Juice orange	14.33	+ 4 %

VOLUMES	Type	Comparison	
		previous month	average for last 2 years
	Dessert orange	↘	- 38 %
	Juice orange	↗	+ 8 %

VOLUMES	Varieties by source	Comparison		Observations	Cumulative total / cumulative average for last 2 years
		previous month	average for last 2 years		
	South African Navel	↘	- 38 %	Rapid fall in incoming shipments. Early end to the campaign, with volumes in shortfall. Quality concerns.	- 21 %
	South African Valencia late	↗	+ 8 %	After high incoming shipments in August, ongoing rise to levels closer to average.	+ 14 %

Avocado

September 2017

The market gradually regained its balance in September, after a difficult transition between the summer and winter origins. The Hass supply remained above-average (+ 31 %), though with a smaller surplus than in August. Peruvian shipments returned to average, while South African shipment levels continued to wane into shortfall. However, the market remained swollen because of stocks of highly heterogeneous quality present throughout the month, and the early rise to above-average levels from the winter origins (Chile, Mexico). Promotions helped clear these stocks and reduce the large volumes of small sizes. So prices remained low, hindering the incoming origins despite their better quality. Pressure from stocks subsided at the end of the month, and prices strengthened thanks to the end of the transition between summer and winter origins.

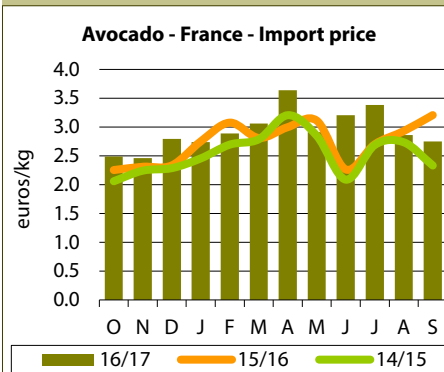


■ **Restaurants dedicated entirely to the avocado across Europe?** To say that the avocado is the fruit in fashion would be a euphemism. The opening in Amsterdam in spring 2017 of “The Avocado Show”, a restaurant whose menu is focused entirely on this fruit, seemed to be a long shot, or even sheer madness. However, after barely more than six months in business, the concept is now set to spread across Europe. Its designers, with the financial backing of the ex-CEO of Nature Pride, Shawn Harris, to the tune of 5 million euros over five years, have received 150 franchise applications, and around ten are under study. The first opening should come in late 2017, with others scheduled for Q1 2018.

■ **GEM, the jewel of Westfalia, now in Tesco.** As of late September, the British chain has been selling this “Hass like” avocado on a top-end market segment. GEM, named after the initials of its creator Gray E. Martin (of University of California) has numerous assets. In agronomic terms, its average yield is higher and less irregular between seasons than Hass, while its compact habit due to its genetic relationship with Gwen makes it well-suited to high-density planting. In organoleptic terms, it features an attractive thick skin featuring golden lenticels, while its taste qualities are deemed superior. Its harvest calendar is slightly later than for Hass. Westfalia is the exclusive owner of the rights to this variety worldwide outside of the United States.

Sources: Portal Fruticola, orange wings

Source: Westfalia



PRICE	Varieties	Average monthly price euro/box	Comparison with the last 2 years
	Green	9.76	- 5 %
Hass	10.88	- 2 %	

VOLUMES	Varieties	Comparison	
		previous month	average for last 2 years
Green	↘	+ 3 %	
Hass	↘	+ 31 %	

VOLUMES	Source	Comparison		Observations	Cumulative total / cumulative average for last 2 years
		previous month	average for last 2 years		
	Peru	↘	0 %	Hass campaign rapidly winding down. Volumes back to average, after record levels in August. Stocks of heterogeneous quality present.	+ 33 %
	South Africa	↘	- 47 %	Fall ongoing well into shortfall for Hass (- 37 %), but most of all for green varieties (- 64 %).	- 15 %
	Mexico	↗	+ 3 %	Ongoing increase in shipments, with levels back to average for the season.	+ 18 %
	Chile	↗	+ 102 %	Early start to the season, with rapid progress. Volumes higher than in other years.	+ 126 %

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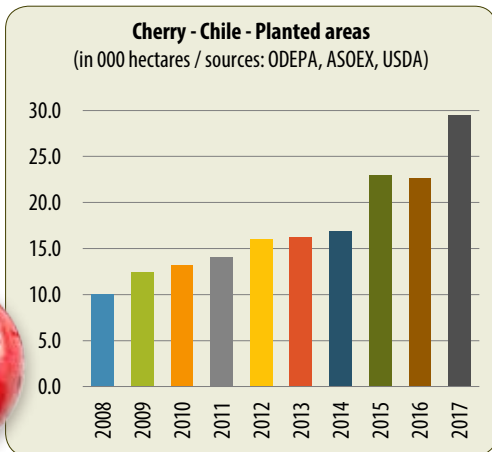
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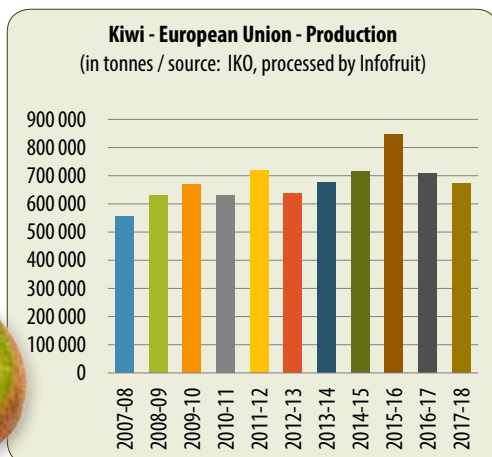
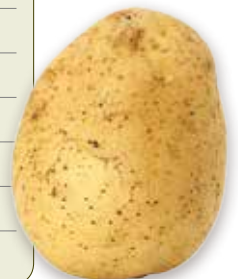
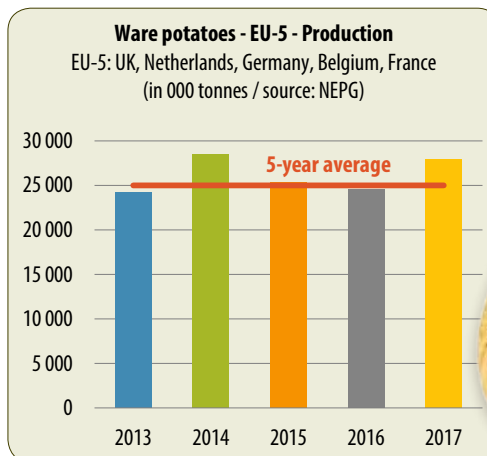


■ **European potato: fine harvest confirmed.** The latest estimates by the NEPG (North-Western European Potato Growers) have confirmed an abundant harvest: approximately 27.9 million tonnes for the ware potato, due to an increase in surface areas of 4.6 % from 2016, and an average yield currently estimated at 48.2 t/ha, up 2.9 % on the five-year average. This harvest was 11.5 % above the five-year average, but at this stage, smaller than in 2014, which was 28.5 million tonnes. The difficulties generally observed at the beginning of the growing cycle were then made good during the vegetative phase, and decent quality should also be achieved. However, the NEPG believes that a comparison with 2014 is unrealistic, since demand for potatoes aimed at processing has since then increased by 1.5 million tonnes, and exports of finished products to third countries (non-EU) has continued to progress in recent months, despite less favourable currency parity (a strong euro being less favourable for European exports). Furthermore, according to the NEPG, additional potato flows, to both the Netherlands and Germany, will be aimed at the potato starch and animal feed industries. The NEPG will publish more precise figures on the harvest again by late October-early November.

Source: NEPG

■ **Chilean cherry: potential still growing.** Cherry planting in Chile has continued at a high rate of + 9 % per year on average for the past twenty years. The increase even seems to have been speeding up in recent years, with another 31 % rise forecast for this campaign, i.e. 29 500 ha in total! It can still be explained by strong Chinese demand, which absorbed 80 % of volumes (74 800 t in 2016-17, i.e. + 8 %), and also by the conversion from other crops such as the grape and apple, which are somewhat struggling, by the higher planting density and by the development of orchards further south. In fact, production was hard until now because of heavy precipitation, but it has been facilitated by installing protection, feasible given the current profitability. So production should increase, especially since the winter climate conditions have been favourable, with enough cold hours and a fairly warm spring which helped the fruit mature early, meaning that the harvest is currently ten days ahead of schedule. So forecasts for the moment are predicting a potential of nearly 123 000 t (+ 7 %), between the increased yields of the new varieties and the entry into production of young orchards, for an export potential of nearly 104 000 t (+ 8 %).

Source: Infofruit



■ **European kiwi: chilly spell in Italy.** European kiwi production is still struggling to express its full potential. Undermined in recent years by Psa, it was down again due to major climate variations. The April frosts above all hit Italian production (390 000 t, i.e. - 22 % on the 3-year average), while French production was not really affected, although certain climate episodes slightly reduced the potential, which should be around average (58 000 t). Greece meanwhile should set a new record at 185 000 t (+ 16 %), due to expanding surface areas. This crop is seeing continuing expansion in Portugal, though production has been more severely stricken by Psa. However, the harvest should be bigger than the previous one (25 000 t, i.e. + 19 %), which in addition was handicapped by a lack of cold hours. Finally, we can report that Spain will again see a restrained rise (15 000 t, i.e. + 11 %).

Source: Infofruit



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Roots & tubers

Q3 2017

The summer period saw a slowdown in roots and tubers consumption. Sale prices remained fairly stable, at a high level overall. What price variations there were, were most often caused by changes in the supplies. This was the case in particular for the plantain, its rates rising steeply after the fall registered in late spring. The breakthrough in dasheen shipments from Saint Vincent and the switch to the new harvest for Ghanaian yams temporarily boosted sales.

Sweet potato (SP)

In July and August, the white-fleshed sweet potato supply was provided by Honduras and South Africa, in the absence of Egypt which had suspended its exports early, in mid-May. Rates for these products held up until September, when Egypt returned to the market with growing volumes. The orange-fleshed sweet potato market saw parallel development, with produce

from Honduras, until the arrival of the first Spanish shipments in September. We should also note the appearance of a new origin in the orange-fleshed sweet potato supply – Senegal, a player hitherto unknown in this field. The first batches from this origin sold at high prices at the beginning of the period. They dipped in August down to the level of competing products. Some top-up batches of white-skinned and white-fleshed sweet potato from Italy (late July-early August) and Brazil (September) helped the varietal diversification. Orange and violet-fleshed sweet potatoes from the United States were also on the market throughout the period.

Yam

The yam market was driven primarily by the switch to the new Ghanaian harvest. After fairly low levels in July for the last batches of stored tubers, prices suddenly skyrocketed with the shipment of the

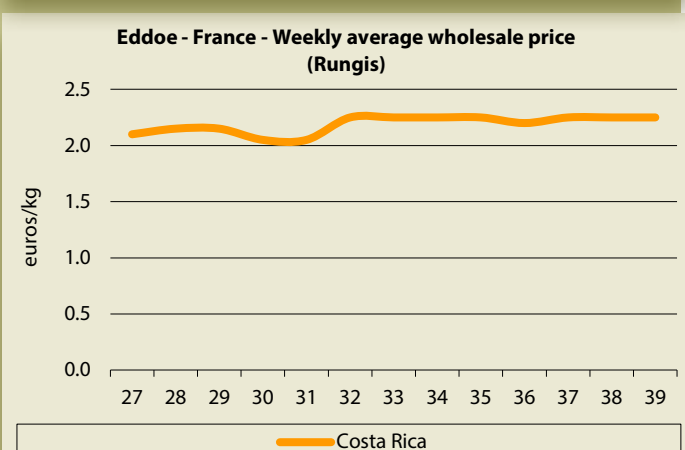
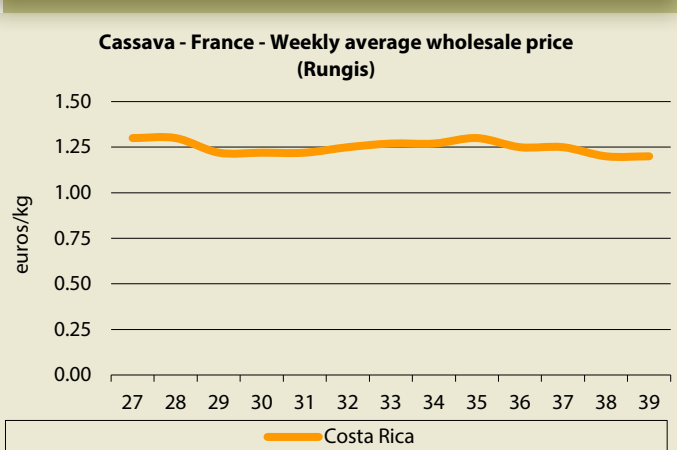
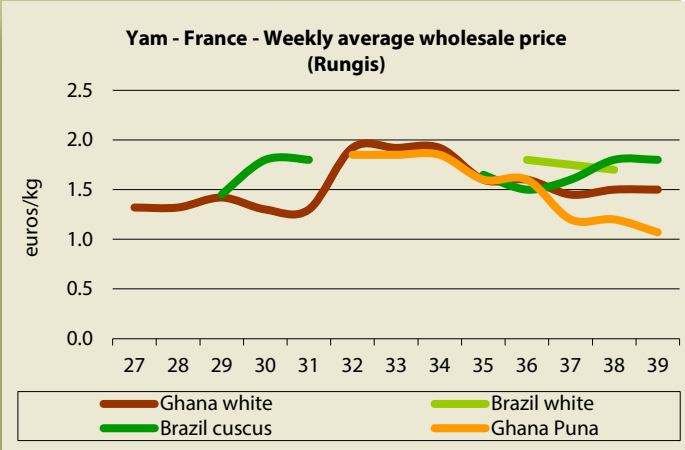
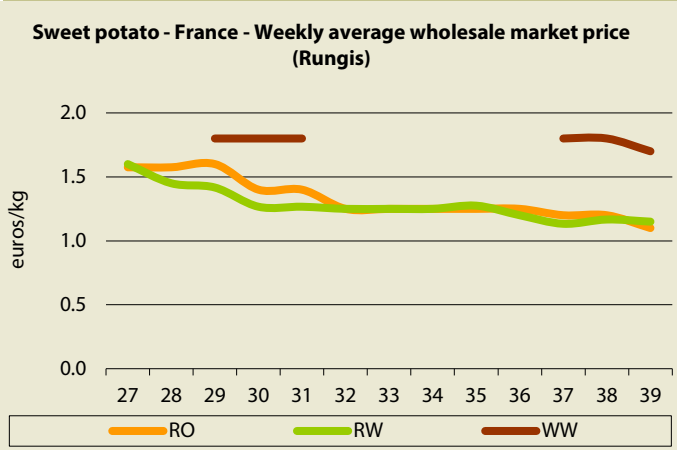
first batches of the new harvest, synonymous with a lean supply. Colombia took advantage of this lack of produce to market some quantities in August. In September, the combined volumes from Ghana and Brazil again fully satisfied demand, leading to a dip in rates. Small price differences could be observed between different types of yam (Cuscus, Puna, white), according to the quantities available.

Cassava

The price of Costa Rican cassava varied by around 0.10 euro/kg, downward in the second half of July, and then upward until late August. Rates took a downturn in September, and stabilised at the end of the month, at a lower level than was registered in early July.

Eddoe

There was a small price increase in Costa Rican eddooes from August, given the more limited supply.



Sweet potato: RO: red-skinned, orange-fleshed / RW: red-skinned, white-fleshed / WW: white-skinned, white-fleshed / Source: Pierre Gerbaud

Other exotics

Q3 2017

Plantain banana

The situation on the plantain banana market could scarcely have been worse at the beginning of the period. The large quantities shipped to a low-demand market had the effect of a collapse in sales conditions, and the establishment of a cycle of increased volumes / poor sales / qualitative deterioration / falling prices. The considerable scaling-back of shipments logically led to a rise in rates, which returned to a satisfactory level at the beginning of August. In September, prices subsided slightly given the more abundant supply.

Chayote and christophine

Rates were relatively stable and high for the Costa Rican chayote and christophine from July to September, with some marginal variations. The first half of August saw French-produced chayotes enter the market, obtaining slightly higher prices than for competing pro-

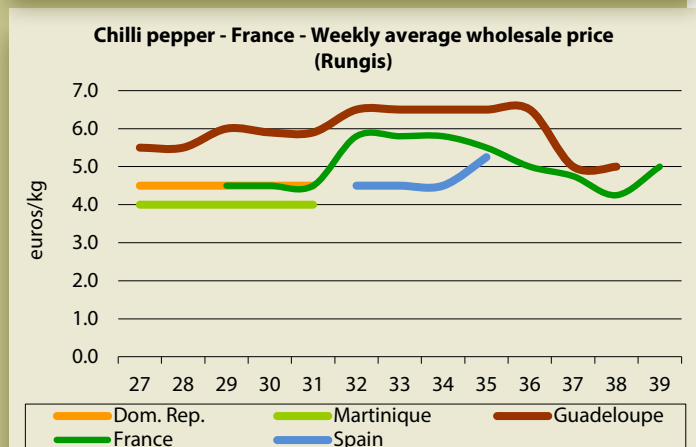
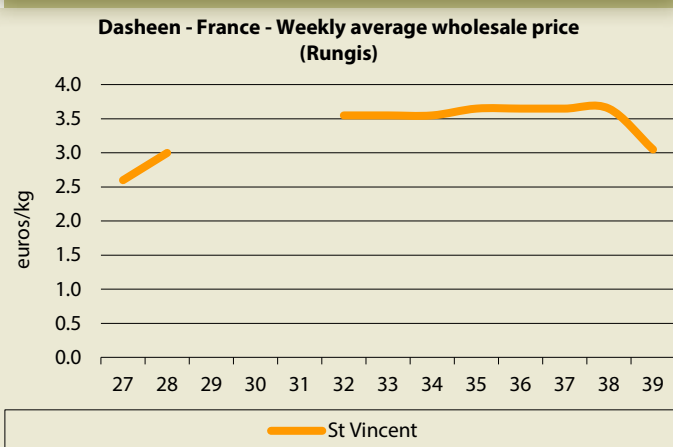
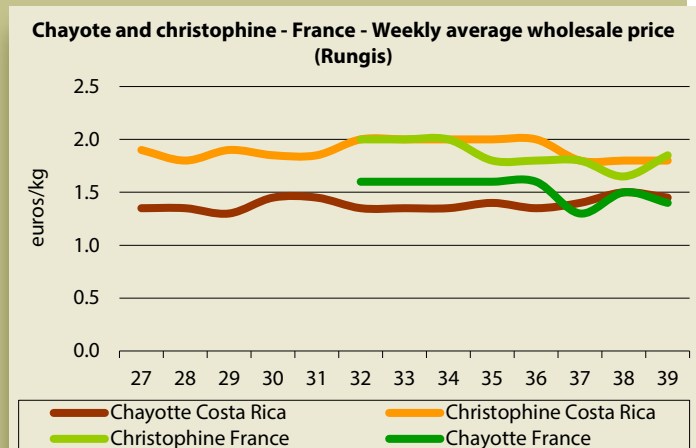
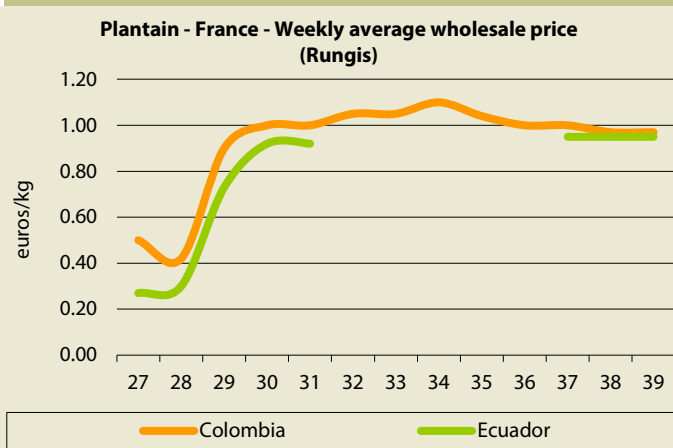
duce. The second half of August saw French-produced christophines make their appearance. In September, French produce saw its prices decline as the supply grew. Small air-freight shipments of christophine from Martinique at the end of July and the first half of August sold at around 2.80 euros/kg.

Dasheen

Dasheen shipments from Saint Vincent were suspended from mid-July to mid-August. This lack of produce caused a considerable price rise when shipments resumed. With a more normal supply tempo restored, dasheens saw their prices dip at the end of the period. A top-up air-freight supply from Martinique sold on a stable footing of 4.00 euros/kg throughout Q3.

Chilli pepper

Prices for chilli peppers from the Dominican Republic, Guadeloupe and Martinique were stable in July, though at different levels depending on the origin and quality of the produce. August saw the beginning of the French and European production campaigns, which led to the disappearance of Dominican produce from the market, its profitability no longer secure. The still-limited volumes enabled a considerable increase in prices, though this was short-lived. From the second half of the month, prices took a downturn as the French supply rose, but also the supply from other European countries (Spain, Portugal, Netherlands). Only produce from Guadeloupe retained higher prices, though it too followed the general market profile.



Mango

September 2017

The mango supply to the European market gradually altered in September. The Israeli campaign continued, though shipments slowed down bit by bit. Quantities of Kent, Shelly and Omer rapidly decreased, giving way to Keitt, mainly aimed at the supermarket sector. Rates of these products saw more considerable decreases for end-of-cycle varieties. Kent and Keitt prices remained higher, though they dropped in the second half-month. Meanwhile, Spanish Osteen volumes rose steadily, selling at prices which fell as the supply increased. Big price differences were observed depending on the fruit sizes, their quality and commercial brands available. Meanwhile Spain continued its Irwin shipments in limited quantities, which sold steadily at high prices aimed at traditional stores. In the second half-month, the Spanish supply was enriched with Kent, which was available in low quantities, obtaining strong and high prices given the near-absence of this variety on the market. Brazil also supplied the European market, with volumes increasing considerably. The increase in tonnages of Tommy Atkins, Keitt and Palmer from this origin led to a more marked dip in rates in the latter part of the month.

The air-freight market was under-supplied overall, with the end of the Israeli campaign and Brazil's gradual start, its supply primarily comprising Red Moon and Palmer, less sought-after in Europe. These products sold steadily at average prices, in the absence of real competition. Additional batches from Egypt sold at stable rates, favoured by the varietal exclusiveness of Kent and in spite of a frequent lack of coloration. Brazilian Kent made a hesitant start at the end of the month, selling at high prices.

MANGO - INCOMING SHIPMENTS (estimates in tonnes)

Weeks 2017	36	37	38	39
Air-freight				
Israel	30	25	-	-
Mexico	15	-	-	-
Brazil	-	25	50	40
Sea-freight				
Brazil	1 430	1 740	2 180	2 600

Pineapple

September 2017

The situation remained tight on the pineapple market in September. From the beginning of the month, the Costa Rican Sweet supply saw a steady rise, while overall demand for the fruit remained flat. Unbalanced due to the abundance of small sizes, this supply really struggled to sell. Facing a rise in stocks, operators had no other choice but to adjust prices to get sales moving. Unfortunately, the price reductions had no major effect on sales because of the flat demand. From the beginning of the second half-month, a proliferation of post-sale price transactions was seen, paving the way for final sale prices well below those stated below. Indeed, at the very end of the month, several sales were made at open prices, with the sole objective of preventing stocks from forming.

During the first half-month, the overall air-freight pineapple supply remained limited, despite the return to the market of the first batches from Benin. These

highly coloured fruits sold rather well at fairly high rates, which then dipped and stabilised. So the Cayenne supply primarily comprised fruits from Cameroon (still fairly irregular), Côte d'Ivoire, and to a lesser degree Ghana. As regards Sugarloaf, the supply of coloured fruits from Benin marginalised a little more the supply of green fruits, which really struggled to sell. However, from the second half-month, coloured fruits from Benin experienced quality problems (rapid development), leading purchasers to abandon them in favour of those from Ghana and Togo. Because of the weakness in general demand, top-up supplies of Sweet from Central America were very scarce.

The Victoria market was fairly lively, with demand mainly steady. However, the excessively rapid increase in supply while demand was still getting going led to a slowdown in sales, confirming that the fruit had not yet fully established itself.

PINEAPPLE - IMPORT PRICE IN FRANCE - MAIN SOURCES

Weeks 2017		36	37	38	39
Air-freight (euro/kg)					
Smooth Cayenne	Benin	2.10-2.20	2.00-2.10	2.00-2.10	1.80-2.00
	Cameroon	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	1.80-2.00	1.80-2.00	1.80-2.00	1.80-2.00
Victoria	Reunion	3.00-3.50	3.00-3.50	3.00-3.50	3.00-3.50
	Mauritius	3.00-3.60	3.00	3.00-3.30	3.00-3.30
Sea-freight (euro/box)					
Smooth Cayenne	Côte d'Ivoire	5.00-7.00	5.00-7.00	5.00-7.00	5.00-7.00
Sweet	Côte d'Ivoire	8.50-9.50	8.50-9.50	8.50-9.50	8.50-9.50
	Ghana	8.50-9.50	8.50-9.50	8.50-9.50	8.50-9.50
	Costa Rica	5.00-8.00	5.00-8.00	5.00-7.00	5.00-7.00

MANGO - IMPORT PRICE ON THE FRENCH MARKET

Weeks 2017		36	37	38	39	Sept. 2017 average	Sept. 2016 average
Air-freight (euro/kg)							
Egypt	Kent	3.50-4.00	3.80-4.00	3.80-4.00	4.00	3.75-4.00	4.40-4.50
Brazil	Palmer/R. Moon	-	3.50-4.00	3.50-4.00	3.50-4.00	3.50-4.00	-
Brazil	Kent	-	-	-	5.50	5.50	5.00
Israel	Shelly/Omer	3.80-4.00	3.80-4.00	-	-	3.80-4.00	2.50-4.00
Israel	Kent/Keitt	3.80-4.00	-	-	-	3.80-4.00	3.50-4.00
Sea-freight (euro/box)							
Brazil	T. Atkins	5.00-6.00	5.00-6.00	5.00-6.00	5.00-6.00	5.00-6.00	5.65-6.00
Brazil	Keitt	6.00-7.00	5.00-6.00	6.00-6.50	5.00-6.50	5.50-6.50	6.50-7.50
Brazil	Palmer	6.00-7.00	5.00-6.00	6.00-6.50	5.00-6.50	5.50-6.50	6.50-7.50
Israel	Kent/Keitt	7.00-8.00	6.00-7.50	6.00-7.00	6.00-7.00	6.25-7.35	6.00-6.10
Road-freight (euro/box)							
Spain	Osteen	8.00-10.00	8.00-9.00	6.00-8.00	6.00-7.50	7.00-8.60	9.90-12.80
Spain	Irwin	4.50-5.00	4.50-5.00	4.50-5.00	4.50-5.00	4.50-5.00	4.50-5.35
Spain	Kent	-	-	4.50-5.50	4.50-5.50	4.50-5.50	4.80-5.00

Sea freight

September 2017

September was an uncharacteristically quiet month in chartering activity terms: certainly if compared to 2015 and 2016, which saw an average three spot banana fixtures every 2 weeks east of the Panama Canal to the Med through to November. On the positive side for operators, there was no great accumulation of tonnage as the southern hemisphere citrus season came to an end, while several vessels made their final voyage to the beaches of the Indian subcontinent.

For the small segment it was very much a case of 'steady as she goes'. Demand for tonnage in the fishing grounds off Mauretania and Morocco exceeded supply: tonnage was tight and rates remained firm. The market for small ships was strong since early summer and with the northern hemisphere citrus and potato trades likely to be busier than last year, the average TCE rate for the second half of 2017 could well be the highest for almost three decades.

Meanwhile the first reefer vessel loaded Costa Rican pineapples and bananas to China. Should it be successful and lead to regular business, the short-to-medium term potential for both Costa Rican shippers and reefer operators is astronomical! The knock-on impact and benefits for other trades should not be underestimated.

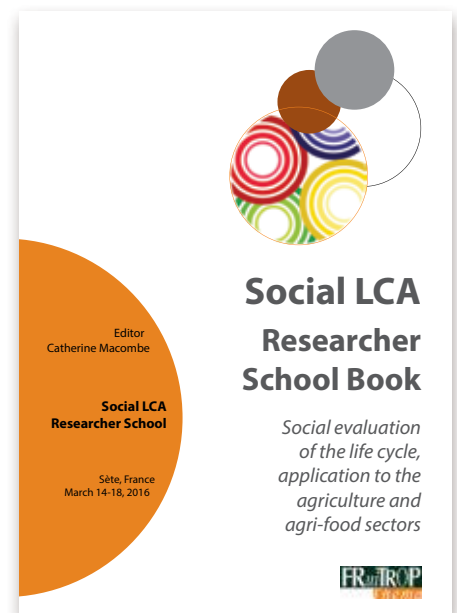
■ **CMA-CGM launches Morocco Express 1/2/3.** The group is launching another unprecedented service, aimed at providing a faster connection between Morocco and Europe: the Morocco Express 1/2/3. This service is an extremely competitive alternative to road transport via Spain, thanks to its reliability and the reduced environmental footprint. Three links are being set up :

- Casablanca / Tangiers / Marseille, sailing 3 times a week, 180 trailers,
- Tangiers / Marseille / Genoa, sailing twice a week, 180 trailers,
- Tangiers /Port Vendres, sailing once a week, 65 trailers.



Source: CMA-CGM

■ **Social LCA – Researcher School Book – Social evaluation of the life cycle, application to the agriculture and agri-food sectors.** Cirad and Irstea have published the third volume of the FruiTrop Thema series. More than a report on the training dispensed in March 2016 in Sète (France) on the evaluation of the social impacts of the agricultural industries, this book offers a methodology for understanding the social changes caused by agricultural activity in a given region. The ambition of this book is to take the reader from theory to tool. It is available in English in paper format (20 euros, contact: info@fruitrop.com) and free to download from the site www.fruitrop.com, publications section



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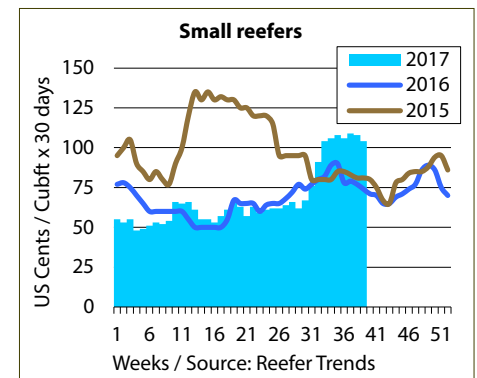
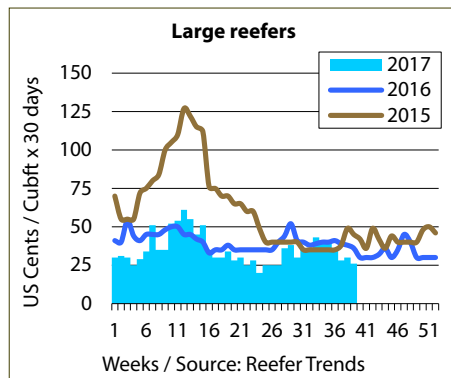
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EUROPE

MONTHLY SPOT AVERAGE

USD cents/cubic foot x 30 days	Large reefers	Small reefers
September 2017	33	105
September 2016	34	75
September 2015	39	78



Counter-season tomato

Market disrupted, but doing quite nicely!



© Régis Domergue

Although still greatly disrupted by intra and extra-European political challenges, the counter-season tomato market is currently falling foul above all of climate changes which are directly affecting yields and putting the effects of Brexit or the Russian embargo in the shade. Hence the 2017-18 campaign could well resemble the previous one, which was hard hit by heat and subject to high parasite pressure, but which ended up earning good value due to the reduced competition. In addition, no decision is expected for this campaign in terms of the lifting of the Russian embargo or Brexit.

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High level of extra-European imports in 2016-17, though no pressure in Western Europe

The counter-season tomato market, although still hard hit by political, climate and economic events rocking the European market, seems for the past two years to have entered a calmer phase in purely commercial terms. Although the raw extra-European import figures hint at a swelling market, with a new record set in 2016-17, this is solely attributable to the rerouting of Turkish tomatoes due to the Russian embargo (nearly 100 000 t, i.e. + 70 % on the 3-year average) to Eastern Europe primarily, and some to Central Europe. Yet paradoxically, the image of last campaign was that of a market without high pressure, enabling operators to earn good value for their produce.



While volumes imported into Europe exceeded the 500 000-t mark (+ 7 % on 2015-16), tonnages aimed at Western Europe were stable, or even slightly down. Hence imports from Morocco stabilised (374 500 t, i.e. - 1 %) and imports from other top-up origins apparently ebbed, with Tunisia (- 17 %) and Senegal (- 22 %) each exporting approximately 8 500 tonnes to Europe. As for Israel, the quantities again saw a clear fall, with a ten-fold reduction in just six years (1 190 t, i.e. - 22 %). This decline is however not attributable to the Spanish presence, which was less marked as in 2016-17, with only just over 700 000 t of shipments to the European market (- 12 % on 2015-16), according to European Customs figures taken between October and May. Nor was there any real consumption slowdown, although European production with artificial lighting has made progress, especially in Northern Europe, and to a lesser degree in France, where it starts early from March. Conversely, the market has exhibited fairly good demand, especially from early 2017, and therefore been under-supplied, making it possible to obtain lucrative prices for most tomato segments, especially at the beginning of the season.

Counter-season tomato – EU-28 – Imports from main suppliers (October to May)

in tonnes	2016-17	2016-17 compared to	
		2015-16	3- year average
Spain	712 251	- 12 %	- 13 %
Morocco	374 490	- 1 %	+ 3 %
Turkey	92 416	+ 70 %	+ 103 %
Senegal	8 557	- 22 %	- 23 %
Tunisia	8 431	- 17 %	- 11 %
Israel	1 190	- 22 %	- 66 %
Other extra EU-28 suppliers	27 588	+ 8 %	+ 56 %
Total extra EU-28 suppliers	512 671	+ 7 %	+ 14 %

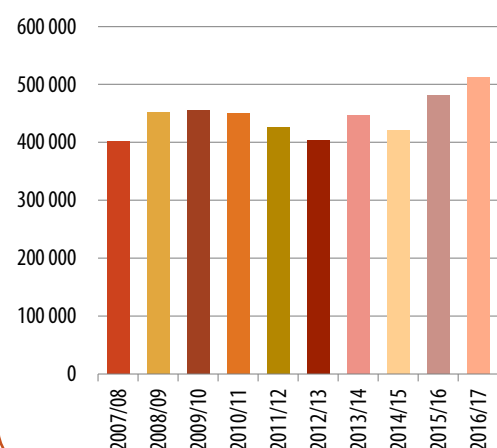
Source: European Customs



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Tomato - EU-28 - Extra-european imports October to May

(in tonnes / source: European Customs)



Good results in terms of value

So the fall in production is above all attributable to the climate conditions (high temperatures in summer, abundant rains in winter), and to a high parasite pressure in most Mediterranean countries, because of leaf curl virus, New Dehli or Tuta absoluta, with the latter considerably more widespread in Morocco last year. Hence production was slightly in shortfall in Spain last campaign (- 3 % on 2015-16 according to the official figures of the Ministry of Agriculture for the four main winter tomato production zones), in spite of similar surface areas overall to the previous campaign, although a 2 % decrease had been announced last year for Almeria. There was a very wide shortfall again for the Murcia zone at the beginning of the campaign with the summer heat (- 36 % on the three-year average), despite distinctly larger quantities than the previous campaign (+ 57 %). The volume also fell in the Canaries' season due to shrinking surface areas, down again by 2 % on 2015-16 (610 ha, i.e. 62 000 t). Conversely, while surface areas were stable in Morocco, the beginning of the season was again cut short last year by the high summer temperatures.

So the market was tight from the beginning of the season. The high autumn temperatures then led to rapid growth in volumes and a considerable fall in rates on a flat market, which led to very low price levels in November, with as little as 0.45-0.50 euro/kg. Yet the market recovered very quickly after the end-of-year holidays, with the cold weather reducing production in both Spain and Morocco. Rates strengthened further at the beginning of the year and remained high, although competition with European produce intensified. Mediterranean production, especially Spanish, remained below average for the season due to large-scale sorting required by the early heat. Demand rapidly picked up in April, boosted by the Easter holidays (16 April) and by an early spring. This had a positive effect, with Spanish exports, taken between May and October, gaining 8 % in value, and imports from Morocco gaining 12 % in value according to European Customs figures.



Purchasing on the rise in Northern Europe, but also in Spain

It should be emphasised that the trends vary between the different European Union markets. Certain destinations have now reached full maturity, whereas others are still open to extra-Community produce. While the French market remains by far the main outlet for Moroccan tomatoes, demand is often hesitant and importers based in Saint-Charles or even Rungis are increasingly re-exporting merchandise to other European Community countries. So French imports levelled out at 280 000 to 300 000 t, though this is after gaining 28 600 t in ten years! It is above all the big North European markets which are now the main driving forces behind European growth in the counter-season tomato, although Spain still has a strong presence in these destinations. Progress has been particularly marked over the past decade to the United Kingdom (+ 35 000 t) and the Netherlands (23 000 t), rather steady to Germany and Austria (7 200 t) and highly significant recently to Poland (15 000 t). Oddly, there has been a very considerable rise for the past three years on the Spanish market (from 15 000 to 20 000 t imported before 2015-16, 29 000 t in 2015-16 and 38 500 t in 2016-17), making this country, despite being an exporter, the number four destination for extra-European tomatoes! Finally, we should report that volumes rose again to Romania and Bulgaria, which as an indirect effect of the Russian embargo, practically regained their import level of a decade ago, with primarily an increase in flows from Turkey.

Volumes definitely in excess for 2017-18

The trend might well be confirmed this campaign, with the same effects and probably the same consequences. Surface areas are stable overall, or at the very most up slightly in Spain. There was another trade-off between crops in Almeria, which should lead to stabilisation and perhaps a fall in courgette surface areas, at the very least at the beginning of the season due to the problems associated with New Delhi virus. Yet this trade-off was of most benefit to the pepper (+ 5 to + 10 %), with a small rise too for the tomato. And although planting was carried out earlier, the supply was reduced again at the beginning of the season by the summer heat and drought ravaging the whole of Southern Spain. Hence volumes from Murcia remained anecdotal in September, meaning that the contracts could not always be covered, while progress in Almeria was not really expected before late October.

In Morocco, there should be no growth in surface areas, since producers are banking instead on other crops such as berries, including in the Marrakech zone. In addition, yields there could be reduced by parasite pressure, since although measures have been taken to combat *Tuta absoluta* in particular, the nature of the equipment (cold shelters) makes it difficult to hermetically seal the greenhouses. Finally, the campaign did not really start before mid-October for this origin because of the summer heat.

The politico-economic context should see little change, with the Russian government having decided against lifting the embargo on Turkey, so as to aid the development of local produce; while the effects of Brexit should not make themselves felt yet since the negotiations begun in 2017 between the EU and the United Kingdom are not due to end until 2019! The struggle between the European Union and representatives of Western Sahara is also ongoing. A first audience before the European Court of Justice (ECJ) for the representatives of the Polisario (Western Sahara organisation) was held on 6 September. It argues that European imports of agricultural produce from this territory, with mainly the tomato from the Sahara, are illegal since "produce from Western Sahara must not be considered as originating from Morocco for the purposes of preferential tariffs or any other advantage conferred to Moroccan products by the European Union". So the ECJ heard the plea and scheduled the summing up of the Attorney General for 15 December, before issuing its decision in Q1 2018. As a reminder, the tariff quota is now fixed for Moroccan tomatoes (257 000 t + 28 000 t additional quota), with the entry price still stable for the moment ■

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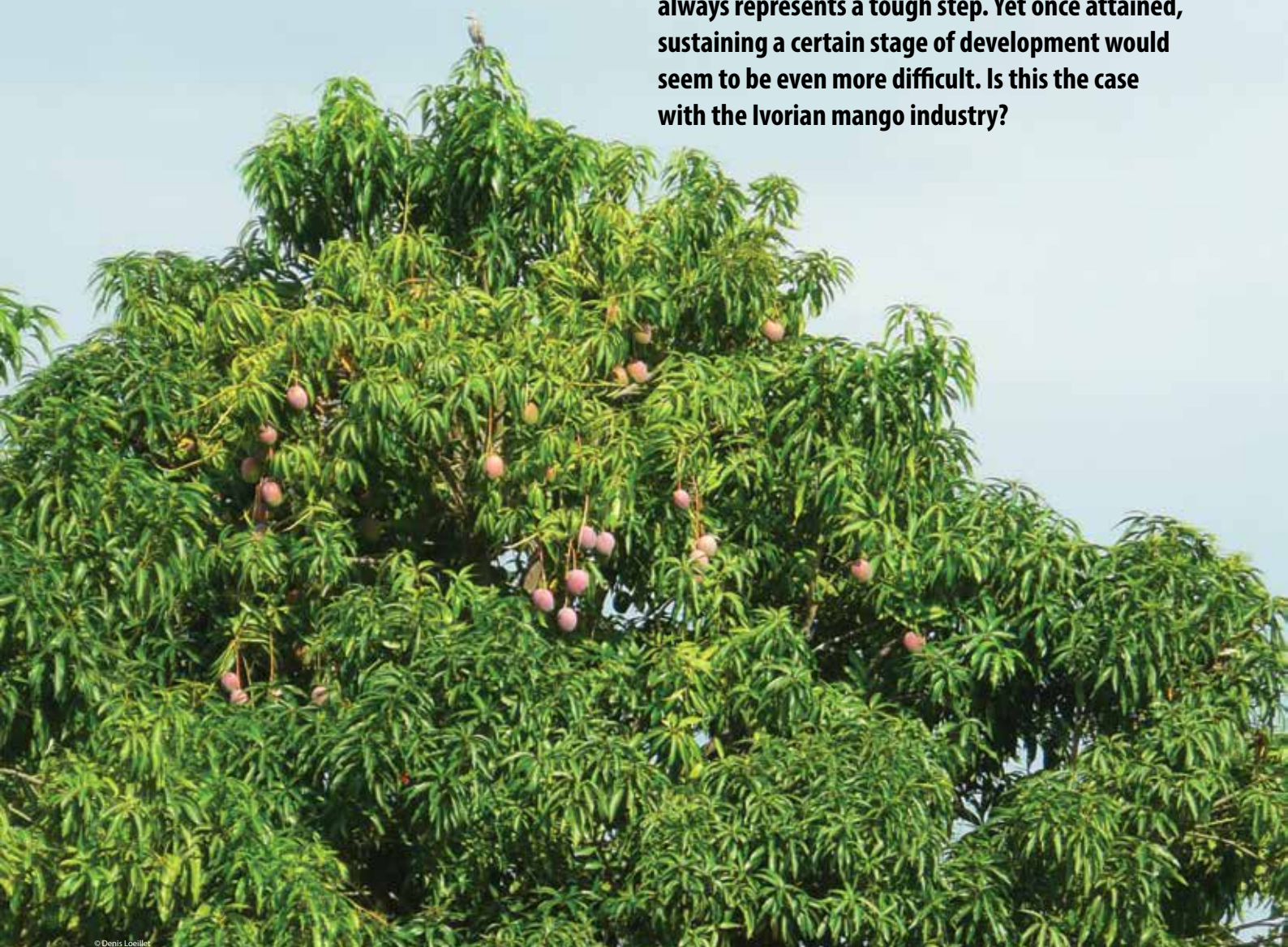
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Côte d'Ivoire mango

A backward step?

The rise of a horticultural industry, as well as its quantitative and qualitative improvement, always represents a tough step. Yet once attained, sustaining a certain stage of development would seem to be even more difficult. Is this the case with the Ivorian mango industry?



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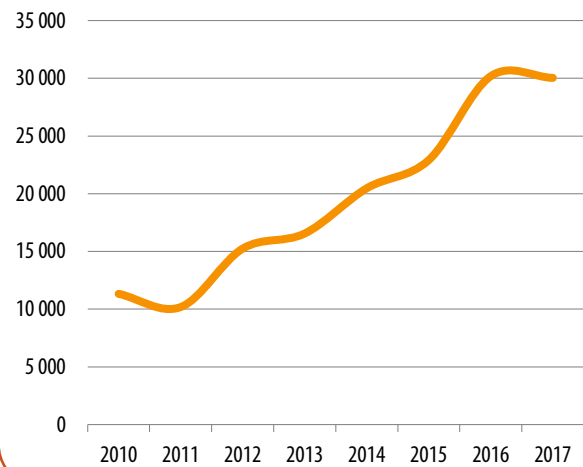
In recent years there have been plaudits for the leap forward made by the Ivorian mango industry, long restricted to exports of 7 000 to 12 000 tonnes in the 2000s, before rising from 2010 to triple its shipments by 2016, with a figure of more than 30 000 t. These spectacular developments readily fuel descriptions of the sector as a success story, but if we take a closer look, while the growth in export volumes is highly laudable, we should also note the brakes, pitfalls and obstacles generated to a greater or lesser extent by this transformation.

There can be no doubt that Côte d'Ivoire, and in its wake the West African mango production area (Burkina Faso and Mali), plays a major part in the European market supply calendar. It falls between the Peruvian campaign and the spring and summer campaigns of Puerto Rico, the Dominican Republic and Israel. Faced with the aspirations of these competing origins, eager to snatch market share, Côte d'Ivoire has reacted by consolidating its dominant position by ensuring a deeper and extensive footing for its products. The expansion of its outlets thanks to direct shipments, no longer via France as was long the case for historical reasons, has provided new prospects for Ivorian entrepreneurs. This trend, initiated in around 2010, has made constant progress, based primarily on the Kent variety, of decent quality, with abundant production and enjoying rapid and competitive logistics out of the port of Abidjan.



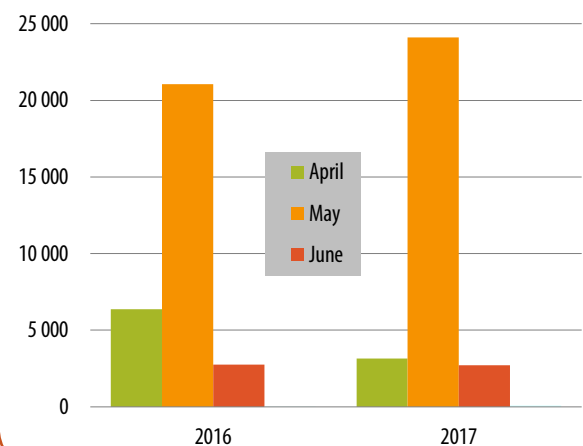
Mango - Côte d'Ivoire - Exports to Europe

(in tonnes / source: Eurostat)



Mango - Côte d'Ivoire Monthly exports breakdown

(in tonnes / professional sources)



While Côte d'Ivoire's export capacities have nothing left to prove, conversely their quality remains distinctly more haphazard. The last campaign showed up certain limitations of its logistics. The lack of transport machinery for the products, the difficulty in getting them to the packing stations, problems relating to forwarding the containers from the production zones to the port of Abidjan, the loading times at the port, etc., were all impediments to the fluidity of the flows to Europe. True, certain shortages arose from external events, such as handling machinery breakdowns at the port, leading to ships missing their loading windows, and thereby cumulative delays which were highly detrimental to fruit quality. Yet the ongoing risk of this type of problem ultimately undermines the origin's credibility.

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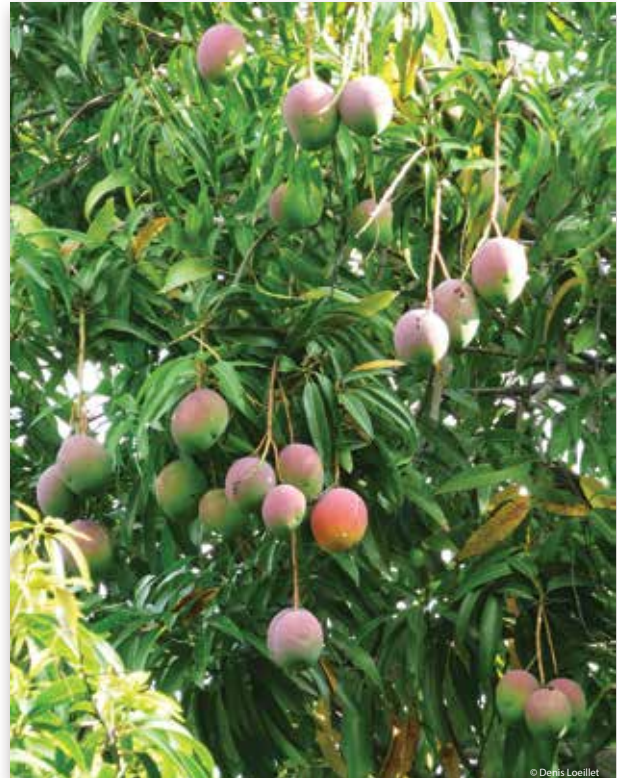


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The logistical aspects of the Ivorian export campaign stand out all the more since the calendar has narrowed considerably in recent years. This movement has tended to intensify further this year since, according to European statistics, more than 80 % of the season's total shipments were made during May alone; for the same period in 2016 this figure was 70 %. This concentration inevitably leads to additional difficulties in terms of management of volumes at the various stages: harvesting, packing and shipping. It requires infrastructures in line with the quantities over an extremely short period, and increases cost prices. Furthermore, the concentration of the campaign inevitably accelerates the fruit harvesting, sorting and packing operations, which tells on the quality level of the export batches. How, under these restricted conditions, can the fruit be guaranteed free from parasites, and more particularly fruit fly eggs or larvae, introduction of which into the European Union, the main outlet for Ivorian mangoes, is prohibited?

In the absence of effective mass treatment of the type applied in Latin America for fruits aimed at the North American market (hot water treatment), mere inspection of the fruit on the packing lines, even by those with a good knowledge of the product, seems a highly artisanal and unreliable method given the volumes handled. How long can a fruit quality operative remain attentive to symptoms barely perceptible to the naked eye? How many people need to be mobilised to provide a proper level of inspection for a working day? Yet beside the post-harvest preparation of the fruits, the upstream segment of the industry also, and above all, has some questions to ask itself.



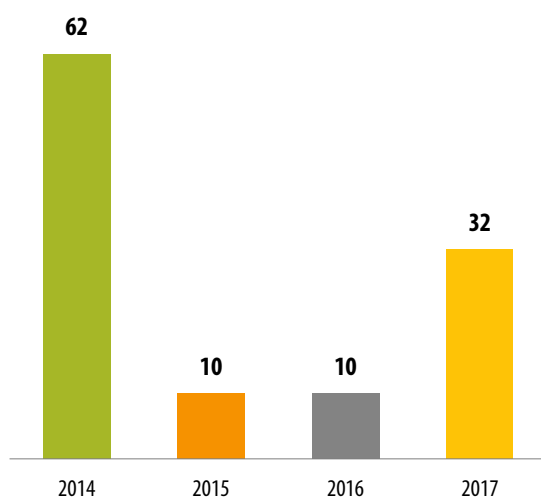
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Has the big media campaign on fruit fly management, following on from the European Commission's warning after the 2014 campaign because of the high number of interceptions on Europe's borders, really changed the practices of the Ivorian industry? Probably yes, during the 2015 and 2016 campaigns, going on the reduced number of interceptions. Yet their resurgence in 2017 raises fresh doubt over the measures undertaken. Have trapping and alert systems been set up across the industry? Has the training apparently dispensed to producers and harvesters on orchard maintenance and treatment been effective? The reply might be that the procedures have been implemented, and it will take time to see improvements. True, yet the fruit fly management measures go back some time, and the results are unconvincing. Meanwhile, Peru is extending its campaign and origins such as Puerto Rico and the Dominican Republic are increasing their shipments. Are we reaching the limits of a system still primarily based on hand picking, where the upstream segment of the industry, i.e. production, enjoys a wealth of raw material but remains poorly maintained and harvested?

Côte d'Ivoire's potential in the field of the mango is immense, and the country's history over the past decade is there as a reminder. The operators have a clear dynamic, but the structure is lacking cement between the bricks, hence its ongoing fragility ■

Pierre Gerbaud, consultant
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**Mango - Côte d'Ivoire - Number of annual seizures
in the EU due to fruit fly**
(professional sources)





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for a healthier future

Madagascan litchi

No two successive campaigns look the same

For the past six years, the Madagascan litchi industry has seen satisfactory campaigns. The organisation in place since the 2011-12 season, has it is true led to near-stagnation of export volumes to Europe, but it has guaranteed remuneration to all the operators. From 14 000-15 000 tonnes in 2010-11 to 18 000 tonnes in 2016-17, the quantities on the market have stabilised, and seemingly match the absorption capacities of the European market, over this short two to three-month campaign hinging on the end of the calendar year.



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2018

7/8/9 FEBRUARY BERLIN

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Concentration of litchi consumption

As the campaigns went by over the past decade, consumption became increasingly concentrated on the end-of-year holidays. Outside of this period, the supply to the European market remains erratic and distinctly smaller in terms of volume. Thailand, traditionally present from April to August, has long limited its export calendar in order to avoid confrontation with Israel in July/August. Still rare in April, litchis from this source are now abandoning the European market in June/July depending on the year, upon the appearance of fruits from other origins in significant, though still moderate, quantities. Hence Mexico, China and Vietnam, eager to occupy a place on the European markets, have gradually limited their dreams of conquest because of lack of interest from European consumers. At this time of year, the latter are keener on cherries and summer fruits than litchis, which have regained their exotic character, and so are offered at high prices

This sluggish trend has by contrast increased the importance of the Indian Ocean litchi season, which is set in the consumption habits linked to the end-of-year holidays, favoured by attractive prices. The concentration of consumption is clear in the run-up to the holidays. The supply of air-freight litchis from late October or early November represents the beginning of the campaign, though the high sale prices of these fruits and their limited volume restrict their success to a narrow circle. Conversely, sea-freight litchis on the market enjoy marked enthusiasm among European consumers. The omnipresence of litchis in the supermarket sector, the mass scale effect and implementation of promotions at revised prices mean that the product has a genuinely wide reach. Last holiday period, the litchi saw its consumption dip again, with its appeal among distributors dwindling. They switched rapidly to other flagship products to invigorate their stores. The celebration of Chinese New Year, in European countries with a large population of Asian origin, often governs marketing of the fruit. This mobile holiday must not fall too late in relation to the supply window of high-quality litchis. There are a variety of comments on this event by professionals, some regarding it as a top-up commercial opportunity, others as a small-scale phenomenon of little interest. Its impact on the end of the season depends above all on its position in the calendar and its appeal to the distributors.



A more complicated 2017-18 campaign

The star shining bright over the Madagascan litchi industry for the past several years could dim somewhat in the next campaign. It should be specified that the 2016-17 trading campaign brought together the most positive factors for achieving particularly satisfactory results.

- The very early nature of Madagascan production, as well as the end of 2016 calendar, helped sales of sea-freight fruits in week 49, providing four weekends of sales between the arrival of the first ship and the end of the year.
- Matching the volumes shipped to high points in demand also contributed to achieving good economic results. Slightly increasing the volumes on two scheduled conventional ships and reducing the quantities shipped in containers at the end of the campaign proved a wise decision, smoothing out the sale prices. Rates held up better between start and end of the campaign than in previous seasons.
- Fruit quality and conservation were also strong points of the 2016-17 campaign. Better coloration and taste quality, unanimously recognised, were powerful sales vectors, especially against the South African competition which this year presented standard produce of unreliable quality.



After the exceptional situation of 2016-17, it would seem unlikely for such a set of favourable circumstances to recur. Certain external factors already seem less favourable with the campaign a few weeks away. This refers mainly to the weather conditions which accompanied the flowering and fruit-setting phases. The Southern winter required to induce flowering of the trees was too mild and rapid. Temperatures rose considerably from the end of August, partially impeding the flowering phases. The lack of precipitation accentuated the phenomenon and hindered fruit development. So the trees have a lighter load, which should reduce overall litchi production. However, this reduction should be put into perspective, insofar as Madagascar's production potential far exceeds the quantities exported every year. The island's total production is estimated at 80 000 to 100 000 tonnes, while exports barely exceed 20 000 tonnes. The consequence will be expansion of the harvest zones to mobilise the quantities expected by exporters, thereby extending the time between harvesting and the fruits reaching the packing stations. The litchis could also have a limited sizing.

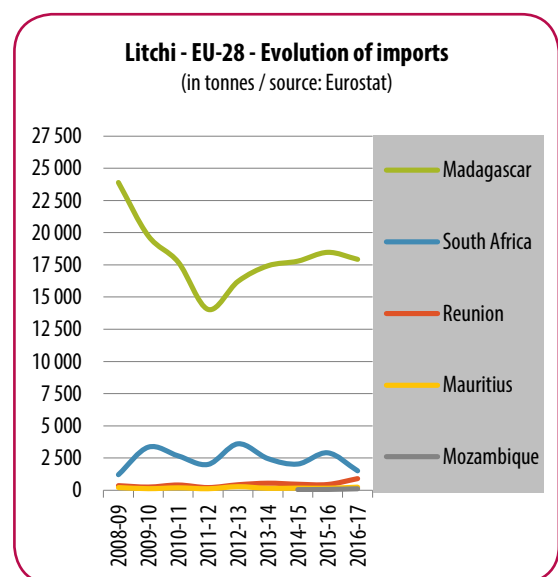
These natural factors will also make themselves felt on the market. The official launch of the campaign barely seems feasible before the end of November (end of week 47 or beginning of week 48, depending on how the various production zones develop). If we count the times for picking, packing and loading on the two conventional ships once again scheduled, the first sea-freight litchis will only reach Europe in week 50, rather than week 49 as last year. This week and

the one sales weekend less for litchis will doubtless have repercussions on how the campaign proceeds. In this particular context, the operators study the best strategies to ship the fruits under optimal conditions for arrivals in Europe in weeks 50 and 51. The planned volumes will be equivalent to those of the previous campaign, but their breakdown will perhaps be slightly modified to take into account the later start. Hence the quantities shipped in sea-freight containers should be smaller, in order to promote market fluidity of the second ship's cargo, sales of which will probably be staggered into the first half of January.

As regards the campaign organisation, the system in place for the past several years, and which has proven its worth, will be renewed. Since the last campaign, operators have continued their efforts in terms of organising stations and certification. Exporters are harnessing new outlets in Asia and the Middle East to diversify their shipments, as they had begun to do previously. As the European market is abundantly supplied, the quest for other outlets is currently the only way for Madagascan operators to increase export volumes.

The air-freight litchi campaign should also start later than in 2016. The first batches should go onto the market in the first half of November. This phase of the campaign could also be peculiar this year, insofar as production from Reunion and Mauritius are set for extremely low levels. Litchis will perhaps be rarer and more expensive than usual ■

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A report by
Carolina Dawson
and
Thierry Paqui

Pineapple

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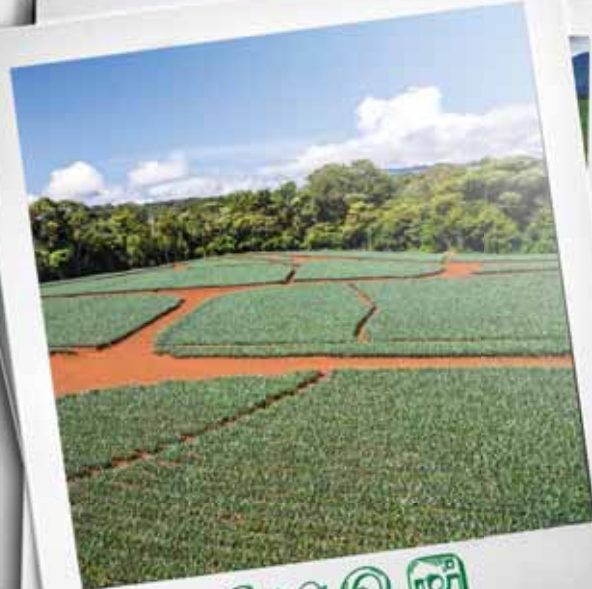


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Pineapple

European market

On the move again!

After two years of decline, European imports and pineapple consumption regained some momentum in 2017. And it would seem to be no mere recovery. According to our projections, they will exceed the 900 000-tonnes mark; a level close to the historic imports record of 937 911 tonnes set in 2014. Yet could this recovery – which could generate belief in a renewed growth dynamic – be merely a classic bounce-back following on from 2016, a year favourable for prices?

A string of agronomic problems due to the 2015-16 El Niño phenomenon, and the lack of economic profitability with low returns partially explained by the fluctuation in the euro/dollar exchange rate, seems to have caused the fall in production in 2015 and 2016, and consequently lower exports from the world leader in fresh pineapple, Costa Rica.

Any change in Costa Rican exports, which still represent over 85 % of the supply to the European market, inevitably lead to price fluctuations on the market. The fall in Costa Rican imports in 2015 and 2016 told on import prices: the average price for 2016 was in excess of 9 euros/box (import price into Germany), a record for the entire decade!

As throughout the history of this product, a highly predictable textbook case, we might well imagine that the attractive prices would encourage producers to replant. And that is what has happened. Despite the economic difficulties of an industry under high pressure, though still enjoying a better context for exports with the rise in the euro, the fall in oil rates and therefore of inputs and freight, import volumes to Europe took an upturn in Q1 2017, boosted by optimal climate conditions for



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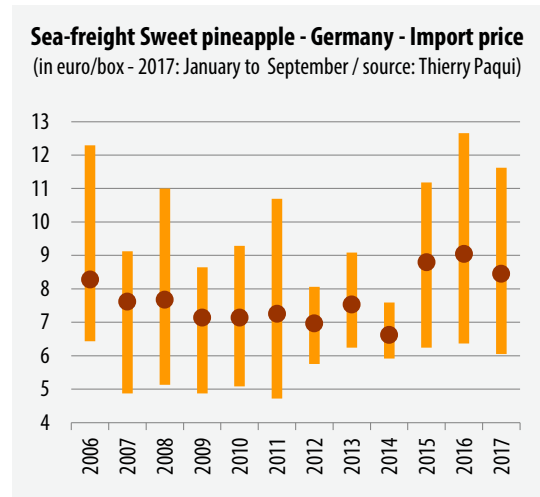
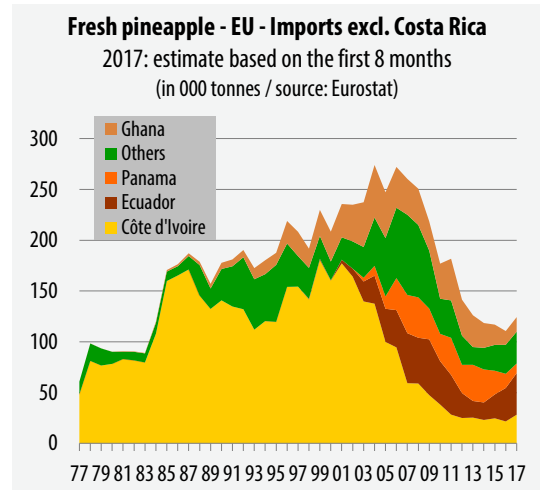
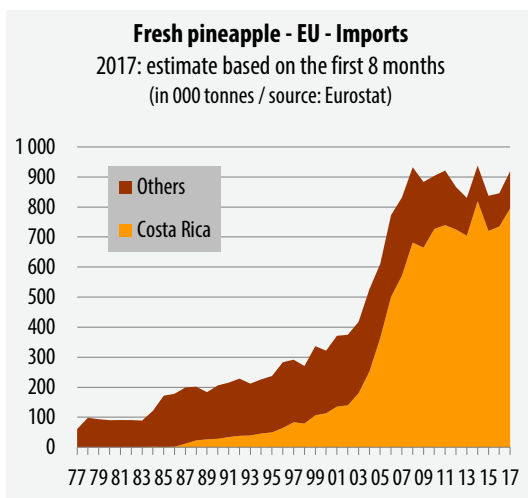
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production. Growth in imports was remarkable, not only for Costa Rica, but also for the other market suppliers, which it is true represent just 15 % of the supply. Hence Ecuador consolidated its place as the number two supplier to the European market, exceeding 40 000 tonnes, i.e. double its level three years ago. The main Ecuadorian operator is supporting the origin's development through a supply focused on quality and complete customer service. For their part, the African origins, which have seen a dramatic slowdown over the past decade, have levelled out, and regained their 2014 levels.

Import prices holding up?

The unit import prices published by Eurostat for the first eight months of 2017 show an average up from last year: 780 euros/tonne on average for all origins, i.e. 4 % growth on the record 2016 level! Is this a sign of better resilience from the European market to high volumes, or revaluation of the product?

For the moment, it is hard to tell. Detailed monthly analysis of these import prices shows significant interannual fluctuation. Prices appear to have maintained very good levels until April 2017 – when the supply profile was still low and similar to 2016 – but they collapsed from May, when the very big increase in Costa Rican volumes finally came. This situation of course was not helped by the difficult cyclical context of the market in spring and summer, with demand at rock bottom because of the wave of seasonal fruits.



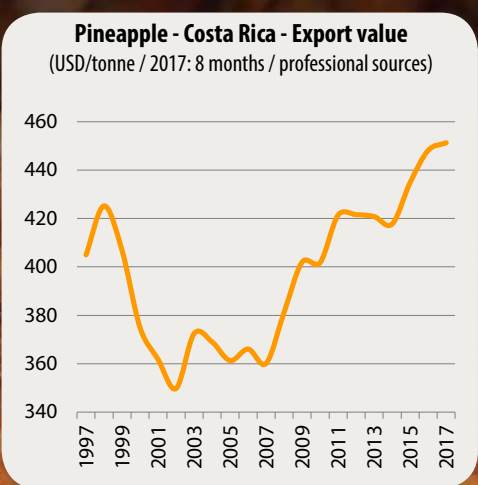
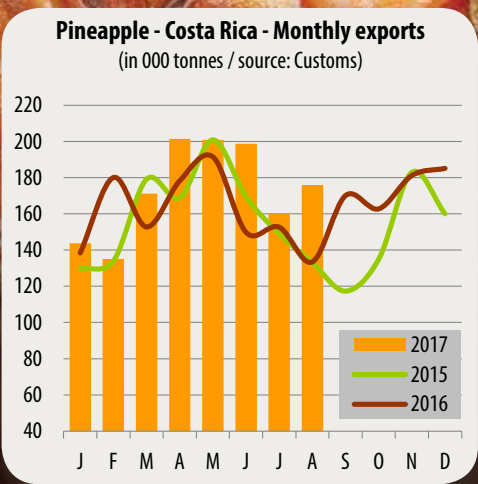
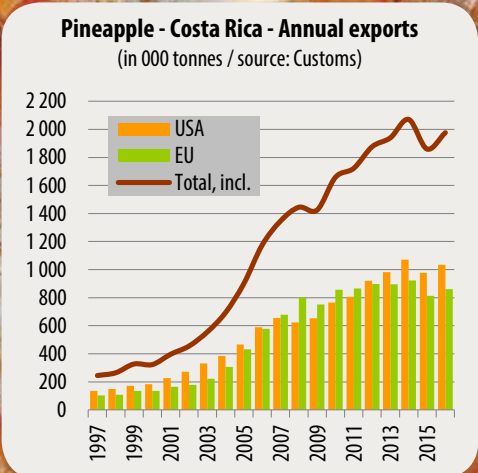
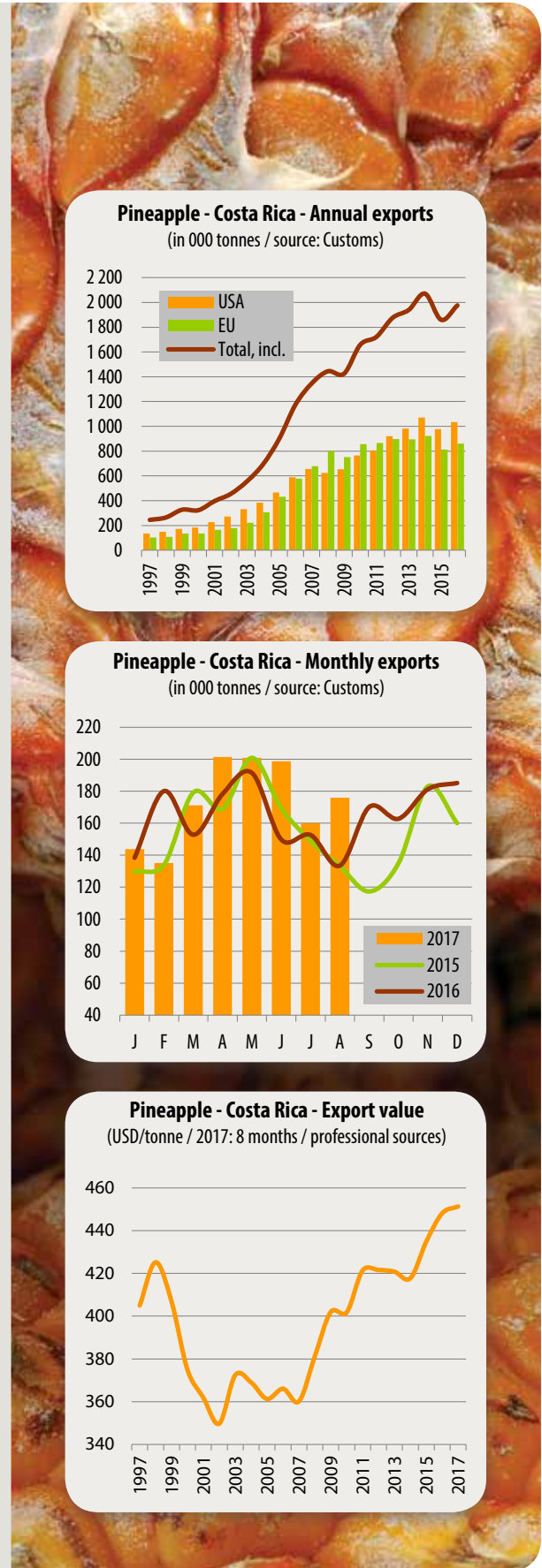
The pineapple in Costa Rica: absolute record

For the past two decades, Costa Rica has reigned supreme over the worldwide fresh pineapple trade. The country's production extended over more than 43 000 ha in 2016, as opposed to 37 000 ha in the national agricultural survey of 2014, official figures which might be underestimating the scale of the production, possibly by now in excess of 50 000 ha. The overproduction crisis of 2014, which drove numerous producers into bankruptcy and led to a rapid fall in production in 2015 and 2016, already seems a long way off. Hence with these growing surface areas and improved yields, the 2016-17 campaign (September to August) marked a new export record for the lord of the fresh pineapple. More than 2 086 200 tonnes were exported, across all destinations, between September 2016 and August 2017, beating the record from 2014 and up 10 % on last campaign. The main outlets remain the United States, absorbing 51 % of shipments, and Europe (44 %), with growth identical (+ 9 %) on both markets to 2016. Though representing only 5 % of export volumes, other destinations (including Russia) registered very good performances, with an increase of 36 %, a level higher than the overall exports growth rate.

The seasonality of exports remains unchanged: two large peaks fall in the spring, and then in autumn in preparation for the end-of-year holidays. However, in 2017, the spring peak (March, April and May) seemed more intense, actually extending into June. Furthermore, an abnormal rise in volumes was observed in August 2017. Is this a sign of a season ahead of schedule, or the initial effects of the overall growth in production with the new planted surface areas? Costa Rica should remain at its full potential over the end of the year and throughout 2018. A phytosanitary moratorium, initially imposed in the north of the country by the national animal health body (SENASA), aimed at limiting the proliferation of the stable fly (*Stomoxys calcitrans*) which affects cattle, had to be lifted under pressure from producers, refusing to accept this production loss.

In spite of the growing quantities observed since the beginning of the year, the export values in Customs have never been as high: 451 euros/tonne in 2017, i.e. 1 % more than in 2016.

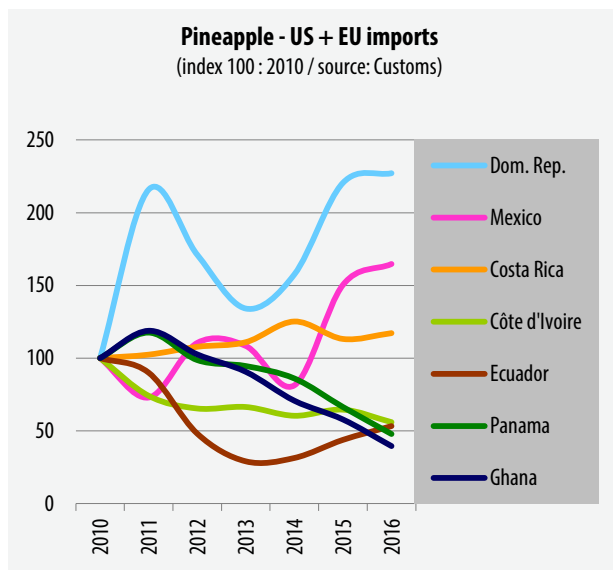
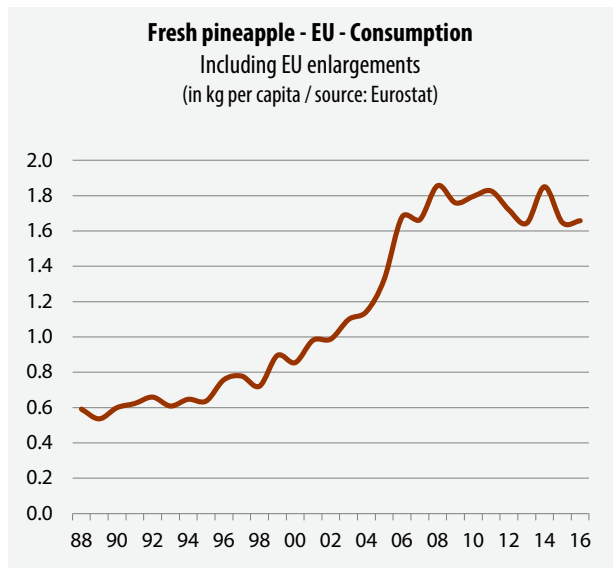
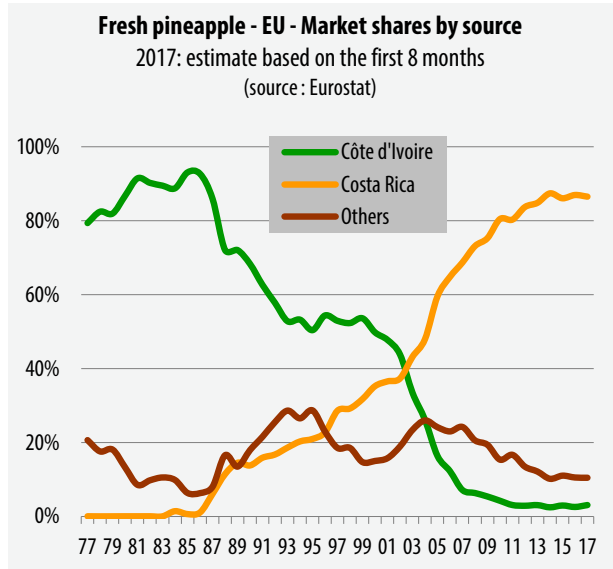
Undeniably, the Costa Rican pineapple remains a major source of jobs and wealth creation for the country, yet controversies persist on working conditions on the plantations and management of the impacts of this crop on the environment.



Nonetheless, it would seem that despite these fluctuating returns at the import stage, the export result is rather positive, with export values in Costa Rica apparently up. So the fall in import prices seems to be buffered by lower intermediate costs, especially freight, and by a euro/dollar exchange rate once more favourable to exports at present.

If history always repeats itself, we already know that “two favourable years are followed by a year of crisis”. Going on the experience of 2014 – a record year for the EU supply – low import price levels should be maintained throughout 2018, while production will continue to express its full potential. Growth in production surface areas in Costa Rica is the proof of this: more than 43 000 ha were reportedly planted in 2016 (source MAG), as opposed to 36 000 ha in the last national agricultural survey in 2014. And probably the 2016 official figures under-estimate planted surface areas, which may already exceed 50 000 ha...

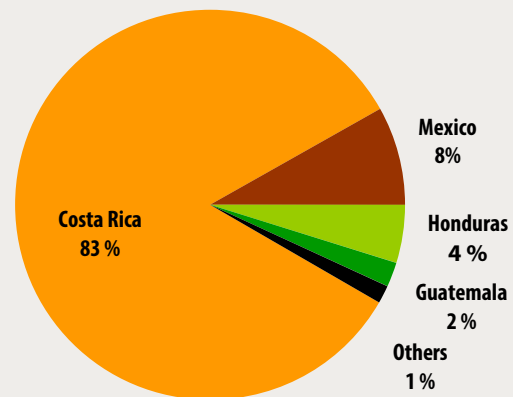
The first pineapple shipments from Costa Rica in March to China caused a great deal of excitement in the pineapple industry. Could the opening of market with enormous potential, hitherto unexploited, finally enable diversification of the outlets? A note of caution is required... Besides more difficult quality management, the 25 to 28 days required to cross the Pacific may be of less interest in a context of less favourable freight prices than at present. In addition, as the experience of the Ecuadorian banana has shown on this market, it is possible to set up regular shipments, but growth remains limited to compensating for the existence of local production and imports from the neighbouring countries, which clearly enjoy logistical proximity. So China will not be another Peru!



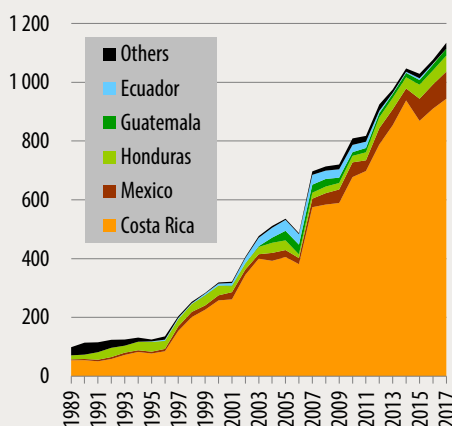
The pineapple in the United States: the return of the American dream

2017 was a year marked by a leap in pineapple imports in the two main consumption markets, Europe and the United States. In the USA, this leap is especially remarkable since it was an absolute import record, following three years of complete stagnation. According to our projections, imports on this market in 2017 amounted to 1 135 000 tonnes, up by more than 5 % on 2016. Of course, Costa Rica, which represents an 83 % market share, registered its best performance with nearly 944 000 tonnes, beating its 2014 record (938 000 tonnes) by 1 %. This growth is especially remarkable since it extends to all the other suppliers, registering growth rates higher than overall market growth. Mexico, in second position for the past three years, has consolidated its place, with more than 90 000 tonnes (i.e. an increase of 12 % on 2016). Neighbouring Guatemala and Honduras saw performances of 13 % and 17 % up on 2016. On a smaller scale (quantities below 10 000 tonnes), but in just as great a feat, Panama and Colombia marked their comeback to this market. Apart from this, it remains only to note the decline of Ecuador, the big loser in this story, which has disappeared from this market, and is refocusing on Europe.

Fresh pineapple - USA - Imports in 2017
(first 8 months)



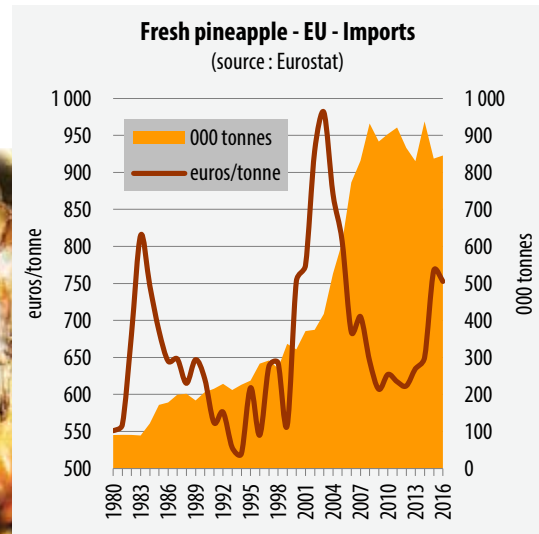
Fresh pineapple - USA - Imports
(2017: projection / in 000 tonnes / source: Customs)



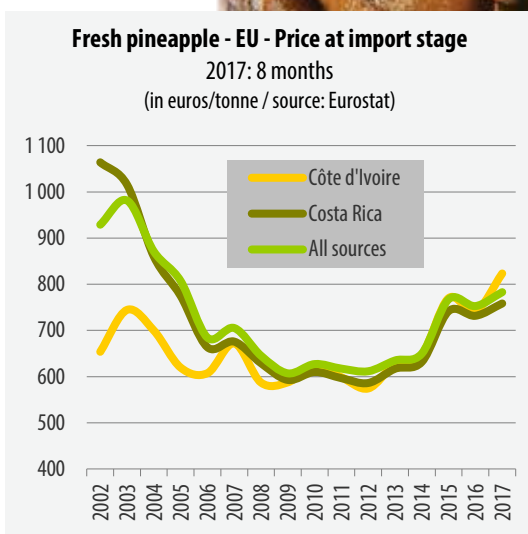
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Cayenne vs Sweet: round 2

New Latin American origins are developing on the air-freight market in Europe. For the past two years, we have seen the emergence of a Sweet air-freight supply from various origins. Cuba, the Dominican Republic and more recently Kenya have entered the market. Colombia meanwhile is consolidating its position in Europe, doubling its import volumes between 2016 and 2017 on the air-freight segment and also the sea-freight segment. Naturally, the sea-freight heavyweights such as Costa Rica are riding on this wave, also providing an air-freight Sweet supply, which is positioned on the same market segment as the traditional air-freight Cayenne. It would seem that the driving force of this development is on the one hand good demand from the retailers specialising in quality fresh fruit in terms of supply and range (such as Grand Frais in France), and institutional catering. On the other hand, 2017 was marked by the absence of certain traditional air-freight pineapple origins such as Benin, due to the ban on Sugarloaf exports between December 2016 and August 2017 because of breaches of the ethephon MRL. The difficulties experienced by this origin to return to the market since late August 2017 seem to confirm the market share acquired by the new origins to the detriment of the traditional African air-freight pineapple sources. So it could be that the persistent concerns of regularity, homogeneity, ethephon management or packaging are counting against certain African origins, in particular against these emerging countries which more efficiently manage packing and transport, and which sometimes enjoy the support of investment from big international groups. Is Sweet dethroning the Cayenne once more, this time on the air-freight segment?



So it would seem that the pineapple market supply is increasingly structured, with five highly distinct coexisting ranges. In the sea-freight market we can find the big, renowned historical brands, followed by brands owned by operators which provide complete customer service, with comprehensive management of product quality, and finally the core market with standard, non-differentiated MD2. On the developing air-freight market, we can find on the one hand Cayenne, now with its big historical rival Sweet, and on the other hand niche varieties including Sugarloaf or Victoria.



So the pineapple market remains confusing. It is one of the main import fruit markets in terms of quantity, and despite past crises of oversupply and low prices, it has persisted and found renewed growth. Thanks to a market context more favourable to exports again, and to an increasingly structured and segmented supply, the pineapple remains an attractive product which is generating interest both among traditional producers and newcomers embarking into probably more lucrative market segments. It is also sparking interest from importers, which are opting to support the development of this trade by offering services helping provide better quality and value. This is the characteristic of a product which works. However, history should not be allowed to repeat itself, with an uncontrolled avalanche of volumes of non-guaranteed quality putting an end to this virtuous dynamic ■

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Processed pineapple: a depressed market

by Denis Loeillet, from Cyclope 2017

The processed pineapple segment has scarcely anything in common with the fresh pineapple market, but is relatively depressed. After reaching 5 million tonnes in 2011, it has dropped by 10 % to stabilize at around 4.5 million tonnes. Asia drives sales in this respect, with Thailand as the country of reference. The health of its productive and processing sector sets the tone for all the other sectors. After all, Thailand is not the only producing country. We also have the Philippines, Indonesia and even Vietnam, within the Asian sphere. Africa also takes a share of the global market thanks to Kenya, South Africa and Swaziland. We must remember, too, that Costa Rica, the global market leader for fresh pineapple, is also an important player on the plain juice and concentrated markets.

The Smooth Cayenne variety is fundamental to global pineapple supplies (as much in regard to juice as to the canned form of the fruit), except for Costa Rica, which produces MD-2. Two-thirds of exported pineapples in the world are processed. This represents a market, in fresh-fruit equivalent, of 4.6 million tonnes (the outcome for 2015). Single-strength juice, concentrated juice, and canned pineapple are available. Although pineapple slices represent the prime canned product, nothing is lost during processing. In fact, more or less large pieces (part-slices, diced pieces, chunks, and so on) also have a market. Our estimates would seem to show that juice outdoes the canned pineapple market in volume terms: 58 % for juice and 42 % for the canned fruit. The opposite is true in value terms. Pineapple juice is considered to be a by-product of the canned industry. In the juice segment, the Philippines is the leader, ahead of Thailand and Costa Rica. In the canned segment, Thailand is the leader, ahead of the Philippines and Indonesia. 89 % of the global supply is concentrated in these three countries. The crumbs, as it were, come from Kenya, Vietnam and China. With regard to all processed products combined, Thailand, Philippines and Indonesia provide 69 % of global processed-pineapple requirements.

The climate problems suffered by these three Asian providers shape the development of global prices. Price volatility depends on a gamut of factors: expectations, true-false rumours and uncertainties regarding stocks, acreages devoted to pineapple, production levels, the share of production directed to processing, fruit quality (more or less sweet), the El Niño effect, and so on. The market has been extremely stretched since 2014, as is evident from the soaring price of canned pineapple between April 2014 and the end of 2015, when it rose from 13 to 24 USD/carton fob Bangkok for the 'pieces'

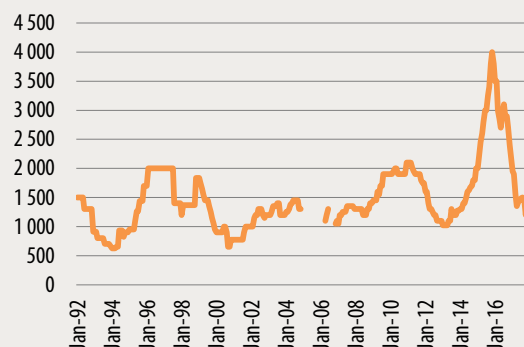
category, and from 15.5 to 20 USD for the 'sliced' category.

Since then (the end of 2015), prices have stayed at these historic high levels. The advances in the price of 60°Brix concentrated pineapple have been even more outrageous, for it all but quadrupled between the beginning of 2013 and the end of 2015, and rose from 1 000 to 3 700 USD/tonne of Europe. At the beginning of 2017, the direction was blatantly downwards, for in one year it had lost some 1 200 USD to return to 2 500 USD. Of course this is still a particularly high price, which could scarcely encourage any rise in demand. Juice manufacturers are adapting their recipes to incorporate other juices, such as apple, which is a record breaker, but with descending prices (less than 1 000 USD/tonne EXW Poland). Yet juice producers still find the situation to be highly problematic, since orange juice has also reached an all-time high (3 500 USD/tonne of Europe). The Thai authorities tried to calm this development by reducing the maximum nitrate limits in juices (25 to 50 ppm). This certainly meant some additional volumes of juice and of canned fruit prohibited for sale, but the direct result has been a certain disquiet among customers. The discount for these 'non-compliant' juices is between 800 and 1 000 USD/tonne.

As usual on this market, it is difficult to predict when things will return to normal. The price paid to Thai pineapple producers for fruit intended for canning is an early indicator of a normalized supply. At the beginning of 2017, it was down at slightly over 8 THB/kg, as against 13 in May 2016. Accordingly, some commentators forecast a (probably slow) return to normal between now and the end of 2017. Here as elsewhere, the weather will decide the outcome.

Pineapple - Thailand - Concentrate world price

(60°Brix, cfr Rotterdam / in USD per tonne / source: Agra-net)



Pineapple

2016-17 Victoria campaign

Continuity in stability

This campaign did not see any major transformations before the arrival of the seasonal fruits. Once more, Reunion and Mauritius were the key market players, although at the end of the period, a newcomer arrived in the shape of Ghana, which for the moment is struggling somewhat to find its footing against the other two origins.

The Reunion supply, smaller in terms of volume, remains the purchasers' favourite, and so had no difficulty in earning value. Unfortunately, during the campaign it remained highly unbalanced, with a majority of small-sized fruits (9 and 10) which are less popular among purchasers, more on the lookout for sizes 6 and 7. This imbalance was felt on the price range, which was frequently wide, depending on the sizes available. Hence the import rates for the origin fluctuated between 2.50 and 3.50 euros/kg depending on the size, with some peaks at 3.80-4.00 euros/kg.

Steadier in terms of volume, the Mauritian supply, slightly less popular among purchasers, nonetheless offset the lack of Reunion fruit several times. Steadier too in terms of sizes than the Reunion supply, it continued to be the object of numerous promotions in the supermarket sector. Outside of the prices agreed for these promotions, the origin's import rates fluctuated between 3.00 and 3.30 euros/kg, with some peaks at 3.50 or even 3.60 euros/kg.



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The campaign over the months

The beginning of the campaign (week 40 2016 to week 4 2017) was marked by a rise in overall Victoria volumes, and more particularly from Reunion. The Reunion supply was highly unbalanced, with a majority of small-sized fruits (9 and 10) less popular among purchasers, and consequently finding it harder to earn value. Over the first few weeks, the supply, although outstripping demand, forced operators to broaden their price range in an attempt to get the market moving. In the absence of sufficiently steady demand, certain operators often resorted to commission sales to prevent excessive stocks from forming. The rise in volumes continued during the end-of-year holidays. Despite a fairly abundant supply during the holiday period, rates remained fairly stable, once again confirming the festive nature of the fruit.

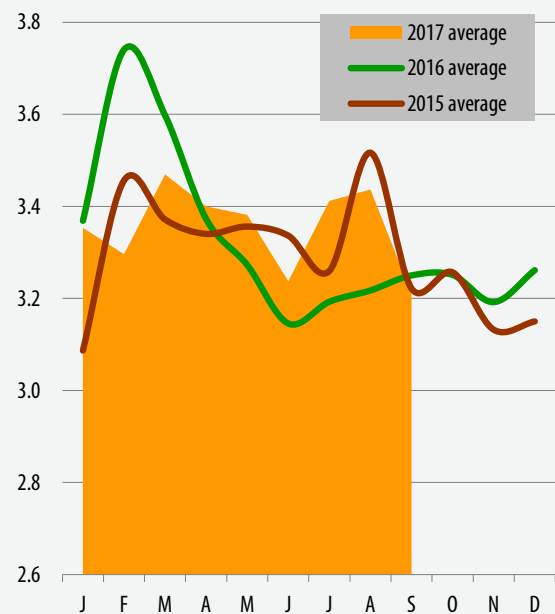
After the holidays the situation was more complicated, with the downturn in demand. The Reunion supply, still unbalanced, had more difficulty selling. It was not until the end of January that the trend started to reverse, with supply levels starting to subside and gradually come into line with demand.

From weeks 5 to 17, Victoria volumes remained limited, helping sales remain fluid with fairly high rates, which held up even after Easter.

The arrival of the summer fruits (from week 18) coincided with a reduction in the Victoria supply. Heavy rains in Mauritius and to a lesser extent Reunion forced operators to scale back their import volumes. As well as being more fragile, the fruits developed quickly and poorly. As in every campaign, the arrival of the seasonal fruits led to lack of purchaser interest in small exotics, including Victoria. So operators had to heavily cut back their imports to levels more in line with demand, and maintain fluidity from one week to the next. Hence as the seasonal fruits supply increased, Victoria disappeared from customer purchasing habits.

During the summer (weeks 27 to 35), Victoria procurement was very sparse, with the overall supply constantly decreasing, especially from Reunion. Given the flat demand, certain operators even practically suspended their imports. The summer period was characterised, as in previous campaigns, by a distinct reduction in the overall supply, and above all by a stabilisation of Reunion and Mauritian fruit prices. Insofar as only Victoria

Victoria pineapple - France - Monthly average import price
(in euros/kg / source: Thierry Paqui)



die-hards continued their purchases, operators avoided lowering their prices, since in this scenario, this lever has very little effect on demand. Sales fluidity over the summer was above all due to the fact that the supply was generally well below demand.

From weeks 36 to 39, the Victoria market was livelier, with demand gradually starting to establish itself. Mauritian fruits, which had previously provided the bulk of the supply, sustained a slight reversal of fortune due to the steadier return of the Reunion supply. Sales of Mauritian fruits slumped slightly, as did prices. Unfortunately, certain operators quickly increased their imports, resulting in a fairly marked slowdown in sales. This confirmed that demand, although livelier than during the summer, had not yet fully switched back to Victoria ■

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NOMAD
Ananas Victoria (Victoria pineapple)

A market information bulletin (in French) is available on the ODEADOM website:
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Pineapple

2016-17 sea-freight campaign

Industry once again facing its old demons

As mentioned in previous articles, the cyclical fall in the Costa Rican Sweet supply over the past two campaigns, and the consequent rise in average rates, unfortunately have not ushered in the structural changes needed in terms of production and planning to guarantee in the long term the particularly high price levels of recent years. Once the conjunction of favourable factors ends, or unforeseen constraints arise, the miracle will fade away and the pineapple industry will very easily slip back into overproduction, the repercussions of which we know all too well.

As a reminder, over the past two campaigns, average rates have risen steeply, especially due to the fall in the fresh pineapple supply to the markets. This fall was primarily due to the storms seen by Costa Rica two years in a row, which affected production. On top of this came very strong demand from the juice industry, which in the face of a fruit shortage, was prepared to pay fairly high sums to claw back as much fruit as it could for manufacturing purposes. Finally, we need to take into account the euro/US dollar exchange rate, which has often made the European market attractive for Latin American exporters.

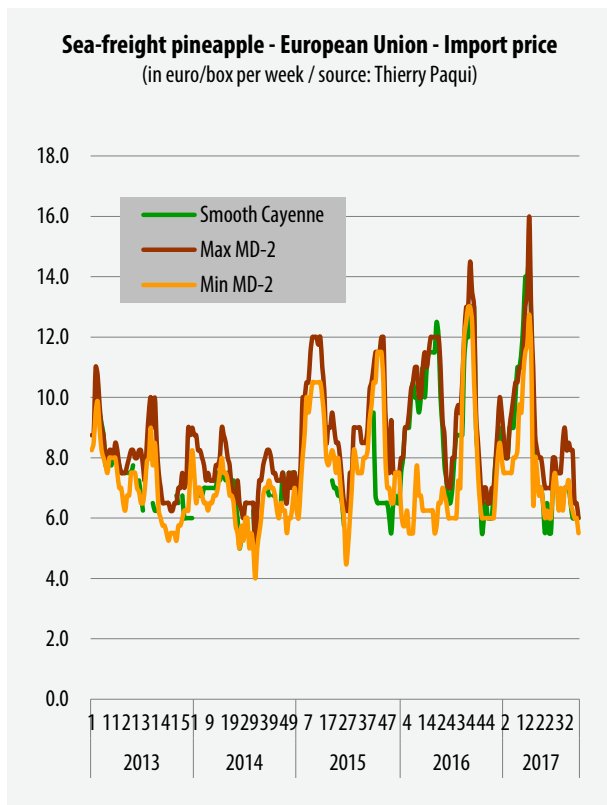
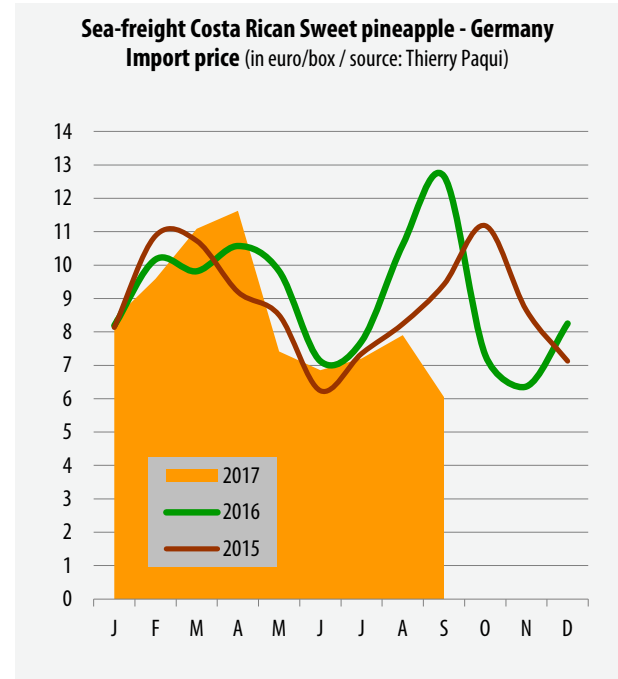
Only some big operators have realised the benefit of structuring their supply in order to scale it back and obtain better economic returns. The rest have let nature take its course, waiting for things to sort themselves out. Hence Costa Rican producers seem to have restarted their production race. After the losses sustained due to the storms, they have launched into planting, and are already predicting for the 2018 and 2019 campaigns an increase in their supply, with 15 to 20 % up on 2017.



In the short term, the increase in the Costa Rican supply will come in a context of distinctly lower demand. Since the natural flowering which took place in 2017 (week 18), the juice industry has had no further fruit shortages – quite the contrary. The high availability of fresh pineapple affected the rates paid to producers by manufacturers. Hence they saw the lucrative prices they had been paid drop by 80 %, going from 0.37 USD/kg to just 0.07 USD/kg in less than five months!

Nonetheless, Costa Rican producers, far from drawing the lessons from these changes, are continuing as in the past to overload the European market, especially because of the euro rallying against the dollar. They are refusing to reduce their exports, counting on earning better value in Europe than on the North American market, even though sales on the European market are currently being made at below cost prices. So the pineapple market will once more face periods of uncertainty and low rates for several years, unless a new outlet renews the hand on the international market (see inset).

After two practically exceptional campaigns, during which average rates fluctuated between 7.00 and 9.00 euros/box (2014-15 campaign) and between 8.00 and 11.00 euros/box (2015-16), we are gradually heading back toward rates in line with the last decade, situated instead at between 6.00 and 8.00 euros/box depending on the time of year.



The campaign over the months

From October to December 2016 (weeks 40 to 52), the pineapple market was quiet. True, this is often a complicated time of year. Hence over the past two campaigns, pineapple sales for the end-of-year holidays have toiled rather. However the market saw new levels of flatness in late 2016, with several batches offered at post-sales prices. The Costa Rican supply continued to rise, while the market had no interest in the fruit. While the course of Hurricane Otto spared the origin's production zones, the floods that it caused prevented several ships from loading their cargo. So the market received less fruit for around ten days before Christmas, enabling it to absorb the outstanding batches. Demand, without being high, rallied and prevented a sharper drop in rates, to between 6.00 and 8.00 euros/box (excluding post-sale prices).

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

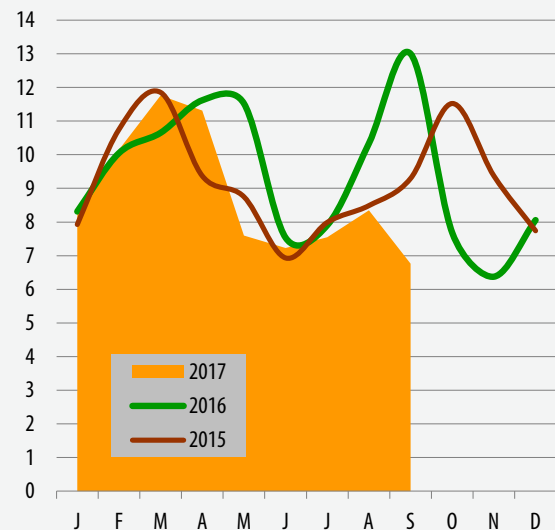
In late February, operators received confirmation that the overall Sweet supply was well below demand, at least until Easter. On top of the lack of availability came various shipping delays which accentuated the impression of under-supply for some weeks. We might also mention the juice and canning industries, which contributed to limiting fruit availability for the export market. So 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).

Before Easter, the fall in the overall supply helped the established brands charge high rates over a fairly protracted period. Yet these brands had undertaken a structured approach to bring down their supply in order to strengthen their prices. Many small brands also took advantage of the paucity of the overall supply, selling at prices never hitherto attained.

The shipping delays in week 15 led to a swollen market after Easter, when demand was ebbing. A spell of fairly steep falls in rates set in, intensified by the increase in Costa Rican volumes. In late April, a larger Costa Rican supply was announced for the coming weeks, because of the natural flowering phenomenon.

The situation on the pineapple market started to deteriorate from weeks 18 to 20. The start of the natural flowering phenomenon led to an influx of volumes onto the European markets. This supply, highly unbalanced as it

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



comprised small sizes (9 and 10) in little demand, really struggled to sell. Demand was above all captured by seasonal fruits available in abundance and at highly attractive prices, which made marketing the Sweet batches a little more complicated. The fall in average rates, which fluctuated between 7.00 and 8.00 euros/box over this period, failed to revitalise demand.

Despite attempts to scale back imports, the Costa Rican supply, still affected by the natural flowering phenomenon, continued to weigh down on the European market. Over weeks 21 to 25, average prices fluctuated between 6.50 and 7.00 euros/box. The high temperatures prevailing at the time rather boosted demand for seasonal fruits to the detriment of the pineapple. The announcement of the natural flowering period ending sooner than expected raised hopes of a considerable fall in the supply, and operators started dreaming of higher average rates during the summer.

While the Costa Rican supply fell throughout the summer, this was in no way comparable to what the market experienced during summer 2016. So it did not contribute to an improvement in the market conditions, as might have been hoped. Despite the general fall in the supply, certain operators continued to receive fairly steady volumes. The summer fruits supply, distinctly higher than in 2016, was also available at low prices. Hence from weeks 26 to 34, the Sweet supply was smaller, though it was not lacking. Average rates were between 7.00 and 9.00 euros/box, whereas the previous year they had fluctuated between 8.00 and 13.00 euros/box! In the absence of real demand, sales were slow and hesitant, and certain operators resorted to post-sale prices to prevent stocks from forming, while the overall supply remained fairly limited.

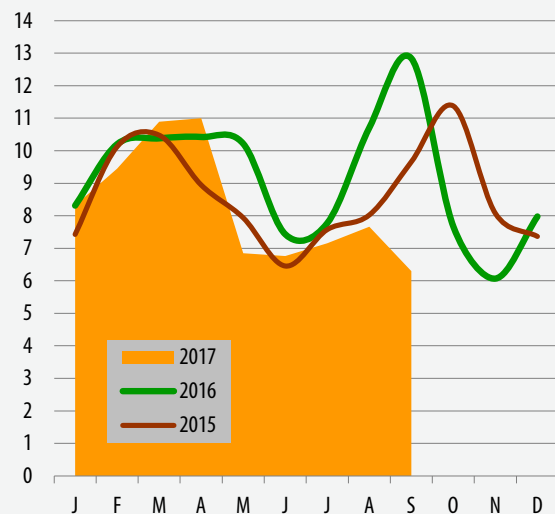
Without actually increasing, the return to steadier volumes from week 35 on the European market, while demand remained flat, very quickly sent the market tumbling. Given the lack of interest in the fruit, operators decided to use prices as a lever to facilitate sales. Unfortunately, the fall had very little effect on demand or on sales. From weeks 35 to 39, the official average rates for Sweet fluctuated between 5.50 and 7.00 euros/box. Actual sales must have been less, since in September, the accumulation of stocks forced several operators to apply post-sale prices. The average price for certain sales will doubtless be below 5.5 euros/box, especially since at the end of the period, with the quality problems (fruits seeing rapid development), sale prices were rather open ■

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



Future of the European fresh pineapple market to depend on China?

Despite a slight fall in its exports to Europe over the past two campaigns, Costa Rica alone continued to account for more than 85 % of the supply to the European fresh pineapple market. Supply fluctuations, even slight, from this origin had an impact not only on the market's capacity to absorb the overall supply, but also on the price level and stability. Insofar as very few operators seem prepared to take the structural measures necessary to reduce and regulate fresh pineapple production in Costa Rica, we are entitled to ask whether salvation might come from elsewhere.

The current lifelessness of demand on the European market poses problems insofar as the operators seem to have very little leverage to force their Costa Rican partners to scale back their export volumes. This situation is made even more complicated by the good stability of the euro against the dollar, which is often driving exporters to favour Europe over the North American market, despite the latter being nearer the production zones.

During the last campaign, especially in week 38 of 2017, Costa Rican producers had to face short-lived but substantial demand for fresh pineapple from China. More than 2 500 pallets were shipped to this new market. At the time of writing, we do not know the results of this shipment, nor whether it was a one-off operation or a trial run designed to be repeated depending on the results.

The fact remains that the 2 500 pallets were not missed by the European market, already struggling to manage the surplus of stocks. Conversely, they helped ease the pressure on the market.

If shipments to China were renewed, this destination could rapidly become an important market for the fresh pineapple trade, probably redealing the hand among the market players. If this hypothesis were confirmed, there would still be nothing stopping Costa Rican producers from continuing their frenetic production race and flooding the market, which in the medium term would take us back to the current situation. However, that makes a lot of ifs...



Pineapple

2016-17 air-freight campaign

Is the hand changing?

What was apparent from attempts and trial runs to market a Sweet air-freight supply alongside a less expensive sea-freight supply is now becoming reality. Cayenne, hitherto well-established in the air-freight segment, has opened up the way to Sweet due to the irregularity of the supply from certain origins, in terms of quality and presentation. The arrival of small Sweet batches since the last campaign has now become commonplace, and it is no longer one but several origins which have ventured into in this lucrative niche, with varying degrees of success.

The decision by the Beninese authorities to ban all shipments of coloured pineapple, pending the resolution of the ethephon problem, helped Cameroon to consolidate its position on the air-freight market. Unfortunately, this origin, which hitherto shared with Benin the majority of the air-freight market, experienced quality concerns over several months, varying according to the brands marketed (rapid development of fruits, heterogeneous coloration), which it would so facilitated the establishment of the air-freight Sweet supply.

The first Sweet batches from Cuba and thereafter the Dominican Republic, placed on the market in 2016, sold astonishingly quickly and well, at much higher rates than for Cayenne. However, these were sporadic and limited shipments. Several origins now seem to be interested in this niche. Those with most frequent market availability are Cuba, the Dominican Republic, Panama, Colombia, Costa Rica, and to a lesser degree Ghana and Côte d'Ivoire.

All the Central American origins offer superior quality produce, meeting the expectations of European air-freight market purchasers, who are prepared to pay a premium price



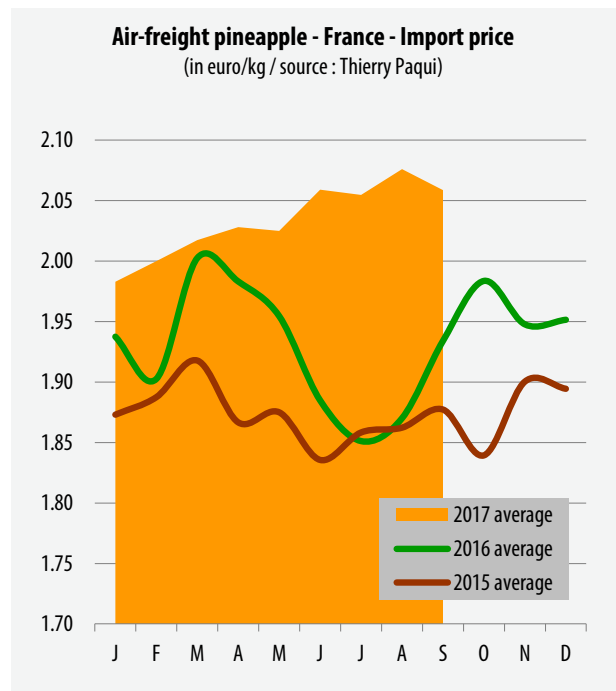
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for this type of product. While the average rate for the Cayenne supply fluctuates between 1.80 and 2.20 euros/kg depending on the origins and brands, the Sweet air-freight supply from Central America sees its prices vary between 2.40 and 2.60 euros/kg depending on availability.

For the moment, several factors seem to be facilitating the establishment of the Sweet supply from Central America. It is highly regular in terms of quality, and highly coloured. The fruits are very well worked and well presented. And, crucially, it remains limited for now since the operators are making sure to safeguard the profitability of this niche. Given the fairly high cost prices, importers rather tend to restrict their supply. Hence for a good part of the summer, these fruits were absent from shelves because of the high availability of seasonal fruits at low prices. So the high price levels paid for these fruits are down to the niche nature of this supply. On a market such as the Netherlands, which has seen a proliferation of operators offering air-freight Sweet, rates have dipped and for the moment seem to be stabilising at between 2.20 and 2.50 euros/kg, whereas they were previously stable at 2.50 euros/kg.

The trial runs from Africa (Ghana and Côte d'Ivoire) do not seem sufficiently conclusive for the moment, since the differentiation between the sea-freight and air-freight supplies is not clear. Is it a problem of image, presentation or simply quality? The fact remains that the African air-freight Sweet supply seems to be struggling to find a position.

The Sweet supply is now established and is part of the regular air-freight supply. Will it suffer the same fate as the sea-freight supply, and see its prices wane as batches of increasingly heterogeneous quality are placed on the market? The question remains open.



The campaign over the months

In the absence of Beninese Cayenne from December 2016, the air-freight market had a lighter fruit load, and sales were more fluid overall. Volumes on the market found takers fairly easily, although at times some quality concerns could be observed here and there (on certain batches from Cameroon in particular).

From the beginning of 2017, Côte d'Ivoire seemed to be the origin best able to take advantage of the absence of Benin to enhance its position via specialised retailers. The Ghanaian supply, top of the pile in terms of price, remained very limited in terms of volume. Only a few operators agree to work with this origin, given the high transport costs.

We might have thought that the disappearance of one player would create a shortage, and quite possibly a spectacular increase in rates, but this was not the case. Prices for fruits from Benin's competitors strengthened, and gradually purchasers became accustomed to no longer procuring from this origin. We also saw the development of a top-up supply of highly coloured Sweet from Cuba, Panama and the Dominican Republic, which although it remained limited, sold on a stable footing at between 2.40 and 2.70 euros/kg!

Weeks 18 to 26 were marked by flat demand. The operators rapidly opted to scale back their imports, to bring them into line with demand. Unfortunately, despite a fall in volumes, sales remained quiet, since demand was primarily captured by seasonal fruits, available in



abundance at fairly low prices. The Cameroonian supply, dominating the air-freight market in the absence of Benin, was highly heterogeneous because of rains in the production zone. Hence the absence of Benin was of most benefit to Ghanaian and Ivorian fruits, which enjoyed higher availability and above all better regularity in terms of quality.

On the Sugarloaf market, sales volumes of green batches from Benin fell constantly, while more coloured fruits from Togo and Ghana enjoyed steadier sales. Green fruits from Benin struggled to reach 2.00 euros/kg, while more coloured fruits from Ghana and Togo managed to sell at up to 2.30 euros/kg. Meanwhile, top-up batches of air-freight Sweet from Central America (Cuba, the Dominican Republic and Panama), still very limited in terms of volume, sold at between 2.20 and 2.60 euros/kg during this period.

Throughout the summer (weeks 27 to 35), the air-freight market quietened down. Demand, less lively because of the mass holiday season, once again forced operators into scaling down their volumes to market. The weakness of demand affected the entire air-freight market, even sales of top-up Sweet batches. So operators opted to suspend procurement, waiting for the market conditions to improve. The situation remained practically unchanged on the Sugarloaf market, with a supply of Beninese green fruits selling less and less well, and a coloured supply, especially from Ghana, which was making a little more headway on this niche. In mid-summer, the Beninese authorities adopted inspection procedures, enabling them to lift the ban in place on coloured pineapples since January 1st 2017.

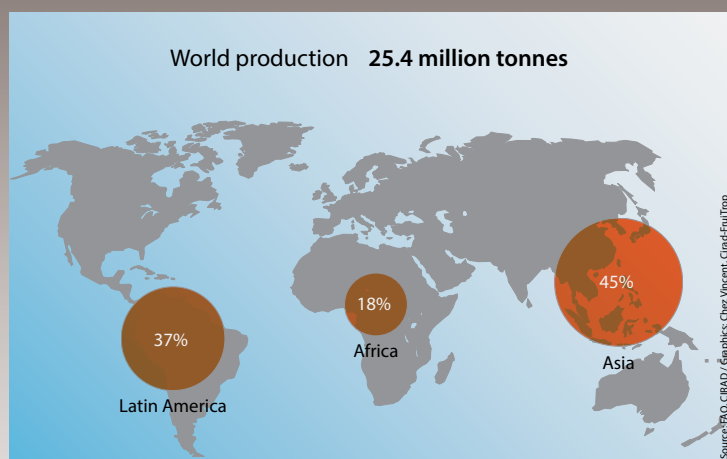


Weeks 36 to 39 saw the return to the market of the first Beninese coloured fruits, with fairly limited volumes which made no major difference to the Cayenne market, still dominated by a fairly heterogeneous Cameroonian supply. These fruits, which initially sold at fairly high prices (up to 2.10 euros/kg), saw their rates stabilise at the end of the period on a more regular footing (between 1.80 and 2.00 euros/kg). It was above all for the Sugarloaf market that the return of the Beninese supply led to a change. Several batches received were highly coloured, without breaching the ethephon MRL. Availability of a coloured Beninese supply alongside a green supply really blurred the message which certain operators were trying to convey. This coloured supply marginalised the green Beninese supply a little more, further reducing purchaser interest in green Sugarloaf batches. Quality concerns experienced by certain coloured Sugarloaf batches from Benin led to a number of commercial disputes (cancelled sales, credits), and ended up putting purchasers off the origin.

We must hope that the solution found to obtain coloured Sugarloafs, while adhering to the MRL, was not achieved to the detriment of the intrinsic quality of the fruit; in which case we might unfortunately be looking at a Pyrrhic victory ■

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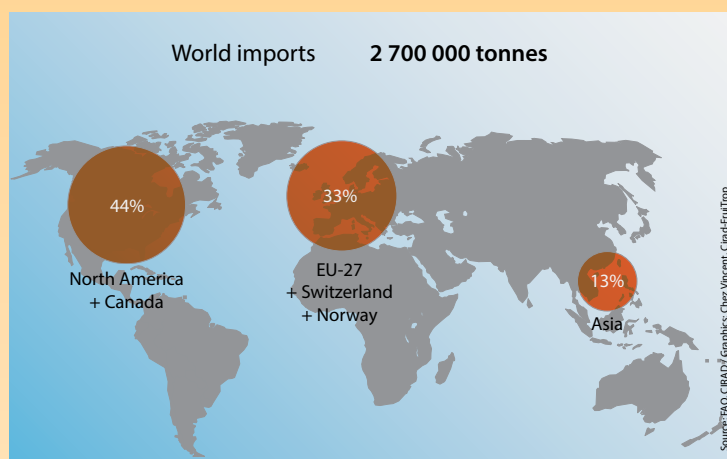
PINEAPPLE - Production (2014)



Pineapple — Top 10 producer countries	
tonnes	2014
Costa Rica	2 915 628
Brazil	2 646 243
Philippines	2 507 098
Thailand	1 914 830
Indonesia	1 835 491
India	1 736 740
Nigeria	1 464 801
China	1 432 700
Mexico	817 463
Ghana	661 500

Source: FAO

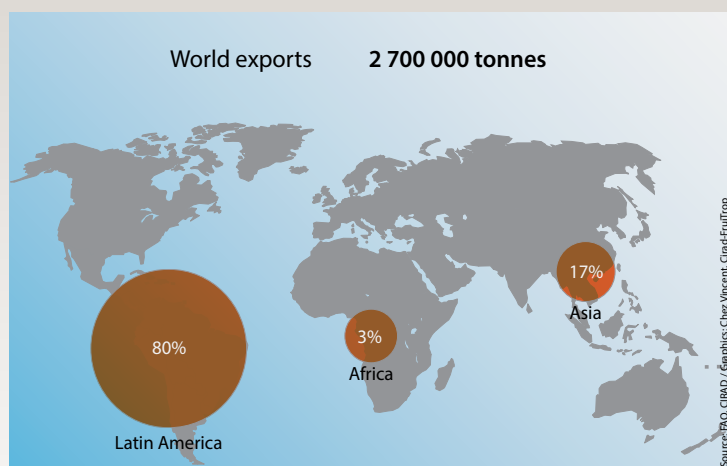
PINEAPPLE - Imports (2016)



Pineapple — Top 6 importer countries	
tonnes	2016
United States	1 076 517
Netherlands	279 184
Germany	168 317
Spain	151 793
United Kingdom	147 788
Japan	143 173

Source: National Customs

PINEAPPLE - Exports (2016)



Pineapple — Top 6 exporter countries	
tonnes	2016
Costa Rica	1 976 076
Philippines	566 928
Mexico	86 267
Ecuador	73 990
Honduras	58 817
Guatemala	32 568

Sources: National Customs, professionals

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USA - Imports - Main supplier countries					
tonnes	2012	2013	2014	2015	2016
Total	924 526	975 591	1 047 066	1 028 693	1 076 517
Costa Rica	788 463	853 894	938 281	868 779	910 092
Mexico	55 222	54 182	40 634	75 165	82 358
Honduras	37 288	38 894	38 154	47 734	48 008
Guatemala	14 105	13 804	14 858	15 956	19 772
Panama	14 676	5 093	4 522	5 276	5 116
Ecuador	7 875	3 188	3 883	5 972	3 140
Thailand	4 516	3 264	3 466	2 336	2 759
Others	2 381	3 271	3 268	7 474	5 272

Source: US Customs

Canada - Imports - Main supplier countries					
tonnes	2012	2013	2014	2015	2016
Total	121 314	122 630	126 289	109 493	118 539
Costa Rica	112 751	114 929	118 079	100 461	108 122
Honduras	2 879	1 508	2 008	1 835	3 007
United States	2 480	3 289	2 649	2 687	2 365
Ecuador	610	691	1 342	1 033	728
Others	2 594	2 213	2 211	3 477	4 317

Source: COMTRADE

Central and South America - Main markets					
tonnes	2012	2013	2014	2015	2016
Total	50 581	59 795	66 610	86 393	96 250
Chile	20 146	28 735	30 288	30 749	31 856
El Salvador	10 151	11 866	16 624	20 154	22 184
Costa Rica	683	6	7	16 118	18 128
Argentina	10 394	10 970	11 890	11 564	13 621
Uruguay	779	910	1 155	1 507	1 747
Mexico	1 018	1 035	760	511	1 258
Paraguay	537	746	881	812	849
Colombia	56	182	340	-	1
Others	3 684	3 948	4 512	4 977	6 606

Source: COMTRADE

European Union - Imports - Main supplier countries					
tonnes	2012	2013	2014	2015	2016
Total extra-EU, of which	864 016	830 573	937 491	836 875	847 087
Costa Rica	723 119	704 203	819 207	720 418	736 274
Ecuador	24 516	16 364	17 225	23 540	33 031
Côte d'Ivoire	24 946	25 366	23 060	24 666	21 624
Panama	27 506	35 616	32 508	23 300	13 991
Ghana	35 339	31 275	24 407	19 954	13 530
Colombia	1 245	418	2 790	4 444	8 480
Cameroon	9 771	4 373	2 594	3 481	3 888
Honduras	6 842	2 543	3 574	3 905	3 072
Dominican Rep.	2 827	1 302	1 603	2 267	3 000
Benin	2 413	3 053	3 675	3 647	2 949
Togo	857	948	1 342	1 829	1 736
Brazil	63	7	115	66	204
Others	4 572	5 105	5 392	5 359	5 310

Source: EUROSTAT

Other West European countries - Main markets					
tonnes	2012	2013	2014	2015	2016
Total	27 671	26 886	27 735	26 334	25 898
Switzerland	20 617	19 960	20 797	20 079	20 068
Norway	6 585	6 453	6 444	5 744	5 231
Iceland	469	473	494	511	599

Source: COMTRADE

Russia - Imports - Main supplier countries					
tonnes	2012	2013	2014	2015	2016
Total	49 259	50 014	44 797	32 229	33 381
Costa Rica	35 068	39 926	37 001	28 592	28 418
China	1 728	1 975	1 547	1 252	2 118
Ecuador	4 720	2 671	2 746	736	1 477
Philippines	1 184	1 144	1 040	537	406
Ghana	1 348	635	123	215	111
Côte d'Ivoire	1 790	1 211	533	398	82
Panama	2 703	1 937	1 497	312	40
Cameroon	62	119	22	31	39
Brazil	30	17	3	-	26
Others	626	379	285	156	664

Source: COMTRADE

Other East European countries - Main markets					
tonnes	2012	2013	2014	2015	2016
Total	12 714	12 830	11 745	7 698	6 318
Ukraine	8 862	8 525	5 686	2 554	2 554
Serbia	748	765	1 111	1 092	1 443
Belarus	1 899	2 437	3 553	2 957	1 000
Bosnia	528	499	663	535	742
Moldova	677	604	732	560	579

Source: COMTRADE

Japan - Imports - Main supplier countries					
tonnes	2012	2013	2014	2015	2016
Total	174 025	181 197	166 295	150 598	143 173
Philippines	172 627	180 062	164 389	147 525	135 911
Costa Rica	-	-	-	770	4 895
Taiwan	713	871	885	1 254	1 126
United Kingdom	629	48	-	33	196
China	-	86	819	-	-
Others	56	130	202	1 017	1 045

Source: Japanese Customs

Other Asian countries - Main markets					
tonnes	2012	2013	2014	2015	2016
Total	147 978	161 495	193 830	199 467	222 706
China	50 164	58 412	89 047	103 582	117 854
South Korea	73 131	75 917	75 420	68 373	77 375
Singapore	17 995	20 219	22 835	22 062	22 558
Malaysia	2 455	1 698	2 537	2 646	2 324
Kazakhstan	2 786	4 093	2 950	2 221	1 848
Azerbaijan	1 447	1 156	1 041	583	747
Others	6 952	7 127	8 719	11 352	11 863

Source: COMTRADE

Oceania - Main markets					
tonnes	2012	2013	2014	2015	2016
Total	7 562	8 523	8 094	8 831	9 181
New Zealand	7 195	8 096	7 905	8 377	8 829
Australia	367	427	189	454	352

Source: COMTRADE

Near East - Main markets					
tonnes	2012	2013	2014	2015	2016
Total	18 694	20 917	22 893	24 285	26 734
Turkey	13 103	14 068	14 771	14 894	15 948
Morocco	2 349	2 570	3 066	3 493	4 477
Lebanon	1 976	2 696	3 036	3 694	4 021
Israel	302	602	754	940	1 168
Jordan	964	981	1 266	1 264	1 120

Source: COMTRADE

Persian Gulf - Main markets					
tonnes	2012	2013	2014	2015	2016
Total	72 740	84 164	101 395	103 564	79 875
United Arab Emirates	40 914	46 021	48 138	49 011	29 020
Iran	1 418	4 381	16 535	12 975	21 757
Saudi Arabia	15 822	19 042	19 546	21 704	18 837
Kuwait	4 859	4 800	5 648	4 757	4 088
Oman	2 354	2 100	3 617	2 702	3 590
Qatar	2 524	3 539	4 127	5 097	1 975
Yemen	4 849	4 281	3 784	7 318	608

Source: COMTRADE



Pineapple

Quality defects

Photos © Pierre Gerbaud

CLOSE-UP **FRUITROP**



Internal browning



Internal browning



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



**Incipient *Thielaviopsis
paradoxa* on peduncle**



***Thielaviopsis paradoxa*
external appearance**



Sun scald on 'Victoria'



Sun scald on 'Victoria'



Over-ripeness



Scales



Attack by insects



Crack malformation or deformity



**Colour variation
in the same batch**



Damaged, scorched crown



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



Incipient internal browning



Incipient internal browning in 'Victoria'



Thielaviopsis paradoxa



Incipient *Thielaviopsis paradoxa* on a blemish



External symptom of *Penicillium funiculosum* on Sugarloaf



Internal symptom of *Penicillium funiculosum* on Sugarloaf



Translucent



Mould (*Penicillium*) on peduncle after transport



Mould after transport (*Penicillium*)



Micro-bruising



Dry bracts on 'Victoria'



Peduncle cut irregularity



Irregular crown size



Poorly reduced crown



Double crown

Pineapple

Pineapple growing

This article is drawn from three main sources:

- 'Crop management sequence - Pineapple', PIP, 52 pages. www.coleacp.org
- 'L'ananas', Alain Guyot, ISTOM lectures
- 'L'ananas, sa culture, ses produits', Claude Py & Claude Teisson, 568 pages, Maisonneuve et Larose

The pineapple, *Ananas comosus*, a member of the Bromeliaceae family, originated in South America. The cultivated pineapple still has several traits of this parentage:

- its root system is extremely fragile and the plant prefers light, well-tilled soil;
- it tolerates very dry spells by strongly reducing growth but still surviving;
- the base of the leaves is the most efficient zone for uptake of nutrients and it responds well to foliar fertilisation;
- flowering is induced by low temperatures and short days and is erratic under natural conditions. This gives rise to the most remarkable feature of cultivation—flowering induced artificially by a cropping operation.

Growers can thus—almost at will—control harvest date and yield, as fruit weight depends on the size of the plant at the moment at which flowering is induced artificially. Fruit quality is determined primarily by sugar content and acidity, and varies considerably according to weather conditions and the fertilisation applied. In simple terms, nitrogen intake determines weight and potassium intake determines quality. It is an extremely heterogeneous compound fruit whose base is always at a later stage of development than the upper part. The pineapple is not climacteric and after harvesting the main change in the fruit is a gradual loss of its qualities. This deterioration must therefore be limited in the fresh fruit packing and transport chain—fast transport and sales with no breaks in the cold chain. When the fruit is processed, this must be performed as quickly as possible.

Plant cycle

The pineapple exhibits three main phases:

- **the vegetative phase** from planting to the differentiation of the inflorescence (flowering);
- **the fruiting phase** running from differentiation to fruit harvesting;
- **the sucker growth phase:** from fruit harvesting to the destruction of the plant.

The parts of an adult pineapple plant are as follows:

- **stalk:** a short club-shaped stem that contains starch reserves and has a fibrous structure that makes mechanical destruction difficult;
- **leaves:** with a maximum of 70 to 80, these can be more than 1 m long and 7 cm broad. Their appearance indicates the state of health of the plant and growth vigour;
- **fruit:** a compound fruit that is the equivalent of a fused, compressed bunch. Its weight depends on plant size at floral induction and the nutritional state of the plant at that stage. It is determined first of all by the number of eyes;
- **crown:** a leafy part topping the fruit;
- **roots:** underground and above-ground. The underground roots are fragile and the slightest discontinuity of the soil profile strongly disturbs growth. The roots are put out in the first month after planting. They then just lengthen and no new root emission takes place before the fourth or fifth month;
- **shoots:** these are of two types—slips that grow on the stalk beneath the fruit, and true shoots that grow at the leaf insertion point on the stalk.

Ethephon

Ethephon is widely used around the world on flower, grain and fruit crops. France alone has no less than 24 registered uses in fruit growth, flowering and maturation processes.

Ethephon is registered for two specific uses in pineapple growing: for triggering the flowering process (floral induction treatment) and the regulation of fruit ripening (degreening). In both cases, the ethylene released by the product acts on physiological mechanisms.

Pineapple possesses the feature of being able to flower on demand, and floral induction is generally performed using gaseous ethylene dissolved in water. As application is a big operation, the process is generally used only on mechanised plantations. Another method used on non-mechanised small-holdings is calcium carbide. However, this is somewhat dangerous as the acetylene gas released is inflammable and even explosive if it comes into contact with copper.

The product that is easiest to use is Ethephon, even though it is less effective on varieties such as 'Smooth Cayenne' and MD-2, more popularly known as 'Sweet'.



Cultivation

- **Soil:** alluvial or volcanic at an elevation of less than 600 metres. Deep soil. Good drainage. Gentle slopes (less than 4%). As 'Sweet' is susceptible to *Phytophthora* (a fungal disease), the ideal soil pH range is 5.0 to 6.5.
- **Plants:** 50 000 to 70 000 plants per hectare. The quality of planting stock is of fundamental importance: genetically pure 'Sweet' stock with no defects (spines, diseases, etc.), of uniform size (calibrated in 100 g categories), propagules must be as heavy as possible to shorten the cultivation period (but not too heavy as natural flowering should be avoided) and treated with registered pesticides to prevent the spread of pests and diseases.
- **Post-harvest:** 'Sweet' is susceptible to bruising.
- **Nutrition:** fertiliser is applied by spraying every two weeks. The fertilisation programme starts after the harvest.
- **Weeds:** these can reduce yields and harbour pests and diseases that attack planted fields if they are not eradicated in time.



Controlling flowering

When the plant reaches the appropriate stage of development it becomes sensitive to climatic factors and meteorological factors (day length, decrease of minimum temperature and cloud cover) that determine the differentiation of the inflorescence. Natural flowering then occurs that is not compatible with the commercial management of a plantation. Floral induction treatment (FIT) consists of changing the natural cycle of the plant for the following purposes:

- homogenisation of flowering;
- control of production;
- control of average fruit weight;
- harvest planning.

The date of FIT is determined according to:

- the harvest date desired;
- the FIT/harvest date interval for the period (historical or calculated from the sums of temperatures);
- plant weight (a good indicator being the weight of leaf 'D') that determines fruit weight.

Three floral induction substances are used:

- acetylene in calcium carbide form: grains are placed in the centre of the floral rosette or mixed with water to make an acetylene solution;
- ethylene gas: less dangerous than acetylene, treatment with an ethylene solution can be mechanised;
- ethephon (Ethrel®): this is an ethylene generator. It is much easier to use than the first two alternatives but the results are often mediocre, especially in very hot conditions.

Degreening treatment

This is performed by application of Ethrel and is to achieve homogeneous fruit colour and reduce the number of picking operations. Ethrel releases ethylene as it breaks down. It does not have an effect on all maturation phenomena but mainly targets colour. It must be applied fairly close to natural fruit maturity in order to be effective with no major disadvantages. Fruits treated in this way are easy to recognise as their colour is not scaled from bottom to top but uniform throughout the shell.



Photos © Claude Janssen



Sun scalding

Protection from sun scald

This seasonal phenomenon occurs above all during very sunny periods. Fruits that have lodged, whose stalks are too long or that have a deficient leaf system are those most exposed to sun scald. Several protective methods can be used: tying the leaves in a bunch over the fruit or the whole crop ridge, mulching with grass, or lifting up lodged fruits.

Pineapple

The main varieties


'Smooth Cayenne' was for a long time practically the only variety exported fresh and canned. The Hawaiian hybrid 'MD-2' took over its position on the fresh pineapple market, mainly as a result of its extraordinary capacity for withstanding cold and transport. The robustness of this fruit after harvesting was hitherto unknown and is opening up new prospects in the breeding of new varieties by hybridisation. Other varieties with good taste qualities are preferred on domestic markets but do not keep at all well: 'Perola' in Brazil and 'Queen' in Asia and the Indian Ocean.

Smooth Cayenne



Leaf edges: spines behind tip only
Fruit shape: cylindrical
Fruit colour: green & yellow
Fruit eye diameter: medium
Fruit eye profile: slightly prominent
Flesh colour: pale yellow
Flesh firmness: medium
Flesh texture: smooth
Weight without crown: 1 500 g
Height without crown: 148 mm
Diameter: 121 mm
°Brix : between 14.5 and 16.5
Acidity (meq%ml): between 13.5 and 15.0
Sugar/acid ratio: between 1.0 and 1.2
Flesh maturity homogeneity from bottom to top: with a gradient
Agronomic potential: high yield
Susceptibility: susceptible to core rot, susceptible to *Phytophthora*, susceptible to soil pests
Post-harvest potential: good, susceptible to internal browning

Sweet



Leaf edges: spines occur irregularly along both margins
Fruit shape: cylindrical
Fruit colour: green & yellow
Fruit eye diameter: medium
Fruit eye profile: flat
Flesh colour: yellow
Flesh firmness: medium
Flesh texture: smooth
Weight without crown: 1 400 g
Height without crown: 143 mm
Diameter: 116 mm
°Brix : between 12.8 and 13.7
Acidity (meq%ml): between 6.15 and 10.10
Sugar/acid ratio: between 1.31 and 2.11
Flesh maturity homogeneity from bottom to top: homogeneous
Agronomic potential: high yield. Maturation more rapid than Smooth Cayenne (- 4 to - 5 days)
Susceptibility: low susceptibility to core rot, highly susceptible to *Phytophthora*, average susceptibility to soil pests
Post-harvest potential: good, not susceptible to internal browning

Victoria



Leaf edges: spines along all margins
Fruit shape: trapezoid
Fruit colour: golden yellow
Fruit eye diameter: small
Fruit eye profile: prominent
Flesh colour: yellow
Flesh firmness: medium
Flesh texture: crisp
Weight without crown: 1 300 g
Height without crown: 172 mm
Diameter: 108 mm
°Brix : 14.8
Acidity (meq%ml): 10.9
Sugar/acid ratio: 1.36
Flesh maturity homogeneity from the bottom to the top: with a medium gradient
Agronomic potential: good yield. Maturation more rapid than Smooth Cayenne (- 10 to - 15 days)
Susceptibility: highly susceptible to core rot, susceptible to *Phytophthora*, susceptible to soil pests

Observations made on commercial plantations in Central and West Africa:

- average weight of exported fruits (size B10, B9, A8, A7, A6, A5): 1 430 g, varying from 1 150 to 1 890 g
- °Brix: min 13.4° (October), max 14.5° (January)
- Free acidity (meq%ml): min 6.0 (April), max 7.7 (February)
- Sugar/acid ratio: min 1.8 (February), max 2.4 (April)

Post-harvest potential: highly susceptible to internal browning

Observations made on commercial plantations in Reunion:

- average weight of exported fruits: 700 to 800 g
- °Brix: average 13° in July-August and 18° from November to April
- Free acidity (meq%ml): average 16 in July-August and 13 from November to April
- Sugar/acid ratio: average 0.8 in July-August and 1.4 from November to April
- Crown weight: 15% of total fruit weight from August to December and 30% from March to May

Note : données relevées dans les conditions de production de la Martinique sauf partie « Observations » / Source : Cirad

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Wholesale market prices in Europe

September 2017

					EUROPEAN UNION - IN EUROS			
					France	Holland	UK	Germany
AVOCADO	Air	TROPICAL	BRAZIL	Box			18.61	
			DOMINICAN REP.	Box	14.00			
	Sea	FUERTE	CHILE	Box	11.50			
			KENYA	Box	12.00			
			PERU	Box	12.50			
			SOUTH AFRICA	Box	13.50			
			CHILE	Box	10.83	13.00		12.50
		HASS	KENYA	Box	9.25			
			MEXICO	Box	10.67			
			PERU	Box	10.50			
			SOUTH AFRICA	Box	10.67	13.63		
			SOUTH AFRICA	Box	13.50			
	PINKERTON ETTINGER RYAN	PERU	Box	12.00				
SOUTH AFRICA		Box	14.00					
BANANA	Air	SMALL	COLOMBIA	kg	6.50			
			ECUADOR	kg		5.83		
	Sea	SMALL	ECUADOR	kg	2.20			
CARAMBOLA	Air		MALAYSIA	kg		4.43		
CHAYOTE	Sea		COSTA RICA	kg		1.63		
COCONUT	Sea	NOT DETERMINED	COTE D'IVOIRE	Bag	12.00	14.67	14.66	
			INDIA	Bag		5.50		
			THAILAND	Bag		10.00		
			COSTA RICA	Bag		17.50		
DATE	Sea	DEGLET MEDJOL	ALGERIA	kg	5.50	2.19		
			ISRAEL	kg	10.00	5.97		
			SOUTH AFRICA	kg		6.70		
		NOT DETERMINED	ALGERIA	kg		3.15		
			ISRAEL	kg	2.60		3.38	
			TUNISIA	kg		2.00		
EDDOE	Sea		COSTA RICA	kg		2.10		
GINGER	Sea		BRAZIL	kg		2.21	2.09	
			CHINA	kg	2.40	2.08	1.98	
GUAVA	Air		BRAZIL	kg		7.61	5.41	
KUMQUAT	Air		ISRAEL	kg		4.75		
			SOUTH AFRICA	kg		5.25		
LIME	Air		MEXICO	kg	3.00			
	Sea		BRAZIL	kg	1.40	1.59	1.25	
			MEXICO	kg		1.44	1.80	
			GUATEMALA	kg		1.53		
MANGO	Air	NAM DOK MAI	THAILAND	kg		12.00		
	Sea	ATKINS	BRAZIL	kg	1.50	1.38	1.25	
			ISRAEL	kg	1.36			
			NOT DETERMINED	BRAZIL	kg			1.50
		KEITT	SPAIN	kg			2.26	
			BRAZIL	kg	1.75	1.94	1.69	
			ISRAEL	kg	1.75			
		Truck	PALMER OSTEEN	BRAZIL	kg	1.88	1.50	
SPAIN	kg			2.00	2.38			
MANGOSTEEN	Air		INDONESIA	kg		9.25		
MANIOC	Sea		COSTA RICA	kg	1.35	1.28		

					EUROPEAN UNION - IN EUROS			
					France	Holland	UK	Germany
MELON	Sea	CANTALOUPE GALIA	BRAZIL	kg	1.75	1.70	1.75	
			BRAZIL	kg		1.88	2.06	
			BRAZIL	kg		0.99	1.24	
		HONEY DEW WATERMELON	BRAZIL	kg	0.65	0.73	0.71	
			COSTA RICA	kg	0.38			
			PANAMA	kg	0.40			
		PIEL DE SAPO SEEDLESS WATER	BRAZIL	kg			2.03	
			BRAZIL	kg		0.83	0.78	
			COSTA RICA	kg	0.40			
CHARENTAIS	BRAZIL	kg		1.80				
PAPAYA	Air	FORMOSA NOT DETERMINED	BRAZIL	kg		3.22		
			BRAZIL	kg	3.70	3.43	4.14	
PASSION FRUIT	Air	NOT DETERMINED PURPLE YELLOW	COLOMBIA	kg	5.00	4.63		4.75
			VIETNAM	kg	9.00			
			COLOMBIA	kg		9.00		
			ECUADOR	kg		7.20		
PHYSALIS	Air	PREPACKED	COLOMBIA	kg	9.50	6.93		
PINEAPPLE	Air	MD-2 VICTORIA	BENIN	kg	2.28			
			MAURITIUS	Box		13.50		
			MAURITIUS	kg	3.80			
			REUNION	kg	4.20			
	Sea	MD-2	COSTA RICA	Box		6.75		6.25
			COSTA RICA	kg	0.88			
			COSTA RICA	Piece			0.90	
			COTE D'IVOIRE	kg	0.98			
			ECUADOR	Box		5.63		
PANAMA	kg	0.80						
PITAHAYA	Air	RED	THAILAND	kg		6.50		
			INDONESIA	kg		8.67		
		YELLOW	ECUADOR	kg		10.00		
PLANTAIN	Sea		COLOMBIA	kg	1.10	1.02		
			ECUADOR	kg	1.00			
			WEST INDIES	kg			1.24	
POMEGRANATE	Sea	NOT DETERMINED	EGYPT	kg			2.27	
			PERU	kg		2.07		
		WONDERFUL	CHILE	kg	2.75			
			ISRAEL	kg		2.68		
			PERU	kg	1.95			
		EARLY RED	SOUTH AFRICA	kg	1.85			
			ARGENTINA	kg	1.85			
		ACCO	EGYPT	kg		1.88		
			ISRAEL	kg	2.25	2.00		
		ISRAEL	kg	2.65				
RAMBUTAN	Air		THAILAND	kg		7.38		
			VIETNAM	kg		12.50		
SWEET POTATO	Sea	NOT DETERMINED	EGYPT	kg		0.86	0.65	
			HONDURAS	kg		1.13	0.85	
			SOUTH AFRICA	kg	1.50			
		WHITE RED/WHITE	HONDURAS	kg	1.35			
			HONDURAS	kg		1.55		
TAMARILLO	Air		COLOMBIA	kg		7.20		
TAMARIND	Air		THAILAND	kg		3.60		
TARO	Sea		COSTA RICA	kg	2.60			
YAM	Sea		BRAZIL	kg		1.65	1.10	
			GHANA	kg	1.40			

Note: according to grade

These prices are based on monthly information from the Market News Service, International Trade Centre UNCTAD/WTO (ITC), Geneva.
MNS - International Trade Centre, UNCTAD/WTO (ITC), Palais des Nations, 1211 Geneva 10, Switzerland — T. 41 (22) 730 01 11 / F. 41 (22) 730 09 06

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FOOD, HOSPITALITY & TECHNOLOGIES EXHIBITION



INTERNATIONAL
**FOOD, HOSPITALITY
AND TECHNOLOGIES**
EXHIBITION

08-10 DECEMBER 2017

Casablanca - MOROCCO
l'Office des Foires et
Expositions de Casablanca

www.elanexpo.net | info@elanexpo.net

ELANEXPO
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Experience serving taste

Our GLOBALG.A.P. certified lychees benefit from our experience as a key player in the production, packaging, export, storage, ripening and distribution of fresh fruit and vegetables.

We are specialists in lychees from Madagascar and also offer our clients lychees sourced from multiple origins (South Africa, Mauritius...), with a delicate flavour, grown in compliance with European standards.



it's litchi time!

Arrival of the
LITCHI BY AIR
planned for
MID-NOVEMBER

Greenyard Fresh France SAS

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for a healthier future