

May-June 2016 - No. 241

FRUITROP magazine

English edition

Close-up Litchi

Southern
Hemisphere citruses

European
stone fruits

Southern
Hemisphere kiwi

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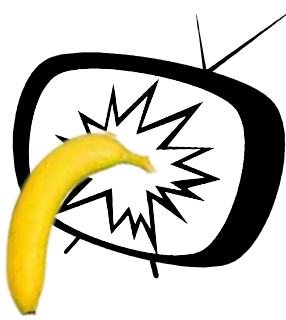
The Extra Sweet Pineapple from Ecuador



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The missing link between the digital revolution and the world of fruits and vegetables.

No, agriculture is not the lost continent of digital technology. Nor is this about the stakes of big data in agriculture (a US initiative, from the Farmers Business Network), or about precision agriculture 2.0, made increasingly efficient through the use of drones and satellites. The revelations in this piece will relegate these two undertakings to the rank of protohistoric gadgets. What we are talking about are the links between video games or social networks and the typical consumer. The two examples below will of course close the debate forever. The first comes to us from the United States, the only promised digital land that counts. They are testing a video game capable of boosting fresh fruit and vegetable consumption by children. The aim of the game is to encourage children to consume these foods in real life, for real health benefits and pleasure. And it has paid off! Portions on plates are still bigger than for the population average, even six months after putting down the controller. Here is something that could finally take these same kids off the inexorable road to obesity. The second example is actually a rather sad story. Never slow in imposing order where anarchy and bedlam are rearing their ugly heads, the hired goons of the forces of digital and moral order in the Middle Kingdom have just struck again. There the police, doubtless with public decency in mind, are now combating sexual deviancy in China by banning people from eating a banana in front of their webcam. What a grotesquely distorted vision the police have of web users! In fact, the banana is one of the fruits highest in potassium, and it has been practically scientifically proven that consuming it increases your chances of having a boy. So why deny Chinese couples what many of them still consider to be the Holy Grail of reproduction: a male descendant? There you have it, the proof that eating fruits and vegetables, and the banana in particular, should remain a pleasure, but also that it performs a social and in particular a health role; and above all that the digital world can help, albeit to the displeasure of some awkward souls.

Denis Loeillet



Publisher
Cirad
TA B-26/PS4
34398 Montpellier cedex 5, France
Tel: 33 (0) 4 67 61 71 41
Fax: 33 (0) 4 67 61 59 28
Email: info@fruitrop.com
www.fruitrop.com

Publishing Director
Hubert de Bon

Editors-in-chief
Denis Loeillet and Eric Imbert

Editor
Catherine Sanchez

Computer graphics
Martine Duportal

Iconography
Régis Domergue

Website
Actimage

Advertising Manager
Eric Imbert

Subscriptions
www.fruitrop.com

Translators
James Brownlee, Tradeasy

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

ISSN
French: 1256-544X
English: 1256-5458

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

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Contents

Direct from the markets (E. Imbert, D. Loeillet, C. Dawson, P. Gerbaud, T. Paqui, C. Céleyrette, R. Bright)

- p. 2**
- **Market reviews:** April 2016
 - **Banana:** Third-party reassurance - unfortunately, a booming activity — Banana purée prices in Europe in March 2016 — Banana consumption in the EU and USA: still on the increase.
 - **Citrus:** Juice prices in Europe in March 2016 — 2016-17 Brazilian orange harvest: the smallest for a quarter-century — Growing difficulties for the star grapefruit source.
 - **Avocado:** Mexico heading for a historic export balance — UK market: Tesco making a packet from avocado butter.
 - **Exotics:** Pineapple juice prices in Europe in March 2016 — Mango juice and purée prices in Europe in March 2016 — Other fruit juice and purée prices in Europe in March 2016 — Papaya: Europe regained its appetite, but Brazil running on empty!
 - **Temperate fruits and vegetables:** Calendar adjustments for Mediterranean melons — Slight improvement for Southern Hemisphere apples and pears — Cherry: France takes drastic action!
 - **Sea freight and sector news:** Idyl launches Maghreb Palm Biotechnologies — A pallet-based ripening system at Interko.

The latest on...

- p. 16** • **European counter-season citrus market** — Manage the tension rather than the pressure
- p. 24** • **European market for the Southern Hemisphere grapefruit**
- p. 26** • **European market for the Southern Hemisphere lemon**
- p. 28** • **European market for Southern Hemisphere easy peelers**
- p. 30** • **European market for the Southern Hemisphere orange**
- p. 32** • **Producer country file** — Peruvian easy peelers
- p. 38** • **European stone fruits campaign** — Initial info on the 2016 harvest
- p. 41** • **Southern Hemisphere kiwi** — Investments that will pay off
- p. 44** • **Credit insurance** — A simple formality to the rescue of the policyholder

Close-up by Pierre Gerbaud: LITCHI

- p. 48** • **Madagascan litchi in 2015-16** — A certain indifference?
- p. 54** • **2015-16 litchi campaign** — Other Indian Ocean sources
- p. 60** • **Litchi quality defects**
- p. 62** • **Litchi cultivation**
- p. 66** • **Litchi varieties**

Wholesale market prices in Europe

- p. 67** **APRIL 2016**

Cover photograph: © Guy Bréhinier

Banana

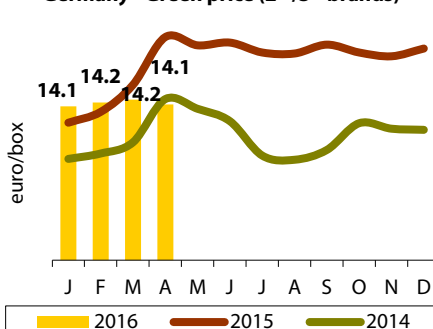
April 2016

The slight slowdown in sales observed after Easter was unable to upset the very good market balance. On the one hand, sales began their seasonal fall while maintaining a good level thanks to temperatures remaining cool, to the weak competition from the strawberry and to the implementation of promotions. On the other hand, the overall supply returned to a more moderate level for all sources due to the peak in March. As for the dollar banana, imports fell below their 2015 equivalents for the first time this year. While Costa Rica registered higher levels than last year, Colombia began its fall though still with seasonal volumes, and Ecuador adopted a slightly lower mark than in 2015 (production slowdown, trade-off in favour of the USA). Meanwhile, the supply from the French West Indies and Africa returned to a level similar to last year (equivalent to average for Africa, and slightly down for the FWI). Hence supply and demand were in step on both the North and South European markets. The only flat note was the quality concerns over some of the Colombian supply (effects of drought), which in particular disrupted the East European markets with more competitive prices. Green banana prices continued their traditional seasonal fall, with levels slightly below average. The Russian market improved due to smaller incoming shipments. The same applied to the Spanish market, with the end of the Canaries production peak.

NORTHERN EUROPE — IMPORT PRICE

April 2016 euro/box	Comparison	
	previous month	average for last 2 years
14.12	- 1 %	- 5 %

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



■ Third-party reassurance - unfortunately, a booming activity.

It is found in the form of a private label stuck to the produce, which is supposed to be a marker for environmental or social values, and very often both. Things are slightly different in the organic sector, since for the EU or the United States, the principles were set by the public authorities, although certification and inspection are outsourced to private firms (which can pose problems, especially in third countries). Conversely, for collectively applied private labels (Fairtrade, Rain Forest Alliance-RA, Global GAP, Max Havelaar, etc.) or internally applied private labels (Tesco Nurture or "Filière Qualité Carrefour"), the specifications are designed and proposed by intermediaries such as NGOs or supermarket chains. And since this must be publicised, marketing is provided by the label manager, i.e. by yet another third party which handles the concept promotion. Ultimately, it is a business like any other.

That in itself would not be so serious, if firstly the impacts of this labels race were assessed; and secondly if the most vulnerable players (farm labourers, small entrepreneurs, etc.) actually enjoyed the advantages oversold by the labels. It is there that the shoe pinches. There are few impact studies, and in many cases, they involve self-declaration. Where there are studies, their conclusions on the actual effects are mixed. Let's look at two examples. The International Guide to Fair Trade Labels (2015 edition) reviewed tens of fair trade or similar labels. On paper, their commitments are solid, the inspections reliable, the procedures transparent, not to mention the

impacts positive! However, the authors point out that: "unfortunately there are few works relating to the social impacts of sustainable development labels." Of Rain Forest Alliance, the flavour of the month label, the authors' verdict was that: "there was no difference between certified and non-certified farms on a number of points (...)". Goodness gracious! So there appears to be a difference between the concepts on glazed paper and in reality. The second example is less stark. It comes to us from a recent study on the impact of Fair Trade certification on employment in the banana sector in three countries: Colombia, Ghana and the Dominican Republic. The conclusions are qualified. While the impacts are often positive (e.g. wages level), there is still progress, or even revolutions, to be made in certain fields, such as working conditions in the Dominican Republic or the situation of migrants within certified companies and more generally in Dominican society.

So there are plenty of risks for clients downstream in the industries in handing themselves over body and soul to a third-party certifier. From a cynical viewpoint, at the least, they take the risk of seeing their reputation stained, endangering their essential strategic assets. Less cynically, a genuinely socially responsible company could risk abandoning its own values. For all these reasons, it is crucial for such a company to take another look at its value chains, or else it could see its own image, its brand, its credibility and values collapse like a house of cards the first time a study is conducted by industry whistleblowers or watchdogs, who are now highly organised and influential.

Source : Denis Loeillet

EUROPE - RETAIL PRICE

Country	April 2016		Comparison	
	type	euro/kg	March 2016	average for last 3 years
France	normal	1.66	0 %	+ 3 %
	special offer	1.43	+ 6 %	+ 3 %
Germany	normal	1.38	0 %	+ 2 %
	discount	1.23	- 1 %	0 %
UK (£/kg)	packed	1.00	0 %	- 15 %
	loose	0.72	0 %	- 1 %
Spain	platano	2.03	+ 1 %	+ 7 %
	banano	1.31	+ 1 %	- 3 %



Agroecological approaches to promote innovative banana production systems

10-14 October 2016 Montpellier, France



H. Tran Quoc

The symposium will take stock of current scientific knowledge and technical advances in the deployment of agroecological approaches in banana production, and how these can contribute to the sustainable intensification of the production systems. The symposium will be structured around five complementary sessions:

Session 1: Sharing the concepts of agroecology and illustrating their usage

Session 2: Managing plant diversity to ensure ecosystem services

Session 3: Improving soil functioning through optimizing mineral and water resource use (field level)

Session 4: Enhancing biological regulations in banana cropping systems (field level)

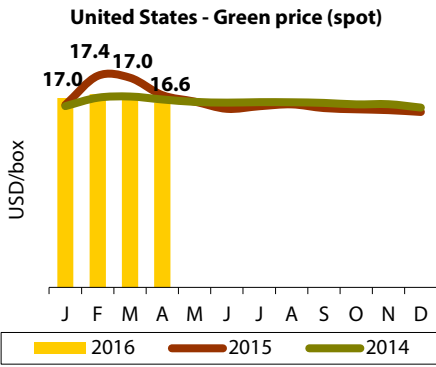
Session 5: Processes, multi-criteria assessment of performances, and contextual factors driving stakeholder strategies (at farm, landscape or higher levels)

Abstract submission deadline: 29 February 2016

<http://ishs-promusa2016.cirad.fr>

Banana

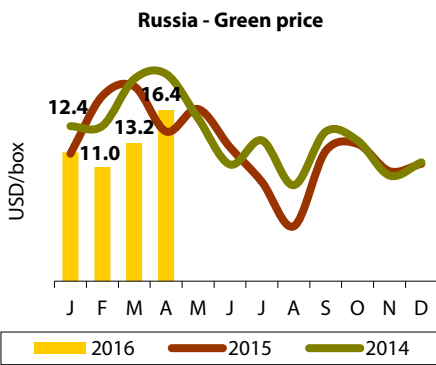
UNITED STATES



UNITED STATES - IMPORT PRICE

April 2016 USD/box	Comparison	
	previous month	average for last 2 years
16.63	- 2 %	- 3 %

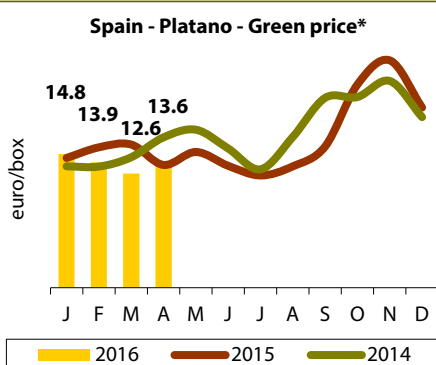
RUSSIA



RUSSIA - IMPORT PRICE

April 2016 USD/box	Comparison	
	previous month	average for last 2 years
16.42	+ 24 %	- 4 %

CANARIES



CANARIES - IMPORT PRICE*

April 2016 euro/box	Comparison	
	previous month	average for last 2 years
13.60	+ 7 %	- 10 %

* 18.5-kg box equivalent

Banana: purée prices in Europe in March 2016.

Type	Price (USD/t)	Source	Comments
ss aseptic, 22°Brix	650-700 cfr Rotterdam	Ecuador	Demand and supply seemingly balanced since the last price increase. No changes expected.

Note: cfr: cost and freight / Source: MNS-ITC Geneva

Banana consumption in the EU and USA: still on the increase.

Let's not hold back with the superlatives; never has the EU-28 consumed as much bananas, either in a month of March or over a twelve-month period! Europeans guzzled down 559 000 tonnes in March 2016, i.e. 4 % more than in March 2015. All the source groups contributed to this growth (European production, ACP and MFNs). Closer up, on an individual basis, the picture is of course different. Regarding the ACPs, the Dominican Republic was down over one month, but more significantly Surinam and Belize confirmed a big decrease. At the same time, Côte d'Ivoire and Cameroon continued their rise. Regarding the dollar banana, Ecuador picked up a bit. Yet most significantly, Costa Rica had a record March, following on from an already exceptional February. Peru also finished the month with a very fine performance. We can note the hesitant comeback by Brazil. A special mention can go to Guatemala, which exceeded

25 000 t over three months. Although this giant on the US market is a dwarf on the European market, it has seen a spectacular rise, with its presence increasing twelvefold between 2014 and 2016! Consumption in Q1 2016 exceeded for the first time the symbolic one-and-a-half-million tonnes mark, reaching 1 542 000 t. Compared to the same period of 2015, consumption increased by 4.3 %. Besides the tumbling levels from Surinam and Belize, and the considerable fall from Ecuador or Panama, all the other sources rose on the European market. Over twelve months, net consumption set a new record, reaching 5 878 000 t. This was 420 000 t more than over the twelve preceding months (April 2013 - March 2014).

The trend was the same in the United States. Consumption in Q1 rose by 3 % to exceed the one million-tonne mark (as in 2015). Honduras, Mexico, Colombia and Guatemala were down, while Ecuador and Costa Rica continued their steep rise.

Source: CIRAD

Banana — January to March 2016 (provisional)

000 tonnes	2014	2015	2016	Ecart 2016/2015
EU-28 — Supply	1 470	1 479	1 542	+ 4 %
Total imports, of which	1 309	1 322	1 377	+ 4 %
MFN	1 054	1 071	1 111	+ 4 %
ACP Africa	141	132	159	+ 20 %
ACP others	115	119	86	- 28 %
Total EU, of which	161	157	166	+ 5 %
Martinique	44	46	45	- 1 %
Guadeloupe	17	16	14	- 14 %
Canaries	95	91	102	+ 12 %
USA — Imports	1 111	1 144	1 178	+ 3 %
Re-exports	137	136	139	+ 3 %
Net supply	974	1 009	1 039	+ 3 %

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

EUROPE - IMPORTED VOLUMES - APRIL 2016

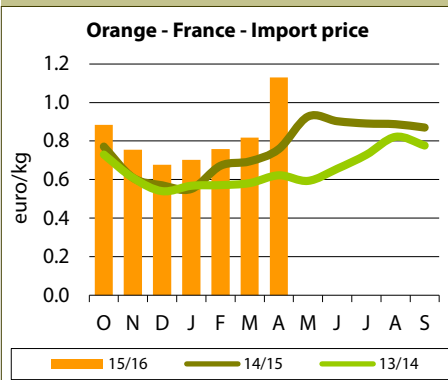
Source	Comparison		
	March 2016	April 2015	2016 cumulative total compared to 2015
French West Indies	↘	+ 4 %	+ 2 %
Cameroon/Ghana/Côte d'Ivoire	↘	+ 2 %	+ 13 %
Surinam	↗	- 28 %	- 30 %
Canaries	↘	+ 5 %	+ 9 %
Dollar :			
Ecuador	↘	- 4 %	+ 3 %
Colombia*	↘	+ 2 %	+ 2 %
Costa Rica	↗	+ 2 %	+ 9 %

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

Orange

April 2016

The arrival of fine weather, which usually triggers the seasonal fall in demand, did not affect the good vitality of orange sales: the cool spring and weak competition from the strawberry helped maintain the good performances seen throughout this exceptional season. The table orange supply continued to wane with the early end of the Spanish Navelate and the Tunisian Maltaise, as a consequence of the campaign getting ahead of schedule due to the very good sales registered this season. The same applied to juice oranges, with the Salustiana campaign also finishing early. Hence Valencia Late continued to see rapid progress in this promising context, though it was unable to offset the shortfall. Prices strengthened for all varieties, in particular Navelates, with levels well above average, as they were throughout this very good season.



Orange: juice prices in Europe in March 2016.

Type	Price (USD/t)	Source	Comments
FCOJ, Pera, 66°Brix, loose, ratio 14-16	1 800-1 900 fca Netherlands	Brazil	Demand waning very rapidly, especially in the USA. According to forecasts, Floridian harvest set to be the leanest for the past thirty years. In Brazil, yields should be lower, but with better quality.
FCOJ, blood orange, 55°Brix	2 400-2 500 EUR/t exw Italy	Italy	Promising blood orange harvest in Italy, especially in terms of colour.

Note: fca: free carrier / exw: ex-works / Source: MNS-ITC Geneva

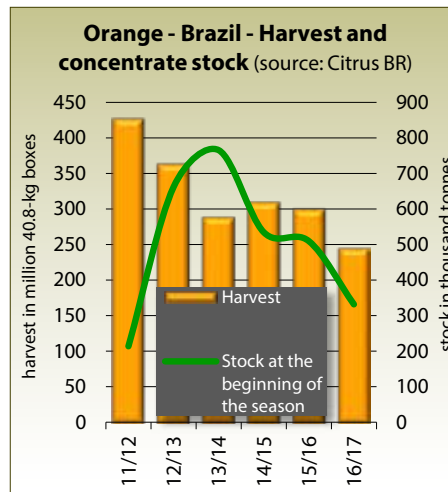
2016-17 Brazilian orange harvest: the smallest for a quarter-century. That was the forecast of Citrus BR, which estimated the harvest at just under 250 million field crates. This considerable fall, of more than 18 % from the previous season, is apparently due to abnormally high temperatures during fruit-setting. This downturn comes on top of a structural downward trend in Floridian production and stocks

returning to a much lighter level (approximately 330 000 t, i.e. 15 to 20 weeks on the market, as opposed to more than 500 000 t at the same period in 2015). Thus although consumption is continuing to provide no positive signs, the question is no longer to find out whether concentrate prices will rise, but when concentrate rates will rise.

Sources: Foodnews, Citrus BR

PRICE	Type	Average monthly price euro/15-kg box	Comparison with average for last 2 years
	Dessert orange	14.06	+ 35 %
Juice orange	12.85	+ 46 %	

VOLUMES	Type	Comparison	
		previous month	average for last 2 years
Dessert orange	↘	- 17 %	
Juice orange	↗	+ 101 %	

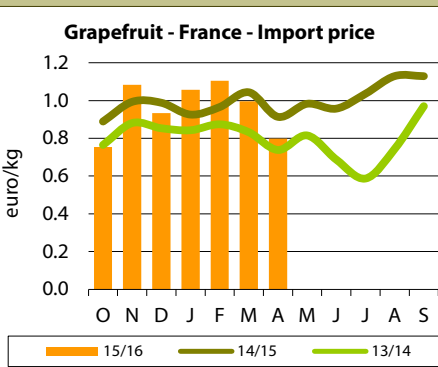


VOLUMES	Varieties by source	Comparison		Observations	Cumulative total / cumulative average for last 2 years
		previous month	average for last 2 years		
	Spanish Navelate	↘	- 17 %	Navelate/Lanelate campaign winding down with volumes in shortfall due to the beginning of the season being ahead of schedule.	+ 13 %
	Spanish Salustiana	↘	- 12 %	Last batches and end of the Salustiana campaign with volumes in shortfall due to the campaign being ahead of schedule	+ 17 %
	Spanish Valencia Late	↗↗	+ 225	Supply progressing very rapidly, with large volumes.	+ 228 %

Grapefruit

April 2016

The market retained its two-speed trend. On the one hand, the catastrophic tropical grapefruit campaign came to a painful end, in spite of the last Floridian shipments, made toward mid-April, being well into shortfall. Stocks of heterogeneous quality were still available at the end of the month, and prices were revised downward in order to reduce these levels. Conversely, the Corsican campaign continued its good progress, with prices remaining strong. As for the Mediterranean grapefruit, the Israeli, Turkish and Spanish campaigns continued to wind down, with volumes in shortfall due to being ahead of schedule at the beginning of the season. Unlike the Floridian grapefruit, rates continued to strengthen until mid-April, and remained strong for the last batches sold toward the end of the month.



PRICE	Type	Average monthly price	Comparison with average for last 2 years
		euro/17-kg box equivalent	
	Tropical	19.04	+ 3 %
	Mediterranean	13.23	+ 9 %

VOLUMES	Type	Comparison	
		previous month	average for last 2 years
	Tropical	↘	- 87 %
	Mediterranean	↘	- 22 %

VOLUMES	Source	Comparison		Observations	Cumulative total / cumulative average for last 2 years
		previous month	average for last 2 years		
	Florida	↘	- 87 %	Early end to the campaign. Last incoming shipments in shortfall. Quality and stocks problems.	- 19 %
	Israel	↘	- 21 %	Supply on the wane, with volumes in shortfall due to being ahead of schedule at the beginning of the season.	+ 11 %
	Turkey	↘	- 30 %	End of the campaign with volumes in shortfall.	+ 31 %

■ Grapefruit: juice prices in Europe in March 2016.

Type	Price (USD/t)	Source	Comments
Frozen concentrate, 58°Brix, red, ratio 6-8.5	1 100-1 250 cfr Netherlands	South Africa	Demand still weak. Caribbean juices still available, and at fairly stable prices. Practically no remaining stocks in South Africa, unless at very high prices. The 2016 harvest should not be exceptional.
Frozen concentrate, 58°Brix, white, ratio 7-9	2000-2 200 cfr Rotterdam		
Frozen concentrate, 58°Brix, white, ratio 9<	2 200-2 500 cfr Rotterdam	Caribbean	

Note: cfr: cost and freight / Source: MNS-ITC Geneva

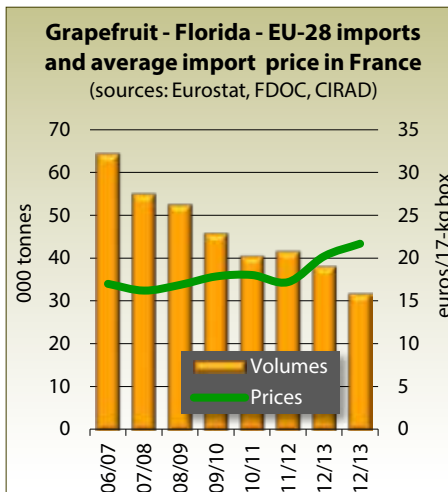
■ Lemon: juice prices in Europe in March 2016.

Type	Price (USD/t)	Source	Comments
Frozen concentrate, cloudy, 500 gpl	3 400-3 700 cfr Rotterdam	Argentina	After falling considerably, prices stabilised. Stocks climbed, causing a slowdown in demand. No more stocks in Spain, and limited quantities in Italy. Argentinean harvest, slightly above normal, to be available soon.
Frozen concentrate, clear, 500 gpl	4 000-4 300 cfr Rotterdam		

Note: cfr: cost and freight / Source: MNS-ITC Genève

■ **Growing difficulties for the star grapefruit source.** The Floridian industry had a particularly lacklustre 2015-16 campaign. Due to the production shortage, barely 2 million boxes were sold

in the EU-28, confirming this source's structural downward trend in volumes, at a rate of approximately 300 000 boxes per year (- 16 % between the 2015-16 season and the previous one). True, prices registered a substantial gain of approximately 7 %, but, at 22 euros/17 kg-box on average, they reached a level deemed off-putting by certain distributors, though without being lucrative at certain import periods, in the context of an expensive dollar and very high production stage prices. This is a problem for the grapefruit market in general, whether tropical or Mediterranean, such is the key driving force of the high-quality Floridian grapefruit behind consumption of this product.



Source: CIRAD

Pineapple

April 2016

In April, the overall Sweet supply was limited, from both Africa and Latin America. Some quality concerns contributed to the fall in African volumes, while the already lean Costa Rica volumes were in heavy demand from the processing industry, thereby reducing availability on the fresh market. The long-planned promotions therefore really struggled to get going, giving rise to some speculative sales. Outside of these operations, demand was rather quiet. However, rates remained fairly high since the supply was much less than demand.

The air-freight pineapple market remained well under-supplied, with the ongoing MRL inspections affecting fruit availability. Cameroon and Côte d'Ivoire remained the only sources with decent volumes regularly available. The Beninese supply exhibited increasingly green coloration (Cayenne and Sugarloaf), which did not go down well with purchasers, despite the good taste quality (especially Sugarloaf). The MRL analysis results on the Beninese pineapples, still very mixed, contributed to putting the purchasers off this source a little more. Demand, affected by the school holidays, was low, though rates remained fairly stable overall. Sugarloaf price ranges remained roughly the same, at between 1.90 and 2.10 euros/kg.

The Victoria market was quiet. At the beginning of the month, with demand losing interest, the operators at times had to lower their prices a bit to retain fluidity. Some switched to the Mauritian supply to offset the shortage of fruit from Reunion.

■ Pineapple: juice prices in Europe in March 2016.

Type	Price (USD/t)	Source	Comments
Frozen concentrate, 60°Brix, Smooth Cayenne variety	3 050-3 250 fca Netherlands	Thailand	Prices fell by more than 25 %, and the trend should continue. Production improving in Thailand. Yet high prices and the poor quality of the last two years have dampened down demand for the product.
Aseptic concentrate, 60°Brix, Smooth Cayenne variety	3 050-3 250 cfr Rotterdam		
NFC, ss aseptic, 12°Brix, MD-2 variety	850-950 ddp London	Costa Rica	

Note: fca: free carrier / cfr: cost and freight / ddp: delivered duty paid / Source: MNS-ITC Geneva

■ Other fruits: juice and purée prices in Europe in March 2016.

Type	Price (USD/t)	Source	Comments
Acerola	ss frozen, 6-8°Brix	Brazil	Market still well supplied and balanced.
	Frozen concentrate, 20-22°Brix, clear		
Passion fruit	Frozen concentrate, 52°Brix	Ecuador	Prices increased, with practically no more stocks available from Ecuador or Peru, and yields low. The majority of Latin American sources seem to have been affected by El Niño. The forthcoming harvests in Ecuador and Brazil should be limited. Demand unabated.
	Concentrated purée, 19°Brix, pink		
Guava	Concentrated purée, 20°Brix, white	India	Demand and supply balanced for white, and prices stable. No more pink stocks in South Africa, with the next ones set to be available in April 2016. Some limited volumes from Brazil available at slightly higher prices.
	Clarified aseptic concentrate, 65°Brix	Turkey Iran	

Note: cfr: cost and freight / fob: free on board / fca: free carrier / Source: MNS-ITC Geneva

PINEAPPLE - IMPORT PRICE

Weeks 14 to 17	Min	Max
Air-freight (euro/kg)		
Smooth Cayenne	1.90	2.00
Victoria	2.70	4.00
Sea-freight (euro/box)		
Smooth Cayenne	7.00	9.00
Sweet	10.00	13.00

PINEAPPLE - IMPORT PRICE IN FRANCE - MAIN SOURCES

Weeks 2016		14	15	16	17
Air-freight (euro/kg)					
Smooth Cayenne	Benin	-	-	1.90	1.90
	Cameroon	1.90-2.00	2.00	2.00	2.00
	Côte d'Ivoire	1.90-1.95	1.90-1.95	1.90-1.95	1.90-1.95
Victoria	Reunion	2.70-3.80	3.00-3.80	2.70-4.00	3.80-4.00
	Mauritius	3.00-3.40	3.00-3.60	3.00-3.60	3.00-3.60
Sea-freight (euro/box)					
Smooth Cayenne	Côte d'Ivoire	7.00-9.00	7.00-9.00	7.00-9.00	7.00-9.00
Sweet	Côte d'Ivoire	11.00-13.00	11.00-13.00	10.50-12.50	11.00-13.00
	Ghana	11.00-13.00	11.00-13.00	10.50-12.50	11.00-13.00
	Costa Rica	10.00-12.00	10.00-13.00	10.00-13.00	10.00-13.00

Mango

April 2016

April saw a slow transition between the end of the Peruvian campaign and the start of the West African sources. The market was under-supplied overall, with high sale prices. Peruvian volumes dwindled fairly quickly. Conversely, West Africa came to the fore slowly. Brazilian exports partially made up for the shortfall, though with less sought-after varieties such as Tommy Atkins and Palmer, and some Keitt. The last batches of Peruvian Kent at times registered substantial sale price differences, given their qualitative disparity. In the first half of the month, some Amélie batches from Côte d'Ivoire also offset the fruit shortage, but this variety, more fragile and less prized, earned no more than 4.00-5.00 euros/box. The first Ivorian Kent mangos came onto the market only from mid-April, slightly earlier than last year. They sold at high prices in spite of a frequent lack of coloration and maturity. In addition, the predominance of small sizes was not in line with the demand's focus on medium sizes.

The air-freight market took a practically identical course, with Peruvian volumes falling rapidly. They obtained particularly high prices, though these should be downgraded in view of the end-of-campaign sorting rejects, which adversely affected the economic results. Mali and Burkina Faso continued their campaigns with Amélie and Valencia, whose prices varied depending on the shipment quality. The second half of the month brought the beginning of West African Kent exports, which sold at relatively high prices given the quality of the fruit and the moderate shipment sizes.

■ Mango: juice and purée prices in Europe in March 2016.

Type	Price (USD/t)	Source	Comments
Aseptic purée, 17°Brix, Alphonso variety	1 700-1 800 cfr Rotterdam	India	Alphonso prices stable, with lower demand and large stocks. Totapuri rates stable and the next Indian harvest should be good. The same applies to Tommy Atkins prices, with light stocks available from Mexico. Demand weak for purées from the Latin American sources, regardless of variety.
Aseptic concentrate, 28°Brix, Totapuri variety	1 350-1 450 cfr Rotterdam		
Aseptic concentrate, 28°Brix, Tommy Atkins variety	1 300-1 350 fca Netherlands	Mexico	

Note: cfr: cost and freight / fca: free carrier / Source: MNS-ITC Geneva

■ Papaya: Europe regained its appetite, but Brazil running on empty!

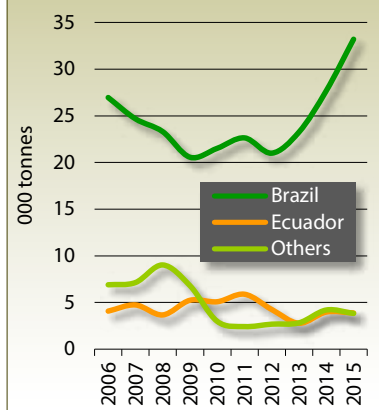
European consumers will need to wait to satisfy their growing hunger for papaya. The return to a better quality of supply helped consumption, somewhat in decline since the late 2000s, to bounce back for the past two years. Imports even set a record level of more than 40 000 t in 2015. Nonetheless, 2016 could well mark a break in this fine growth dynamic, since drought and high temperatures are ravaging the States of Bahia and Espirito Santo, where the bulk of Brazilian production is concentrated. The monthly harvest apparently went from 1 200 t to 300 t for Caliman, an iconic producer for the sector, and small fruits abound. Field-edge prices paid have boomed, reaching 5 reais per kilo in early May, i.e. more than five times the average level. They should maintain a high level in the coming months, despite the papaya's ability to recover rapidly from stress periods.

Sources: Globo, CIRAD, Eurostat



© Guy Beihner

Papaya - EU-28 - Imports (source: Eurostat)



MANGO - INCOMING SHIPMENTS (estimates in tonnes)					
Weeks 2016	14	15	16	17	
Air-freight					
Peru	40	5	20	15	
Mali	15	15	30	40	
Burkina Faso	10	10	15	15	
Côte d'Ivoire		15	30	50	
Sea-freight					
Brazil	1 800	1 500	1 120	880	
Peru	1 230	350	20		
Côte d'Ivoire	-	220	1 980	1 100	

MANGO - IMPORT PRICE ON THE FRENCH MARKET							
Weeks 2016		9	10	11	13	Average April 2016	Average April 2015
Air-freight (euro/kg)							
Peru	Kent	5.00-6.00	6.00-6.50	6.00-6.50	-	5.65-6.30	5.00-6.10
Mali	Amélie	2.80-3.00	2.80	3.00	2.80-3.00	2.85-2.95	3.05-3.20
Mali	Valencia	3.50-4.00	2.50-4.00	3.00-3.50	3.00-3.50	3.00-3.75	3.40-3.85
Mali	Kent	-	-	-	3.80-4.00	3.80-4.00	4.30-4.80
Burkina	Amélie	2.80-3.00	2.80	-	-	2.80-2.90	3.05-3.20
Burkina	Valencia	3.00-3.80	3.00-3.50	3.00-3.50	3.00-3.50	3.00-3.60	3.25-4.00
Burkina	Kent	-	-	4.00-4.50	4.00-4.50	4.00-4.50	4.30-4.80
C. d'Ivoire	Kent	-	5.50	4.50-5.50	4.50-5.50	4.80-5.50	5.25-5.50
Sea-freight (euro/box)							
Peru	Kent	6.00-8.00	6.00-9.00	-	-	6.00-8.50	5.80-7.20
C. d'Ivoire	Kent	-	-	7.00-9.00	7.00-9.00	7.00-9.00	6.25-7.75



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Avocado

April 2016

The transition between the sources ended in a barely average supply context. The last Spanish and Israeli batches, in shortfall, were supplemented by waning volumes from Chile and Mexico, though these were still bigger than in recent years (record year for Mexico). The summer sources (Peru, Kenya, South Africa) rapidly came onto the market with big volumes, though still insufficient to offset the end of the Northern Hemisphere campaign and the absence of stocks after Easter. Nonetheless, Hass prices stagnated. Indeed, the first Southern Hemisphere imports came early and were characterised by a small sizing (22-24), with a shortage of sizes 18-20. After a period of shortfall, the supply of green varieties returned to average because of the marked rise in South African and Kenyan volumes.

■ **Avocado: Mexico heading for a historic export balance.**

New export records are no longer an event but a habit for Mexican professionals. Nonetheless, the performance of the 2015-16 season will bring something exceptional once again. For the first time, volumes on the international market should exceed one million tonnes! This rise, as usual, is due to the ever-growing appetite of the US market, which should absorb just under 900 000 t of avocado from Michoacán this season (as opposed to just under 700 000 t in 2014-15). True, Europe should remain a tiny market compared to the US giant, but the big rise in volumes bound for it should also be highlighted (probably just under 30 000 t, i.e. more than double the 2014-15 figure, something unprecedented). Mexico could continue to forge ahead in 2016-17, as it appears to have another bumper harvest.

■ **UK market: Tesco making a packet from avocado butter.**

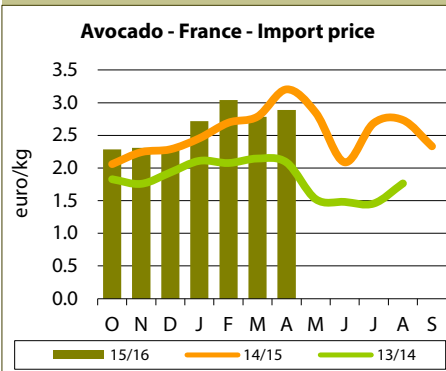
The British supermarket has just launched an avocado-based spread. The product, which looks like a conventional margarine, is not manufactured from avocado pulp, but from the oil. According to Tesco, its main benefit is nutritional. The price of the product (£1.20 for 250 g) certainly is a strong point for the chain, which continues to ride the green wave, following on from its launch of "avozillas" (giant avocados) and frozen avocado slices.

Source : Tesco



© Guy Bréhiner

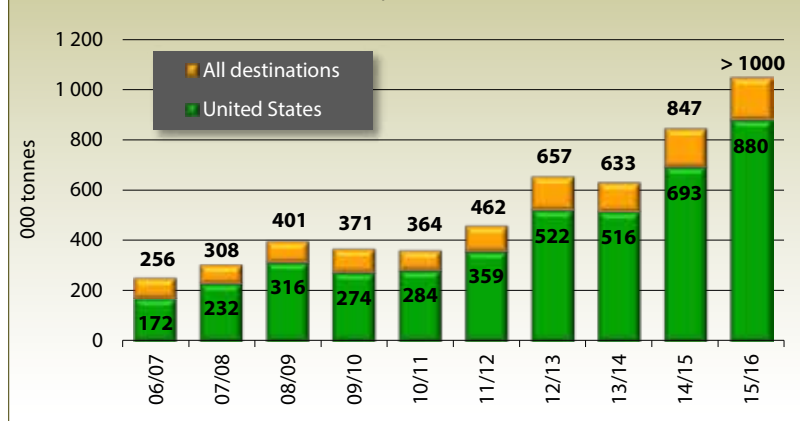
Source: CIRAD



PRICE	Varieties	Average monthly price euro/box	Comparison with the last 2 years
	Green	8.73	+ 26 %
Hass	12.60	+ 12 %	

VOLUMES	Varieties	Comparison	
		previous month	average for last 2 years
Green		↗	- 1 %
Hass		↘	0 %

■ **Avocado - Mexico - Exports to the United States and all destinations** (professional sources, Customs)



VOLUMES	Source	Comparison		Observations	Cumulative total / cumulative average for last 2 years
		previous month	average for last 2 years		
	Chile	↘	+ 31 %	Supply on the wane throughout the month, though with bigger volumes than in previous years.	+ 48 %
	Mexico	=	+ 1064 %	Volumes fairly stable, and very high compared to previous years.	+ 228 %
	South Africa	↗	-1%	First Hass shipments in shortfall (- 9 %), and slightly above average for green varieties (+ 3 %).	+ 2 %
	Kenya	↗	+ 113 %	Volumes progressing rapidly, above average.	+ 44 %
	Peru	↗	+ 65 %	Very rapid progress, with big volumes.	+ 73 %

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FOOD INDUSTRY

PRODUCE REPORT

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Temperate fruits & vegetables

■ **Calendar adjustments for Mediterranean melons.** The forecasts unveiled at Medfel confirmed the initial estimates for the Mediterranean. They confirmed slightly greater surface areas in Dakhla, with the harvest both earlier and more staggered, stable surface areas in Agadir with early fruits, but a stable or even slightly increased surface area in Marrakech, with more greenhouses and fewer small producers. Similarly, the forecasts confirmed decreasing surface areas in Almeria, and slightly increasing areas in Malaga/Murcia, with more greenhouses and an emphasis on early fruits. In France, surface areas are reportedly stable overall, though with a slight increase in the South-East due to the increase in planting in semi-forcing tunnels and under tarpaulins, with fewer early plantations. The trend varies with the production modes in the South-West, but the area is stable overall, though also with fewer very early semi-forcing tunnels. The Centre-West region is set for a slight fall in planting, with a one-week shift for early plantations.

Source: Infofruit

Charentais melon - Mediterranean Basin Planted areas forecasts		
hectares	2016	2015
Dakhla	250 - 260	230-250
Agadir/Taroudant	100 - 150	100-150
Marrakech/Kenitra	1 000 - 1 100	800-900
Total Morocco	1 350 - 1 510	1 130-1 300
Almeria	290 - 300	350
Malaga/Murcia	3 300 - 3 500	2 900-3 000
Total Spain	3 590 - 3 800	3 250-3 350
South-East	5 500	5 400
South-West	3 500	3 500
Centre-West	4 700	4 800
Total France	13 700	13 700

Source: Medfel

Apple — Southern Hemisphere Cumulative exports at week 18 (excl. USA)		
tonnes	2016	2016 / 2015
Total EU (including Russia)	65 509	-9%
United Kingdom	16 498	-32%
Continental Europe (including Russia)	49 011	3%
Middle East	56 675	10%
Asia	60 748	71%
Total	182 932	15%

Source: Shaffe

Pear — Southern Hemisphere Cumulative exports at week 18 (excl. USA)		
tonnes	2016	2016 / 2015
Total EU (including Russia)	207 885	1%
United Kingdom	8 719	-16%
Continental Europe (including Russia)	199 166	2%
Middle East	28 747	9%
Asia	18 085	17%
Total	254 717	3%

Source: Shaffe

■ **Cherry: France takes drastic action!** Less than a month from the harvest, France decided not to exempt use of dimethoate for the cherry, and to take emergency measures to safeguard domestic production from any competition problems that might result. This encouraged several countries, including Spain, Italy, Poland, Greece and Slovenia, not to grant the exemption in their countries this year. This decision followed on from the decision by ANSES to withdraw market authorisation for dimethoate in February 2016. Hence, in an order dated 22 April, the French Ministry of Agriculture decided that "imports and marketing in France of fresh cherries for food use originating from European Union Member States or third countries where use of phytopharmaceutical products containing the active substance dimethoate is authorised for treating cherry trees, are suspended until 31 December 2016", although "by exemption, imports or marketing of cherries originating from organic production compliant with the provisions of Council Regulation (EC) no. 834/2007 of 28 June 2007 are authorised." As a reminder, dimethoate is used to manage the midge *Drosophila suzukii*, which appeared in Europe in 2008 and which severely affects fruit production, particularly the cherry.

Source: Infofruit

■ **Slight improvement for Southern Hemisphere apples and pears.** Southern Hemisphere apple and pear exports started on a better footing than in 2015, when the campaign was well behind schedule from the outset. The level to Asia was very good, even rising to the Middle East. Shipments to Europe registered a level similar to last year for the pear (+ 1%), though were slightly down again for the apple (- 9%). Williams and Comice partially made up for the delay to the European market in March and April for the pear, thanks to stone fruits being behind schedule. Operators were still pulling out all the stops in May to speed up sales of Abate and Packhams. Conversely, the apple marketing campaign began a bit earlier than the previous year in Europe (late April-early May), at high price levels (1.80-1.90 euro/kg, Chilean Gala, tray).

Source: Infofruit



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Sea freight

April 2016

Historically, April is a month of transition between the Southern Hemisphere deciduous (Chile and Argentina) season and the citrus season, with the natural dip in chartering activity mitigated somewhat by a rise in demand for Ecuadorian bananas. Mix in tonnage scheduled into the South Atlantic for squid and fish for Nigeria and there is a recipe for a balanced end to a peak season. However when none of the puzzle pieces fall into place, as was the case this year, the result is predictable.

The encouraging news for the specialized reefer is that despite heavy price-based competition from an increasingly over-tonnaged and desperate liner sector, it has held on to market share. Whether the mode can retain this share when bunker prices strengthen and when there is even more slot capacity available, remains to be seen. At least the Chilean grape business looks to be safeguarded - an agreement between the Port of Wilmington and Trans Global Shipping will see the operator continue to use the Delaware port as its mid-Atlantic import Chilean fruit distribution hub for the next 5 years. In 2014/15 the port handled 18.5m cartons of grapes.

The difficulties reefer operators face in the current commercial environment is well illustrated by Chiquita's recent decision to withdraw an Ecuador to Med reefer requirement in favour of containers on a third party liner service. What makes the decision so unusual is the sheer volume of bananas and rate/price involved. Until now, the ability to quickly mobilise reefer capacity sufficient to load 160 000-plus boxes of bananas has been the preserve of the specialized reefer. However the global glut of equipment coupled with an abundance

of available slots and carriers keen for any contribution to the costs of a transatlantic voyage, meant that the whole consignment was loaded on a container service, and for USD1 per box less than the competitive rate on offer from the reefer! This may not be an isolated instance once the newly expanded Panama Canal opens for business.

The small segment has proved to be more vulnerable than the large, to the point that approximately 4m cbft of capacity was withdrawn from the market in April. At least two units headed for demolition on the Indian subcontinent. Ironically it is the low oil price that has enabled the larger units to compete more effectively with the container lines, which is indirectly to blame for the downturn in demand. Until the oil-price based Nigerian Naira regains strength, import restrictions on the principal demand driver are likely to remain in place.



■ **Idyl launches Maghreb Palm Biotechnologies.** The group is strengthening its presence in the date industry by opening up a subsidiary specialised in production of certified plants obtained by organogenesis. Based near Agadir in Morocco, Maghreb Palm Biotechnologies offers high added-value varieties such as Medjoul, Bouffegous, Bouzekri and Aziza. Furthermore, this facility also provides customised services in assisting producers in their projects.

Source: maghrebpalm.com



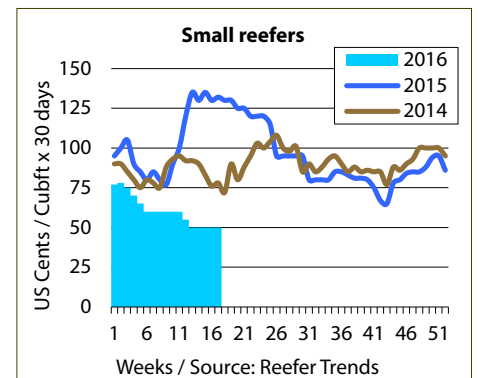
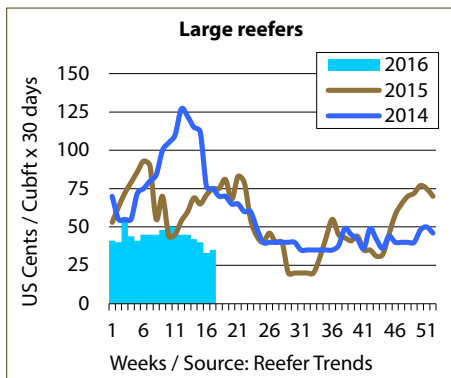
■ **A pallet-based ripening system at Interko.** The technology developed provides individual control of the ripening process of each of the pallets present in the chamber (7 to 14 per level, or 14 to 30). Furthermore, a wide central aisle enables easy handling of all the pallets. The manufacturer emphasises the benefit of this system for ripening fruits that require individual treatment, such as peaches and nectarines, pears and exotics.

Source: interko.com

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EUROPE	MONTHLY SPOT AVERAGE		
	USD cents/cubic foot x 30 days	Large reefers	Small reefers
	April 2016	39	51
	April 2015	79	126
April 2014	65	84	

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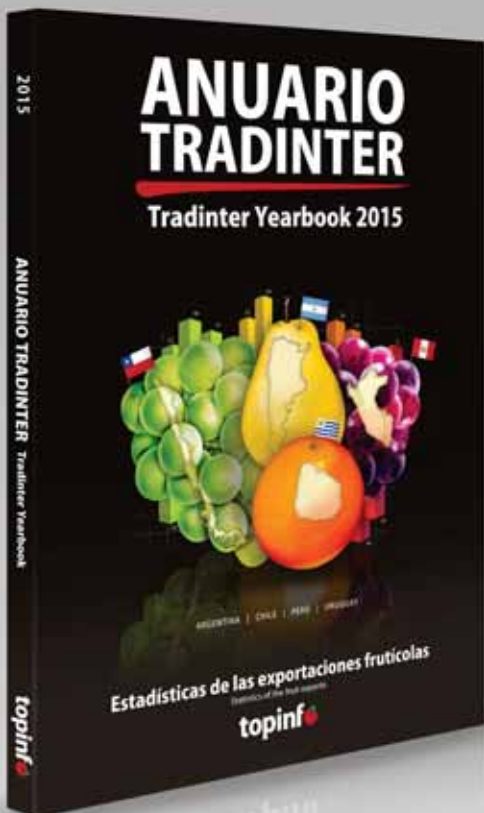


European counter-season citrus market

Manage the tension rather than the pressure



Citruses will be an expensive product in Europe during the summer 2016 season! The export forecasts for the main Southern Hemisphere supplier countries indicated lower levels than last season, or lower than expected. To blame is the El Niño phenomenon, which has been intense this year, causing a severe drought in certain parts of Southern Africa and heavy rains in certain South American countries. In addition, the European market is set to be very open. Volumes of Mediterranean citrus available at the start of the summer campaign are distinctly below normal, and often limited to a few leftovers, as the major shortfalls from key players such as Spain have caused volumes on the market to wane early. Furthermore, the supply of competing summer fruits should be rather lean. Hence it is the tension rather than the pressure that will need to be managed for a good part of the citrus in the range.



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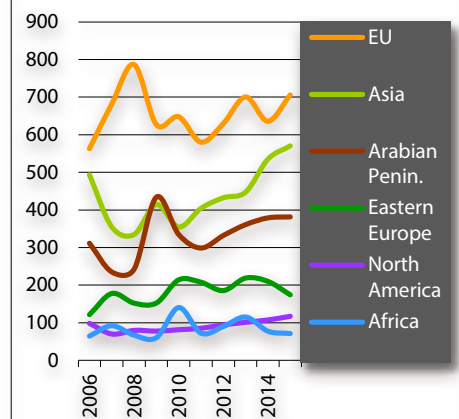
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Citrus — South Africa — Export seasons and forecasts

million 15-kg boxes	2012	2013	2014	2015	2016	2016/2015	2016/2012-15 average
Easy peelers	7.6	8.4	10.1	10.0	11.2	+ 12 %	+ 24 %
Oranges	71.9	76.2	76.9	77.2	71.5	- 7 %	- 5 %
Navel	24.6	25.4	26.0	24.5	25.0	+ 2 %	0 %
Valencia	47.3	50.8	50.9	52.7	46.4	- 12 %	- 8 %
Lemon	10.7	10.6	13.2	15.1	16.1	+ 7 %	+ 30 %
Grapefruit	13.0	17.8	15.6	16.1	12.4	- 23 %	- 21 %
Total	103.2	113.0	115.8	118.4	111.1	- 23 %	- 21 %

Source: CGA

Citrus - South Africa - Exports (000 tonnes)



Source: Trade map

South Africa: a hiatus in production growth

The Southern Hemisphere's main citrus exporter, which controls two thirds of the world citrus trade on its own during the summer period, has for the first time since the beginning of the decade registered downward export forecasts (- 6 % according to the Citrus Growers Association). This fall is the consequence of particularly unfavourable weather in the north of the country (Limpopo and Mpumalanga). The decrease in precipitation, which is frequent in this part of Africa during an intense El Niño phenomenon, was particularly marked, while temperatures were well above normal for the season. Furthermore, hailstorms of extreme intensity hit the Hoedspruit region. Hence production of Valencia and the grapefruit, flagship crops for the north of the country, should see a considerable fall. The sizing should also decrease, although the fall could ultimately be smaller than predicted thanks to some good spring rain. This production shortfall will play a structuring role on the world market for these two specialities, very much controlled by South Africa during the summer period. Conversely, productions in the south of the country suffered less. The export potential is set to be near average for the past two seasons for Navel. It should actually see a considerable rise to reach a historic level for the lemon (14 % above average) and easy peelers (11 % above average), varietal groups for which planting has increased greatly in recent years.



EU-28 a safe bet in 2016, though among other strategic markets

The distribution of South African volumes is a more pointed issue every year, such is the diversification trend of the country's export outlets. With 650 000 to 700 000 t per year, the EU-28 remains a key market, but now has Asia on its heels (550 000 t in 2015), followed a little further back by the Middle East (approximately 380 000 t in 2015) and North America (approximately 90 000 t). True, the Community market has assets to offer this season (prices probably high, and a favourable exchange context), although management of sanitary problems remains complex. Nonetheless, South African exporters should not neglect these alternative outlets, generally lucrative and strategic by virtue of their growth potential, with perhaps a slight cyclical cloud this season over the Middle East, where the economic situation has been damaged by the weakness of oil prices. Russia's position seems less solid, and redistribution to the EU-28 of some of the 90 000 to 100 000 tonnes allocated to it annually is a possibility.

AC&SD 2016



> **Montpellier, 12-14 December 2016**

International conference on Agri-Chains and Sustainable Development

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- AC&SD 2016 will bring participants from all world regions to debate about the role of agricultural value chains in implementing global and local frameworks and partnerships for translating the Sustainable Development Goals into reality. Agricultural value chains form spaces where local and global challenges to sustainability connect and within which local and global actors experiment and negotiate innovative solutions.

- Distinguished keynote speakers and up to 250 delegates, including key actors from developing countries and innovators from the field, are expected at the conference venue in Montpellier.

- This conference is organized by Cirad in partnership with AFD, Agropolis International, Agreenium, Agrinatura, AgroParisTech, the CGIAR consortium and CGIAR Research Program on Policies, Institutions, and Markets (PIM), IDS (University of Sussex), Inra, IRD, Michigan State University, Montpellier SupAgro, the Moringa Fund, the RIMISP, and Wageningen University, and with the support of the French Ministry of Foreign Affairs.

The conference aims at:

- 1] Nourishing the dialogue with decision makers for enriching policy and strategy formulation towards sustainable development, using agricultural value chains as effective levers for action;
- 2] Engaging further scientists and experts into innovative experiences for an inclusive and sustainable economy and in imagining new models of development;
- 3] Shedding light on new patterns of public/private partnerships and investments and on multistakeholder alliances for sustainable value chains.

Participants will be called to share knowledge, innovative practices and ideas through plenary sessions and a series of parallel sessions, where both communications and posters will be discussed.

The debates will be devoted to the following themes:

- Performance and evaluation of agri-chains with respect to the SDGs.
- Public policies and agri-chain governance mechanisms in support of the SDGs.
- Concrete innovations and partnerships for transforming agri-chains towards SDGs.

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> Deadline for submission of special sessions:
27 June 2016

> Deadline for submission of communications:
25 July 2016



Argentina: production still not back to its nominal level

Will 2016 mark the end of a nightmarish period for Argentinean citrus exports? Probably, though volumes aimed at the international market, which have halved in less than ten years, should only see a modest climb. True, the harvest is at a higher level than in 2014 and 2015, but it has still not regained its full potential. The wounds of the severe frost of 2013 and the drought of 2014 have eased, but they have left their mark, especially on old orchards. In addition, the rainfall has been excessive and impeded production, a rotten spring having followed a very wet winter (indeed major floods hit the country's coastal region in April). This abnormal rainfall will also have multiple adverse consequences for exports. Most obviously, an increased propensity to sanitary problems, in a context of very high vigilance from the European authorities, especially with regard to black spot. Clearly, the reinforced inspection measures adopted by the Argentinean phytosanitary protection body (SENASA)

will have some impact on volumes bound for the EU-28. Furthermore, a larger proportion of fruits than usual could be oversized or not meet the requisite quality criteria for export (raised in recent years for the lemon by the "All lemon" charter). Furthermore, we should highlight that the juice and derivatives market is less lucrative than in 2014 or 2015, but it is still highly lucrative. True, the more export-friendly economic policy recently implemented by the Macri government, is restoring hope to professionals (end of the 5 % tax on exports, decoupling of the peso from the dollar). Nonetheless, the recovery will be only gradual: inflation is continuing to soar (increase of approximately 30 % this year in wages and energy), and is partially wiping out the gains from the exchange rate. A very significant proportion of orange and easy peeler exporters remain in a highly precarious economic situation, after a succession of very difficult campaigns, as they were unable to register their orchards for exports due to lack of resources to apply the sanitary protocols. So exports of these two varietal groups might not see the moderate increase trend in exports expected for the lemon.

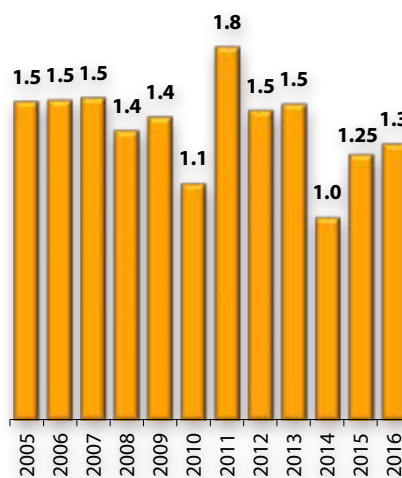
Lemon — Argentina — Juice and essential oil prices

	Summer 2014	2012-2013 period	Spring 2016
Concentrate 400 GPL fob Argentina - USD/t	5 000-5 500	1 500-2 500	3 900
Essential oil exw Europe - USD/t	55 000	28 000 -30 000	40 000

Source: Foodnews

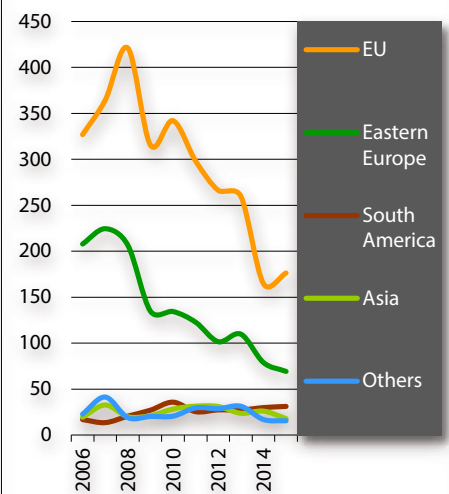


Lemon - Argentina - Production (million tonnes)



Professional sources, Federcitrus

Citrus - Argentina - Exports (000 tonnes)



Source: Trade map



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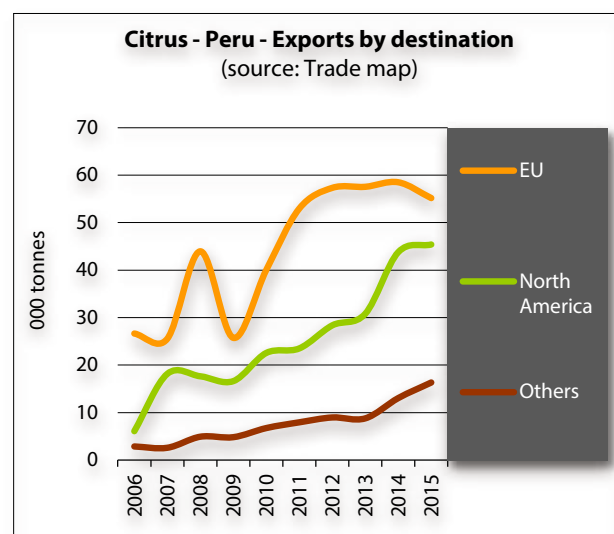
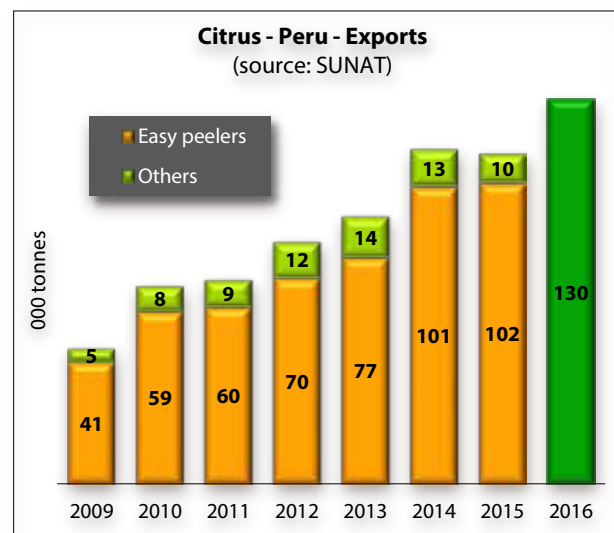
Promo Intex
2, rue Wauthier · 78100 Saint Germain en Laye
Tel +33 1 39 62 11 93 · Fax +33 9 70 06 82 33
p.canovamenke@promo-intex.com

Uruguay: structural improvements, but a very wet year

No production forecasts have been issued at the time of going to press. Nonetheless, it appears that the weather here has also been highly atypical. The north of the country, where the vast majority of production is based (particularly easy peelers and orange), was very wet, with the south conversely remaining particularly dry. Just like in Argentina, the country's authorities reinforced the black spot inspection measures, after a 2015 season when 70 positive batches were intercepted on the Community's borders. Nonetheless, the sanitary risk seems to be relatively high this season, whereas inspections will be particularly strict. Hence exports to the EU-28 could well hardly rise at all from last season, especially for the country's big speciality, Valencia. It is a pity that these adverse cyclical conditions are overshadowing the sector's ongoing renovation trend. The process of varietal conversion, supported since 2010 via the "plan citricola" is still progressing (old orchards of Ellendale and Valencia being uprooted in favour of certified plants of more competitive varieties), and irrigation is slowly gaining ground (approximately 75 % of export orchards equipped). Furthermore, the diversification trend of export outlets will follow its course, in favour of the US market which has been open since 2013.

Peru: back to a rapid growth tempo

After a 2015 with practically no changes, Peruvian exports should recover the high growth tempo seen since the middle of the last decade. Volumes on the international market should reach 130 000 t in 2016, a level marking a rise of approximately 15 % from the previous season. There is no surprise in this, since the cultivation area is expanding by approximately 1 000 ha per year according to ProCitrus. As usual, exports will be more than 80 % easy peelers. W. Murcott will continue its rise to prominence, alongside Satsuma and Tangelo (especially Minneola), which form the basis of the varietal range. Nonetheless, shipments to the EU-28 should not see a considerable rise. Just like their Argentinean and Uruguayan counterparts, Peruvian exporters should continue moves to diversify their outlets. This is a necessity given the growth prospects for production (approximately 8 000 ha of young plantations in place for the export sector). The bulk of development efforts should involve the US market, just as lucrative as the EU-28, because of its proximity and interesting growth prospects. The Asian markets are also among the strategic avenues, as are neighbouring Latin American countries.



Mediterranean citruses — Week 20 import prices

euros/kg	2016	Compared to	
		2015	2012-2015 average
Verna lemon Spain - size 45/50	2.40	100 %	114 %
Navelate orange Spain - size 4/5	0.95	19 %	34 %
Star Ruby grapefruit Israel - size 40/45	0.84	4 %	14 %

Source: CIRAD



Competition particularly limited from Mediterranean citruses

The summer market supplier with the biggest shortfall this season is without doubt the Mediterranean. As a general rule, some late Northern Hemisphere produce remains available during the first part of summer. This trend has been considerably reinforced in recent years for certain products, with in particular the development of a wide range of super late Navel oranges (Powell, Chislett, Barnfield, etc.), and more recently regained interest in planting Verna lemon in Spain. However, the shortfall from the key Mediterranean players such as Spain has been such that the European market should be practically empty this season from the beginning of June. Hence the Southern Hemisphere campaign is opening in a context of particularly high prices for the last of the Mediterranean produce.



A probable shortfall in competing stone fruits

The competition from the last pip fruits and star summer fruits (peach, nectarine, apricot, etc.) should be weaker than usual. True, the European apple stocks registered in early April a level approximately 20 % above average. However, sales accelerated in April, especially because of the delay in European stone fruit production. They fell behind their early schedule because of an often cold and rainy spring, which could well have adverse consequences on production levels. The fall has been confirmed for the apricot (- 11 % on the average European level, with more pronounced drops in France and Italy). It is strongly suspected for the peach, although we are still awaiting the official figures for confirmation ■

Eric Imbert, CIRAD
eric.imbert@cirad.fr

European market for the Southern Hemisphere grapefruit

European market cleared, with a major shortfall from South Africa

The grapefruit was the pleasant surprise of the summer citrus market in 2015. Everything points to prices registering a very high level again this year, at least for good-sized fruits.

The summer season started on a clearer market than in 2015. Florida, with lighter volumes year on year, finished its campaign in the first half of May, to the distress of operators facing fruit shelf life problems. The Mediterranean suppliers began to wind down the campaign even earlier than in 2015. The last volumes available, which represent limited quantities, should all have been sold by the end of May.

South Africa, practically alone on the Community market since the beginning of the decade, is registering an export potential among the lowest for the past decade (12.4 million boxes, a level down by approximately 20 % from 2015 and the four-year average). While the fall does include a structural component (the cultivation area lost approximately 700 ha between 2012 and 2014), it can be explained above all by cyclical factors. On the one hand, 2016 is a negative alternate bearing year. On the other hand, and above all, it is this crop, 75 % of which is packed into the country's northernmost provinces, which has been hardest hit by climate problems. The drought has been particularly pronounced in the country's three main production areas (Letsitele, Onderberg and Hoedspruit, which was also hit by violent hailstorms). Furthermore, competi-

tion on the most lucrative markets in Asia will remain intense. True, Japan, where demand is highly elastic, is unreceptive to the trend of rising prices, and absorbs more limited volumes every year. Nonetheless, this country remains South Africa's number one market for the grapefruit, and the big devaluation of the rand against the yen (greater than its devaluation against the euro) should restore some of the market's sheen. Furthermore, other Asian markets have become major destinations, and more lucrative than Europe. There is a strong growth trend in shipments to China (28 000 t imported in 2015, including Hong Kong and Chinese Taipei, as opposed to less than 10 000 t in 2012). It is also the case for South Korea (10 000 t imported in 2015, as opposed to zero in 2012).

The fruit sizing will probably not fall as much as predicted. The spring rains seems to have compensated somewhat for the adverse effects of the drought. Selective harvesting should also help gain a few millimetres, as well as greater staggering of the incoming shipments (one of the keys to the success of the 2015 campaign). It will be particularly welcome in 2016, with the start of the Mexican season set for a steeper rise than in 2015. Let's hope that the attractiveness of the prices does not disrupt this fine strategic planning...

Some additional volumes from Zimbabwe (production shortfall 10 %) and Swaziland (production increase of 10 %) will also be available.





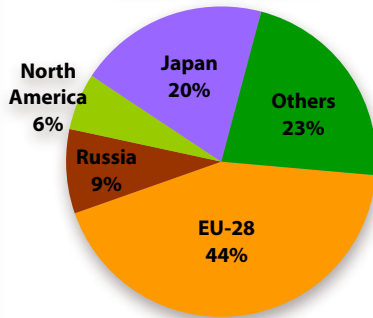
Grapefruit — Southern Hemisphere — 2016 forecasts

tonnes	2016 forecasts	Comparison	
		2015	2012-2015 average
South Africa	186 000	- 23 %	- 21 %

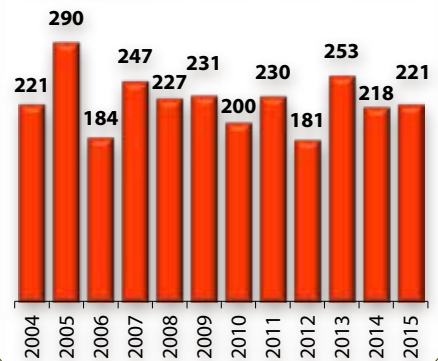
Professional sources, Freshfel, Customs



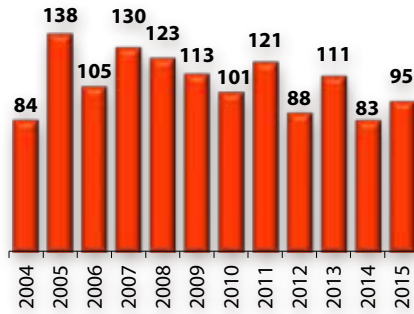
Southern Hemisphere grapefruit Imports by market
(source: Customs 2015)



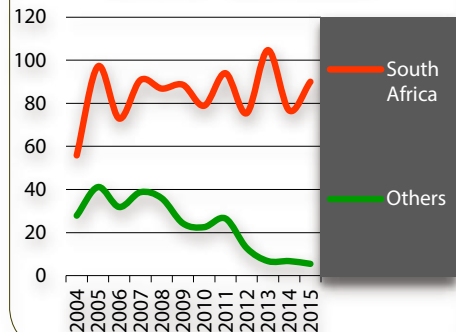
Southern Hemisphere grapefruit World trade (000 tonnes - source: Customs)



Grapefruit - EU-28 - Imports from Southern Hemisphere
(000 tonnes - source: Eurostat)



Southern Hemisphere grapefruit - EU-28 Main suppliers
(000 tonnes - source: Eurostat)



Grapefruit — European Union — Imports from Southern Hemisphere

tonnes	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total S. Hemis.	138 291	104 771	129 566	122 792	112 876	101 410	120 529	88 210	111 461	83 451	95 489
South Africa	97 170	72 924	90 825	86 852	88 616	78 897	94 006	75 412	104 725	76 707	90 030
Zimbabwe	5 001	2 227	3 556	1 409	1 947	2 053	2 228	1 360	2 414	2 133	2 139
Chile	474	2 513	959	719	70	363	18	176	105	64	1 660
Others	85	87	180	83	255	251	-	457	721	556	899
Swaziland	7 197	7 210	10 085	9 260	6 707	9 906	14 986	8 480	2 328	3 933	647
Uruguay	576	2 063	775	298	213	140	-	-	-	-	115
Argentina	26 869	17 627	23 186	24 171	14 828	9 129	8 276	1 485	1 080	59	-
Mozambique	919	120	-	-	240	669	1 016	840	89	-	-

Source: Eurostat

European market for the Southern Hemisphere lemon

Community market empty and limited rise in Southern Hemisphere shipments

For the third consecutive season, the lemon will be expensive (in fact, certainly very expensive) during the European summer. The rise in Southern Hemisphere shipments should only be relatively modest, whereas the market is empty because of the early end to the Mediterranean campaigns.

To say that the European market is open at the beginning of this campaign would be an understatement. The scant last Northern Hemisphere volumes sold in May at prices never previously witnessed (2.00 euros/kg at the import stage, and more than 1.30 euro/kg at the production stage in mid-May). Spanish production, already short for Primofiore, proved particularly limited for the later Verna variety (barely over half of a normal harvest). The other big players in the Mediterranean region also registered a modest harvest. Despite a good yield on the trees, the Italian harvest was in shortfall since the drought prevented normal fruit growth. Finally, Turkey's export statistics show a deficit of approximately 10 % on last season, probably because of a production shortfall in the Aegean region.

The Southern Hemisphere shipments to the Community should return to a higher level than during the "lean" 2014 and 2015 seasons, though without beating any records despite the context. With approximately 1.3 million tonnes expected in 2016, the Argentinean harvest is continuing its slow process of recovery after the 2013 frost, though still without recovering its full potential. Furthermore, the sorting rejects rate should be above normal because of the abundance of precipitation in the Tucuman region. Oversize or short shelf life rejects could be greater than usual, especially during the second part of the season. In addition, the sanitary inspections have been considerably stepped up in the upstream segment, under EC pressure, whereas the vulnerability to fungal problems is set to be high due to the high humidity. Hence the proportion of the harvest dedicated to exports could be around low average (especially for the EU 28), especially since the still very high rates for derived products should not encourage producers to take any risks. True, prices for concentrated juice or es-

sential oil are not as astronomic as they were in summer 2014, but they remain very high nonetheless. Are these volumes to be shared this campaign with a new big market, i.e. the USA? True, the umpteenth resurgence of the chimera of the US borders reopening to the Argentinean lemon this time seems to be the real thing, as it is supported by President Obama himself. Nonetheless, the opening procedure cannot be completed before the end of 2016 in the best-case scenario. The publication of the protocol (on 10 May 2016) must be followed by a 60-day consultation period (which may be extended by 30 days), and then two to three months of analysis of the comments and technical adjustments.

South African production will see another considerable rise this season; no surprise, since the cultivation area gained more than 2 000 ha between the beginning of the decade and 2014. Growth in surface areas is considerable, in both the historic Eastern Cape (Sundays River) area, and in the more recently developed zones in Limpopo, with an earlier calendar (Marble Hall, Hoedspruit). Hence, the export potential should reach a record level of 16 million boxes (+ 7 % on 2015 and + 30 % on the four-year average). So Europe should be able to take advantage of some of this additional production, and perhaps a fall in shipments to Russia. The fragility of the Middle Eastern markets, the main destination of the South African lemon, could also cause a small transfer.

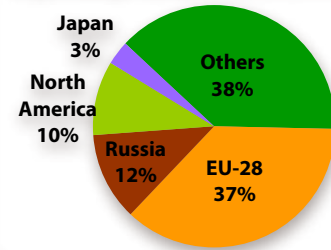
Uruguay and Chile will continue to top up the supply.



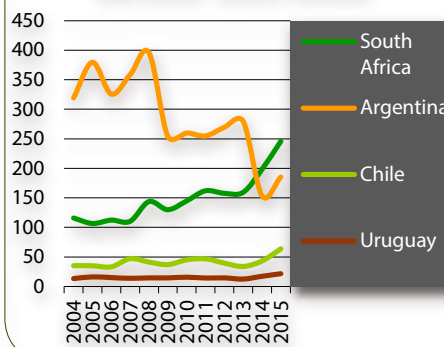
Lemon — Southern Hemisphere — 2016 forecasts			
tonnes	2016 forecasts	Comparison	
		2015	2012-2015* average
Argentina	210 000	+ 13 %	- 14 %
South Africa	240 000	+ 7 %	+ 30 %
Total	450 000	+ 9 %	+ 6 %

* excl. 2014 for Argentina / Professional sources

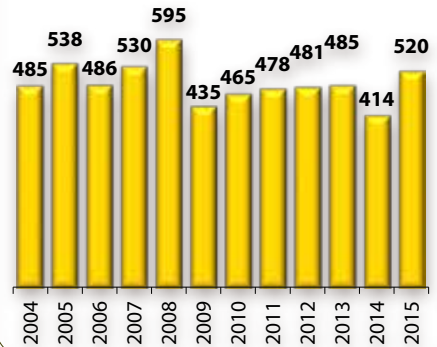
Southern Hemisphere lemon Imports by market (source: 2015 Customs)



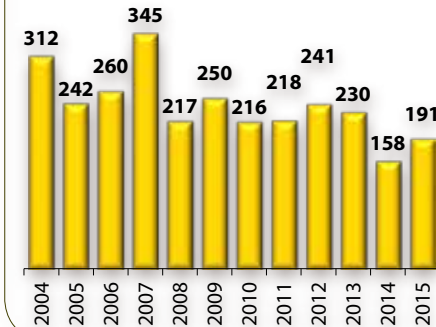
Lemon - Southern Hemisphere Main suppliers exports (000 tonnes - source: Customs)



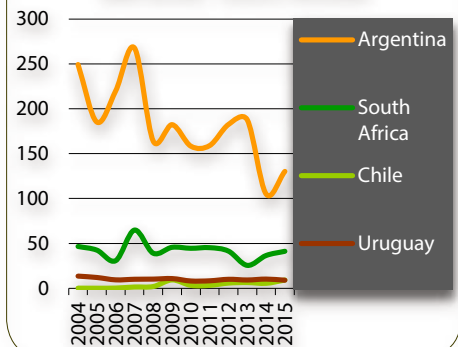
Southern Hemisphere lemon World trade (000 tonnes - source: Customs)



Lemon - EU-28 - Imports from Southern Hemisphere (000 tonnes - source: Eurostat)



Southern Hemisphere lemon - EU-28 Main suppliers (000 tonnes - source: Eurostat)



Lemon — European Union — Imports from Southern Hemisphere

tonnes	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total S. Hemis.	242 182	260 389	344 793	216 854	250 009	215 532	217 737	241 025	229 847	158 266	190 961
Argentina	185 303	219 942	267 893	163 969	182 387	158 391	159 063	182 580	187 725	105 118	130 264
South Africa	42 466	30 722	64 830	39 007	45 633	44 532	45 233	41 385	25 482	36 482	41 191
Chile	25	187	1 353	1 888	9 275	3 211	3 217	5 751	6 333	5 505	9 126
Uruguay	11 983	9 342	10 002	10 166	10 762	8 064	8 280	9 959	9 194	10 194	8 933
Dom. Rep.	38	99	237	1 172	1 947	1 198	1 943	1 256	832	658	920
Brazil	2 366	96	477	652	5	136	-	92	249	190	408
Zimbabwe	-	2	3	-	-	-	-	2	32	120	119

Source: Eurostat

European market for Southern Hemisphere easy peelers

Late variety volumes on the rise

Unlike the other citrus families, easy peelers should have a fairly classic scenario. The supply to the European market, which has been stagnating for a decade at between 160 000 and 180 000 t, should be toward the top of the range in 2016, and continue the upgrading process.

South Africa will be able to increase its market share in the Community. Production is continuing to surge, thanks to the additional 2 700 ha planted between the beginning of the decade and 2014. The climate problems which hit the northern part had only a very limited impact on this citrus family, with three-quarters of the cultivation area packed into the southern part (Eastern and Western Cape provinces). Hence exports should set a record level of 11.2 million boxes, marking a rise of just over 10 % on the 2015 season and 24 % on the four-year average. Unsurprisingly, the increase in volumes will be considerable for Nova, a variety widely planted until 2012, and for late hybrids. Large surface areas of young Nadorcott and Tango orchards, planted in 2011 and 2012, are starting to come into their prime, with an apparently decent sizing. As in previous years, the Community market should receive the majority of volumes.

Peru will have a potential "only" slightly bigger than in 2015; which is a surprise, given the extremely rapid growth of the cultivation area (+ 1 000 ha per year according to ProCitrus, primarily planted with late varieties). Shipments to the EU-28 could well stagnate at between 50 000 and 60 000 t, as has been the case for several seasons. Faced with increasingly selective European importers, Peruvian exporters should continue their diversification efforts. North America is now on the heels of the Community market in terms of volume, while shipments to Latin America are booming, exceeding 10 000 t in 2015. The opening in late 2015 of the Brazilian market should reinforce this trend.

Argentinean and Uruguayan easy peelers should again have a very discreet presence this season. Having started the decade among the top suppliers to the Community market with annual shipments of around 35 000 to 40 000 t, these two sources have declined to the point of volumes barely exceeding 10 000 t for Uruguay and 4 000 t for Argentina in 2015. If there is a bounce back in 2016, it will be only a modest one. The heavy rains which hit the main production zones of this varietal group, located either side of the river Uruguay in these two countries (provinces of Entre Rios and Corrientes in Argentina, and Salto and Paysandu in Uruguay), could reduce the exportable production, in particular in a context of considerably strengthened sanitary inspections in Europe. In addition, many producers have not been able to sign up to the export programmes for lack of resources, after several particularly difficult seasons in terms of finances. Finally, the lack of competitiveness of these two countries remains considerable on a market as competitive as the EU-28 (varietal range under development, though still heavily centred on ageing varieties), aggravated by the presence of significant Customs duty from which their competitors are exempt.

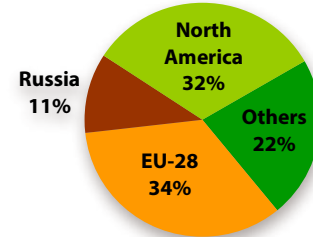


Easy peelers — Southern Hemisphere — 2016 forecasts

tonnes	2016 forecasts	Comparison	
		2015	2012-2015 average
South Africa	168 000	+ 12 %	+ 24 %
Peru	115 000	+ 13 %	+ 32 %
Total	283 000	+ 10 %	+ 26 %

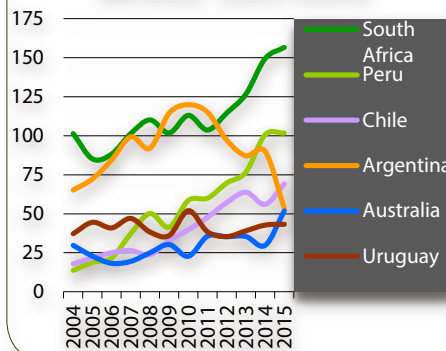
Professional sources, Freshfel, Customs

Southern Hemisphere easy peelers Imports by market (source: 2015 Customs)



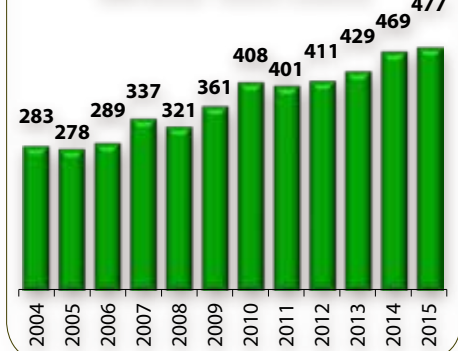
Easy peelers - Southern Hemisphere Main suppliers exports

(000 tonnes - source: Customs)



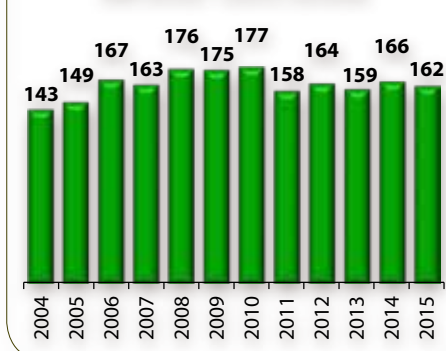
Southern Hemisphere easy peelers World trade

(000 tonnes - source: Customs)



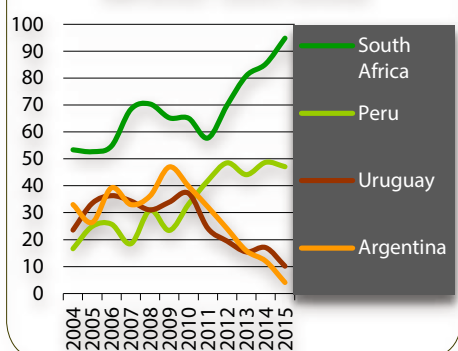
Easy peelers - EU-28 - Imports from Southern Hemisphere

(000 tonnes - source: Eurostat)



Southern Hemisphere easy peelers EU-28 - Main suppliers

(000 tonnes - source: Eurostat)



Easy peelers — European Union — Imports from Southern Hemisphere

tonnes	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total S. Hemis.	148 776	167 143	162 971	175 929	175 157	177 400	157 853	164 109	159 344	165 500	161 900
South Africa	52 683	54 790	68 412	70 389	65 261	65 100	57 755	70 030	80 948	85 306	94 871
Peru	24 924	25 728	18 469	30 981	23 414	33 200	41 925	48 536	44 139	48 733	47 102
Uruguay	33 519	36 336	34 359	31 046	33 948	37 200	24 160	19 431	15 469	17 028	10 123
Argentina	26 403	39 271	33 022	36 243	47 020	39 800	32 130	24 025	15 874	11 998	4 068
Chile	6 770	7 618	6 950	4 886	2 249	1 400	1 560	1 314	1 012	1 481	3 296
Australia	456	710	652	926	2 214	500	220	463	1 903	665	1 918
Brazil	3 288	2 059	93	441	378	200	102	310	112	336	567

Source: Eurostat

European market for the Southern Hemisphere orange

No pressure for either Navel or Valencia

Just like for the grapefruit and lemon, the market will be particularly clear from the start of the summer season, with the early end of the Northern Hemisphere campaigns. Prices should be high, given the supply which is set to be average for Navel and distinctly in shortfall for Valencia and similar varieties.

As an inevitable consequence of the production shortfall, the Spanish orange campaign wound down early. The last limited volumes of Navelate should be sold around the beginning of June. The season for Valencia and similar varieties, which got off to an early start and a lean one in terms of production, should also end early.

Meanwhile, the volumes from the Southern Hemisphere supplier countries are set to be stable or below average, depending on the varieties. South Africa, which provides approximately three-quarters of the supply to the Community market, is set for a normal export potential for Navel (25 million boxes, i.e. + 2 % on 2015 and within the four-year average). The good harvest level from the big production zones in the south of the country, where the majority of the cultivation area is located (Sundays River, Western Cape, Patensie) is helping make up for the shortfall from the more northern provinces hit by the drought (especially Senwes). The situation is completely different for Valencia, with the main cultivation zones located in the north of the country (especially Limpopo). The production shortfall is reportedly around +10 % on 2015 and the four-year average. The fall is particularly marked in the number one zone, Letsitele, but also in Senwes and even more so in Hoedspruit, which are among the country's main production regions. While prices are still at a decent level, the EU-28 could perhaps take advantage of some volume transfers from other more fragile markets (Russia, which absorbs just over 10 % of total exports, and the Middle East, a strategic market which receives approximately one quarter of South African shipments, though probably more difficult this season).

Argentina and Uruguay remain in the leading trio of supplier countries to the EU-28 during the summer season, but they have lost a lot of ground (volumes primarily comprising Valencia, going from 60 000-80 000 t until the beginning of the decade to less than 40 000 t in 2015). These two countries could well fail to regain any ground in 2016. Their harvest, heavily concentrated in the coastal region, as it is for easy peelers, has been weakened by rain. Furthermore, the sanitary inspections will be even stricter for this late orange, highly susceptible to black spot, than for the rest of the range. Finally, the competitiveness problems are the same as those already mentioned for easy peelers (Customs duty, etc.).

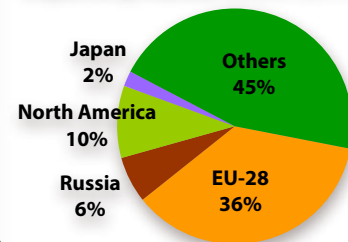


Orange — Southern Hemisphere — 2016 forecasts

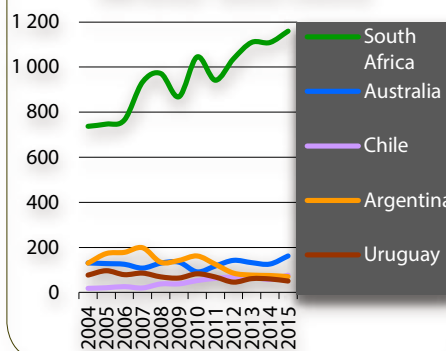
tonnes	2016 forecasts	Comparison	
		2015	2012-2015 average
South Africa	1 075 000	- 7 %	- 5 %

Professional sources, Customs

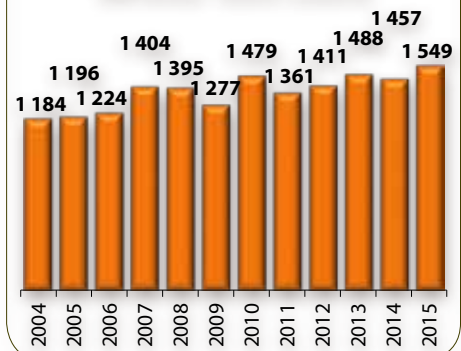
Southern Hemisphere orange Imports by market (source: 2015 Customs)



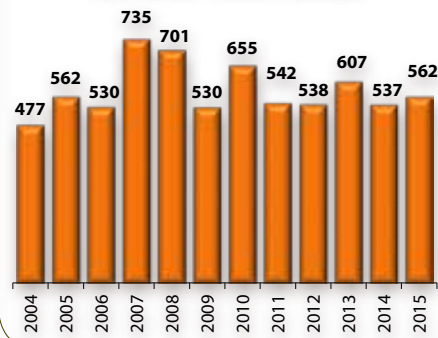
Orange - Southern Hemisphere Main suppliers exports (000 tonnes - source: Customs)



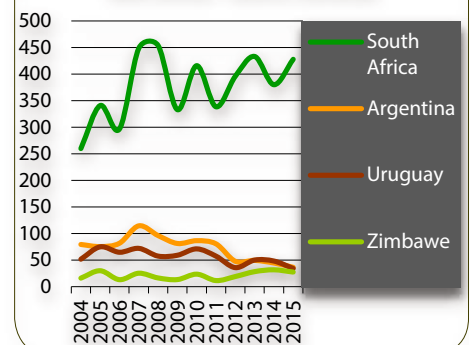
Southern Hemisphere orange World trade (000 tonnes - source: Customs)



Orange - EU-28 - Imports from Southern Hemisphere (000 tonnes - source: Eurostat)



Southern Hemisphere orange - EU-28 Main suppliers (000 tonnes - source: Eurostat)



Orange — European Union — Imports from Southern Hemisphere

tonnes	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total S. Hemis.	561 676	530 340	734 565	701 032	529 560	655 309	542 240	538 071	606 770	537 007	561 547
South Africa	341 031	296 973	448 674	453 956	333 211	416 018	338 664	396 015	433 369	380 210	427 987
Argentina	75 607	81 906	114 628	96 350	81 413	86 702	80 720	47 971	49 621	44 737	36 607
Uruguay	75 145	64 930	72 261	57 700	59 293	71 279	57 610	36 012	50 243	48 413	34 433
Zimbabwe	30 153	13 342	25 488	16 582	13 517	23 705	11 645	19 257	28 471	31 918	27 642
Brazil	20 459	47 937	34 066	26 091	16 217	33 903	26 872	13 276	21 248	18 690	21 192
Swaziland	10 375	13 654	19 274	14 878	12 983	9 566	11 879	12 005	9 801	2 494	6 382
Peru	166	454	5 921	12 361	2 678	6 192	9 892	7 254	10 565	8 672	6 315
Chile	4 426	10 105	9 006	21 385	8 609	6 899	4 716	5 730	2 208	1 557	800
Australia	4 315	1 041	5 250	1 730	1 640	1 045	243	553	487	318	187

Source: Eurostat

Producer country file

Peruvian easy peelers

by Carolina Dawson and Eric Imbert

The recently developed Peruvian easy peelers export industry has seen explosive growth, becoming the number two in the Southern Hemisphere in terms of volume in little more than a decade. Professionals have been able to take advantage of very high price competitiveness to become major suppliers to the European market and then the US market. Faced with a steep production increase expected over the coming years, the Peruvian industry must expand its outlets by developing local sales and increasing its shipments to markets seeking an entry-level supply.



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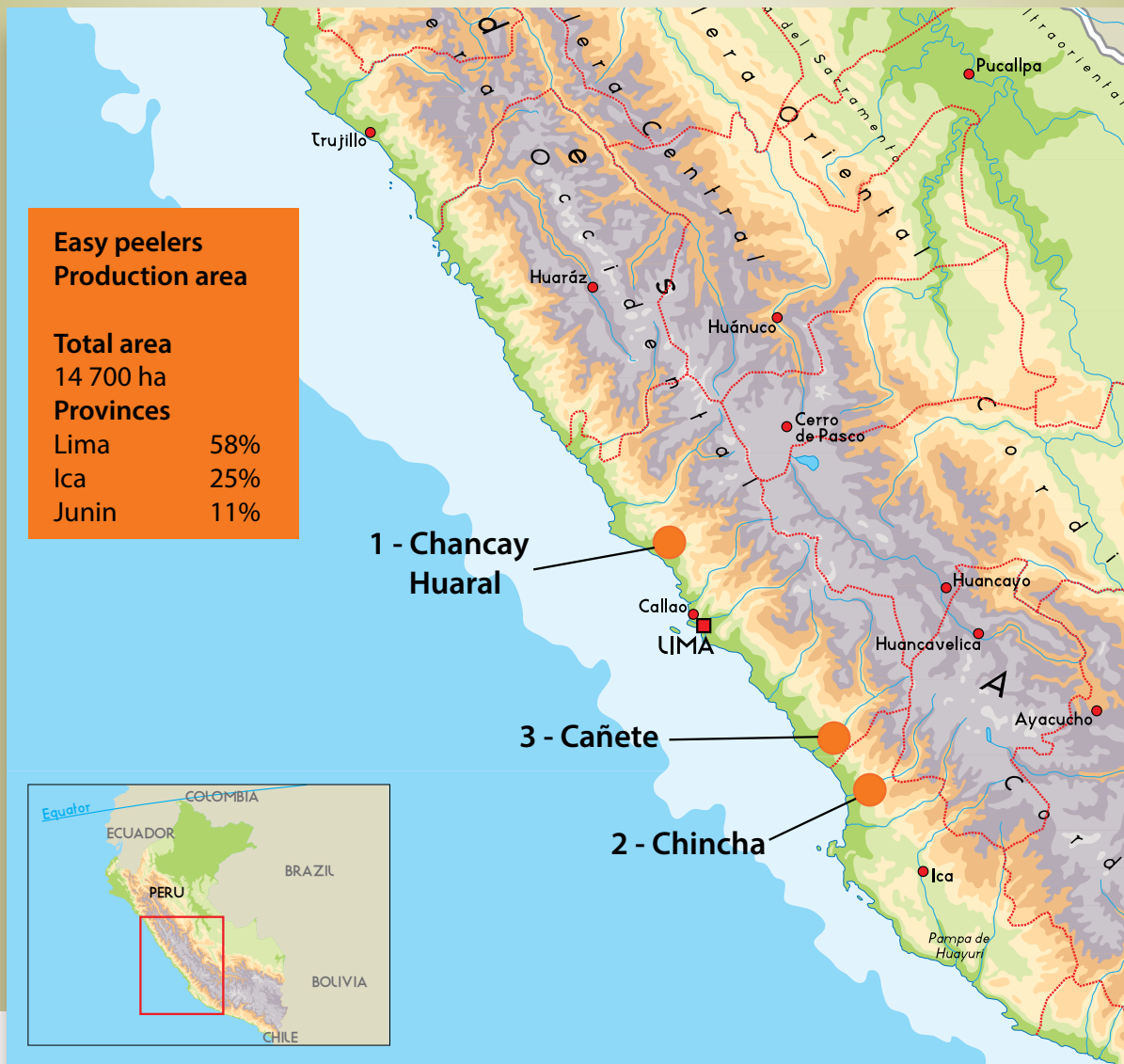
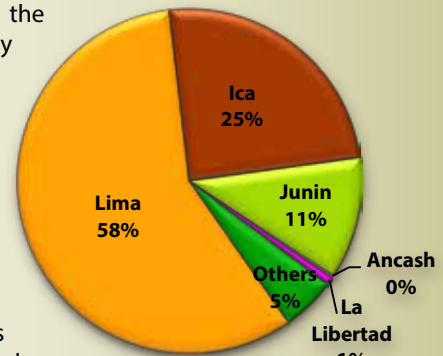
Easy peelers — Peru

Location

Unlike traditional citruses such as the orange, which are abundant in the Amazonian region (foothills), export easy peelers are cultivated primarily on the central coast in a desert climate, with more than 80 % packed into the valleys of the departments of Lima (Chancay and Huaral valleys to the North and Cañete valley to the South) and Ica (mainly Chincha valley).

The cultivation conditions, highly particular for a tropical zone because of the presence of the Andes to the east and the cold Humboldt marine current to the west, represent assets for developing export citrus growing. The soils are sandy, and the phytosanitary pressure low: the prevalence of fungal problems is limited, greening is still absent and the fruit fly has been eradicated from the main easy peeler producing departments. Availability of agricultural water is paradoxically high, despite a near-total absence of precipitation (14 mm/year). In fact, the rivers and vast irrigated areas are able to draw on the massive potential present in the Andes. Conversely, while the stable and temperate temperatures mean that citrus growing avoids the risks of frost and excessive heatwaves, they also adversely affect external quality (coloration), internal quality (high sugar contents, but low acidity) and the fruit shelf life.

Mandarin and tangelo - Peru
Production areas location by region
(source: Cenagro)



Easy peelers — Peru

Production

While citrus production in Peru is long established (long-standing presence of a narrow range, primarily comprising oranges and limes consumed green on the local market), export citrus growing is a recent development. This sector first boomed in the 1990s, with the return to a political climate favourable for private investment, the success of the asparagus sector having encouraged imitation. This development accelerated in the early 2000s, with the establishment of a legal framework including tax incentives for private investors and more flexible agricultural labour law. In parallel, this boom was also made possible thanks to the creation of private professional associations in 1998, providing new producers with technical support by bringing in foreign know-how (Chile, Spain), as well as marketing assistance (promotions abroad). Hence surface areas of easy peelers boomed from the early 1990s, going from approximately 2 000-2 500 ha



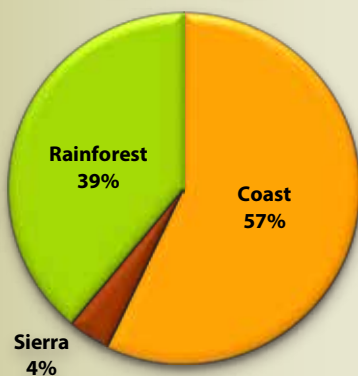
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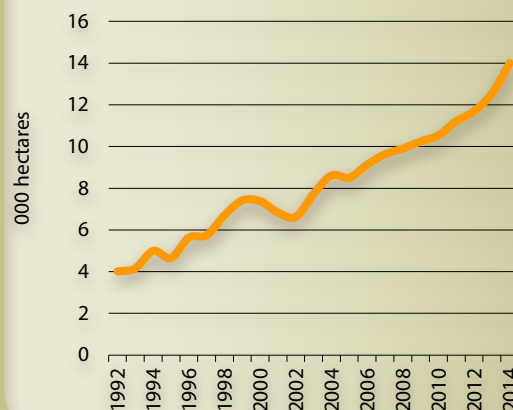
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to 14 000 ha (with approximately 8 000 ha earmarked for export according to the Procitrus figures for 2015). The cost price is highly competitive, especially thanks to the cheap and flexible labour. Conversely, the high sorting rejects (40 to 50 % for certain operators) rein back particularly high orchard yields (average of 50 to 60 t/ha for export crops, as opposed to around twenty tonnes nationally). And the production boom is not finished yet. According to Procitrus, the cultivation area will continue to grow by approximately 1 000 ha per year (conversion from certain crops such as the pepper, development of new plantations), especially through opening up or extending irrigated areas. The launch of projects in cooler zones (southern coast) could open up useful prospects in terms of both varietal diversification and quality.

Citrus - Peru - Geoclimatic distribution of total production
(source: Cenagro)



Easy peelers - Peru
Evolution of production areas
(professional sources, Cenagro)



Easy peelers — Peru



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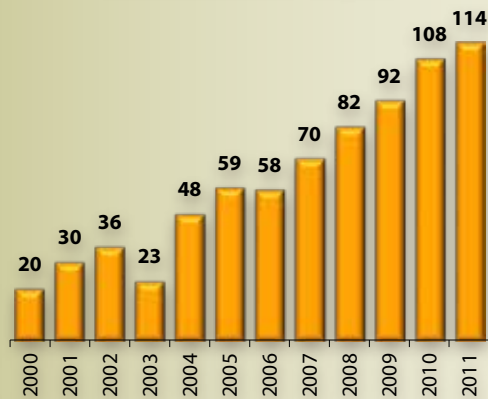
Production calendar and varieties

Introduced by the large-scale Japanese immigration, the various types of Satsuma remain highly dominant (early such as Okitsu and Clauselina, mid-season such as Owari and Iwasaki and late such as Aoshima), and are always highly prized for their high yield and easy cultivation (approximately 3 000 ha). Tangelos (Minneola, Nova and Fortuna) have lost momentum in recent years, though they continue to represent large surface areas (just over 2 000 ha). Surface areas of W. Murcott have made great progress in recent years to approach the 2 000-ha mark, though technical management is still to be perfected in the field and post-harvest (degreening). Licensed late hybrids such as Or and Tango are also on an upward trend (approximately 300 ha for Tango). The clementine remains scarce, as it is hard to manage given the high temperatures prevailing in the central coast cultivation zones. Peru has a very early production calendar in comparison to the other Southern Hemisphere producer countries, because of its Equatorial latitude (by way of example, Satsumas are available from April). Production is also highly concentrated, from May to July.

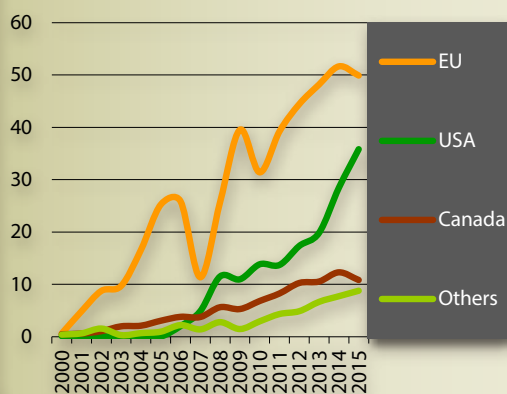
Easy peelers — Peru — Production calendar											
Varieties	J	F	M	A	M	J	J	A	S	O	N
Okitsu											
Clauselina											
Owari											
W. Murcott											
Fortuna											

Easy peelers — Peru

Easy peelers - Peru
Evolution of exports
(000 tonnes / source: Promperu)



Easy peelers - Peru
Evolution of exports by destination
(000 tonnes / source: Promperu)



Exports

Absorbing approximately half of total export mandarin, clementine and tangelo volumes, the EU remains the main destination for Peruvian exports. Volumes are aimed mainly at the United Kingdom and Ireland, as well as Northern Europe and Scandinavia. However, after a long period of uninterrupted growth, exports have been at a standstill since 2013, peaking at around 50 000 t; 2015 actually registered a first downturn. The USA has become Peru's number two market in the space of just a few years, since phytosanitary barriers were lifted in May 2006. This authorisation to this day remains limited to certain production regions free from the fruit fly, situated on the country's central coast (Ica, Lima, Lambayeque, Piura and Junin), and includes a cold quarantine treatment. Imports to this market have seen a constant rise, reaching approximately 35 000 t in 2015, after a period of very strong growth since 2012. Usurped since 2006 by the USA, Canada is still a major destination, though exports have levelled out at approximately 10 000 t. As for emerging markets, volumes bound for Russia are losing momentum due to payment difficulties and customs duty levied in the absence of a trade treaty with this country. Given the prospects for big production growth, developing the Asian markets is a major strategic avenue for the Peruvian industry. Exports to Hong Kong and Singapore are authorised, and since 2008 Peru has been among the few Latin American countries to have a phytosanitary protocol with China. However, the quantities exported to these markets remain marginal, due to the lengthy transit, specifications which are as strict as for the USA and competition from Australia, though this is less competitive in terms of price. Phytosanitary protocols are under validation with Japan and other South-East Asian countries (Malaysia, Vietnam, Thailand, Indonesia, the Philippines, South Korea and Taiwan). Prime importance is attached to India, a market which represents an enormous potential.

The "Quality certified for export" quality certification developed by ProCitrus was launched in the 2015 campaign, after tests in 2014. It should help some of the supply stand out on a higher-quality market segment. For now, three main internal quality parameters are inspected as per international standards: brix, acidity and maturity index on Tangelos (Minneola) and W. Murcott. Eventually, the coloration parameters and even seedlessness could be incorporated into this certification.

Easy peelers — Peru

Easy peelers — Peru Main exporters in 2014	
Firms	Market share
Procesadora Laran	28 %
CPF	13%
Agricola Norsur	9 %
Corporacion fruticola de chincha	8 %
Camposol	6 %
Procesadora Torre Blanca	6 %
Agricola las Marias	4 %
Puente negro	4 %
Mishki Fruit	3 %
Others (34)	16 %

Source: Promperu



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Outlets

The local market absorbs approximately 260 000 t, i.e. three-quarters of national production. Its supply is based both on traditional varieties consumed green (such as tangerine), and on large and increasing volumes of sorting rejects from export sector varieties. This outlet remains lucrative, although less so than the export sector (approximately 0.35 USD/kg at the production stage). Given the expected increase in production, a vast programme to promote local consumption of easy peelers has been launched, at the initiative of ProCitrus. These promotions, aimed primarily at children, are in the form of TV and radio campaigns, as well as activities at schools and in shops.

Logistics

The fruits are transported by sea-freight in containers (some door-to-door). The port of Callao handles nearly all of the volumes.

Easy peelers — Peru — Sea freight		
Port of departure	Port of arrival	Transit time
Callao or Paíta	Rotterdam	18-23 days
	Algeciras	17 days
	USA - East Coast	12 days
	USA - West Coast	11 days
	China	28-30 days
	Chile (Santiago)	4 days

European stone fruits campaign

Initial info on the 2016 harvest

The European stone fruits harvest forecasts were unveiled at the recent EuroMéditerranée trade fair (Medfel), which was held in Perpignan from 26 to 28 April. They indicated that the campaign is finally back to a normal calendar, after the cold and wet spring, although the very mild winter led to very early flowering. The first volumes were harvested in mid-April in southern Spain.



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However, these highly variable climate conditions and the frosts which hit in February and March led producers to put back the thinning operations, and for once, to defer publication of the peach and nectarine harvest forecasts which are expected to fall. Apricot production is also set to be in shortfall again after a lean 2015 (- 11 % on 2014 and - 11 % on the 2010-14 average), at best reaching 442 000 t, i.e. a smaller potential than in 2013 or even 2008.

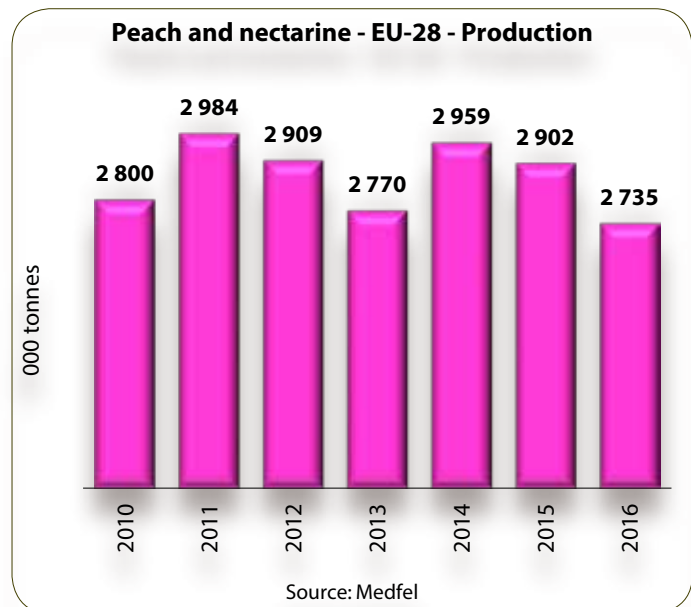
Uncertainty for the peach and nectarine

European harvest forecasts, announced in late May, confirmed the outlined trends, namely production down fairly steeply, to below its 2013 level, with a shortfall similar to that of 2003 and 1998. This fall can be explained by a slight reduction in surface areas, but above all by highly unusual climate conditions during the winter and spring, probably attributable to the end of El Niño in the Pacific. Surface areas are indeed continuing to shrink in many production areas, especially northern Italy, France and Greece, whereas they are stabilising in Spain after the high planting rate over the last decade. Furthermore, losses are expected, in particular for the varieties grown in the Spanish and Italian early zones, as a consequence of the frosts which hit in February and March after the mild winter which induced early flowering. The potential was still highly uncertain in late April for the mid-season and late varieties, the cold and wet spring having staggered tree flowering in some cases over three or even four weeks, as opposed to the usual one or two. This has wiped out the season's head start from the beginning of the year, and caused great heterogeneity on the trees, with at the same time flowers and small fruits of uncertain future, and so-called differentiated fruits which will reach full maturity. Hence during Medfel the Valencia zone was already set for a 22 % fall in its production, Murcia for a 15 % reduction and Andalusia for a 3 % decrease. Similarly, the earliest production zones in southern and central Italy were set for a fall of at least 6 %.

Overall, the production forecast for peaches, nectarines and clingstone peaches is only 2.73 million tonnes, i.e. another fall of 6 % from 2015. And as announced, the fall is set to be fairly substantial in Italy (- 11 %), with a marked shortfall in early varieties, it has apparently been mitigated in Spain in Spain (- 2 %) thanks to the development of young flat peach and nectarine orchards (+ 5 %). France should also have a fairly considerable fall (- 4 %). Greece, less affected, is set for a small gain (+ 3 %).



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Peach and nectarine — EU-28 — Evolution of production in main production countries

tonnes	2016 forecasts	Comparison	
		2015	3-year average
Italy	1 185 540	- 11 %	- 12 %
Spain	1 093 852	- 2 %	+ 5 %
France	202 985	- 4 %	- 8 %
Greece	252 500	+ 3 %	- 4 %
Total	2 734 877	- 6 %	- 5 %

Source: Medfel / Processed by Infofruit

Historically low Apricot production

The climate conditions (mild winter followed by a cold and wet spring with frosts) should lead to another fall in the apricot potential in 2016, to below 450 000 t, i.e. a tonnage less than in 2013 or even 2008. Hence production will be well into shortfall in Italy and France (particularly in Gard, Crau and Rhône-Alpes, with smaller losses in Roussillon). Losses in Spain will be somewhat mitigated by the increase in surface areas (modern varieties). Greece meanwhile seems to have been relatively spared, apparently enjoying favourable climate conditions. Nonetheless, as for the peach and nectarine, the production calendars should ultimately be normal, with the spring cold having wiped out the head start from the winter.

On a structural level, we should note that modernisation of cultivation stock is ongoing, especially in most of the Spanish production zones, though also in France, where research is highly active, especially in the early and late-season slots, as well as in southern Italy. Similarly, in Greece, although the Bebeco variety still remains a mainstay of national production, the planting rate of more modern varieties is increasing.

Campaign still under embargo

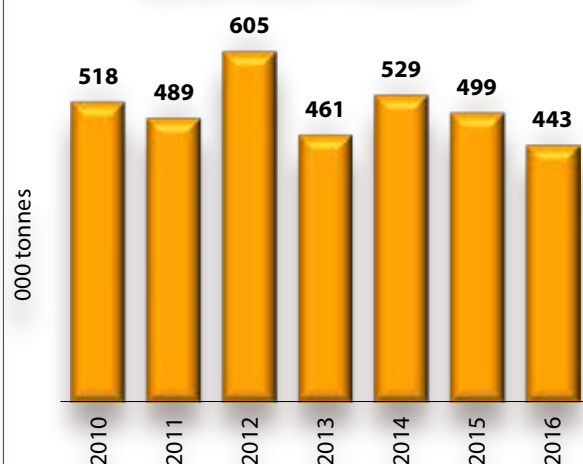
So the fall in potential should help limit the pressure on the European market, whereas the industry is primed to spend its second campaign under the Russian embargo. We should recall that this market previously absorbed 165 000 t of European peaches and nectarines every summer. The closure of this market last year generated from the beginning of the campaign a certain tension and disarray on the market. Operators exporting to this destination had to find alternatives, especially the Spanish producers, who previously shipped 110 000 t of peaches and nectarines, or the Greeks (26 000 t). In terms of trade, efforts will therefore be again focused on seeking new outlets to compensate for the ongoing closure of the Russian market. There are however few alternatives, as these particularly perishable fruits are not really suited to long-haul voyages. Furthermore, the fall in peach and nectarine shipments to outside the Community last year amounted to nearly 80 000 t between May and September, according to European Customs. So the operators have again requested the European Commission to extend the exceptional measures for fruits and vegetable affected by the Russian embargo beyond 30 June ■

Cécilia Céleyrette, consultant
c.celeyrette@infofruit.fr



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Apricot - EU-28 - Production



Source: Medfel

Apricot — EU-28
Evolution of production
in main producer countries

tonnes	2016 forecasts	Comparison	
		2015	3-year average
Italy	163 190	- 19 %	- 19 %
France	115 569	- 26 %	- 25 %
Spain	109 235	- 8 %	+ 10 %
Greece	54 800	+ 77 %	+ 30 %
Total	442 794	- 11 %	- 11 %

Source: Medfel / Processed by Infofruit

Southern Hemisphere kiwi

Investments that will pay off

The kiwi is off to a perfect restart, after Southern Hemisphere production was stopped in its tracks by Psa. And although a large part of the cultivation area is still infected by the bacterium, its impact on production is being mitigated by the preventive measures taken in advance. This is particularly true in New Zealand since the varieties planted are resistant, enabling surface areas to expand once more; though in Chile they have yet to stabilise.



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Recovery confirmed

2015 confirmed the renewal of Southern Hemisphere production, after two years of steep falls due to Psa (*Pseudomonas syringae* pv. *Actinidiae*) and to the frosts of 2013 in Chile. Production actually appears to have set a record level of nearly 650 000 t (+ 46 % on 2014), well above the 618 000 t harvested in 2010. Exports also leapt up by 43 %, setting a new best of 639 000 t. There was a considerable increase to the European market (+ 33 %), though without regaining the nearly 300 000 t back in 2008 (200 000 t for New Zealand and 100 000 t for Chile). It was even more marked on the US market (+ 53 %), where tonnages were as high as in 2012. Similarly, shipments aimed at Russia were 45 % higher, where New Zealand has been down for the past two years because of Chile making its comeback and maintaining its market share on this outlet. Shipments also continued to rise steadily to Asia (+ 39 %), with New Zealand branching out to these nearby destinations and Chile returning to levels close to their pre-frost mark. The latter source also won back market share in Latin America and the Middle East, though tonnages were still a bit lower than in previous years.

Confidence riding high in New Zealand

New Zealand confirmed the rude health of its industry, boosted by new varieties, especially the Zespri SunGold. Thus, after reaching its low point in 2013 (361 000 t), New Zealand production literally boomed last campaign (475 000 t, i.e. + 30 % on 2014) to exceed the pre-Psa level (435 000 t in 2010). The bacterium is still abundant in New Zealand's orchards, but all the new varieties are now resistant, including the green kiwis. Producers have learned to live with this threat. The control methods are well managed and applied by producers to prevent propagation. They are particularly vigilant in identifying the now well-known symptoms of the disease and immediately cutting out infected sections. Copper sprays are authorised at low concentrations on pruned trees, and preferably before rain, as the operation must never be carried out in wet conditions.

The production increase primarily involves the yellow kiwi. The good results from the past two campaigns have restored producer confidence. There was massive planting last season, which, in addition to the grafting of Hort 16, raised the total to 4 800 ha of yellow kiwi, i.e. 36 % of the total kiwi



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Kiwi - Southern Hemisphere - Total exports



Sources: ODEPA, Stat NZ

cultivation area. This should continue at a decent rate over the coming years, since Zespri has taken the decision, given the very strong demand, to authorise the planting of an additional 400 ha from this year until 2019. The green potential is also back on the up, with increased yields having taken the export level back over 300 000 t in 2015, whereas yellow kiwi exports exceeded 100 000 t. The eventual objective is to reach a 50/50 balance between green and yellow kiwis, which could be reached after 2020. Hence New Zealand production at present covers more than 12 000 ha already in production, and a planted area of more than 13 000 ha, i.e. a potential which should further increase to rapidly reach more than 570 000 t from 2018. The industry is also continuing its varietal trials. Approximately 100 000 different plants are currently being assessed. Zespri has a new red-fleshed variety at the pre-commercial trial stage.

Efforts which will ultimately bear fruit in Chile

Chilean production has not yet stabilised. After steadily increasing until 2012 (11 900 ha), surface areas have been decreasing for the past three years (9 700 ha in 2015), between uprooting due to Psa and economic difficulties. However, production returned to around 180 000 t during the last campaign, after the frosts of late 2013 which had more than halved the potential. However, it did not regain its previous level due to the after-effects of the frosts and Psa (220 000 t in 2012). Today, Psa affects at least 20 % of Chilean territory, which is 15 % green varieties and 40 % yellow varieties, which are more sensitive, especially the Kiss variety. However, yellow kiwis make up no more than 800 ha, half of which is Jintao (Jin Gold). Hence the choice of the production zones is crucial for producers who want to develop this niche: the north of the country and the coastal zones are advisable, insofar as climate conditions are less favourable there for Psa. Preventive measures have been implemented to prevent its propagation, but the inspections are demonstrating that they are still insufficiently applied for the time being. Besides the measures taken in the field (foot baths, monitoring, pruning and tool cleaning), producers are advised in particular to be vigilant when shipping the fruits to exclude any plant debris and cover the loads. Similarly, strict disinfection protocols have been established at stations for washing the trays, as well as for the destruction of plant waste from packing. Furthermore, the Chilean Kiwi Committee, which monitors the application of these measures, has this year also worked on raising the overall quality level of production, establishing a minimum value of 14.5 % dry matter in the harvest, to tackle New Zealand competition on the export markets.



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Kiwi — Southern Hemisphere 2015 exports			
tonnes	Total	New Zealand	Chile
Total	635 169	454 000	181 169
EU-28	228 090	162 730	65 360
Asia	245 164	224 188	20 976
Pacific	15 334	15 334	-
Latin America	43 059	4 139	38 920
USA	44 379	14 405	29 974
Russia	15 245	798	14 447
Middle East	9 809	3 738	6 071
Others	34 089	28 668	5 421

Sources: Stat NZ, ODP/ASOEX, Eurostat / Processed by Infopruit

Good volumes expected this campaign

The stabilisation of the cultivation area after the Psa outbreak is heralding a rise in potential over the coming years. This year, it should be similar to the good level already harvested last year. The Chilean potential is set to be 10 % in shortfall (165 000 t, as opposed to 183 000 t in 2015), because of an autumn lacking in hours of cold, which affected the flowering, and a wet spring followed by a warm summer. New Zealand production meanwhile should again approach or even exceed 480 000 t.

Hence the quantities exported should be at least fairly similar to last year. Zespri has announced an export potential at least equivalent to the previous one, with green volumes perhaps a little smaller, of between 280 000 and 300 000 t, though distinctly greater for yellow. Notably for this campaign, the first ship from New Zealand, which docked in Zeebrugge in late April, contained only yellow kiwis, with the first green kiwis arriving only in mid-May. However, the source is thinking about ending the Sungold campaign in around mid-September. Conversely, things are set to be particularly complex for Chile, whose campaign began in mid-March. Penetrating the European market is becoming increasingly difficult for this source, in the face of the increasingly late local produce and the increased competition from New Zealand not only on the Old Continent, but also in Asia. However, operators are hoping to be able to capitalise on the qualitative level of production, with sizing bigger than last year and a higher dry matter content, in order to meet the new maturity criteria set by the Chilean Kiwi Committee ■

Cécilia Céleyrette, consultant
c.celeyrette@infopruit.fr

Credit insurance

A simple formality to the rescue of the policyholder

Credit insurance is a very familiar mechanism at the Rungis wholesale market. Its objective is to cover companies against the risks of non-payment. The principle is very simple: when a company sells its merchandise, especially by export, it can protect itself against the risk of non-payment by taking out insurance with a credit insurer.

In case of payment arrears, the insurer steps in for the company's customer, and pays all or part of the unpaid sum, depending on the amount insured. This system enables the policyholder to reduce their commercial risk, and avoid endangering their business in case of default by its partners. In return, the policyholder pays the insurer a premium calculated as a percentage of its turnover.

This somewhat special insurance is exempt from the provisions of the French insurance code, which for the most part protect the policyholder. However a seemingly insignificant article is applicable, which stipulates that the insurance policy clauses allowing for annulment or forfeiture of coverage are only valid if they are presented in highly prominent characters (in bold type, in colour, in large print, etc.). The aim is to draw the reader's attention to these particularly important clauses which can lead to complete loss of coverage.

Insurance companies are of course reticent in highlighting these sorts of provisions which enable them to take away their coverage, under conditions that they set. Credit insurance policies often do not comply with the law, offering contracts which do not in any way draw the policyholder's attention to clauses which, however, might be disastrous for them. Generally speaking, the policyholder barely reads the general conditions of their contract, or does not even receive it.

Recently, our firm was consulted by a company working at the Rungis wholesale market. It had applied to its insurer

for approval for two new foreign customers. These approvals were granted without difficulty. When these foreign customers failed to pay what they owed, the company claimed on its insurance coverage. Imagine its surprise when the insurer declared a forfeiture of coverage and refused to pay out!

It turned out that the policyholder had, in all good faith, committed an error in its declarations, and so had paid only part of its premiums. The insurance company applied a coverage forfeiture clause contained in the general conditions, of which the policyholder was completely unaware. This provision stipulated that in the absence of payment of all or part of the premiums, the insurer could refuse coverage. The policyholder offered to rectify its error and pay its premiums; the insurer did not want to know.

We were able to take the case to court. We argued that the forfeiture clause was presented in the same way as the rest of the contract, i.e. it was not presented in highly prominent characters. Therefore this clause was void, and the insurer should compensate the policyholder. The President of the Commercial Court, who is not a professional judge, refused to apply the article of law cited and rejected our plea.

Convinced of our case, we launched an appeal. In an order of 12 November 2014, the Paris Court of Appeal ruled in our favour, annulled the coverage forfeiture clause and sentenced the insurance company to compensate the policyholder. Thus, not only did the insurer not receive the premiums, but also had to compensate the policyholder for the approvals granted. This was a first in the history of credit insurance!

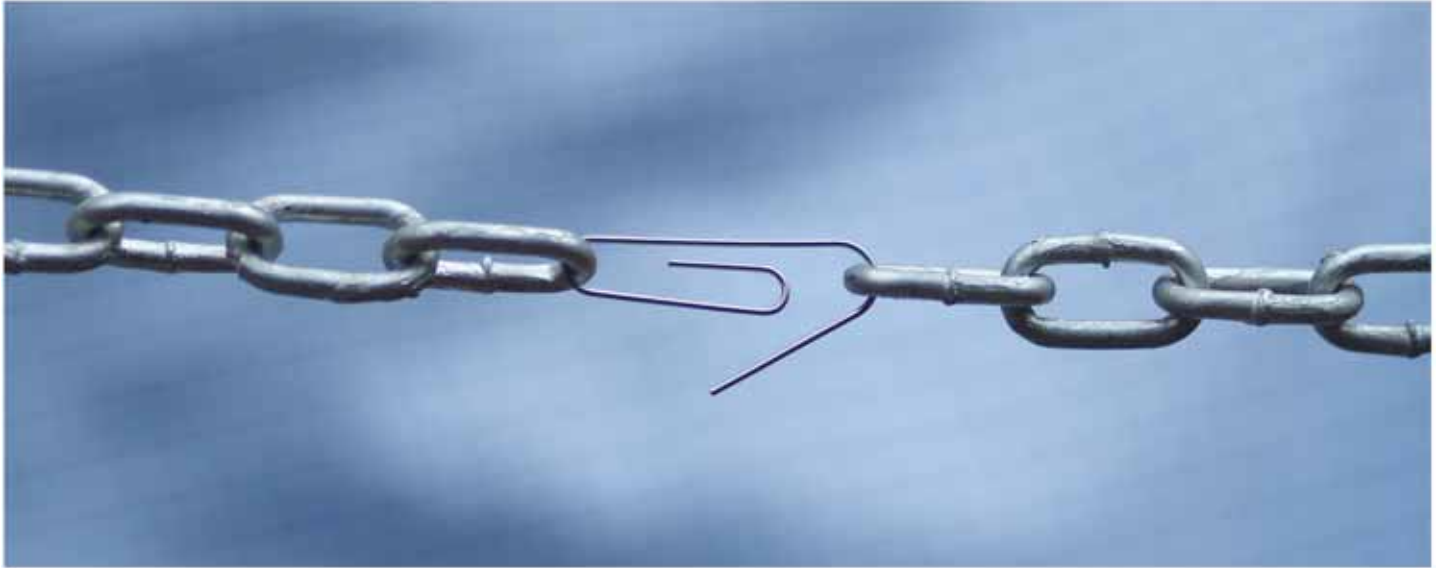
Sometimes, a minor point of law can lead to major effects. However, be aware that insurers are now trying to adjust their tactics and modify their general conditions. So the lesson is to pay close attention to the documents you sign ■

Delphine Abecassis, Paris Bar Association lawyer
Partner of the law firm "1804"



32 rue Le Peletier
75009 PARIS
France
T. +33 (0)1 40 22 08 08 / F. +33 (0)1 40 22 03 00
www.1804avocats.com

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reefer trends

A report by
Pierre Gerbaud

Litchi

Litchi

Contents

- p. 48 **Madagascan litchi in 2015-16
— A certain indifference?**
- p. 54 **2015-16 litchi campaign —
Other Indian Ocean sources**
- p. 60 **Litchi quality defects**
- p. 62 **Litchi cultivation**
- p. 66 **Litchi varieties**

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Madagascan litchi in 2015-16

A certain indifference?

For the fourth consecutive campaign, the Madagascan litchi industry has registered a positive balance, especially thanks to reinforced fruit quality, allied with its well-developed logistics. However, the well-oiled mechanism seems to be slowing somewhat on its road to success...



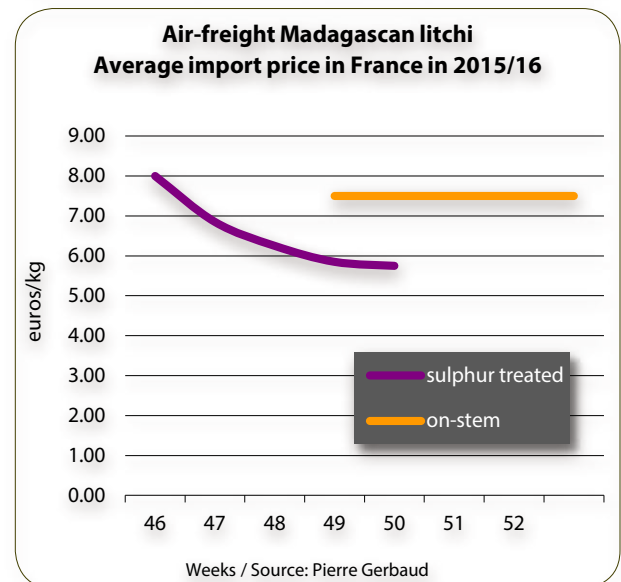
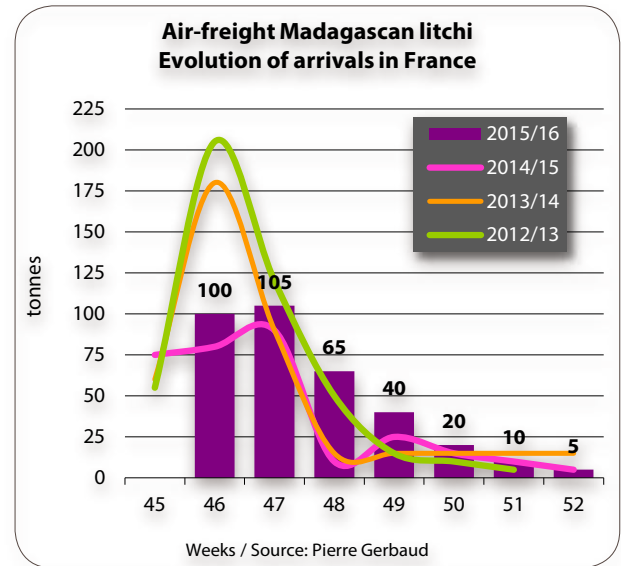
Volumes slightly up

In 2015, the question of organisation of the Madagascan litchi export campaign was not raised. The results of the previous campaigns having been to the general satisfaction of the operators, there were no grounds for altering this winning strategy. Hence they retained equivalent volumes, the same logistical organisation, even chartering the same conventional ships! Thanks to relatively early production for the third successive season, the departure and therefore arrival dates of the conventional ships were also more or less the same. Behind this apparent immobility, fruit quality monitoring was intensified, through the renewal and upgrading of the certifications, and stepped-up analysis of residual sulphur levels. However, in view of the repeated good results from recent campaigns, there could have been a great temptation to increase volumes shipped to the European market. And this was the case, though to a limited extent. With an estimated total of 18 477 tonnes, the 2015-16 campaign beat the previous one by 687 tonnes.

These quantitative results indicate a slight downturn in air-freight volumes, continuing the trend observed for the past several years, and an increase in sea-freight tonnages on conventional ships and container ships. The main rise has come from litchis arriving by conventional ships, with an additional 600 tonnes, whereas container volumes have gone up by only 80 tonnes or so.



© Henri Vannière



Slump in air-freight shipments

The downward trend in air-freight volumes over the past few years has been confirmed, although it was distinctly less marked. Does the 300 tonnes of air-freight represent the only shipping route for this type of produce? Apparently so, since volumes have tended to evolve toward that equilibrium point.

If we refer to the average price curve for the Madagascan air-freight litchi for recent campaigns, the general trend is the same, though at higher or lower levels. The 2015 campaign appears to be one of the best, with prices gradually following a downward trend as the supply progressed, though remaining on a higher footing. And this was in an equivalent situation in terms of the overall air-freight supply, which varies little from year to year, representing 1 200 to 1 300 tonnes of imports from across the Indian

Ocean, and over the same five to six-week period. The price differences appear to be derived more from the positioning of the sources in the fruit marketing calendar and from their respective cost prices.

A comparison of recent campaigns seems to indicate that the massive early imports from Madagascar favour better sales results. This is what happened in 2015. The campaign started in week 46 with large volumes, while the competing Indian Ocean sources were practically absent. However, the campaign began in France in a gloomy context, the wave of attacks on 13 November logically reducing shop footfall. In week 47, volumes were already reaching their peak. Sales were fairly fluid, with moderate remaining volumes across Europe, and prices remained high. In weeks 48 and 49, the quantities received dwindled steeply, while the supply from other sources progressed. Although on a downward trend, prices stabilised at around 6.00 euros/kg on average. Incoming shipments in week 50 were small, helping bridge the gap to the first sea-freight litchis which were only available at the end of the week.

Madagascan litchi rates were also high due to the fruit quality. We are not talking here about the size, always heterogeneous, but the shelf life of the litchis, a factor which doubtless contributed to their satisfactory market performance. This unanimously highlighted point, though difficult to explain, was particularly important throughout the campaign.

During the air-freight campaign, some batches of on-stem fresh fruits were also sold at high and stable prices. Even though marginal, these shipments show the possibility of segmenting the previously monolithic Madagascan supply. South Africa has already taken this seemingly promising path.

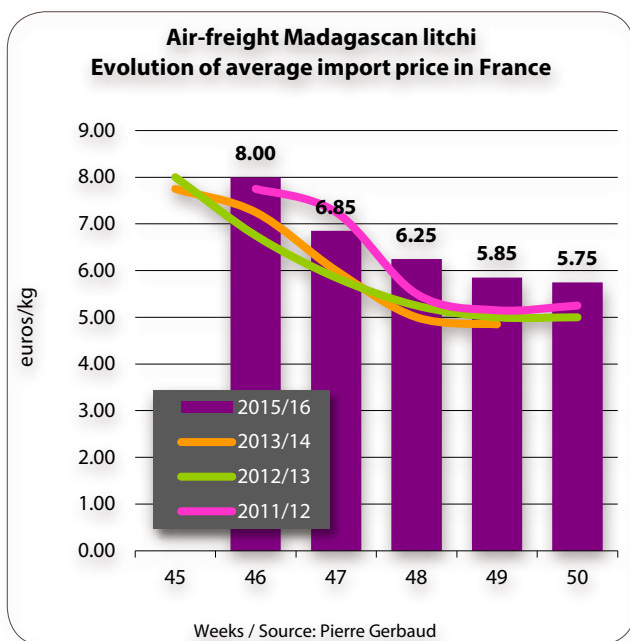


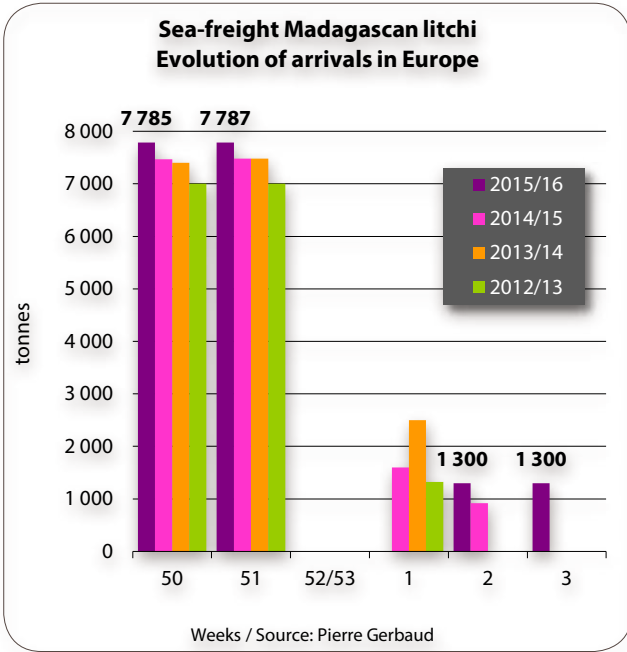
© Guy Brehinier

A long sea-freight campaign

The sea-freight campaign should have proceeded in roughly the same way as the previous one. Encouraged by previous results, operators increased volumes shipped to a moderate degree. The rehabilitated food safety image of Madagascan produce since the poor 2010-11 campaign, and the assurance of reinforced monitoring, could raise hopes of an increase in the supply to the European market and a quest for new outlets on other markets. The relatively early production was also pushing in this direction. Yet while the theoretical conditions seemed to have been fulfilled, the reality of the market proved more difficult than predicted.

The official opening of the campaign was declared on 19 November, i.e. two days later than in 2014, to ensure that sufficient volumes of fruits had reached maturity in order to fully load the first conventional ship. This apparently minimal difference would alter the marketing of this first cargo. Despite a rapid and efficient loading operation, the two days' difference from the previous campaign could not be offset, and the first ship left Tamatave on 23 November. Passing the Cape of Good Hope and sailing up the African Coast at its maximum cruising speed, the first ship docked in Zeebrugge on 11 December, i.e. one day later than the previous year. Yet the vagaries of the calendar meant that 11 December 2015 was a Friday. Even the rapid unloading operation did not enable delivery to the stores for this big commercial weekend, unlike the previous year when unloading of the first ship began on Wednesday, enabling the merchandise to go on sale early. Apart from some shipments to nearby markets, sales only really began on Monday 14 December.

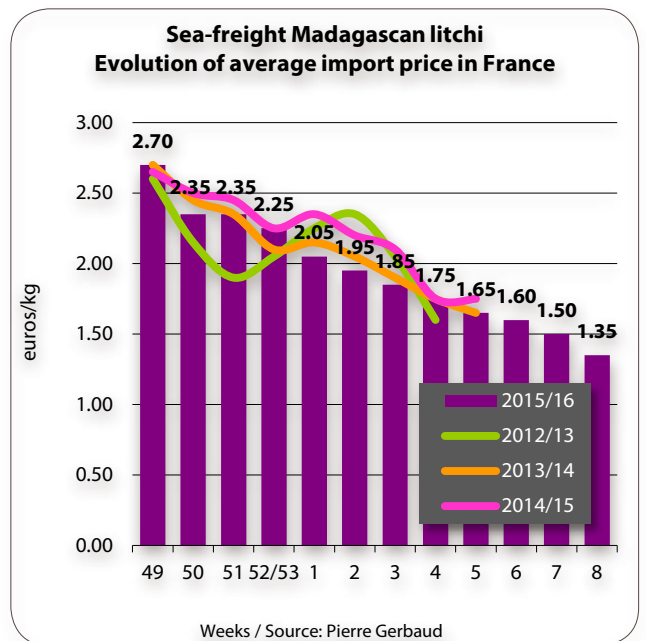




The cargo of the first conventional ship sold fluidly, driven by demand which was boosted by numerous promotions in European supermarket chains, scheduled during the preparation for the campaign. The weekend of 19 and 20 December, and then the days preceding the Christmas holidays, were favourable for massive sales. The sea-freight Madagascan litchis, alone on the market, were free from competition, which helped sales establish more attractive prices than the air-freight litchis still available.

The second conventional ship was loaded right after the first, though the operation proved more laborious because of multiple stoppages due to precipitation, which required the temporary closure of the ship's holds. Topping up its cargo with containers on deck, this second ship finally took to sea on 26 November. It was received in Zeebrugge on Wednesday 16 December. The litchis were unloaded and stored in-situ to replenish the stocks of distributors for the New Year period.

In recent campaigns, the cargo of the second ship has helped supply the markets after Christmas, and bridge the gap with the first incoming shipments of container litchis, generally received at the end of the first ten days of the New Year. This pattern did not recur on the same terms this time around. While the cargo of the first ship sold fairly rapidly, the second cargo sold more slowly. The fall in demand following Christmas was more marked than usual. The fruit longevity was essential to avoid considerable damage. Demand kept dipping, in spite of the satisfactory quality of litchis, the attractive prices charged and a 53rd week in the calendar which extended the marketing period.



The supply expanded with the arrival of container litchis on 9 and 18 January, which swelled stocks, and with South African shipments reaching their peak. The slight jump in rates traditionally observed upon the first container litchis entering the market did not occur this year. Instead, prices followed a continuous linear slump. The downturn in demand was affecting sales of Madagascan litchis, but also of South African fruits, despite their greater freshness and overall size. The launch of promotions in mid-January in an attempt to revitalise consumption misfired, and prospects for invigorating the market conditions for the Chinese New Year proved disappointing. True, some chains continued selling the product, but outdoor markets closed for good, and the still substantial stocks were slow to disseminate through the French market, now congested and alone.

The campaign had a difficult end in a sluggish atmosphere where the spectre of the cycle of poor sales/qualitative deterioration/falling rates from the bad old years returned to haunt this final marketing period.



Balance still positive, but sizing could still be improved

The overall economic balance of this campaign was positive, though probably less profitable for the industry players. Did pride come before a fall, in the form of believing in the possibility of increased tonnages? This does not seem to be the case, in the knowledge that the results of the previous campaigns were encouraging for development, and that they were well below the 24 000 tonnes from 2008-09. Perhaps the result of disregarding the economic situation still in crisis, and which has ended up falling into a kind of routine? Or could it be that this campaign is a reminder that the absorption capacities of the European market for the Madagascan litchi still seem fixed at around 17 000 tonnes?

We might also note the exceptional shelf life of the fruits, though again, no rational explication can be provided. Should the improved valuation of Madagascan litchis in future not be based on targeting fruit quality, and in particular size? This factor remains the main criticism from supermarkets and consumers. Though for the moment held back by the attractive sea-freight price levels, it could however encourage professionals to seek remedies, especially for the air-freight period and the end of the campaign. Could the concerted efforts made in the field of food safety or organic/Fairtrade certification not be reproduced for the purpose of improving fruit sizing? ■

Pierre Gerbaud, consultant
pierregerbaud@hotmail.com

Litchi, tamarind, cashew apple, jackfruit, sapotilla, carambola, passion fruit, pitahaya
European Union imports

Tonnes	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16*
Total	25 951	23 064	18 366	22 745	22 294	22 176	21 786
Madagascar	19 750	17 715	14 040	16 220	17 430	17 790	18 500
South Africa	3 340	2 660	2 000	3 600	2 450	2 030	1 500
Reunion	240	400	200	420	540	460	440
Mauritius	115	180	110	270	140	160	150
Mozambique						40	55
Israel	447	308	622	470	270	410	100*
Mexico	80	249	97	121	134	192	111
Thailand**	1 978	1 552	1 297	1 645	1 330	1 095	1 030

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



Litchi — Import calendar

		M	A	M	J	J	A	S	O	N	D	J	F
Asia	China												
	India												
	Taiwan												
	Thailand												
	Vietnam												
	Nepal												
	Bangladesh												
Indian Ocean	Reunion												
	Mauritius												
	Madagascar												
	South Africa												
Others	Australia*												
	United States												
	Mexico												
	Israel												

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



2015-16 litchi campaign

Other Indian Ocean sources

After a promising start, the weather conditions seem not only to have cut down the production capacities of the traditional Indian Ocean sources, but also those of countries exporting outside of the winter period, such as Israel. Litchi consumption is increasingly packed into the end-of-year holidays, leaving little marketing opportunity during the rest of the year.



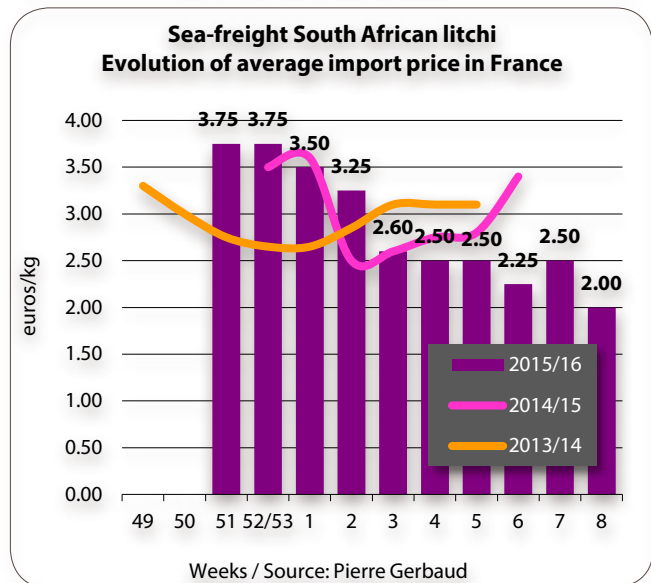
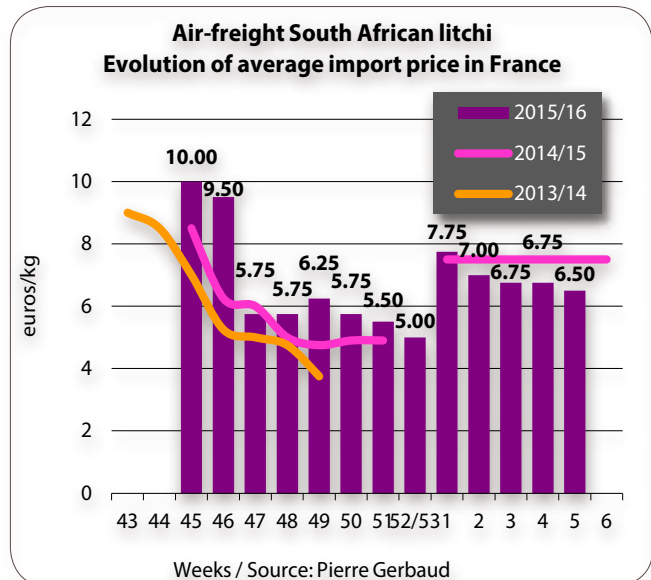
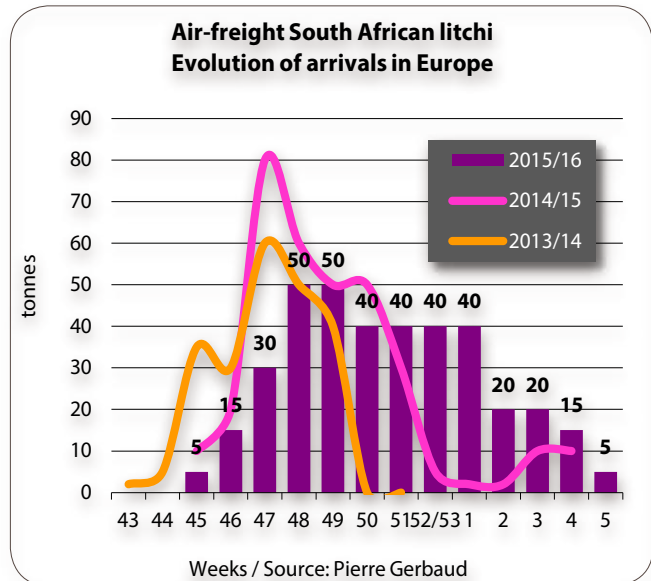
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South Africa Exports falling

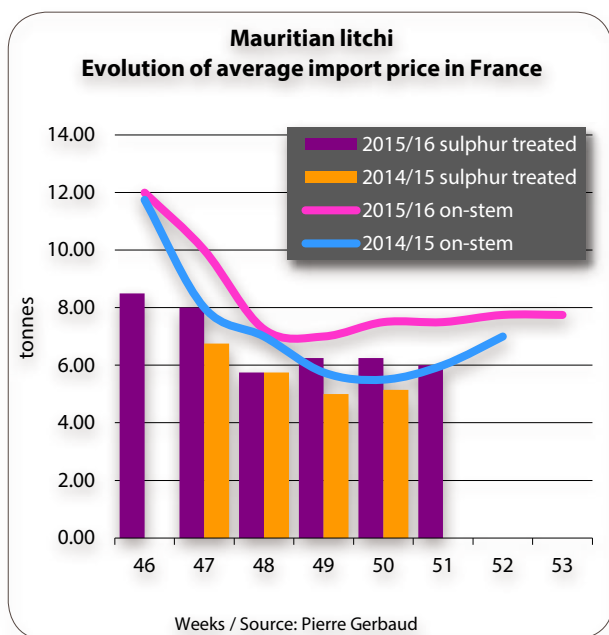
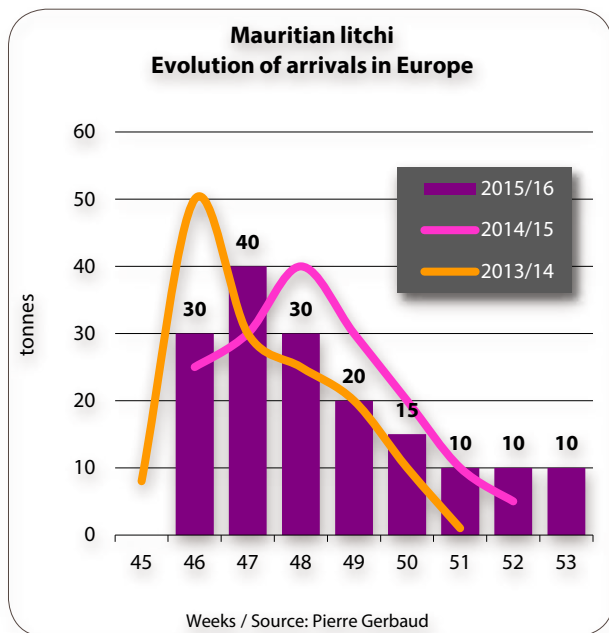
South African litchi exports really do see considerable variation from one year to the next. In 2014-15, they amounted to approximately 2 180 tonnes, primarily aimed at the European markets. In 2015-16, sales are estimated at around 1 800 tonnes. It seems a long time since South Africa was shipping out 4 000 tonnes. While Madagascan production is estimated at 50 000 tonnes, South African production is distinctly smaller, at around 6 000 to 8 000 tonnes. It is mainly based in the Natal and Transvaal provinces, and comes from industrial orchards subjected to highly contrasting weather conditions. Successions of droughts, or conversely of excess precipitation, particularly affect fruit production. The South African sector is structured differently to its counterpart in Madagascar, where a small proportion of litchi production is aimed at exports and the local market. The latest figures available indicate that 26% of South African production is exported fresh, and 13 % distributed on the national market, where prices are also lucrative. The remaining 60 % is aimed at the processing industry. The coexistence of these three outlets, in addition to the weather variations, explains the fluctuations in the volumes dedicated to the export sector.

On the international market, South Africa faces Madagascan litchis at every turn, especially in Europe. To help manage this confrontation, South African professionals have for several years segmented their supply. This quest for different trade paths has been stepped up again this year.

The first South African shipments were made by air-freight in the second week of November. They comprised limited quantities of the Fai Zee Siu variety, a green coloured fruit when mature, but with a good taste quality and a small stone. After selling these batches at around 9.00 euros/kg, exporters concentrated their shipments on the Mauritius variety, which is common to the various Indian Ocean sources. This year, production mainly comprised small fruits. However, some XXL size batches were shipped, selling at high prices of between 5.00 and 6.00 euros/kg, with no major fluctuations against competing produce. These better sized fruits sold more readily on the wholesale markets aimed at the top-end segment. Withstanding the competition until the Christmas holidays, South Africa then diversified its supply with on-stem fresh Mauritius variety fruits, followed rapidly by the Red McLean variety, while the first sea-freight litchis entered the market. After a noteworthy previous campaign, this segment seems to have progressed this year. This supply, complementing the Reunion supply, extended the source's air-freight campaign until February.



The sea-freight campaign began at the end of the year, with only a few containers aimed mainly at Northern Europe. The biggest quantities were shipped in the first days of January. Affected by the consumption downturn at the beginning of the year, South African litchis sold at prices which, while higher than for Madagascan produce, followed the same downward trend. Forsaking the French market congested by Madagascan merchandise, South African fruits earned better value on the other European Union markets, which had closed more rapidly to Madagascan produce. The campaign finished in early March with the receipt of the last Red McLean batches, which sold at around 1.50-1.75 euro/kg on a market which had grown indifferent.



Mauritius Stability

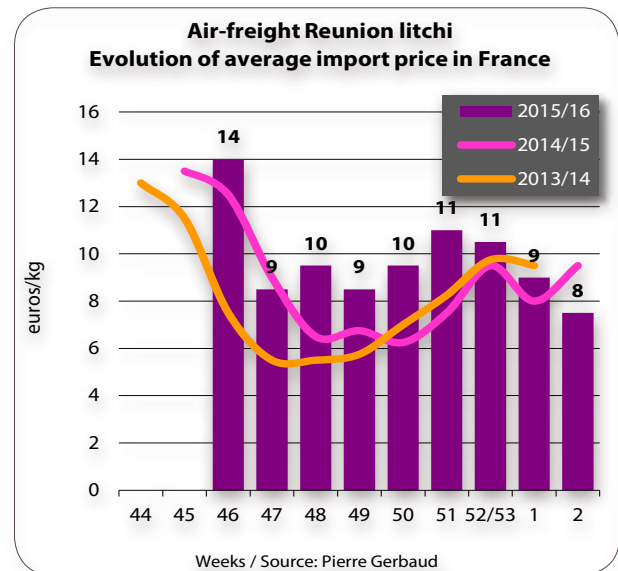
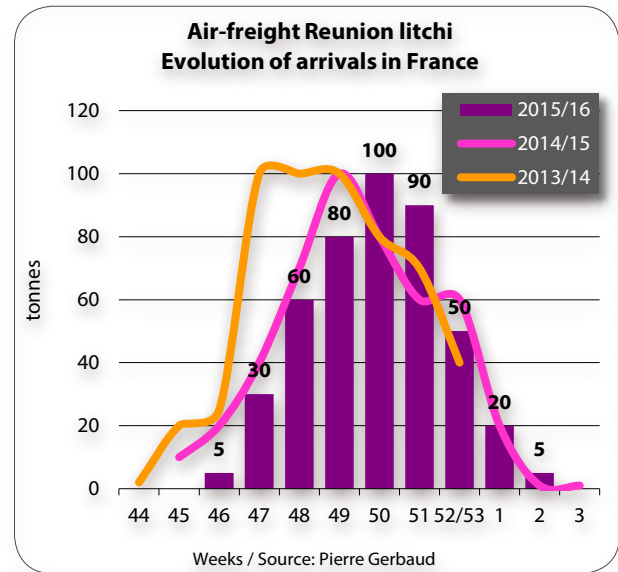
With exports estimated at 165 tonnes for the 2015-16 campaign, Mauritius achieved equivalent sales to the previous campaign. To earn better value for their shipments, Mauritian professionals have for some years paid more attention to the quality of fruit earmarked for the European Union. Mauritius has long shipped litchis from the Indian Ocean first, in order to take advantage of good sales conditions. Yet experience has shown that this strategy is not necessarily the best, since it has often led to fruits going onto the market while still immature, and therefore exhibiting disappointing taste quality. Heightened monitoring of fruit maturity has helped genuinely improve the quality, though Mauritian exports have lost their early-season slot. Hence Mauritius now faces direct competition from the other Indian Ocean sources. However, Mauritian fruits are finding a niche on European markets thanks to their competitive cost price, due to the air-freight rate. Arriving at the same time as Madagascan produce in week 46, the first Mauritian shipments mainly comprised on-stem fresh fruit. This good taste quality merchandise, shipped in small quantities, sold at high prices, which took a rapid downturn in particular because of the perishability of the fruits and the poor sales generated by the wave of attacks in Paris. The suspension of the outdoor markets during the week following these events heavily disrupted sales. The price decrease hit fresh litchis harder than sulphur-treated litchis, which enjoyed a longer time on the market. Mauritian exports mainly comprised sulphur-treated fruits, with rates stabilising at around 6.00 euros/kg on average from week 48, while Madagascan imports were dipping. The Mauritian litchi rates picked up a bit in the run-up to the Christmas holidays because of more dynamic demand, the fall in Madagascan shipments, but also the dip in Madagascan shipments. They dropped steeply in week 50 due to more pressing local demand and production problems. Severe pest attacks, especially by bats, appear to have destroyed the harvests predicted at the time. The Mauritian marketing campaign thus finished at the end of the year with marginal volumes.

Reunion Stabilisation and segmentation

Litchi exportations from Reunion registered a slight downturn in 2015-16 from the previous year. Approximately 440 tonnes were shipped, as opposed to 460 tonnes in 2014-15. Reunion remains the main fresh litchi supplier to the French market, since few batches are forwarded to other European markets. Indeed, access to other outlets would require transport times that would be detrimental to the quality of this highly perishable merchandise. The Reunion litchi marketing campaign got off to a slow start in mid-November, with volumes very limited given the strong local demand at the beginning of the season. The supply then intensified with steeply falling rates after the attacks in France; the same commercial hiatus which affected Mauritian produce. It was not until the run-up to the Christmas holidays that demand revitalised, coinciding with bigger litchi shipments. As in previous years, Reunion fruits were warmly welcomed by the hard core of habitual consumers used to the high retail prices of this top-end produce. From week 52, their rates dipped distinctly, while the quantities also dwindled. This trend went against that of previous seasons, when the reduction in volumes caused sale prices to strengthen. It seems that this year fruit quality was more fragile at the end of the season, which explains the deteriorating rates.

As in previous years, Reunion's operators segmented their produce into three distinct presentations: destalked, on-stem and trussed. This segmentation, fairly loose in previous campaigns, seems to have been consolidated this year with more clear-cut and lasting price levels. Trussed fruits were really well valued, with prices more than 3.00 euros/kg higher than for destalked fruits on average. The price difference for on-stem fruits was also considerable, at more than 2.00 euros/kg on average higher than destalked fruits, regarded as the most basic presentation.

Just a few years ago, this distinction in fruit presentation brought recurrent criticism - how could the same price possibly be paid for the branches as for the fruit? These criticisms have apparently evaporated, and retailers are willing to pay high prices for produce which, besides its intrinsic quality, helps create an attractive look in-store. On-stem or trussed litchis develop a different identity, closer to the natural product, freshly picked, or even akin to an organically grown fruit, untreated and healthier. This idea is actually not so far removed from reality, at least in terms of certification. What appeared an extravagance just a short time ago has apparently become well established in consumer mentality, in a context where organic produce, rational agriculture and locality have gradually made headway in the minds of consumers.

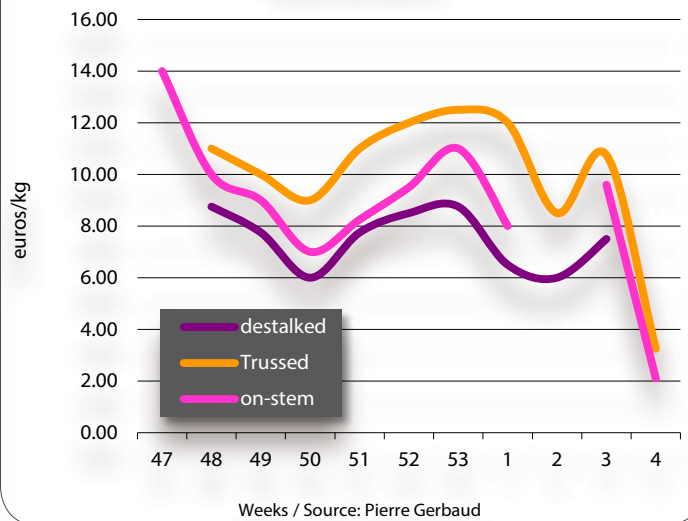


In conclusion, I cannot resist sharing an anecdote from this past campaign. A Madagascan litchi exporter told me about the experience she had with her 6 or 7 year-old daughter. Faced with a simultaneous choice of litchis from Reunion and Madagascar, the girl rushed to pick up the Reunion fruits, ignoring the Madagascan ones. Does not the truth come from the mouths of babes and sucklings? Of course we are erring away from the domain of trade towards the subjective aspect of taste. But does this anecdote not give us food for thought?

Mozambique Hanging in there

The 2014-15 campaign saw the emergence of this new source on the European market. Most often shipped previously by South African exporters, Mozambique litchis made their big breakthrough last year. The scenario has repeated itself this year, with volumes slightly down from 60-80 tonnes in 2014 to 50-60 tonnes in 2015. Air-freight shipments began in week 47. The fruit quality enabled high sale prices (9.00 euros/kg) for limited quantities. Rates then dipped to around 5.50-6.50 euros/kg until week 51, when shipments ceased. Slightly earlier than South African shipments, Mozambique litchis kick off the continental Indian Ocean sources campaign. Along the same lines as the South African model, their sizing helps open up a market window at the beginning of the campaign, more particularly on the wholesale markets where retailers seek produce standing out from the general supply. These prized litchis are gradually becoming part of the market landscape. The source's production potential will probably enable volumes to increase in the coming years, though still in association with its neighbour South Africa.

Air-freight Reunion litchi - Average import price in France by presentation



Other sources

Among the sources supplying the European market outside of the Indian Ocean period, some seem to have been hit by weather phenomena that have affected production, and consequently exports. First of all, we can mention Thailand, whose export calendar follows that of the Indian Ocean. It was in place on the markets in May and June, whereas its export period extended from April to August just a few years ago. Its quantities were limited to around 150 to 200 tonnes, exclusively by air-freight. Sale prices remained high given the narrow distribution of the produce. Thailand has yielded to South Africa its traditional place as the number two litchi supplier to the European market.

The weather conditions proved particularly unfavourable for Israel, the main supply source during the summer period. In addition to these natural factors there was probably also a certain lack of interest in the product. For around a decade, Israeli exports have been constantly decreasing. From around a thousand tonnes down to approximately 800 tonnes, they seemed to have stabilised in recent years at around 400 tonnes. For the 2015 campaign, exports to Europe seem to have been measured in only tens (60 to 80 tonnes). This produce was available only late in the year, in August and September, with highly variable quality.

As every year, Mexico exported some litchi batches to Europe, concentrated in June. These sea-freight fruits amounted to a total of 60 to 80 tonnes, with prices on a downward trend.

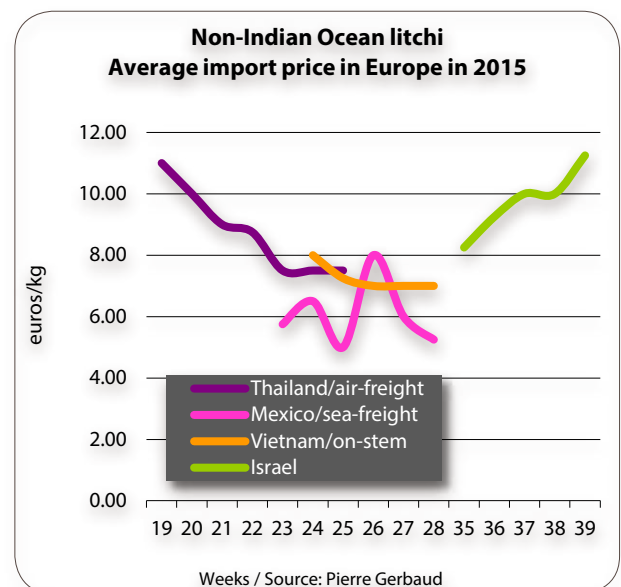
Finally, Vietnam, an emerging source for the litchi, has been attempting to enter the European market. Vietnamese litchis, present from June to mid-July, reportedly amounted to around one hundred tonnes. Some of this merchandise comprised fresh on-stem fruits, which sold at fairly steady prices, especially on the French market. This source, whose exports of small exotic fruits (passion fruit, rambutan, pitahaya, etc.) have boomed in recent years, is trying to add the litchi to its range. While the majority of the produce it exports is available more or less year-round, the litchi is more seasonal and available only at the beginning of the European summer, a time when demand is more focused on seasonal fruits (peach, cherry, strawberry, etc.), which are widely distributed and often cheap. Despite the satisfactory demand for exotic fruits, necessarily limited to this period, besides the more ethnic-based demand from consumers of Asian origin, it is difficult to see hopes of the Vietnamese litchi making any further progress at this time of year.

We can say for sure that the time of the litchi being present practically year-round on European markets seems to be receding. Even the concentrated supply period at the end of the year has shown some weaknesses this time around. Is this indifference to the produce or stabilisation of consumption prior to a second wind? ■

Pierre Gerbaud, consultant
pierregerbaud@hotmail.com



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**Litchi
quality
defects**

Photos © Pierre Gerbaud



Ageing fruits – dull appearance – shell browning and drying



Puffy fruits



Fruits picked too early



Ageing fruits – too long a gap between harvesting and sale



Puffy fruits



Unattractive colour resulting from lack of sorting



Oxidation of the shells of non-treated fresh litchis



Aborted and double fruits



Satisfactory colour (for reference)



Uneven colouring resulting from sulphur treatment



Different sizes in the same packaging



Stalk torn off



Moulds (*Penicillium*)



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



Mould spots (*Penicillium*)



Heavy mould attack (*Penicillium*)



Sulphur dioxide burn damage and double fruit



Spread of mould spots (*Penicillium*)



Black rot (*Aspergillus* spp.) and mould



Sulphur burn as the fruits were wet before treatment



Rots and isolated moulds (*Penicillium*)



Black rot (*Aspergillus* spp.)



Burn caused by sulphur treatment and moisture



Litchi cultivation

by Christian Didier

Requirements of litchi

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

Cultivation zones

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

Windbreaks

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

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

Soils

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

Orchard creation

Soil preparation

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

Plants

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

Plantation density

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

Planting

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

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

Orchard maintenance

Training pruning

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

Soil maintenance

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

Irrigation

Litchi is very susceptible to water stress throughout the fruit growth period and

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

Maintenance pruning

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

Litchi growth is fast and soon becomes exuberant. The trees must therefore be controlled. For this, annual pruning is performed just after the harvest. The trees are usually too dense. The aim is to aerate them by allowing as much light as possible

on the foliage and to keep them at a suitable height to facilitate harvesting. The final result of pruning should be dome-shaped trees.

Fertilisation

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

Doses are modulated according to the date of application:

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

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



© Guy Brehinier

Harvesting

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

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

Pests and diseases

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

Main fruit pests

- *Cryptophlebia peltastica* and fruitfly

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



Main foliage pests

- Scales

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

- Mites: *Aceria litchi* (Erinose mite)

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



Trunk and branch pests

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

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

- Bark borer: *Salagena* spp.

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

- Thrips

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



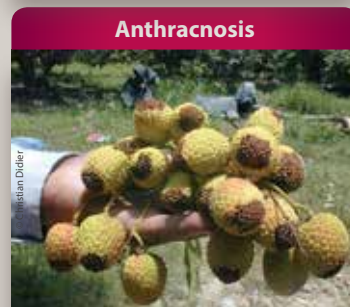
Diseases

- Root rot

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

- Aerial system

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



Post-harvest and sulphur treatment

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

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

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

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

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

Before sulphur treatment



After sulphur treatment



Photos © Christian Didier



Litchi varieties

by Christian Didier

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

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

Shahi

(Muzaffarpur)

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



Kwai mi

(Mauritius, Tai So)

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



Haak Yip

(Black leaf)

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



Chakrapad

(Emperor)

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



Rose scented

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



Wholesale market prices in Europe

April 2016

					EUROPEAN UNION - EURO				
					Germany	Belgium	France	Holland	UK
AVOCADO	Air	TROPICAL ETTINGER FUERTE	BRAZIL	Box			15.20	16.50	
			PERU	Box				9.50	
			KENYA	Box			7.00	10.00	
			PERU	Box			9.50	9.50	
	Sea	HASS	SOUTH AFRICA	Box			9.00	9.25	
			BRAZIL	Box				13.00	
			CHILE	Box	13.75		13.50		
			ISRAEL	Box			11.00		
			KENYA	Box			9.00		
			MEXICO	Box	13.75		11.33		
			PERU	Box			12.00	12.50	
			SOUTH AFRICA	Box			13.50		
	Truck	NOT DETERMINED PINKERTON	SOUTH AFRICA	Box					10.12
			KENYA	Box				9.00	
			SOUTH AFRICA	Box			8.25	9.00	
			SOUTH AFRICA	Box			9.00		
Truck	RYAN ZUTANO	PERU	Box				9.00		
		HASS	Box			15.00			
Truck	REED	SPAIN	Box			9.00		7.07	
		SPAIN	Box						
BANANA	Air	SMALL	COLOMBIA	kg			6.90		
	Sea	SMALL	ECUADOR	kg				5.67	
			ECUADOR	kg			1.70		
CARAMBOLA	Air		MALAYSIA	kg			5.14	5.23	
CHAYOTE	Sea		COSTA RICA	kg			1.60	1.69	
COCONUT	Sea	NOT DETERMINED YOUNG	COTE D'IVOIRE	Bag			8.75	11.33	
			THAILAND	Bag				13.50	
DATE	Sea	BAHRI DEGLET	PERU	kg				6.40	
			ALGERIA	kg			5.20		
			TUNISIA	kg				2.00	
		KOUAT ALIGH MEDJOOL	TUNISIA	kg				1.88	
			ISRAEL	kg			11.00	7.31	
			SOUTH AFRICA	kg				8.08	
		MOZAFATI NOT DETERMINED	IRAN	kg				3.30	
			ALGERIA	kg				2.75	
			TUNISIA	kg					
							1.54		
EDDOE	Sea		COSTA RICA	kg			1.77		
GINGER	Sea		BRAZIL	kg				1.42	
			CHINA	kg			1.50	0.88	
								1.11	
LIME	Air		MEXICO	kg			4.90		
	Sea		BRAZIL	kg	2.22	1.67	2.10	2.60	
			MEXICO	kg		2.11		2.78	
							2.25		
MANGO	Air	AMELIE	BURKINA FASO	kg			2.75		
			MALI	kg			2.80		
			KENT	BRAZIL	kg			6.50	
				COTE D'IVOIRE	kg			6.10	
	Sea	NAM DOK MAI PALMER VALENCIA	THAILAND	kg				8.60	
			BRAZIL	kg				5.33	
			MALI	kg			3.55		
			COTE D'IVOIRE	kg				1.88	
			BRAZIL	kg			1.75	2.25	
			BRAZIL	kg				2.47	
			PUERTO RICO	kg				2.38	
			SOUTH AFRICA	kg			1.63		
			KENT	COTE D'IVOIRE	kg	2.44		2.20	2.38
			NOT DETERMINED	BRAZIL	kg				2.00
PALMER	BRAZIL	kg				2.44			
MANGOSTEEN	Air		INDONESIA	kg			8.50		
MANIOC	Sea		COSTA RICA	kg			1.45		
							1.25		
MELON	Air	CHARENTAIS YELLOW	DOMINICAN REP.	kg			4.30		
	Sea	CANTALOUP	BRAZIL	kg				1.16	
			COSTA RICA	kg			1.25	1.40	
			CANTALOUP	HONDURAS	kg			1.40	1.41

				EUROPEAN UNION - EUROS						
				Germany	Belgium	France	Holland	UK		
MELON	Sea	CHARENTAIS	BRAZIL	kg			1.25		1.41	
			HONDURAS	kg				1.45	1.44	
		CHARENTAIS GREEN CHARENTAIS YELLOW GALIA	MOROCCO	kg			1.33			
			SENEGAL	kg			1.80			
			BRAZIL	kg			1.25	1.20		1.36
		HONEY DEW	COSTA RICA	kg			1.05	1.40		1.09
			HONDURAS	kg				1.38		1.20
			BRAZIL	kg			1.17	1.08		1.29
		PIEL DE SAPO	COSTA RICA	kg			1.00	1.05		1.18
			HONDURAS	kg						1.16
			PANAMA	kg						1.03
		SEEDLESS WATER	BRAZIL	kg			1.30	1.25		
			COSTA RICA	kg			1.15	1.40		1.22
			PANAMA	kg						1.29
WATERMELON	COSTA RICA	kg				0.95				
	PANAMA	kg						0.85		
	BRAZIL	kg						0.96		
	COSTA RICA	kg			0.90	0.79		0.85		
		PANAMA	kg			0.80	0.78	0.96		
PAPAYA	Air	NOT DETERMINED PURPLE	COLOMBIA	kg	5.00	6.00		6.75	5.14	
			BRAZIL	kg					4.99	
			KENYA	kg		6.00		6.25		
		YELLOW	VIET NAM	kg			8.80			
			ZIMBABWE	kg		6.00		6.75		
			COLOMBIA	kg				8.14		
			ECUADOR	kg				8.88		
PASSION FRUIT	Air	NOT DETERMINED PURPLE	COLOMBIA	kg	5.00	7.00	6.25	5.73	5.19	
			BRAZIL	kg				5.26	4.90	
			ISRAEL	kg			6.25			
		YELLOW	SOUTH AFRICA	kg		8.00				
			VIETNAM	kg		9.80	6.25			
			ZIMBABWE	kg			6.25			
			COLOMBIA	kg			8.14			
			ECUADOR	kg			8.88			
PHYSALIS	Air		COLOMBIA	kg			10.50	6.67	8.57	
	Sea		COLOMBIA	kg	7.50			6.25		
PINEAPPLE	Air	VICTORIA	MAURITIUS	Box				14.00		
			MAURITIUS	kg			4.30			
	Sea	MD-2	COLOMBIA	Box				12.13		
			COSTA RICA	Box	14.13	12.75		12.10	11.05	
			COSTA RICA	kg			1.15			
			COTE D'IVOIRE	kg			1.25			
			PANAMA	Box				12.50		
			PANAMA	kg			1.00			
PITAHAYA	Air	RED	VIETNAM	kg			7.00			
PLANTAIN	Sea		COLOMBIA	kg			1.10			
			ECUADOR	kg			0.90	1.05		
POMEGRANATE	Air	ACCO BAGHWA HERSKOWITZ NOT DETERMINED WONDERFUL	SOUTH AFRICA	kg			2.00	2.63		
			INDIA	kg				3.07		
			SOUTH AFRICA	kg				2.63		
			PERU	kg					2.57	
			PERU	kg			3.00	2.96		
			SOUTH AFRICA	kg			2.40	2.37		
RAMBUTAN	Air		THAILAND	kg			8.50			
SWEET POTATO	Sea	NOT DETERMINED	EGYPT	kg			1.00	1.55		
			ISRAEL	kg			1.70			
			SOUTH AFRICA	kg					0.90	
		RED/RED RED/WHITE WHITE	HONDURAS	kg				1.33		
			COSTA RICA	kg				1.29		
			HONDURAS	kg			1.60			
TAMARILLO	Air		COLOMBIA	kg			7.10			
TAMARIND	Air		THAILAND	kg			3.45			
TARO	Sea		COSTA RICA	kg			2.50			
YAM	Sea		GHANA	kg			1.30	1.30		

Note: according to grade

These prices are based on monthly information from the Market News Service, International Trade Centre UNCTAD/WTO (ITC), Geneva.
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15, boulevard du Delta | Zone Euro Delta | DE1 - 94658 | RUNGIS CEDEX | France

T. +33 1 49 78 20 00 | F. +33 1 46 87 16 45 | katopeintl@univeg.fr | www.univeg.fr

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