

November 2013 - No. 216

# FRUITROP

English edition

## Close-up CITRUS

<http://passionfruit.cirad.fr>

**Banana:  
the African potential**

**Grape:  
fine performance  
from Peru**

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**So it would appear vital to wait...** *The universal use of environmental labelling in France on consumer goods will not become obligatory in the short term. The one-year full scale test, on a voluntary basis (with nearly 70 companies taking part, from July 2011 to July 2012) showed the limits of this big idea, originating from the Grenelle Environmental Round Table. Well, the principle of reality quite naturally led to a burial with full honours! Because while the concept is a smart one, the implementation and above all the regulatory obligation were just an idealised illusion. While the methodology (LCA) is highly robust, the same is not true for the results. There is still insufficient knowledge to assure the consumer that a given product really has less impact (negative, of course) on the environment than another. The rules applied to converting flows of materials and energy, linked to each stage of a product's life cycle, into potential impacts on the environment, are not all known, and in any case not with sufficient precision. Hence it is impossible to choose one product over another for its environmental quality, without a risk of getting it wrong. The cumulative uncertainties are too great. They are even further intensified if we look at imported products which, for lack of specific studies, are saddled with the highest risks. From there to believing that the introduction of this sort of labelling could have been a good way to drive imported goods off the shelves, particularly fruits and vegetables, it is a small step. Many operators would have immediately disputed this new non-tariff barrier before the European and world trade authorities. So it is wise to wait before proceeding to obligatory labelling, and to take the time to reinforce our knowledge of the relationships of cause and effect between processes and impacts. In the end, could we not at the very least do it on a Europe-wide scale?*

Denis Loeillet





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Cover photograph: Regis Domergue

# Avocado

## October 2013

The winter season had a tough start, with the average monthly price nonetheless exhibiting a high level for Hass. Imports from counter-season sources ran on until early October. Operators had to offer competitive prices to quickly sell off this merchandise, due to its advanced maturity and fragility, particularly certain batches from Peru and Kenya. The first Chilean Hass only came onto the market very gradually in this difficult context, with the magnitude of the volumes and the irregularity of the import tempo intensifying the pressure. The price range remained very wide until the middle of the month, when the disappearance of the last Peruvian, South African and Kenyan batches helped restore a much more favourable situation. This context impeded the flow of the first Ettingers from Israel and Bacons from Spain. The average monthly rate exhibited a level significantly below average, despite the overall supply being down due to a considerable shortfall from Spain.



■ **Avocado variety of the month: Hass.** 'Hass' has replaced 'Fuerte' as the sector standard. It is currently the most commonly planted avocado in the world. It was selected by Rudolph Hass in California in the early 1920s and registered in 1935. The tree is vigorous and highly productive. The fruits vary in shape in some production regions, ranging from pyriform to ovoid. Average fruit size is fairly small in hot regions. Good conservability on the tree. The skin turns from dark green to purplish brown at maturity. It is easy to remove from the pulp. The organoleptic qualities are excellent. Rich flavour (nutty taste) with a buttery non-fibrous pulp.

Source: CIRAD

conditions. At approximately 1 600 USD, the FOB value per tonne of exports maintained a level close to last season's rather high level.

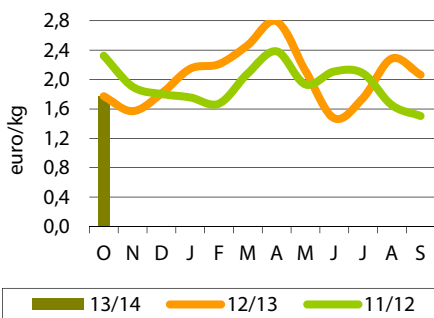
Source: Promperu

### ■ Chilean avocado: is there a production upturn on the horizon?

Could Chilean production return in the medium term to its record production level of 300 000 t, from 2009-10? The CEO of Cabilfruit, one of the industry's leading players in Chile, thinks so. The cold and above all the drought that for six years have struck the Petorca region, which packs in nearly a quarter of the cultivation area, have never enabled production to exceed 200 000 t in recent years. However, new plantations set up in the late 2000s are starting to enter production. With a total extension estimated at around a thousand hectares, they are located in zones better endowed with water in the Valparaiso region, in particular near the port of San Antonio. Another asset is that they will expand the production calendar to February and March.

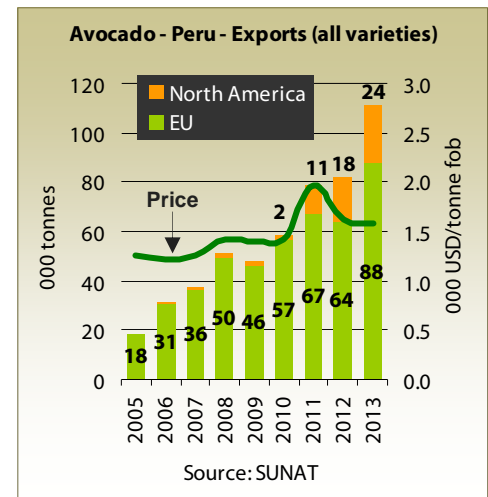
Source: Freshfruitportal.com

Avocado - France - Import price



### ■ Review of the Peruvian avocado season: 2013, a record year!

This is confirmed by the latest figures from the Peruvian Customs, which have reported slightly more than 113 000 t of exports for last season. With these volumes, Peru has confirmed its position as the world number two avocado exporter, far behind Mexico but ahead of Chile. Shipments to the country's two main markets are rising in similar proportions by approximately 35 %: with just over 87 000 t, the EU received distinctly bigger volumes than those sent to the United States, of nearly 24 000 t. The other world markets have continued to absorb anecdotal quantities of less than 2 000 t. Another reason for satisfaction is that this considerable increase in volumes was achieved under good economic



Source: SUNAT

PRICES	Varieties	Average monthly price euro/box	Comparison with the last 2 years
	Hass	8.26	- 9 %

VOLUMES	Varieties	Comparison	
		previous month	average for last 2 years
	Green	=↗	- 41 %
	Hass	=↘	+ 41 %

VOLUMES	Varieties	Comparison		Observations	Cumulative total / cumulative average for last 2 years
		previous month	average for last 2 years		
	Chile	↗↗	+ 33 %	Volumes highly irregular, and well above average.	+ 38 %
	Israel	↗↗	+ 73 %	Ettinger imports distinctly earlier than in previous seasons.	+ 73 %
	Spain	↗↗	- 50 %	Very gradual start (delayed maturity, Bacon production shortfall).	+ 7 %
	Mexico	↗↗	+ 95 %	Volumes moderate, but distinctly bigger than in previous years.	+ 42 %

# Their positive attitude can **achieve** anything



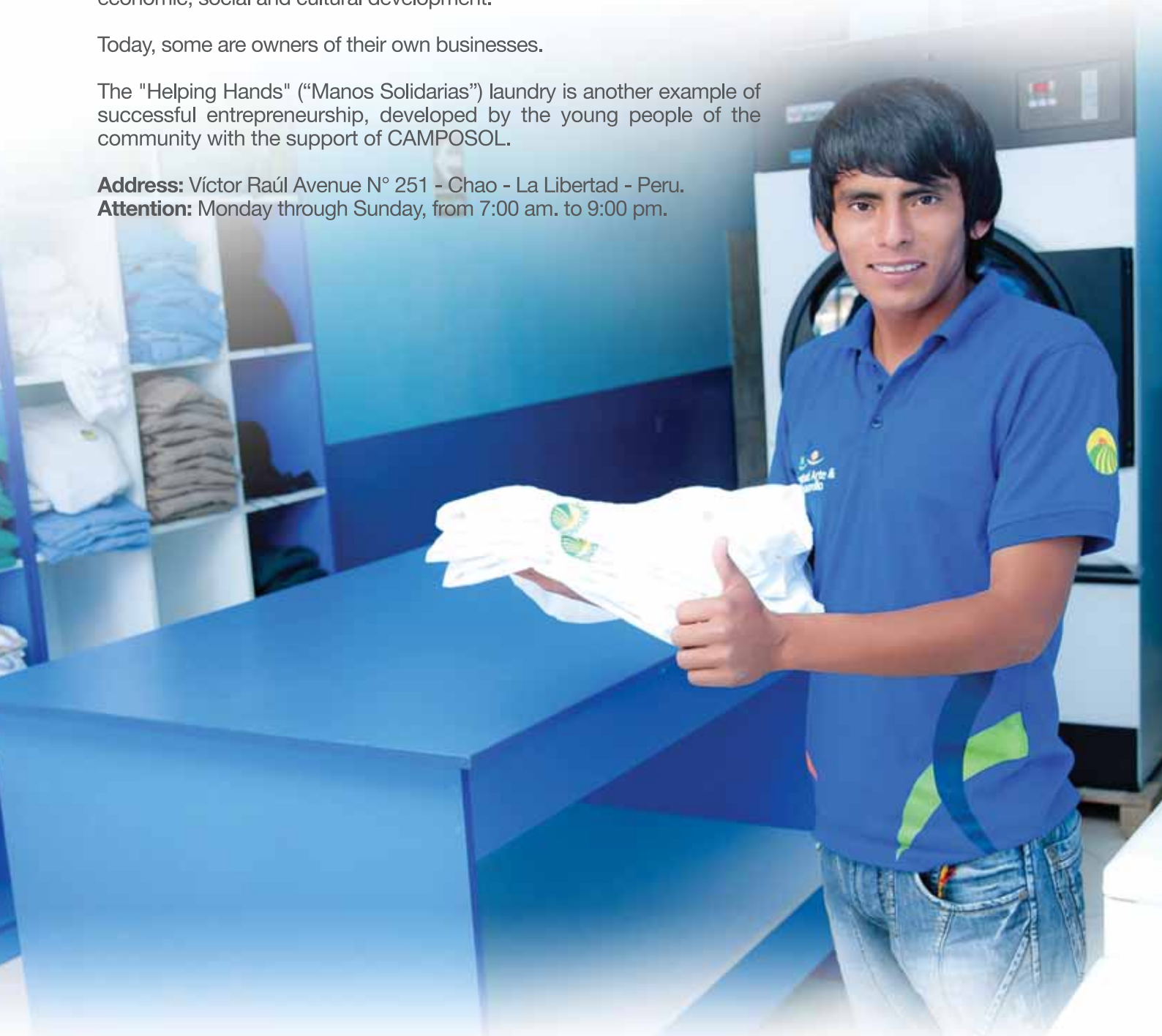
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# Banana

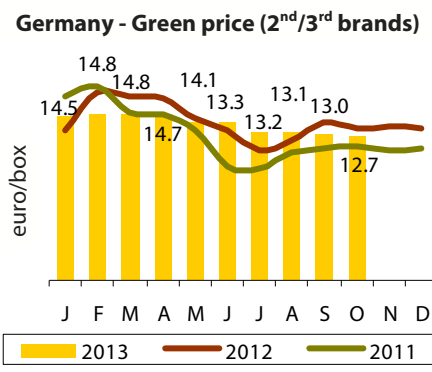
## October 2013

The banana market, weakened in September, reached tipping point in October! The supply for all sources together continued to rise, reaching very high levels. While shipments from the French West Indies maintained a 35 % shortfall, due to the losses caused by tropical storm Chantal, they were very much compensated for by a distinctly rising African supply (production peak in Côte d'Ivoire, historically high imports from Cameroon, with Ghana also increasing). On the dollar banana side, Colombian volumes, on the up since September, reached their production peak with levels near the three-year average. Finally, Ecuador exhibited an import peak (+ 30 %) because of the improved weather conditions at the production stage.

Meanwhile, local demand in Southern Europe remained slow, with temperatures still abnormally mild for the season. Demand from Eastern Europe proved sluggish, with these markets saturated by spot supplies and stocks from Western Europe offered at highly competitive prices. In Northern Europe, demand continued to exhibit good vitality, though the free market was also under pressure from the spot supplies.

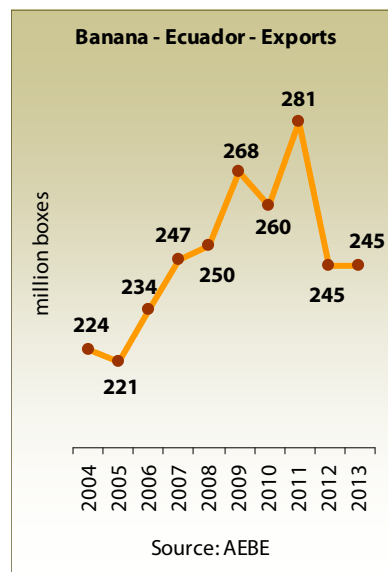
Hence the green banana market was very swollen. Rates were under pressure, and the price range widened in all the countries. Spain recovered a better balance in September. The Russian market also started to improve gradually, after the collapse seen in September. However, prices maintained a level 30 % below average for the season.

NORTHERN EUROPE — IMPORT PRICE		
October 2013 euro/box	Comparison	
	previous month	average for last 2 years
12.70	- 6 %	0 %



■ **Ecuador: increasing numbers of producers dropping the banana!** This phenomenon was revealed by the latest survey conducted by the country's Ministry for Agriculture. Apparently 30 000 ha of Ecuadorian banana plantations were lost between January 2012 and February 2013, i.e. approximately 15 % of the total area, currently estimated at just over 170 000 ha. Faced with an increasingly competitive international market, increasingly stringent local regulations and the consequences of black Sigatoka on yield and production costs, many producers have abandoned the banana in favour of more lucrative crops such as cacao, oil palm or cassava. This change in the surface areas is consistent with the export trend: volumes, which grew between 2004 and 2011, fell in 2012 and should be stable in 2013.

Sources: bananaexport, Reefer Trends, AEBE



Black Sigatoka

## ■ Colombian banana: funding against black Sigatoka .

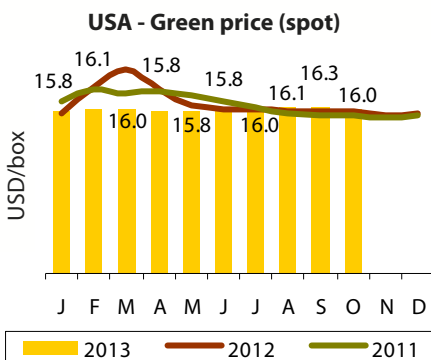
A package amounting to just over 10 million USD has been put together to improve the sanitary condition of the banana plantations. A large part of the funding, issued by the ICA (Instituto Colombiano Agrario) and professionals (Augura, the banana or plantain producers' association for Magdalena, Guajira and Uraba) will be allocated to managing black Sigatoka. Colombia is the world number seven producer, with a harvest estimated at 2.6 million tonnes in 2012.

Source: Reefer Trends

EUROPE — RETAIL PRICE				
Country	type	October 2013		
		euro/kg	Sept. 2013	Comparison
				average for last 2 years
France	normal	1.51	0 %	+ 9 %
	special offer	1.32	+ 10 %	+ 15 %
Germany	normal	1.22	- 4 %	+ 6 %
	discount	1.16	- 2 %	+ 16 %
UK (£/kg)	packed	1.15	- 3 %	- 3 %
	loose	0.68	- 5 %	+ 2 %
Spain	plátano	2.05	- 5 %	+ 15 %
	banano	1.33	- 5 %	0 %

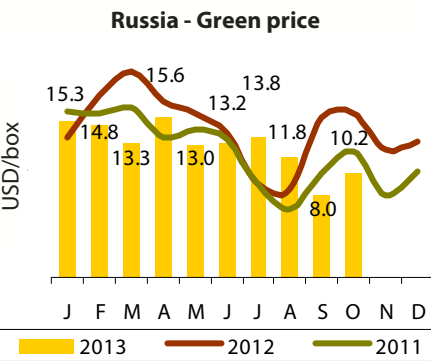
# Banana

UNITED STATES



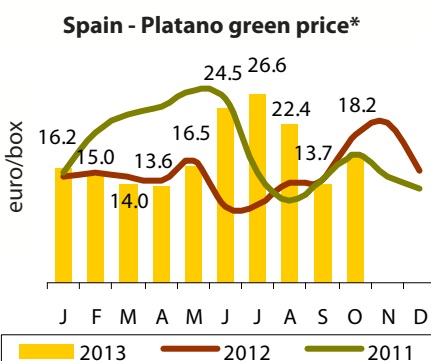
USA — IMPORT PRICE		
October 2013 USD/box	Comparison	
	previous month	average for last 2 years
16.00	+ 1 %	+ 2 %

RUSSIA



RUSSIA — IMPORT PRICE		
October 2013 USD/box	Comparison	
	previous month	average for last 2 years
10.20	- 37 %	- 28 %

CANARIES



CANARIES — IMPORT PRICE*		
October 2013 euro/box	Comparison	
	previous month	average for last 2 years
18.20	- 13 %	- 6 %

\* 18.5 kg box equivalent

**Difficult start to the new season for the European banana trade.** The Eurostat report drawn up in September 2013 confirmed the very steep growth in import quantities in September: + 17 % from September 2012. The data collected by the CIRAD Market News Service confirm this volume inflation trend, in particular from Colombia, the Dominican Republic and the African continent. Africa (Cameroon & Côte d'Ivoire especially) shipped 18 % more in October than at the same time last year. Going back to the Eurostat data, which we can use to draw up a complete review of the first three quarters, there is a clear upward trend. Imports are up 6 %, with an estimated banana surplus of 188 000 tonnes. Only Ecuador is in the red, with a drop of 44 000 tonnes, which should be partly cut back in the final quarter. Colombia, Costa Rica and Panama are exceeding the average growth, with rates of 5, 10 and even 37 %, respectively! Africa, except for Ghana which is distinctly waning (- 21 %), is booming, with growth rates of 21 % for Cameroon and 16 % for Côte d'Ivoire. The Do-

minican Republic is maintaining the general trend, with a gain of 3 % over the nine months. Peru is following the European trend with + 6 %. Belize, Surinam and Brazil hit some turbulence this summer, before stabilising in September. As we have said, there was steep import growth in September, but this is only the culmination (provisional, pending October's results) of the year 2013, in which volumes have increased in eight out of the nine months. European production has been forced into a quieter year: - 6 %. Martinique is still greatly affected by the consequences of tropical storm Chantal in July. The Canaries are also on a downward trend. Only Guadeloupe still has decent momentum. Overall, the European supply (imports + European production) is up 4 % from 2012, and 3 % from 2011.

Nothing new to report from the United States. Imports over the nine months are up 4 % (+ 152 000 t), while re-exports (practically exclusively to Canada) are up 6 %. Hence the US supply is for the moment very slightly in excess of 3 million tonnes.

Source: CIRAD

## Banana - January to September 2013 (provisional)

tonnes	2011	2012	2013	Variation 2013/2012
<b>EU-27 — Total supply</b>	<b>3 901 474</b>	<b>3 847 020</b>	<b>4 010 133</b>	<b>+ 4 %</b>
<b>Total import, of which</b>	3 472 724	3 384 318	3 574 657	+ 6 %
MFN	2 453 657	2 664 327	2 804 563	+ 5 %
ACP Africa	375 390	344 909	393 010	+ 14 %
ACP others	323 904	332 985	377 084	+ 13 %
<b>Total EU, of which</b>	428 750	462 701	435 476	- 6 %
Martinique	117 412	137 362	128 294	- 7 %
Guadeloupe	43 043	47 166	45 043	- 5 %
Canaries	234 835	262 389	245 493	- 6 %
<b>USA — Imports</b>	<b>3 153 073</b>	<b>3 273 792</b>	<b>3 425 377</b>	<b>+ 5 %</b>
Re-exports	392 735	379 578	402 048	+ 6 %
Net supply	2 760 338	2 894 215	3 023 329	+ 4 %

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

## EUROPE — IMPORTED VOLUMES — OCTOBER 2013

Source	Comparison		
	September 2013	October 2012	cumulative total 2013 compared to 2012
French West Indies	↗	- 37 %	- 7 %
Cameroon/Ghana/Côte d'Ivoire	↗↗	+ 18 %	+ 17 %
Surinam	↗	- 9 %	- 2 %
Canaries	↗	+ 1 %	- 6 %
Dollar:			
Ecuador	↗	+ 47 %	- 13 %
Colombia*	↗	- 1 %	+ 11 %
Costa Rica	↗	- 4 %	- 14 %

Estimated thanks to professional sources / \* total all destinations

# Orange

## October 2013

The terrific 2013 South African orange season did not end with a final flourish. Indeed, demand proved fairly slow because of weather conditions unfavourable for citrus consumption. In addition, shipments were very high during this last half-month of imports. Prices for Valencia and other late varieties from South Africa dipped, especially for the smaller fruits. Some batches from Argentina and Brazil continued to supplement the supply. The Spanish Naveline season started somewhat late. Prices quickly waned in view of the great production potential available this season.



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

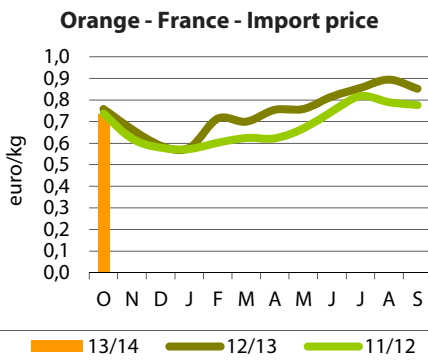
Source: CIRAD

### ■ Production of 40 million tonnes of citruses in China in 2015?

Chinese citrus production, which had already grown by 10 million tonnes between 2005 and 2010, should continue to grow at a high tempo in the coming years. The projection presented in the study "Outlook for Chinese citrus industry: status and prospect of fresh mandarin, orange, pumelo and orange juice," prepared by the Chinese Ministry of Agriculture and published in June 2013 by the University of Florida, specifies that the harvest of the world's number

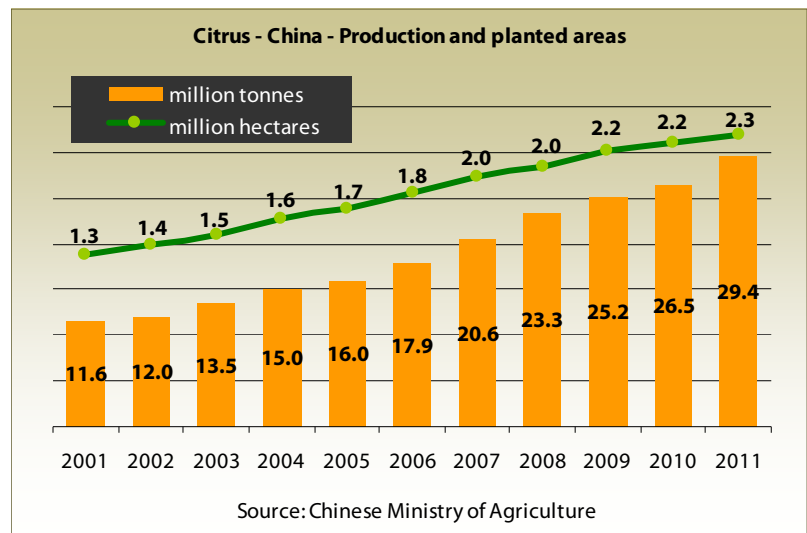
one producer should approach 40 million tonnes in 2015. This is a far from hare-brained theory, given the million hectares gained by the cultivation area between 2001 and 2011, thanks to two State development plans for the industry launched since 2003. And the cultivation area is continuing to grow! So fresh citrus exports, which have exceeded the one-million tonne mark since 2011-12, should continue to grow. Primarily comprising small citrus, they are at present still mainly aimed at the neighbouring Asian markets (Indonesia, Malaysia, Vietnam, Thailand, Philippines). Nonetheless, they approached the 150 000-t mark to Russia in 2012.

Source: University of Florida



PRICES	Type	Average monthly price euro/box 15 kg	Comparison with average for last 2 years
	Juice oranges	10.65	- 7 %
Dessert oranges	12.00	+ 10 %	

VOLUMES	Type	Comparison	
		previous month	average for last 2 years
Juice oranges	↘	+ 27 %	
Dessert oranges	↗	- 10 %	



VOLUMES	Varieties by source	Comparison		Observations	Cumulative total / cumulative average for last 2 years
		previous month	average for last 2 years		
	Valencia Late from S. Africa	↘	+ 27 %	Imports well above average until 15 October, when the customs tariffs changed.	+ 14 %
	Naveline from Spain	↗	- 10 %	Somewhat late start to the season, because of delayed maturity of produce. Size range medium to small.	- 10 %



# Grapefruit

October 2013

Catastrophic - this is once again the term summing up the situation on the grapefruit market. The Mexican supply proved very big, because of the delay to market in September and the highly flexible quality. Faced with completely lifeless demand, the operators had to offer increasingly attractive prices, well below average. In this context none of the Mediterranean sources could really find their place on the market, despite shrinking volumes and rapidly readjusted prices. Florida too got off to a tough start, with the scarcity of volumes nonetheless enabling a near-average level to be maintained.



■ **A heart in your tea cup?** This is the surprise that could await you as you sip your favourite drink in a café in Hiroshima. The Institute for Technological Research for this region, into which most of Japan's small lemon production is packed, has developed a technique for obtaining heart-shaped fruits. The process, which consists quite simply in inserting lemons into a suitably shaped mould at an early stage of development, has an 80 % success rate!

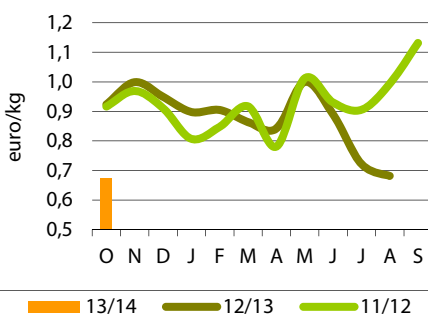
Source: Rocketnews

■ **South African citrus season in 2013: highs and lows, according to the Citrus Growers Association.** While volumes have reached a level never previously equalled, equivalent to 110 million 15-kg boxes, not everything has been rosy

during this 2013 season. The situation has left a particularly bitter taste for grapefruit professionals, for whom these record export volumes have been synonymous with record losses. Economic returns have been poor, even on markets receiving a normal supply. Another negative is the risk of closure of the European market for sanitary reasons (black spot), which has caused direct losses of one million rands for producers according to the CGA, not to mention the effects in terms of image or of transferring onto less lucrative markets, more difficult to quantify. The lemon industry has been the most affected, as is shown by the near-stagnant exports, unlike the other products. On the other hand, the small citrus season has been very positive, with prices maintaining a satisfactory level thanks to growth of late hybrids production, despite the record volumes exported. There is a similar observation for Valencia orange, though with the growth trend seemingly on hiatus for Navel. The fall of the rand against the dollar, the euro and pound sterling has also positively affected the financial balance.

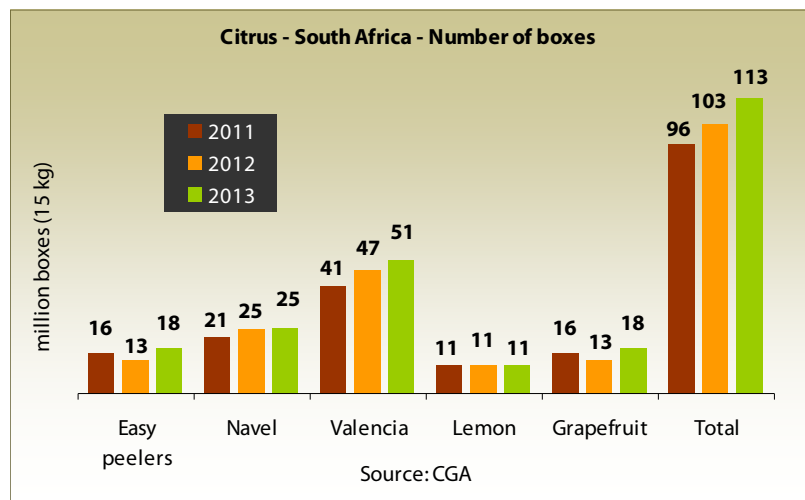
Source: CGA

Grapefruit - France - Import price



PRICES	Type	Average monthly price euro/box 17-kg box eq.	Comparison with average for last 2 years
	Mediterranean	11.05	- 19 %
Tropical (Mexico)	10.00	- 15 %	

VOLUMES	Type	Comparison	
		previous month	average for last 2 years
Mediterranean	↗↗	- 17 %	
Tropical (Mexico)	↘	na	



VOLUMES	Sources	Comparison		Observations	Cumulative total / cumulative average for last 2 years
		previous month	average for last 2 years		
Mexico	↘	↗↗	Imports below average, but stocks extremely large and often of heterogeneous quality.	na	
Florida	↗↗	- 49 %	Imports well below average because of delayed maturity and size range, and the highly deteriorated EU market situation.	- 49 %	
Israel	↗↗	- 11 %	Imports well below average because of the highly deteriorated EU market situation.	- 11 %	

## Easy peelers

October 2013

The market proved fairly satisfactory, despite a very gradual start to the season. Demand was slow during the first half-month, since the shelves were still very much filled with summer fruits and the high temperatures were unfavourable for small citrus consumption. However, volumes of Spanish Clemenu Ruby were moderate (delayed maturity, size range on the small side), enabling prices to hold up at slightly above-average base levels. The supply grew more considerably during the second half-month, though demand showed an interest, with volumes sold exhibiting a higher level than last year on certain markets such as France. Rates held up at a fairly satisfactory level, with the price range remaining very wide between large fruits and highly abundant small fruits. Other sources, also suffering from delayed maturity, were practically absent from the EU.

© Régis Domergue



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

Source: CIRAD

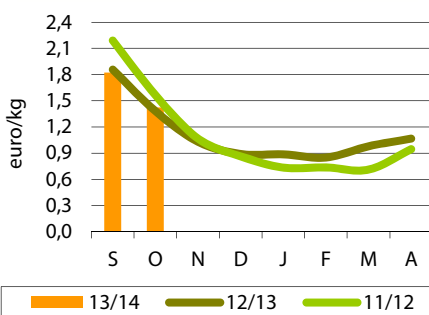
■ **Tattooing authorised for certain fruits and vegetables.**

This interesting alternative to stickers was authorised in the EU in June. The fruit tattooing process, developed by Laser Food, works in two steps. A very low-power laser traces the text or drawing desired on the epidermis, with a very light engraving. Then a liquid to improve the visual contrast is applied. The combination of these two operations avoids problems of physiological or parasite disorders. The process is approved for citrus, but also for the melon, water melon and pomegranate.

Source: www.laserfood.com



Easy peelers - France - Import price



■ **Syrian citrus: production continuing its boom.**

The harvest expected in 2013-14 should reach 1.13 million tonnes, up 130 000 t from last season. The Syrian cultivation area now has 14 million trees, i.e. 30 % more than in 2005. It is packed into the two coastal Governorates of Tartus and Latakia, and primarily comprises oranges and lemons. Exports, primarily aimed at Iraq and Jordan, exceeded the 300 000-t mark in 2010.

Source: CBD



© Eric Lambert

PRICES	Varieties	Average monthly price euro/kg	Comparison with average for last 2 years
	Clementine	1.42	- 2 %

VOLUMES	Varieties	Comparison	
		previous month	average for last 2 years
Clementine	↗↗	+ 10 %	

VOLUMES	Varieties by source	Comparison		Observations	Cumulative total / cumulative average for last 2 years
		previous month	average for last 2 years		
Clementine from Spain	↗↗	+ 10 %	Delayed growth of the Clemenu Ruby supply, and then the Oronules supply from the middle of the month. Size range considerably below average.	- 23 %	

## Pineapple

October 2013

The pineapple market was fairly chaotic in October. The Sweet supply, unbalanced by the omnipresence of big fruits, continued to rise while demand remained lifeless. Some operators tried to cut back their imports, but without success. The start of the All Saints holidays from week 43 of course did not contribute to improving demand. Throughout the month, the market remained divided between old batches, of constantly deteriorating quality, sold at between 1.00 and 3.00 euros/box at best, and import batches earmarked for a few promotions, where only some operators managed to sell off their volumes. The rest, including established brands, had no option but to resort to the wholesale markets where clearance prices came into play.

At the beginning of the month, sales were slightly sluggish on the air-freight market. Without being large, the supply was struggling to find takers. The decision by certain operators to slightly cut back their imports had the positive effect of revitalising demand and strengthening rates. Hence sales were more fluid, though without surging, with the market giving off the feeling of a supply shortfall. Sugarloaf sales were slower at the beginning of the month, apparently affected by the fairly large supply available. They improved as the volumes shrank. The rate for the fruit fluctuated between 1.60 and 2.00 euros/kg according to the size of the supply on the market.

The increase in the Reunion supply of Victoria, highly unbalanced by the number of unpopular small sizes, led to a slowdown in sales and a widening of the rate range.

## Mango

October 2013

The European mango market was primarily supplied by Brazil and Spain in October. The overall quantities on the market remained fairly moderate. In the first half, the relative scarcity of the volumes favoured prices maintaining strong and high levels, somewhat holding back demand. Brazil, which previously had mainly directed its flows to the North American markets, favoured the European markets from mid-October. Its shipments, focused on the Tommy Atkins variety less prized in Europe, led to a distinct dip in rates for this variety in the middle of the month. Gradually, Keitts, Palmers and Kents came to dominate the Brazilian supply, trading at much higher prices for lower quantities. The very late start to Kent exports caused a shortage hardly compensated for by the other available varieties, prices of which artificially increased. At the end of the month, the volumes received were growing steeply, causing a temporary price drop. Spain remained the only alternative to Brazil. The supply restriction caused by lower production enabled prices to be kept high throughout the month for Osteens. However, the predominance of large sizes and an uneven quality

explained the sometimes big price differences. Meanwhile, Spain was exporting Kents in limited quantities, with prices remaining high, in the absence of a continuous supply. Some batches of Irwin were also available, sold at between 4.00 and 4.50 euros/kg.

The late start of Brazilian Kent exports by air freight fixed prices at high levels. The growth in the supply in the second half of October caused a slight dip in rates, with sales more frequently at around 4.50 euros/kg than 5.00 euros/kg. Meanwhile, given the limited quantities available, Brazil was also exporting some batches of Palmer and Haden to compensate for the shortfall in this market niche. These products were sold off at prices slightly below those charged for Kents.

MANGO — ARRIVALS (estimates)					
Tonnes					
Weeks 2013	40	41	42	43	44
By air					
Brazil	30	30	35	50	60
By sea					
Brazil	1 470	1 980	2 790	2 900	3 280

### MANGO — IMPORT PRICE ON THE FRENCH MARKET — Euro

Weeks 2013		40	41	42	43	44	Average Oct. 2013	Average Oct. 2012
By air (kg)								
Brazil	Palmer/Haden	3.80	3.50-4.00	3.50-4.00	4.00	3.50-4.00	3.65-3.95	na
Brazil	Kent	5.00	4.50-5.00	4.50-5.00	4.50-5.00	4.50-5.00	4.60-5.00	3.40-4.25
By sea (box)								
Brazil	T. Atkins	5.00-6.50	4.00-4.50	4.00-5.00	3.50-5.00	4.00-5.00	4.10-5.20	3.60-4.10
Brazil	Keitt	6.50-7.50	6.00-7.00	6.00-8.00	7.00-7.50	6.50-7.50	6.40-7.50	4.35-4.95
Brazil	Kent	-	-	-	7.00-9.00	7.00-9.00	7.00-9.00	5.00-5.35
Israel	Kent/Keitt	6.50-7.50	-	-	-	-	6.50-7.50	4.35-5.10
By road (box)								
Spain	Osteen	8.50-11.00	7.00-10.50	8.00-10.00	6.00-9.00	5.00-10.00	6.90-10.10	4.80-6.30
Spain	Kent	-	-	10 - 18	12 - 16	12 - 20	11.30- 18	8.65-10.15
Spain	Keitt	-	-	-	-	9.00-10.00	9.00-10.00	na

### PINEAPPLE — IMPORT PRICE IN FRANCE — MAIN SOURCES

Weeks 2013		40	41	42	43	44
By air (euro/kg)						
Smooth Cayenne	Benin	1.80-1.90	1.70-1.90	1.80-1.90	1.80-1.90	1.80-1.90
	Cameroon	1.70-1.90	1.70-1.90	1.70-1.90	1.70-1.90	1.70-1.90
	Ghana	1.80-1.90	1.80-1.90	1.80-1.90	1.80-1.90	1.80-1.90
Victoria	Réunion	3.00-3.50	3.00-3.50	2.60-3.60	2.60-3.60	2.60-3.60
	Mauritius	3.00-3.20	3.00-3.20	3.00-3.20	3.00-3.20	3.00-3.20
By sea (euro/box)						
Smooth Cayenne	Côte d'Ivoire	-	-	-	-	6.00-7.50
Sweet	Côte d'Ivoire	7.00-8.00	7.00-8.00	7.00-8.00	7.00-8.00	7.00-8.00
	Ghana	7.00-8.00	7.00-8.00	7.00-8.00	7.00-8.00	7.00-8.00
	Costa Rica	5.00-7.00	5.00-7.00	5.00-7.00	5.00-7.00	5.50-6.50

### PINEAPPLE — IMPORT PRICE

Weeks 40 to 44	Min	Max
By air (euro/kg)		
Smooth Cayenne	1.70	1.90
Victoria	2.60	3.60
By sea (euro/box)		
Smooth Cayenne	6.00	7.50
Sweet	5.00	8.00

## Sea freight

### October 2013

A superficial review of events and the monthly TCE average reveals nothing extraordinary or untoward. The charter market for large units was relatively inactive as saturated banana markets and depressed pricing in the eastern Med inhibited any speculation from the traders.

However, scratch the surface and there are things to take away. Firstly, the near 50c/cbft figure for October is the highest average recorded for the month since 2006. Even in the boom years of 2007 and 2008 the October average was below 40c/cbft. Secondly, although voyage and TC rates barely covered costs, there was little lay time – in previous years vessels redelivering from Southern Hemisphere citrus contracts have often had to sit for weeks waiting for cargo. So while the TCE return may be 25-30% higher, the actual yield to owners and operators would have been even stronger.

Although chartering activity was weak, there was no accumulation of tonnage at the Canal, suggesting a different focus to fleet management and an appreciation perhaps of the impact a weak spot market can have on period renewals. The contracts that were extended, did so at values similar to or marginally above those applied last year or in 2011.

The small segment meanwhile continued where it left off the previous month, with the TCE average for October exceeding the September average by almost 30%. As a result the case for renewing the fleet grows stronger, not least because the year-to-date TCE average of 84c/cbft has been achieved with very little lay time and no need to support the market over the traditionally difficult summer months by sending vessels into lay-up.

Add this to an average age of 23/24 for the smaller units and charterers must soon start to wonder what the near-term future might hold, either in terms of rate rises or simply in availability of tonnage. The delivery of newbuilds commissioned today would take a minimum 2 years, by which time the fleet will have shrunk further. Then again, it would be a brave investment to sink US\$30m into a vessel that would require a 90c-100c/cbft TCE yield in order to make the project sufficiently attractive...

■ **Peruvian mango season in 2013-14.** The production level, estimated at 200 000 t, should mean just over 110 000 t of exports. This figure is up slightly from the 103 000 t shipped in 2012-13, but is near-average. The season is set to be somewhat early: the air-freight season began in early November, and the first significant incoming sea-freight shipments will be unloaded at European ports in early December.

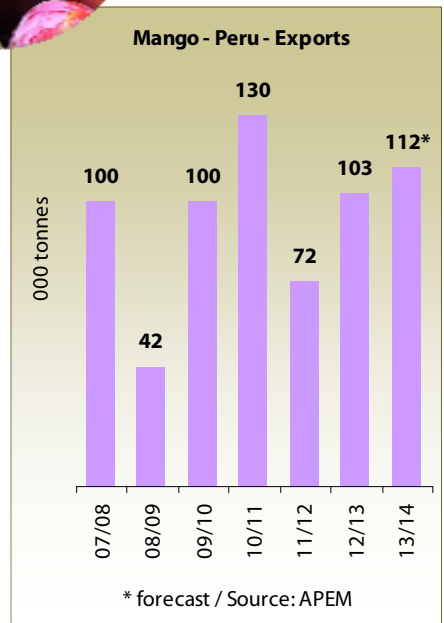
Source: APEM



### ■ The ambitions of Univeg in

**France.** Nicolas Nicolas Morinière, the group's Managing Director for France, wants to extend the network to strategic national locations, and set up high-performance supply services, in particular by developing a "ready-to-eat" line. In 2011 the group already built itself a 10 000 m<sup>2</sup> ultra-modern multi-modal platform in Rungis. Univeg France now has a turnover of 150 million euros within France through Univeg Katope France (import-export of fruit and vegetables), Champaris (wholesale), Agrisol (import-export of bananas) and Delta Stock (storage, ripening and logistics), and is aiming to become the national leader.

Source: Univeg



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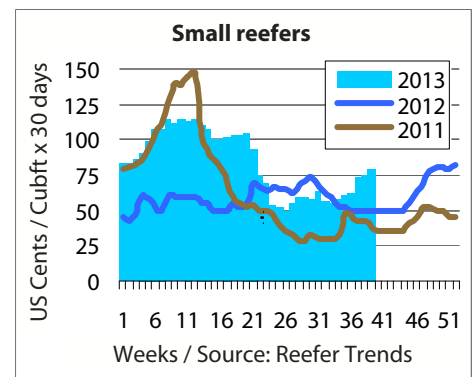
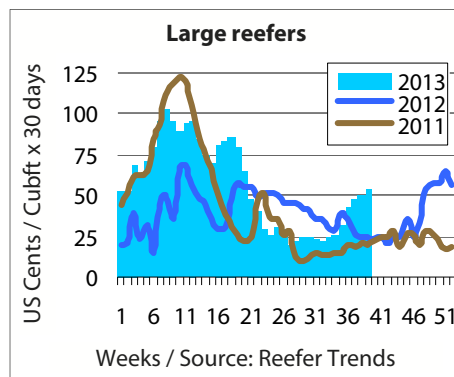
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### MONTHLY SPOT AVERAGE

REEFER

	Large reefers	Small reefers
October 2013	47	88
October 2012	24	68
October 2011	24	48





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# World banana market

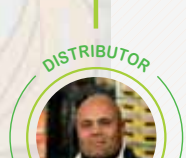
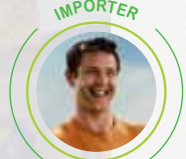
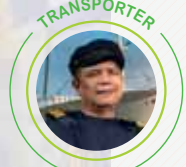
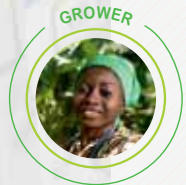
## Growing interest in African potential



For a century, Africa has been supplying the European continent with dessert bananas. At present, three West African countries account for all of the exports from this zone: Cameroon, Côte d'Ivoire and Ghana. They export approximately 500 000 tonnes of bananas, mainly to the European Union, but also to South Mediterranean countries and to the West Africa sub-region. The boom in projects to extend or set up new plantations confirms the lofty ambitions shown by the national authorities. For example, Cameroon has set itself the objective of doubling its exports by 2019. Favoured access to the European market (zero customs duties) reinforces the appeal of the traditional exporter countries against the Latin American competition which, for the moment, seems to be losing momentum. Yet the fact remains that the competition is lively and that improved African competitiveness is an absolute priority.



As EL HADJI says,  
Ripening Centre Manager at Lyon,  
  
« After their journey,  
I gradually ripen them and  
release their flavour »



El Hadji gets involved in every detail of the banana ripening process because as a Compagnie Fruitière partner he wants our fruit to have the very best flavour. Every hour El Hadji monitors the optimum temperatures of the ripening rooms, adjusting them to the tenth of a degree. Compagnie Fruitière has one of the largest ripening networks in Western Europe and delivers over 450,000 tonnes of perfectly ripened bananas to our customers every year.

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Compagnie Fruitière has more than 16,000 people working at various stages everyday to bring you the best fruit. Like El Hadji, we love fruit.

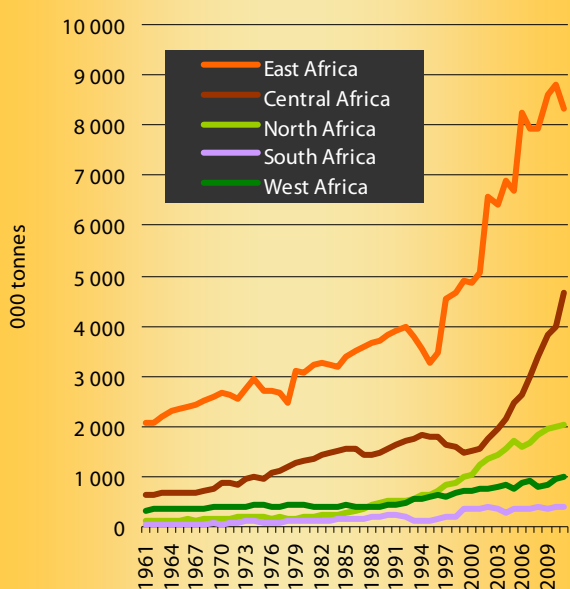


We love fruit. *Les fruits, on les aime.*



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Dessert banana - Africa - Production



Source: FAO, 2013

Maybe Africa's time has come? While the continent too often makes the news with reports on wars, attacks or chronic under-development, there is fairly little mention of the successes. It is part of human nature to be more interested in trains that arrive late rather than in those that arrive on time. However, many observers think that Africa is gradually emerging from its mal- or under-development. According to the IMF, there is strong economic growth, of around 5 to 6 % per year on average over the past ten years, and the poverty rate has fallen by ten points to just over 50 %.

The primary sector is the one that has always driven African growth. Ores and hydrocarbons are the twin sources of the continent's economic success. Yet agriculture also represents an opportunity, since obviously the populations need to be fed. This is a major challenge. But what is of particular interest to us here is Africa's ability to bring a competitive agricultural supply to the world markets. We will take the example of the export banana. This market makes an excellent laboratory: highly globalised, highly competitive, until recently highly regulated (for Europe at the very least), largely oligopolistic, highly controversial at the WTO and with a highly commoditised product, etc. For all these reasons, succeeding on the world banana market is a good example of a State's ability to meet the requirements of a highly competitive market.

## The African dessert banana supply

The export banana activity has been in place in Africa for a century, but it was in the 1930s that fresh banana exports really took off. Cameroon (at the time split into two), Côte d'Ivoire, Guinea, Somalia and even Madagascar have at one time or another exported bananas.

We should quickly recall that just two of the historic suppliers (Cameroon and Côte d'Ivoire) still supply the European market. With a traditional place on the French market, until 1993 when the Common Market Organisation for Bananas (CMOB) was set up in the European Union (EU), they supplemented France's domestic production from Martinique and Guadeloupe. From 2006, a third supplier, Ghana, came in to expand the African supply, firstly through exporting organic and fair trade bananas, and then through the development from scratch of a big banana production and export project.

We have seen that other African sources have exported. Historically, we can for example recall





« Le fruit  
d'une nature  
préservée »

Les **700 producteurs** de Banane de Guadeloupe & Martinique, rassemblés depuis 10 ans au sein d'une union de groupements, l'UCPBAN, sont **engagés depuis 2008 dans le Plan Banane Durable**. Ce plan comporte une dimension économique et sociale (plus de 6000 salariés) et des pratiques culturelles respectueuses de l'environnement. Résolument tournée vers l'avenir, **la filière s'est dotée d'un Institut Technique Tropical, l'IT2**, en charge de la recherche et de l'innovation (rotation culturale, piégeage de charançons, couverture végétale, lutte biologique, sélection de nouvelles variétés de bananes, ...) et **du 1<sup>er</sup> réseau de mûrisseries de France, Fruidor**.



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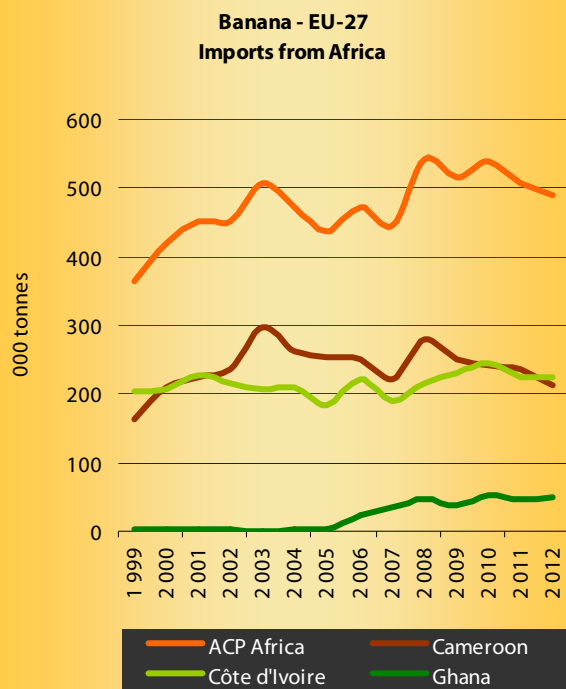


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the very strong link between the Italian market and Somalia, but this has collapsed. The attempt to revitalise the sector in the mid-1990s by a big international group was aborted after three years. For the sake of completeness, we should note the tens of tonnes from Uganda or Burundi. Finally, we should remark that Mozambique seems to want to gain a foothold on the European market, or even world market. The quantities are modest for the moment, barely 600 tonnes in 2012, but it seems to have big ambitions. However, we should beware of pipe dreams! We can recall a host of aborted projects which on a regular basis create a buzz for a few months or years, but which never see the light of day. The case of Angola is a good example.

Ultimately, 490 000 tonnes were exported to the EU by Africa (West Africa only) in 2012. Out of a total consumption of approximately 5.1 million tonnes, Africa's market share came out at approximately 9.5 %. We can add some quantities shipped to countries within the sub-region or even Maghreb, but the exact extent of these is not known.

This volume of 490 000 tonnes in 2012 is, in a long-term context, a relatively modest level for Africa. Indeed, the export peak to the EU reached in 2008 was 10 % higher, with a volume of 542 000 tonnes. However, 2012 seems to be a turning point, a year of bouncing back. The partial data for 2013 (first eight months) show a significant rise in African volumes from the previous year. Cameroon was up by 19 %, and Côte d'Ivoire by 12 %. Only Ghana, for reasons of recent social tensions, limited in duration and which will doubtless remain short-term, is doing less well (- 19 %). Yet we must make no mistake about the trend. This country has great assets and the two plantations in place have huge potential.

## A highly heterogeneous ACP group

Under the very long-standing Lomé convention with the EU, African suppliers have a major competitive advantage. They belong to the group of ACP countries (Africa-Caribbean-Pacific), and therefore have favoured access to the European market. Besides the African suppliers, this group of countries also contains the Caribbean (Saint Lucia, Saint Vincent, Dominica, the Dominican Republic and Jamaica), South America (Surinam) or Central America (Belize) as well as Cape Verde, an island off Africa. Over the years, some countries have stopped exporting. Some have focused on their more lucrative internal market, such as

## Banana Accompanying Measures (BAM)

	Average ACP exports to the EU (2009-2010-2011-2012)		BAM - Allocation by country		Aid intensity
	tonnes	%	million euros	%	euros/tonne
Cameroon	230 695	23 %	48.29	26 %	209
Côte d'Ivoire	231 133	23 %	44.75	24 %	194
Belize	83 076	8 %	22.80	12 %	274
St Lucia	13 819	1 %	10.35	5 %	749
Jamaica	0	0 %	4.73	3 %	nd
Dominica	3 353	0 %	15.27	8 %	4 554
St Vincent	1 842	0 %	9.93	5 %	5 390
Surinam	72 158	7 %	9.30	5 %	129
Dominican Rep.	308 354	31 %	16.34	9 %	53
Ghana	50 068	5 %	7.24	4 %	145
Other ACP	364	0 %	0.00	0 %	
<b>Total</b>	<b>994 862</b>	<b>100 %</b>	<b>189.00</b>	<b>100 %</b>	

nd: non-determinable / Sources: Eurostat, ACP Secretariat



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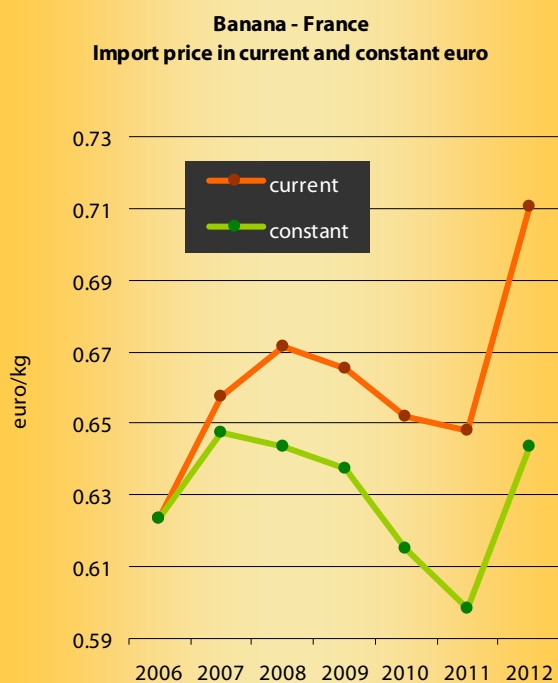
Cape Verde, others have suffered the repercussions of political troubles, such as Somalia, or have been affected in the long term or permanently by the ravages of black Sigatoka, or climate damage due in particular to the cyclones roaming the Caribbean.

Jamaica is the outstanding example. Still the number 4 ACP supplier in 1996 with 89 000 tonnes of exports, the source had totally disappeared from the international market in 2008 after the repeated passage of cyclones and tropical storms. A hostile climate and diseases (black Sigatoka) also largely undermined the ACP's potential on islands such as Dominica, Saint Vincent or Saint Lucia. Conversely, outside of Africa, Belize and Surinam have seen positive development. In 2012, Belize touched on the symbolic mark of 100 000 tonnes exported to the EU. Surinam, whose sector is in a perpetual phase of privatisation, is on the same trend, with an increase of one third between 2011 and 2012 to 83 000 tonnes, and an upward trend which should be confirmed; while privatisation of the sector (still State-owned) could enable further growth in volumes.

### ACP: the guarantee of favoured access to the European market

The preferential treatment enjoyed by ACP bananas has taken various forms over the two decades of CMOB reform: a traditional or non-traditional concept of the ACP, expansion of the ACP group to new sources (such as the Dominican Republic), suspension of customs duties, unlimited access to the EU market or conversely restricted access, management of ACP quantities by country or across the whole group, European competitiveness support plan (ATF and then BAM — Banana Accompanying Measures), etc. Under the effect of disputes at the WTO by competing suppliers from Latin America and South America, the status of favoured source has been somewhat eroded over time. Nonetheless, the ACP countries still receive special treatment over their Latin American competitors (the so-called dollar supply).

While in the EU we originally had a complex system combining restrictions and suspension of customs duties, since the switch to tariff only in 2006, the principle is clear: the ACP countries enjoy unlimited access to the European market in terms of quantity, and without customs duties. For their part, the dollar competitors also have unlimited access in volume, but are liable for customs duties with a degressivity system. The maximum duty for 2013 was 132 euros/



Note: deflator "together" / Source: CIRAD, Insee

tonne (2.4 euros/box), and has even fallen to 124 euros for dollar suppliers which have signed or are going to sign the Association Agreement with the EU. For Agreement members, the principle of degressivity will reduce the rate to 117 euros in 2014, and ultimately down to 82 euros in 2019. From there, anything is possible, and many imagine that the discussions which will doubtless begin by 2019 will bring down the duty to 75 or even 50 euros, or in the worst case, from the viewpoint of the ACP's interests, to 0.

And we are by no means in the realm of political fiction. Two decades of political & trade negotiations over the workings of the European banana market have taught us that the hypothesis considered the most radical and the least plausible by observers has very often been the one ultimately adopted. And the debate over the future less than ten years' hence of the European customs regime obviously ties in closely with our subject: what place for African bananas on the international market? Since, as the CMOB unravels, i.e. as the concept of preference for the ACP countries is eroded, the concept of product competitiveness comes to the fore. Competitiveness is the ability of a sector to win market shares in the face of competition. In the case of the banana, the more open and deregulated the European market, the more limited the legislative compensatory mechanisms (restrictions, differentiated customs treatment, etc.) will be, and the more the competitiveness differentials between suppliers will be the real arbiter of the degree of access to the European market for a source in comparison to its competitors. This applies to the ACP sources of interest to us now. It also applies to European production, which, true, does enjoy natural access to its own market, but whose competitiveness differential against third-country sources, including of course the ACP, is compensated for in part or in full by the European budget. The European programme POSEI is the financial instrument enabling this revenue support for Spanish, French, and Portuguese producers, etc.

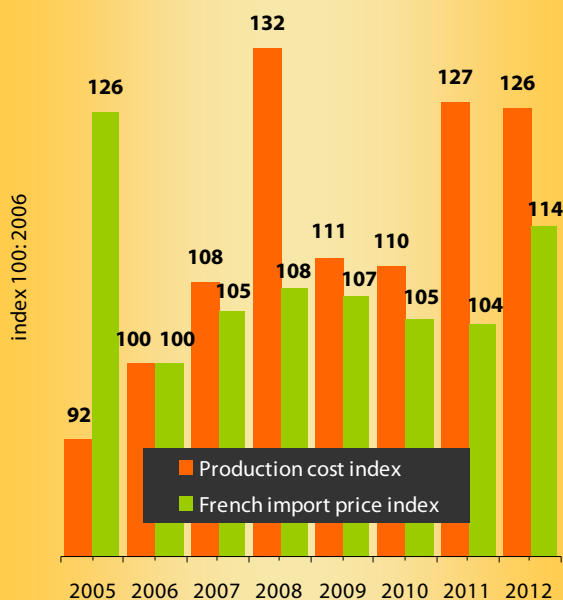
### Destruction of value in the European Union

Competitiveness is an essential aim, all the more so since the European, or even world, banana market has been deflating for several years. Indeed, the analyses conducted by the CIRAD Market News Service, and published in the **Fruitrop** review in January 2013, show that value is being destroyed year after year. Evidently, the market price is falling in current eu-

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"Banana production cost" experimental index



Source: CIRAD

ros, and even more quickly in constant euros. The lull observed in 2012, and more recently in 2013, will only rebalance things, just recovering the value per kilo of bananas as it was in 2007! Furthermore, while the price is falling or at best stagnating, production costs are on an upward trend. The experimental index published by CIRAD is stable overall in 2012 in relation to 2011, but it remains at extremely high levels if we look at the long term: 126 (all sources) as opposed to 100 in 2006. The scissor between falling value and rising production costs is opening dangerously wide and forcing suppliers, in every case, to constantly adjust.

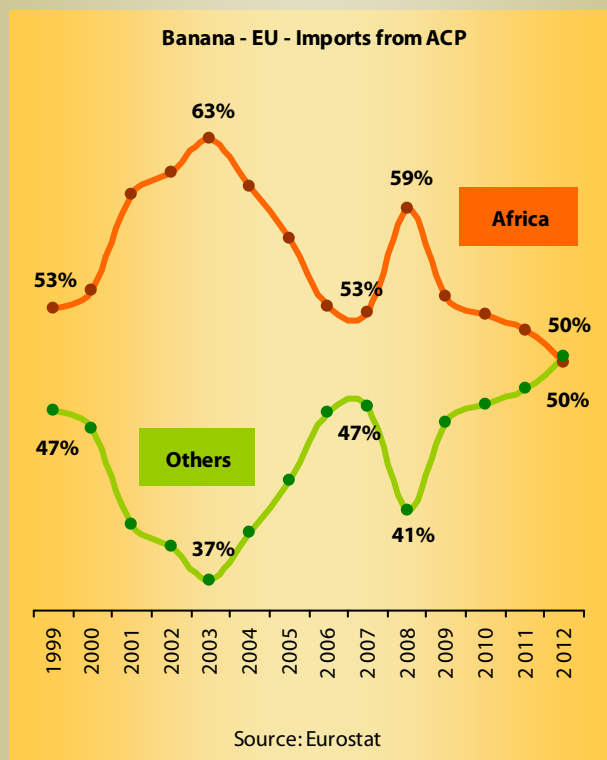
### But what kind of competitiveness?

In the field of competitiveness theory, we can find a highly pertinent analysis framework for studying the banana sector. Because while we first think about the price when we talk about competitiveness, it is far from being the only parameter. Fortunately so, since the world banana market, even if it has evolved slightly in recent years, remains under the sign of commoditisation (the fruit being a commodity). It is more or less the same dessert banana which is produced, exported and consumed worldwide. This analysis excludes bananas for local consumption, cooking bananas, etc.

Indeed, the world of the banana is flat, restricted to two dimensions: volume and price. This is one of the manifestations of the final stage of globalisation of a product. Standardisation of size and grade, the number of fingers per hand, the box size, the variety, etc., means that a box can be produced in Ecuador for export to the United States, but be redirected to the EU market on the way, before finally finding a taker in Tunisia.

From this point of view, Africa cannot really do anything better or worse than its competitors. Its producers are in the mainstream. Except for a strong differentiating policy, to which we will come back later, the value that they can get from the European market will be the same as for their competitors. They need to act on production costs in order to maintain or improve their margin. So we need to focus on the production factors.

If we look at the production structure of the various countries in the zone, we see that the situations differ from country to country, but with a common denominator: the operators on the market own relatively big surface areas — a long way from family smallholdings — and intensification of the means of production is the rule. In the vast majority of cases, the African sector is based on big groups with high capital intensity, whose banana



activities are not limited to production and exporting. Some medium-sized to big groups even import their own produce into Europe and ripen it. The dominant player, Compagnie Fruitière and its subsidiaries in the West African countries, even goes as far as to organise its own sea freight (see below).

Although it is slightly distorted to make a direct link between big structures and high competitiveness, in the case of the banana, and particularly in Africa, things seem fairly clear nonetheless. The market is ultra-competitive, and finding a place in the sun seems very difficult for the more modest operators. For them, and there are some, differentiation policies can compensate for their price competitiveness which sometimes falls short of the optimum. Certification policies (fair trade or organic produce), niche markets or long-term contract markets represent real opportunities for these medium-sized operators.

For the smallest, which have long since disappeared from these industries, even those that the EU and Ivorian government would like to set up with financial assistance from the European programme Banana Accompanying Measures (BAM), it is another story altogether. Advocates of this project to set up small agricultural entrepreneurs know that the road to exporting is increasingly complex and demanding, and not only for price reasons. Certification, in the broader sense of the term, excludes from the commercial arena operators who lack the financial ability, but also the functional ability, to reassure their customers. So the project plans to have the new operators backed up by big groups or local organisations, to provide them with the expertise and assistance necessary for producing and exporting bananas compatible with the desires of the world market. The road will doubtless be strewn with pitfalls, but in the world of fruit, which has adopted the codes of industrial products and where diversity of the operators is a declining value, it is worth the gamble.

More generally, some of the BAMs for Africa will be allocated to projects of a more social nature (example of housing for labourers in Ghana) or, as we have just seen, to setting up young entrepreneurs. However, it is interesting to observe that most of the actions are aimed at improving competitiveness. We are not looking at a rescue of the sector (or even diversification), as is the case for the Caribbean BAMs, but rather at additional help in making the African production sectors winners, capable of competing on the international markets. The BAMs for Africa could represent just over 100 million euros' worth of aid over the next three to four years.



## Africa: the huge challenge of sea freight

More generally speaking, Africa has assets which it can harness: relatively low labour costs, rather good productivity, good to very good crop potential, relative proximity to the European market despite the problems of sea freight (see below), strong regional demand, despite the current difficulties satisfying it (huge logistical problems, highly relative fluidity of trade between countries in the region, administrative nuisances, failings in customs integration, etc.), political stability finally restored (though still to be consolidated), and astounding resilience as in Côte d'Ivoire, etc.

There are a varied host of projects aimed at extending or creating surface areas, or even revitalising existing plantations (priority in increasing productivity), already underway in some cases, which clearly demonstrate the attractiveness of the zone. Furthermore, the historic operators are not the only ones to be re-investing. New groups seem to be finding good development prospects, both in Côte d'Ivoire and Cameroon.

Yet the issue of price competitiveness does not end at FOB Abidjan, Douala or Accra. Achieving economies of scale is also part of the strategy of African operators. In particular, they need to cut the delivery costs, which represent up to half the cost of importing into Europe. While the big movements have begun on the production side, they are now extending to the sea freight side. Compared to Ecuador for example, Africa is not far from the European market in nautical miles. Yet it is rather the poor relation of international refrigerated transport. The proof thereof is that Compagnie Fruitière, the

region's key operator and number one producer in Cameroon, Côte d'Ivoire and Ghana, has decided to organise its own sea freight. In addition, it recently completed the process of "jumbo-sizing" its refrigerated ships in order to increase its freight capacities by 25 % and cut its loading and unloading costs, and therefore its stopover times, by 30 %. This enables it to reduce the cruising speed of its ships, and therefore achieve substantial savings per tonne of freight. Logically, it is harder for the smallest exporters to own a shipping company, or even to control their own logistics. Just as logically, their operating expenses are therefore higher.

Other external factors affect the competitiveness of the African industry, such as the euro/dollar exchange rate. This affects both the operators' income, since they sell in euros, and the costs of certain inputs or services, which in some cases are denominated in dollars. It is hard to unravel the tangle of positive and negative effects of a strong euro against the dollar, for example. Furthermore, the CFA franc, the currency of the countries where the production structures are based (except for Ghana with its new cedi), is tied to the euro, which greatly mitigates the effects of exchange rate. The fact remains that African producers have an advantage in selling on a market denominated in a strong currency. And the Latin American exporters would not deny that, given the increased appeal of the European market as the euro rises against the dollar.

## But watch out for overdosing

It makes little difference whether we talk economies of scale or development policy in every aspect. If all the projects are implemented and the stated ambitions are achieved, African volumes are set to increase greatly. Cameroon, for example, announced in a master plan that its exports were to double by 2019, for a considerable level of 500 000 tonnes. In Côte d'Ivoire, the projects currently listed could eventually increase the banana cultivation area by at least 1 500 hectares. On a sluggish Euro-





pean market and a generally highly embattled world market, this is a sizeable challenge.

Let's go back to the non-price competitiveness of African sources, already mentioned with the choice of certain operators to invest in organic certification and fair trade. Typically, this is a strategy for escaping the flat world referred to above. It is also a strategy which seems more difficult to maintain with every passing day. Indeed, being a pioneer or leader on your market, as was the case for the fair trade banana producers & exporters, can only last for so long. The competitive arena is such that challengers gatecrash this niche market, and if they are powerful enough (volume and price competitiveness), they end up partially or totally excluding the pioneering operator. It is this type of change which is currently going on in Africa with the fair trade certification of big plantations. How this transformation will end has not yet been finalised, since there are niche markets which are not necessarily targeted by the big operators. But we can predict that even in this very crowded slot of economic, social and environmental sustainability, the logic of price and price alone will ultimately prevail.

Another type of differentiation would consist in promoting an "Africa" or "African Banana" label. This is one of the ambitions stated by certain producers, and part of the action plan funded by the European BAMs. The studies to define the scope of the label, its meaning, the symbolism conveyed by this origin, etc., will be the points to be investigated over the coming months. But it will be difficult to find a lower common denominator between the producers that will make sense, i.e. create value for the markets, to the purchasers

from the supermarket sector or the general public. This is a work in progress.

## Africa, the new Eldorado?

Enthusiasm for Africa's potential in the field of export bananas should however be tempered. It is not the banana Eldorado described for many years by the advocates of a free European market, where the ACP countries, and in particular Africa, supposedly enjoy an unwarranted favoured position. The institutional conditions are often difficult. Private operators often have to compensate for the deficiencies of the States in the health and welfare sectors. The political and social stability remains extremely fragile. In the absence of economies of scale, inputs are more expensive, or even much more expensive than in Latin American production zones. The land issue is very thorny, and access to land is not easy. In short, while Africa does have potential, real price competitiveness and some non-price competitiveness, it is also because the dollar competition seems to have run out of steam for the moment.

So Africa's potential should be viewed against the current situation of the main Latin American sources. For a wide variety of reasons, social, institutional or economic difficulties are weakening







the banana economies on the other side of the Atlantic. We can take Ecuador as an example, which seems to combine all these problems. The source is gradually losing its footing on the banana market. Given that it still represents the number 1 supplier to the EU and Russia, and the number 3 supplier to the USA, this observation may seem harsh. However, the road it has travelled for several years leads us to believe that the legendary competitiveness of the world's leading banana exporter will soon be nothing more than a memory. First of all, the political environment is toxic, both for the production sector and the export sector. Here is not the place to judge the legitimacy of the measures taken. Whether for ideological or purely social reasons, the government has set to work reforming the sometimes dubious practices of the sector. The minimum welfare provisions for labourers have been improved (work contract, minimum wage, etc.), and there have been a series of administrative procedures to ensure that the minimum prices and payments actually received by producers are adhered to. A host of measures are aimed at improving the working and living conditions of banana plantation labourers, which can only be a good thing. The economic environment has also changed greatly, and Ecuador is paying for its free-radical status as a spot banana supplier. The US market is increasingly contract-based, and the European market, since the reform of 2006, is becoming more structured, and contractualisation is also becoming widely established. The cost structure has also changed. The increase in prices for raw materials, services (energy and crossing the Panama Canal), but also labour is affecting the income statements of the operators. Of course, it is not the only Latin

Fruitrop offers herein a revised version of the article presented to the last Acorbat congress, in Brazil in September 2013.

American source losing its competitiveness, but Ecuador is not necessarily well placed in terms of geography, among other things. Finally, in the absence of reliable indicators, we might think that the agronomic conditions are more delicate for banana production. The impact of black Sigatoka seems increasingly heavy. So this makes for a dense tangle, difficult to unravel. The indicators are not all pointing in the same direction. For example, it was recently announced that average productivity has seen an impressive increase: 1 700 boxes/ha, as opposed to 1 300 previously. Meanwhile, the national authorities are specifying that the banana cultivation area is now "just" 185 000 ha, a figure completely impossible to verify, though the government plans to set up registers of planters. In any case, Ecuador is going backwards on the EU market (- 6 % in Q1 of 2013) and the US market (- 7 %). However, its presence in Russia went up by more than 10 % over the first five months of the year.

The other suppliers do not have such a combination of difficulties, but we know that Colombian operators have to deal with an unfavourable exchange rate, that Costa Rica is working on its productivity but that economic development is making the agricultural sector less attractive, that Central America and the Caribbean are disproportionately often hit by weather damage, and that delivery costs are generally on the rise, especially for the most distant sources such as Peru, etc.

## Africa's time has come

It is dangerous to generalise about the African banana sector. Bearing this pitfall in mind, even so there are grounds for thinking that the continent is well set for growth on the world banana market. It is a delicate subject since the future of African bananas is necessarily tied to that of its main competitors, in a world where banana consumption will not see any significant increases, and where gains in export volumes come at the expense of other suppliers. Africa's ambitions, if they are all taken into account, still seem excessive to many. Bearing in mind that the indicators for this African renewal are not yet at green, caution is the order of the day. However, we have never heard such positive talk about Africa, and the projects are going strong. Maybe one swallow could make a summer? ■

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# Counter-season grape

## Fine autumn performance from Peru

**The counter-season table grape market often ends up wavering during the autumn, depending on the increasingly marked presence of European produce or sometimes the shortage thereof. Hence imports are gradually reined back at this time of year, not really getting going until during November, harnessing the more lucrative prices generated by the high economic pressure. However, while volumes from South Africa or Brazil are falling, Peruvian volumes are continuing to spread.**

### **Increasingly late penetration on the European market**

The European seedless grape market is becoming increasingly competitive. While a few years ago it was dependent solely on the end of the season of East European sources (Greece and Turkey), which primarily supply white seedless grapes (Sultana and Thompson seedless), it is now supplied increasingly late by Spanish or even Italian produce. These sources now offer an increasingly wide range, with in recent years the planting of very late varieties such as Scarlotta or

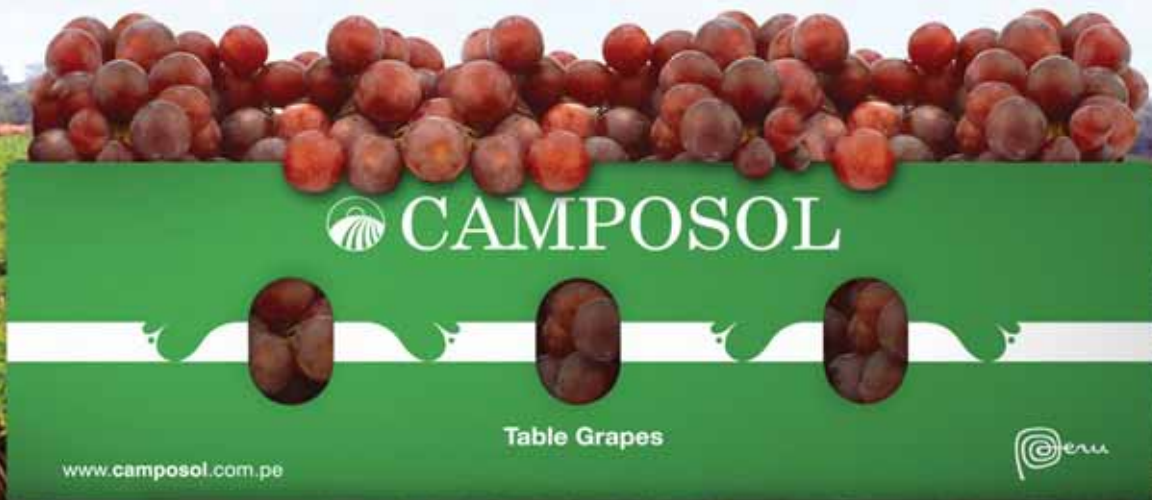
Maxima seedless (3 000 to 4 000 t in 2012), present until November. Furthermore, these sources are driving the quest for varieties that could extend the season until December in order to help their customers through the transition to produce from the Southern Hemisphere.

Hence imports from the Southern Hemisphere have dropped in recent years between September and December: 85 000 t in 2008, 92 000 t in 2010 and 71 800 t in 2012. The reasons for this are most of all the decline from Brazil (50 000 t in 2008 and 37 000 t in 2012), and then from South Africa, most conspicuous on the British market at



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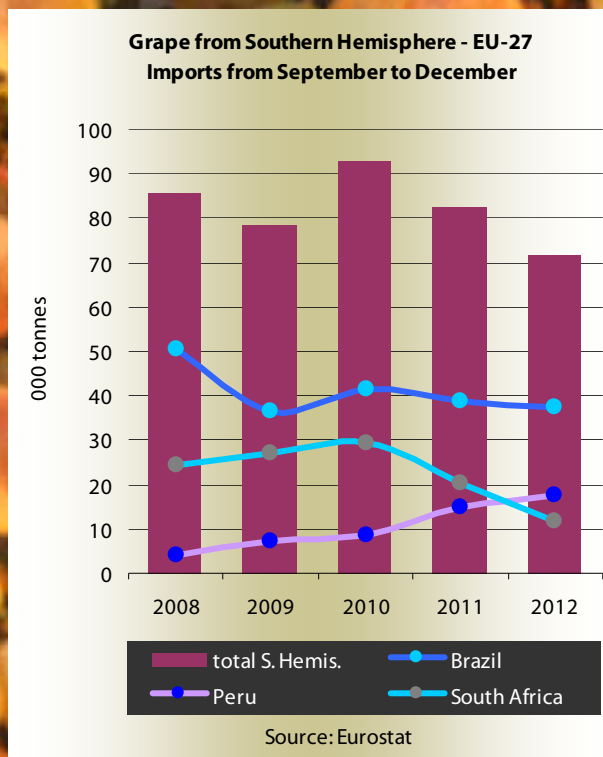


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this time of year (24 000 t in 2008 and 11 000 t in 2012). Only Peru, in full growth, is still gaining market shares (17 500 t in 2012, i.e. + 18 % on 2011), though without compensating for the fall from the other sources. So the beginning of the season is increasingly late for these sources, which start production in November in order to take advantage of lucrative price levels (1.70 euro/kg FOB price in October 2012, as opposed to 2.60 to 2.80 euros/kg FOB price in November and December).

### Brazil particularly hard hit

Brazil has been struggling to hold up on the export market over the past few years. After making regular progress until 2006, and then stagnating until 2010, its fresh table grape production seems to be dropping. It reportedly did not exceed 625 000 t in 2012, i.e. a fall of 12 % from 2011. Overall exports reportedly did not exceed 52 000 t last year (- 7 % on 2011), as opposed to 82 000 t in 2008! Most of the volumes however are still aimed at the European market (75 %), with 20 % going to the USA. Nonetheless, shipments to Europe have been stagnating in recent years at between 38 000 and 40 000 t, and 2013 should be no exception.

The season began in September, though the source has still remained discreet on the European market due to the more favourable trade-off on the internal market than the export market, with little demand coming from the latter. Nonetheless the supply should spread during November with the ebb of European seedless grape production (Greece, Turkey, Spain and Italy). But this year we are expecting another fall in Brazilian imports to the European market, as well as to the United States, where last season was disappointing, and in the knowledge that the Californian season has again achieved a good level this year.

### Peru continuing its development

The growth of the table grape is not slacking off in Peru (reconversion of asparagus plantations). The harvest is reported to have reached 300 000 t in 2012, i.e. a 3 % increase from 2011. There is considerable growth in all the production zones. Surface areas are increasing by 5 to 10 % every year, already reaching 16 500 ha in 2011, for a cultivation area that should eventually reach at least 20 000 ha. Most of the production is based in Ica province, where 47 % of

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the tonnages are packed in, and where there is set to be another 6% increase in surface area (11 065 ha) for this year. The rest is divided between the zones of Piura and Lima, which each produce 15 % of the tonnage. The growth trend could be more marked this year in Piura, with an expected 30 % increase in surface area, i.e. 4 800 ha, 80 % of which are Red Globe orchards. Although other varieties have also been planted over the past few years (Crimson seedless, Flame seedless, Sugraone and Thompson seedless), they are still in the minority.

Nonetheless, the rise in potential should remain restricted this year (approximately 305 000 t), due to the unfavourable weather conditions (cold with little rain). However, there is no production delay. So the harvest was able to start in early October, though the real development on the European market is expected in the second half of November, or even the end of November, due to the market conditions. However, exporters are hoping to be able to increase their export level, which could be between 150 000 and 170 000 t, i.e. a level similar to or even higher than last year, given the spread of this source to a host of markets. Indeed Peru exports to 27 destinations, with 11 new ones opening in 2012, in particular Brazil, Norway, Canada and Venezuela, and has stepped up its presence in Asia (China, Hong Kong, Taiwan, South Korea) and in Colombia. However, the European market remains the main destination for Peruvian grapes (approximately 40 000 t per year), ahead of the United States (25 400 t in 2012).



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### End to the year in Europe abundant in seedless varieties

South Africa has confirmed another downturn over the period, with real growth expected rather in late November, or even December, although this source was somewhat affected by heavy frost on 21 and 22 September. Losses should not exceed 5 to 15 % of the tonnage, at most 2.5 million boxes, i.e. definitely a slightly smaller harvest than last year's record. However, the early regions are on their normal schedule, and could actually begin slightly earlier than usual. However, the later production zones are exhibiting a slight delay at the moment. Similarly, Chilean production should again this year be very discreet at the beginning of the season, after the September frosts.

The European seedless grape market is now set to subside, given the fairly early end of the European production seasons. The Spanish and Italian seedless seasons actually finished in October, while Greek and Turkish production finished with small volumes at the end of the month. Yet the European season will continue with the traditional seeded varieties. Hence it is just beginning with Napoleon in the Murcia zone, and the supply should now expand with the beginning of the Spanish Aledo season. Similarly, Italy could retain a strong presence until the end of the year, or even until the beginning of 2014, with good volumes of Red Globe and above all of Italia (30 to 50 % of volumes were still to be collected at the end of October) if the autumn mists do not alter the product quality too much ■

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A report by  
Eric Imbert

# Citrus

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One production record has followed another in the Mediterranean in recent seasons, and 2013-14 too promises a bumper crop. Yet this trend contrasts with that of the European markets, the main outlets for the region's big exporter countries. As the dossier published in **Fruitrop** in November 2012 (no. 205) showed, consumption in the western part of the continent has stabilised, whereas growth seems to be slowing dangerously in Eastern Europe. In its new annual piece dedicated to citrus, **Fruitrop** offers you a review of the production trends in 2013-14, and in the medium term, of the players of the world's leading fresh citrus exporting region, the Mediterranean. It also broadens this investigation to the countries specialising in processing, in the Americas.



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## Evolution of Mediterranean citrus production

Toward a new period of turbulence?

Could Mediterranean production be verging on moving too fast? Since the mid-2000s, the combined harvest of the citrus growing giants of the zone has grown by 5 million tonnes, even beating two absolute production records in succession: 20 million tonnes in 2010-11 and 21 million tonnes in 2011-12. At this pace, the Mediterranean is on the point of taking over as the world's number two producer, a position currently occupied by Brazil. However, this fine trend raises questions, such as the contrast with demand from the European markets, which absorb more than 80 % of Mediterranean production. Sales are perfectly flat in the western half of the old continent, while growth prospects appear to be increasingly limited in the East (see Fruitrop no.205). Will the rate of production growth remain as high in the years to come? Fruitrop offers a review, with an analysis of the trends in the citrus growing industries of the main countries in the zone.

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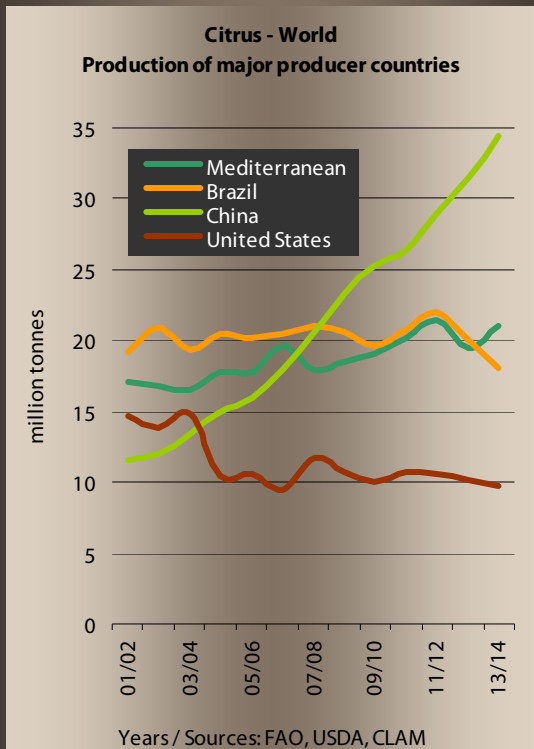






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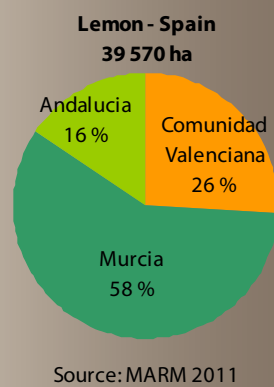
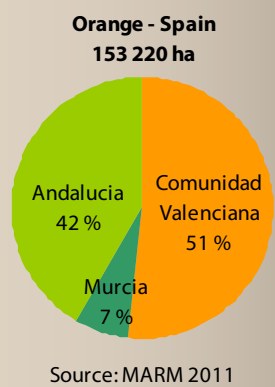
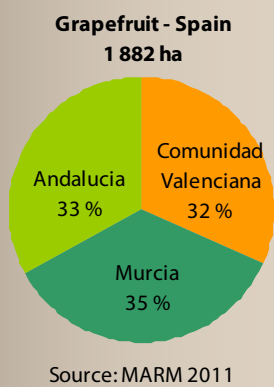
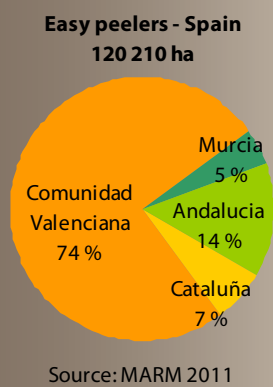
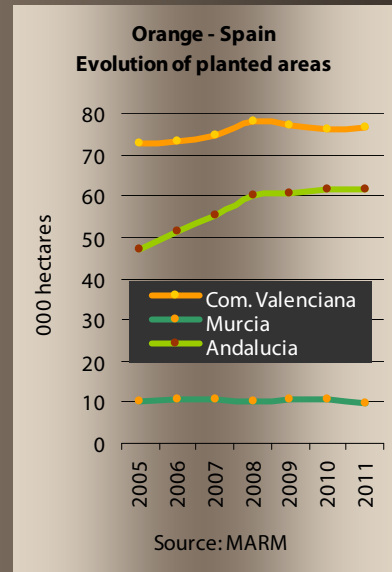
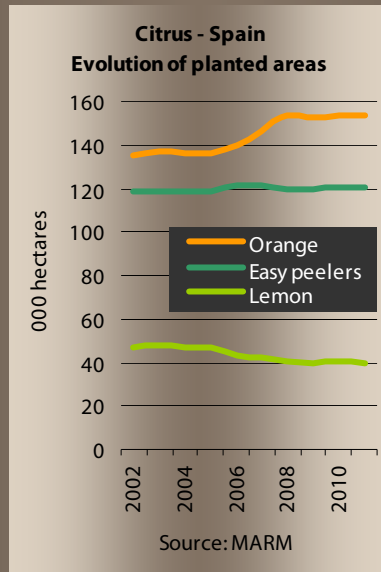
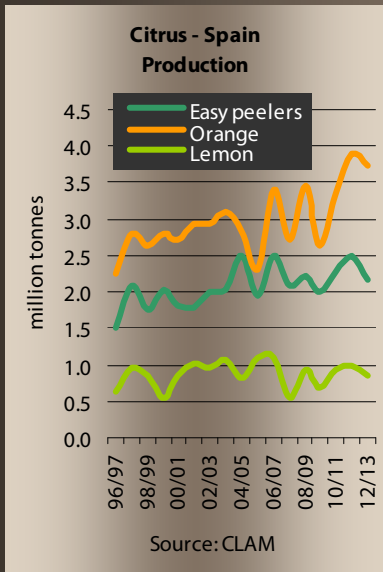
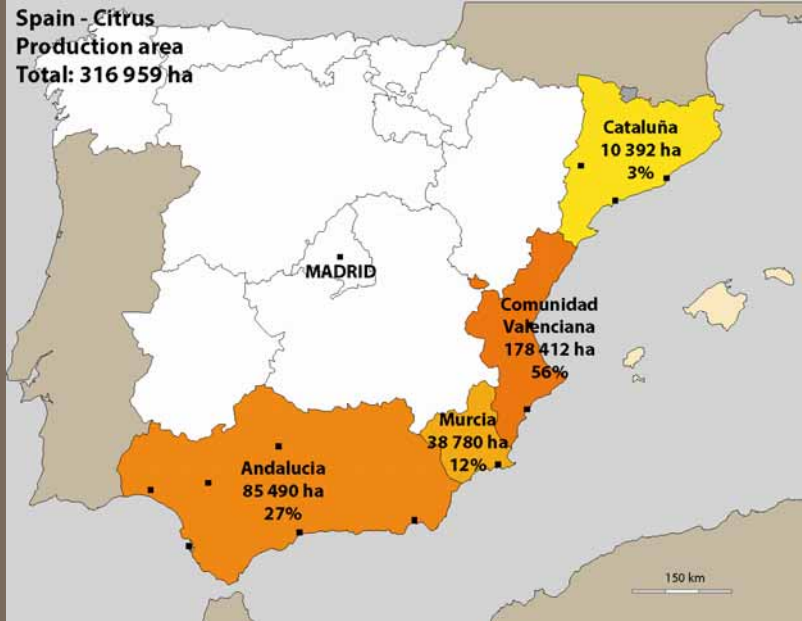
## Spain: a leader reaching maturity

While Spain undoubtedly still holds the distinction of being the region's leading producer and exporter, the time for cultivation area expansion has come to an end. Surface areas, amounting to approximately 306 000 hectares according to the last official survey, seem to have actually shrunk over the past few years. Although the economic results of the 2012-13 season were satisfactory, the financial health of a significant proportion of producers remains precarious after a succession of difficult seasons since the mid-2000s. Furthermore, the prospects for growth in volumes on the old EU-15 markets, which absorb more than three-quarters of the Spanish supply, now seem more restricted.

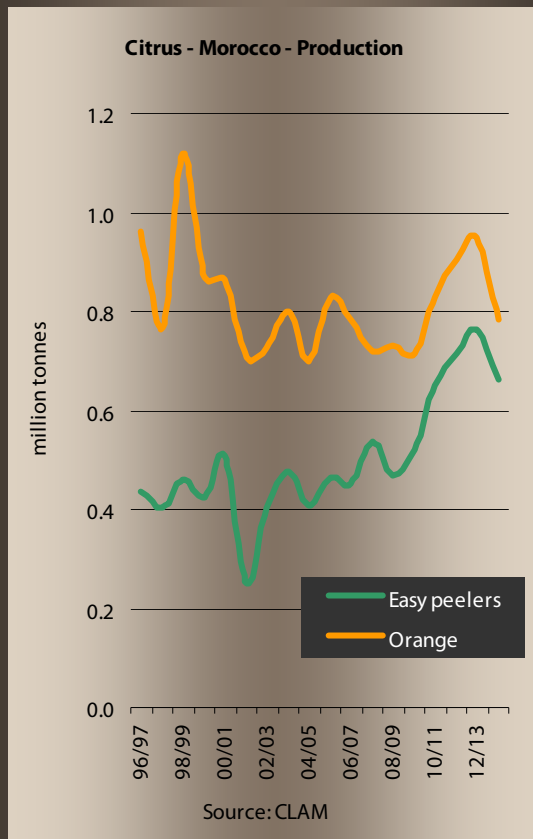
In this context, the annual rate of planting is among the most limited: the 2.5 to 3.0 million trees planted per year since 2006-07 are even slightly below the cultivation area renewal rate. This lack of vitality, especially marked for the lemon and easy peelers, heralds stable production of these two varietal groups over the years to come. However, the easy peelers calendar should continue to change in terms of greater smoothing of volumes over time, thanks to the lifting and top-grafting of Nules over the past few years, reducing excess volumes in November and December, and the growth in volumes of late cultivars such as Nadorcott. On the other hand, the planting rate of between 900 000 and 1.1 million plants per year maintained for the orange until 2009-10 is still leaving its mark on production. The harvest has gone up from approximately 3 million tonnes in the mid-2000s to 3.7-3.9 million tonnes over the past few seasons. This is a commercial success since the varieties planted, mainly late Navel varieties (Navelate harvested from February) or super-late varieties (Powell, Rhode, Barnfield) have found their market, by providing the consumer with a table orange supply until spring.

Hence Spain now exports regular high volumes of oranges, of around 200 000 t per month throughout the period from December to April. Thanks to this strategy, orange exports returned to a level above those of easy peelers last season, a first since 2003-04! Production should continue to grow slightly in the coming years, especially thanks to the expansion of the Andalusian orchards, whose production could shortly equal that of the Valencia region. These additional volumes should extend the time on the market even further (especially in May).

Should we predict a similar trend for easy peelers? Of course, this would be a dream for Spanish exporters, but currently there are still not the right varieties to achieve this. The planting rights for Or, the absolute benchmark for the late-season slot, are very rarely granted in the Northern Hemisphere, outside of Israel where it was created. Will the new varieties recently developed by IVIA, such as the triploids Garbi and Safor or Murta, be satisfactory? It is still too soon to say, but opinions are at present very divided.



## Morocco: the source to follow over the forthcoming seasons




It is the big citrus growing countries outside of the Community, namely Turkey, Egypt and Morocco, which have provided most of the growth in Mediterranean production since the mid-2000s, and they should definitely continue to play their driving role, in the medium term at the very least. Morocco is undoubtedly the source to follow in the coming years, as the historic harvest expected in 2013-14 shows. Successive waves of privatisation of State land, and above all the implementation of the "Maroc Vert" plan (see FruiTrop no.194), are starting to bear fruit. The cultivation area has increased by 25 000 ha since 2008, and is now in excess of 100 000 ha. It need not be emphasised that with these additional surface areas reaching maturity, growth of Moroccan production is not about to come to a stop. The increase promises to be particularly marked for easy peelers, which have been the most planted varietal group, and to a lesser extent for late table oranges. This new impetus will not only result in a growth in volumes, but also in a considerable enrichment of the varietal range, meaning an expanded production window and increased competitiveness. The new orchards have been largely planted in the zones well endowed with water in the centre of the country, where the weather conditions are favourable for the early varieties (risk of rainy spells which can be problematic during winter). Hence Sidi Aissa, Bruno, Nules and Orogrande clementines produced in this zone will enable the Moroccan season to start from late September, and supplement the supply of later easy peelers from other regions. The production of the country's star variety, namely Nadorcott, is also set to see considerable growth, eventually reaching approximately 125 000 t (as opposed to 75 000 t today).



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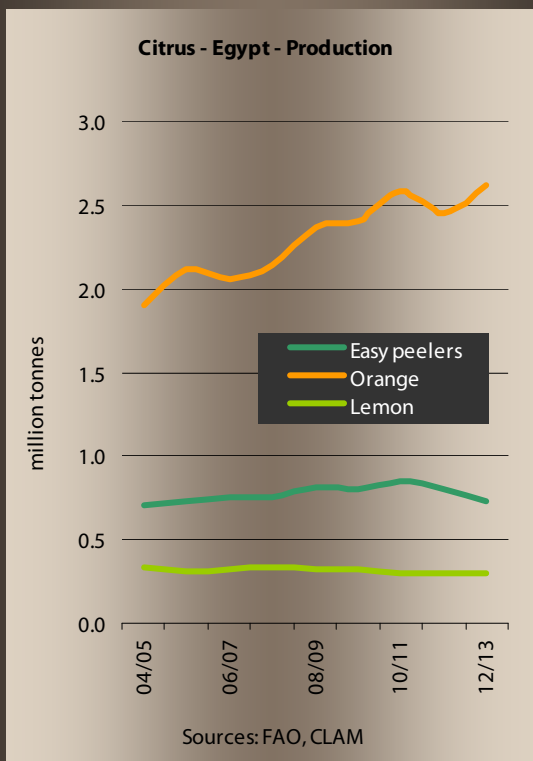
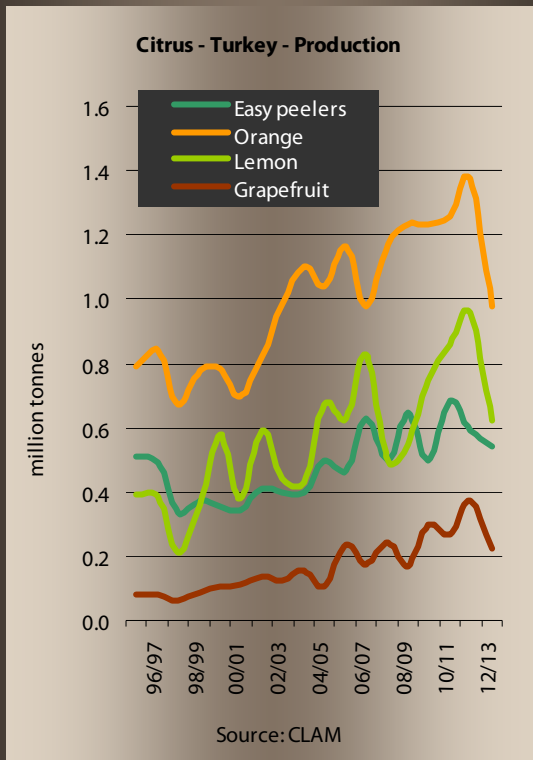
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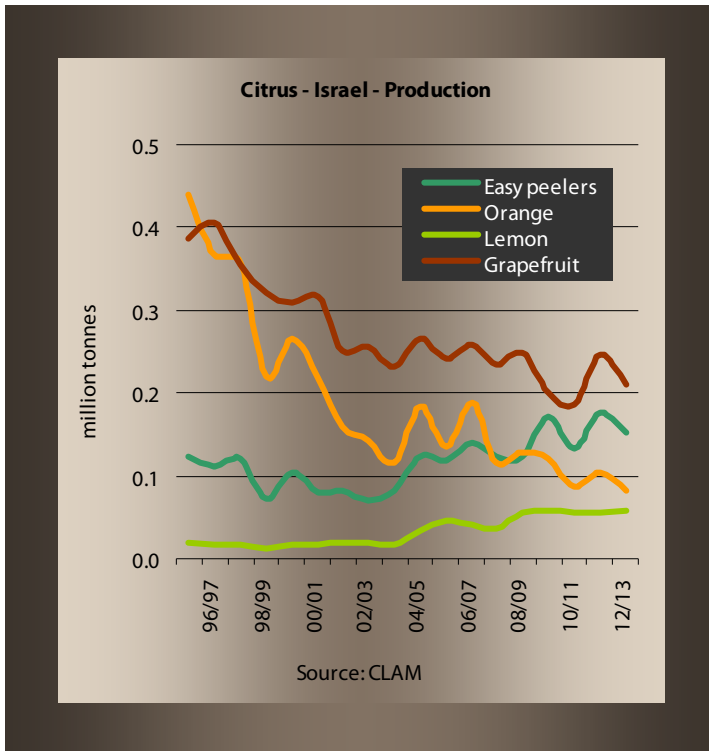
### Turkey: more limited growth, but a clearer and more incisive strategy

The trend in Turkey also remains clearly focused on growth. However, we are now past the heady days of the 2000s, when the appetite of a still brand new Russian market had enabled production to double, and which exceeded 3.2 million tonnes in 2011-12. Faced with much stronger competition and customers now more demanding as well as high-consuming, a more rational strategic line has been set up to guide the development of production over the coming years. On the one hand, the lemon is running out of steam, and the grapefruit even more so. Cultivation areas are now only increasing for easy peelers, and to a lesser extent for late oranges. On the other hand, the varietal base available for easy peelers is now much less monolithic and is now no longer based solely on Satsumas and other Minneolas and Novas. Late hybrid varieties such as W. Murcott or Tango have been made available to producers as part of a project conducted by the Citrus Promotion Group, the objective of which is to strengthen the foothold on the East European markets and to win back market shares in the EU.

### Egypt: still growing, but focused on its basics

Production from Egypt, which has already risen by one million tonnes since the mid-2000s, should continue to grow. Its growth model seems not to have changed, unlike the two countries above, which have striven to expand their varietal base. The industry remains focused on its specialities, namely production of Navel oranges. True, these big guns are devastating the East European and Middle Eastern markets given the particularly attractive prices at which they are offered, thanks to unbeatable production costs and generous State subsidies. This development model could well see little change in the short term, with the still highly unstable political climate remaining unfavourable for investment.





### Israel: rebuilding the foundations of the industry to favour easy peelers

With a production stabilised at between 500 000 and 600 000 t, Israel is no longer one of Mediterranean citrus growing giants. However, the industry has been overhauled in-depth over the past few years, to such a point that 80 % of trees are now less than ten years old. Professionals have had to refocus on markets able to provide sufficient economic returns for an industry under heavy constraints, both in terms of cost and availability of production factors as important as water or labour. They have of course banked primarily on their most trusted steed, i.e. Or, the late easy peelers variety developed locally, and which still remains the absolute benchmark in the late-season slot. The maturity of the 5 500 ha of cultivation area will continue to drive the production of Israeli easy peelers upward over the coming years. The trend should subside in the medium term, since the growth rate has no longer been as high as in the past since 2012-13 (variety already occupying nearly 30 % of total surface area), and 2014 will be a non-planting year for

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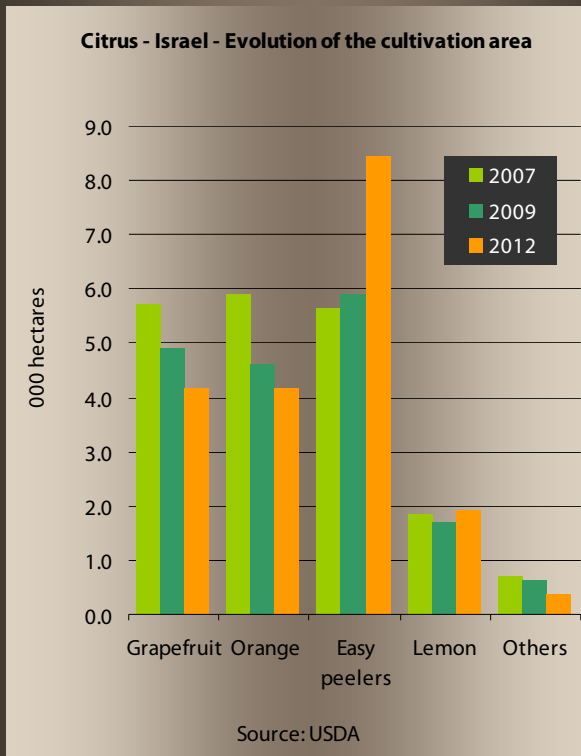


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religious reasons. This growth has come on a practically like-for-like basis at the expense of the less profitable citrus, namely oranges, white grapefruits, and coloured grapefruits which have not kept their promises of profitability over the past few years. Lemon production should also continue its upward curve, but based on more limited volumes and with a view to supplying a high-consuming local market.

### **Movements in the other producer countries, but without any major impact on the international market**

The movements of Italian and Tunisian citrus growing should have little impact on the international market. While the sector is developing considerably in Tunisia, the same is not the case for exports, which are still very marginal and stabilised at 20 000-25 000 t per year. However, production, which has fluctuated between 300 000 and 360 000 t over recent seasons, has increased by 100 000 t in less than ten years thanks to the cultivation area growing by on average 700 ha per year. However, practically all of these additional volumes are consumed locally. In Italy, production is maintaining a downward trend, with the citrus growing industry still facing major sanitary problems (severe strain of tristeza in Sicily) and competitiveness problems. The cultivation area has shrunk by approximately 10 000 ha in ten years, down to 160 000 ha in 2011. Surface areas appear to be recovering for blood oranges, thanks to the introduction of new early and late clones of Moro and above all Tarocco, but to the detriment of easy peelers. The upturn in Cypriot production observed since the late 2000s is due to less severe drought rather than to growth of surface areas, which have stabilised at just under 5 000 ha.

### **Controlled growth for the orange?**

While Mediterranean production should barely see any growth for the lemon or above all for the grapefruit, the orange trend will remain buoyant over the coming years with the young Egyptian, Moroccan and Turkish orchards reaching maturity, as well as those planted up to the end of the 2000s in Spain. What will the consequences be on the European market? A return to extra-Community sources for the EU-27 market would go against the tide, and this is hard to imagine given the positions that Spain has been able to secure thanks to its range and the services that its operators provide (locality, width of range). So while the already high





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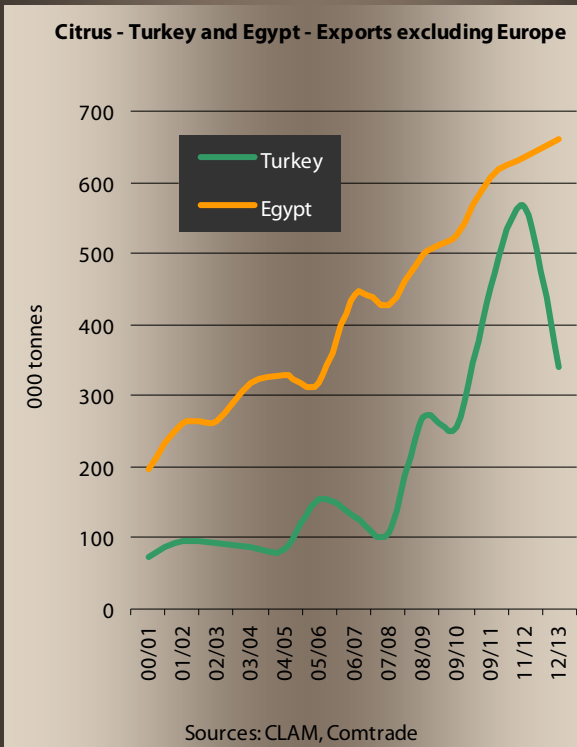
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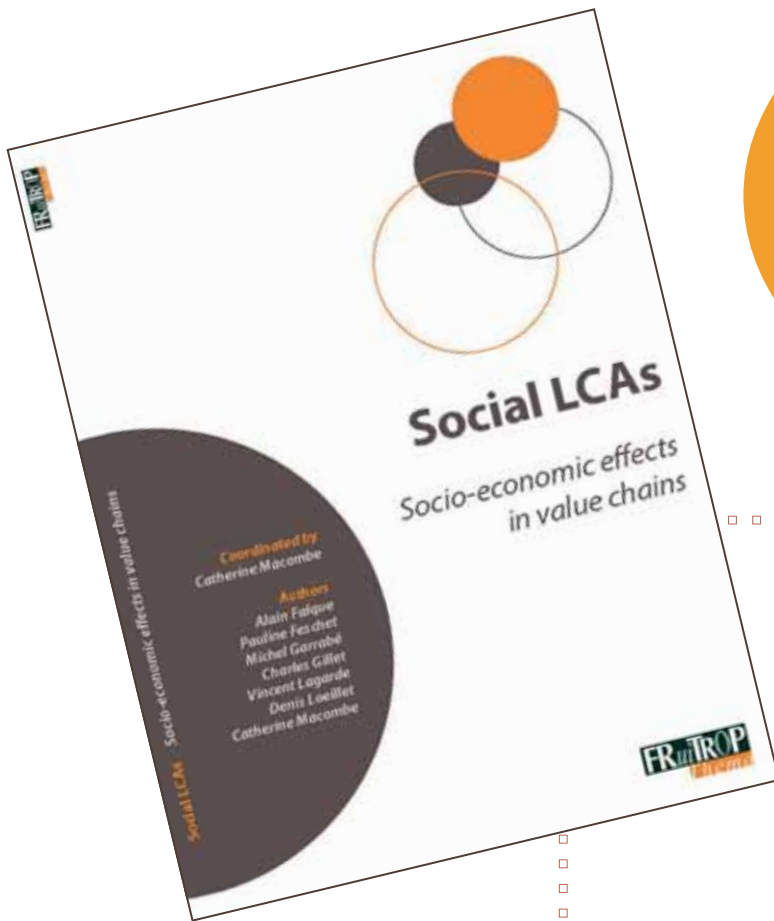
pressure could rise another notch on the East European markets, Egyptian, Turkish and Moroccan exporters have been able to open other doors, and have alternative solutions in hand. Turkey and Egypt already direct 50 % of their shipments to the Middle East (especially Saudi Arabia and Iraq), and volumes are growing. Morocco is banking on a local market hitherto providing more consumption and a greater return than the international market, and the operators remain confident despite the consumption level already reached (nearly 25 kg/capita). The risk represented by the boom in Spanish production for the Community market must also be put into perspective, since these additional volumes of super-late table oranges should come at the very end of the season (especially May), a time when there are probably margins for growth available for the table orange.

### Easy peelers growth at risk?

The risk of destabilisation of the European market seems to be more serious for easy peelers. On the one hand, there is a more distinct production rise, since it is this family which is the focus of the completed or ongoing planting programmes in Morocco and Turkey in particular. On the other hand, this mid-range and top-end production is more widely aimed at the European market than the orange. Will the margin for growth in consumption still remaining in Eastern Europe be sufficient to absorb these volumes? There are grounds to doubt this, given the consumption levels already reached on the flagship markets such as Russia. Perhaps a new period of turbulence is setting in on the EU markets, where Moroccan exporters already have, and Turkish exporters will soon have, more serious claims than ever in terms of varietal range to break through ■

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





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# Social LCAs

## Socio-economic effects in value chains

What are the social consequences of changes enacted in the value chains, especially when they involve large international agricultural product industries? How can we anticipate the results of changes in technical procedures, supplier, work organisation, distribution of revenue generated, etc.?

Researchers from French research centres (Cirad, Inra, Irstea, SupAgro, and University of Montpellier I) and consultants (Epsil'Hôm, CEP) set out over 100 pages their methodology and practices for assessing socio-economic effects.



**Publication available in French and English**

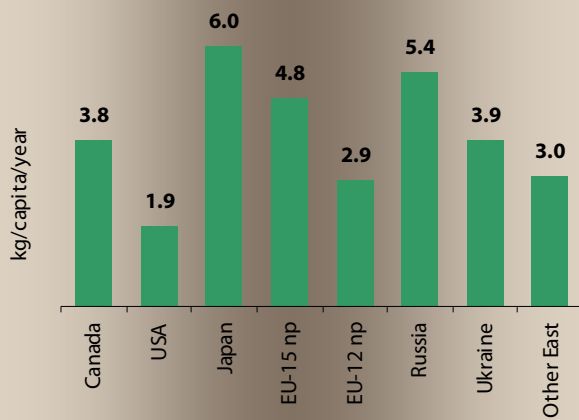
**Release:** October 2013

**Price:** EUR 40



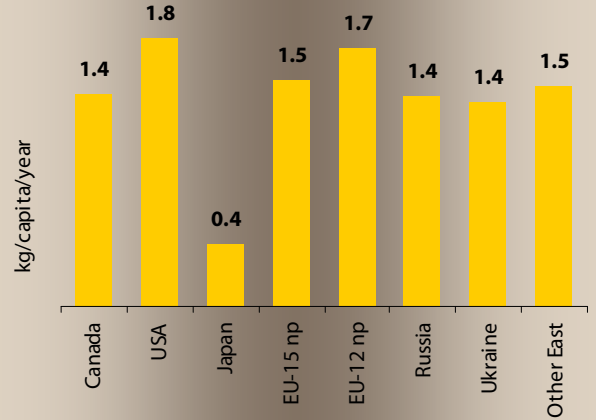
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### Easy peelers - Consumption in 2012



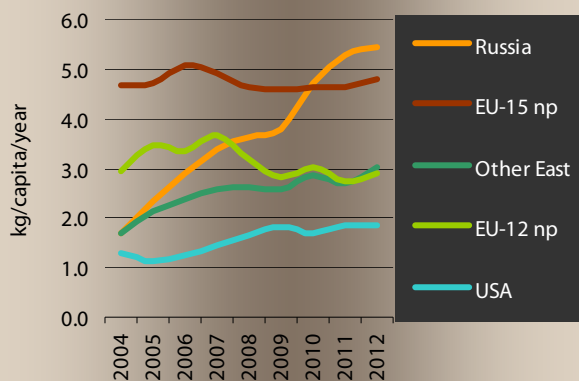
Sources: professionals, customs, Comtrade

### Lemon - Consumption in 2012



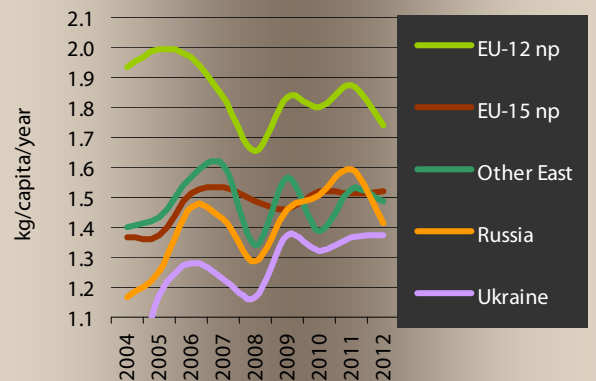
Sources: professionals, customs, Comtrade

### Easy peelers - Consumption Evolution of major markets



Sources: professionals, customs, Comtrade

### Lemon - Consumption Evolution of major markets



Sources: professionals, customs, Comtrade

### Easy peelers — Consumption in 2012

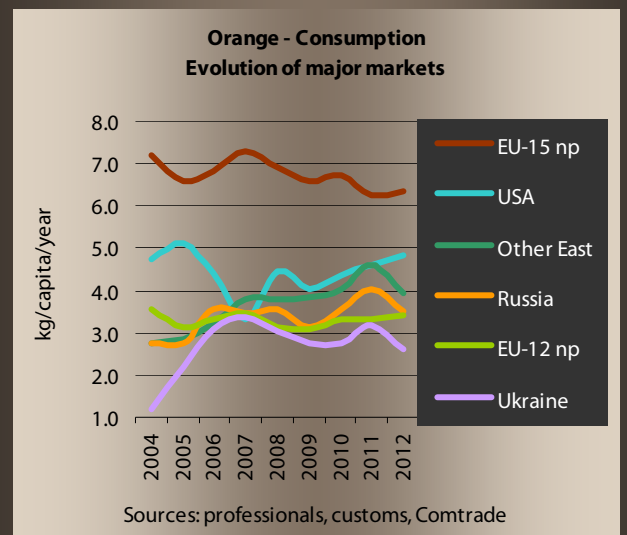
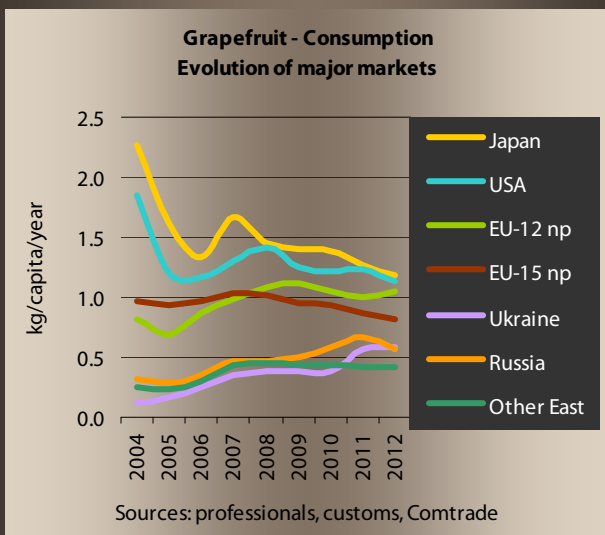
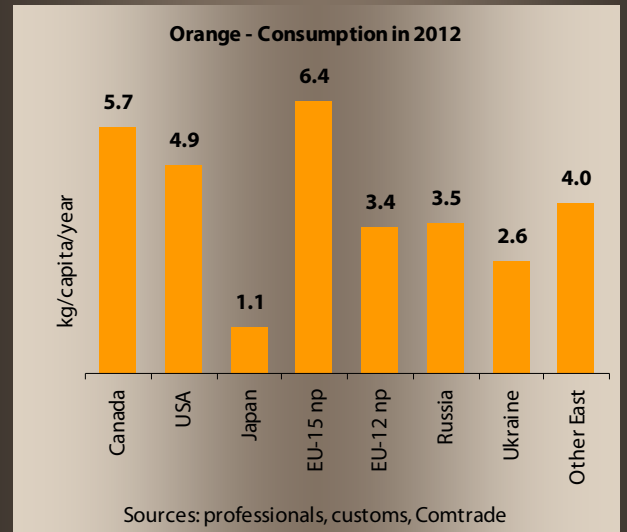
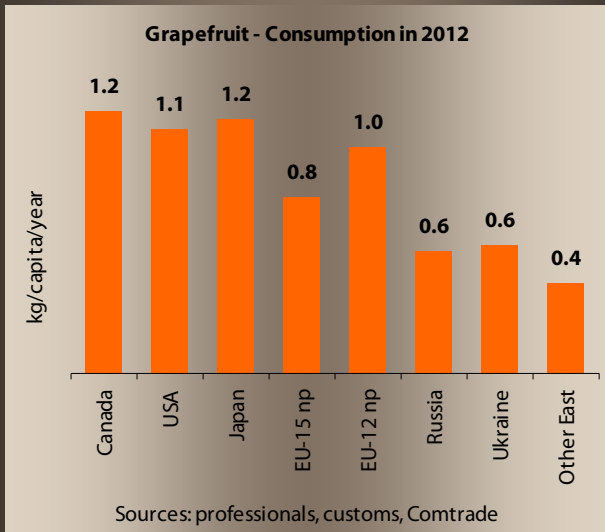
	in kg/capita/year	Change on 2011	Change on 2008
Canada	3.8	+ 0.177	+ 0.162
United States	1.9	- 0.007	+ 0.217
Japan	6.0	- 0.270	+ 0.012
EU-15*	4.8	+ 0.173	+ 0.180
EU-12*	2.9	+ 0.161	- 0.276
Russia	5.4	+ 0.166	+ 1.826
Ukraine	3.9	- 0.134	+ 0.987
Other Eastern countries	3.0	+ 0.344	+ 0.417

\* non-producer countries

### Lemon — Consumption in 2012

	in kg/capita/year	Change on 2011	Change on 2008
Canada	1.4	+ 0.138	+ 0.240
United States	1.8	+ 0.113	+ 0.546
Japan	0.4	0	- 0.027
EU-15*	1.5	+ 0.010	+ 0.037
EU-12*	1.7	- 0.129	+ 0.091
Russia	1.4	- 0.176	+ 0.125
Ukraine	1.4	+ 0.003	+ 0.208
Other Eastern countries	1.5	- 0.037	+ 0.146

\* non-producer countries



### Grapefruit — Consumption in 2012

	in kg/capita/year	Change on 2011	Change on 2008
Canada	1.2	-0.065	-0.247
United States	1.1	-0.101	-0.288
Japan	1.2	-0.082	-0.268
EU-15*	0.8	-0.048	-0.196
EU-12*	1.0	-0.046	-0.034
Russia	0.6	-0.108	+0.092
Ukraine	0.6	+0.024	+0.205
Other Eastern countries	0.4	-0.004	-0.032

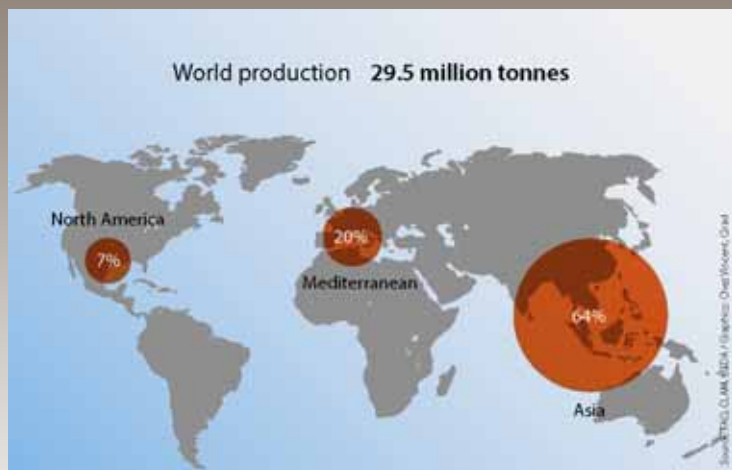
\* non-producer countries

### Orange — Consumption in 2012

	in kg/capita/year	Change on 2011	Change on 2008
Canada	5.7	-0.403	-0.407
United States	4.9	+0.272	+0.409
Japan	1.1	+0.119	+0.243
EU-15*	6.4	+0.119	-0.534
EU-12*	3.4	+0.107	+0.310
Russia	3.5	-0.565	-0.067
Ukraine	2.6	-0.566	-0.458
Other Eastern countries	4.0	-0.633	+0.165

\* non-producer countries

## EASY PEELERS — Production (2012)



Easy peelers — The 10 leading producer countries	
000 tonnes	2012
China	16 000
Spain	2 503
Brazil	1 126
Japan	928
Iran	800
Italy	792
Morocco	764
Egypt	731
South Korea	681
United States	631

Sources: FAO, professional sources

## EASY PEELERS — Imports (2012)



Easy peelers — The 10 leading importing countries	
000 tonnes	2012
Russia	763
Germany	367
France	361
United Kingdom	268
Netherlands	182
Indonesia	179
Ukraine	176
Poland	161
United States	133
Canada	130

Source: national customs

## EASY PEELERS — Exports (2012)



Easy peelers — The 10 leading exporting countries	
000 tonnes	2011-12
Spain	1 612
China	840
Turkey	476
Pakistan	368
Morocco	344
South Africa	116
Italy	113
Argentina	96
Peru	70
Greece	65

Professional sources and national customs

USA — Imports — Major supplying countries						
000 tonnes	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
<b>Total</b>	<b>118.5</b>	<b>96.5</b>	<b>117.6</b>	<b>117.3</b>	<b>147.7</b>	<b>132.8</b>
<b>N. Hemis., incl.</b>	<b>85.9</b>	<b>62.1</b>	<b>83.1</b>	<b>67.5</b>	<b>86.3</b>	<b>66.9</b>
Spain	74.0	47.9	55.5	44.9	60.8	47.5
Morocco	7.5	7.7	18.6	15.1	20.9	16.2
Israel	0.2	0.4	1.2	1.7	1.1	2.0
Mexico	4.2	6.1	7.7	5.8	3.5	1.1
<b>S. Hemis., incl.</b>	<b>32.6</b>	<b>34.3</b>	<b>34.3</b>	<b>49.8</b>	<b>61.5</b>	<b>65.9</b>
Chile	11.8	12.0	16.3	27.3	35.5	43.3
Peru	1.9	11.1	8.8	10.6	14.6	14.3
South Africa	13.8	4.7	4.8	6.0	7.8	4.5
Australia	4.4	5.1	3.8	4.3	3.1	2.2
<b>Local prod.*</b>	<b>539.8</b>	<b>449.3</b>	<b>577.2</b>	<b>600.5</b>	<b>642.9</b>	<b>634.6</b>
California	227.9	227.9	336.8	359.3	384.7	391.9
Florida	298.3	212.9	228.5	228.5	247.3	231.8
Arizona	13.6	8.5	11.9	12.7	10.9	10.9

Note: from Sept. to August for Mediterranean, calendar year for other sources  
\* tangerine, tangelo / Source: US customs, code HS 080520

Canada — Imports — Major supplying countries						
000 tonnes	2007	2008	2009	2010	2011	2012
<b>Total</b>	<b>121.1</b>	<b>122.1</b>	<b>124.1</b>	<b>123.9</b>	<b>123.9</b>	<b>129.9</b>
<b>N. Hemis., incl.</b>	<b>99.3</b>	<b>103.0</b>	<b>106.5</b>	<b>105.9</b>	<b>103.2</b>	<b>104.5</b>
Morocco	40.5	46.4	50.3	45.4	38.6	37.3
China	32.9	28.3	32.0	29.7	28.5	28.7
USA	13.7	18.3	17.8	22.4	22.4	17.0
Spain	5.5	4.6	2.3	3.8	7.6	11.7
Japan	4.1	3.1	2.1	1.7	2.2	2.0
<b>S. Hemis., incl.</b>	<b>21.0</b>	<b>18.4</b>	<b>17.0</b>	<b>18.0</b>	<b>20.7</b>	<b>25.4</b>
Peru	5.4	6.2	4.4	6.5	8.9	11.1
South Africa	4.2	4.7	4.5	3.2	4.5	6.0
Argentina	4.3	1.7	2.6	3.1	3.0	3.5
Chile	3.0	2.1	2.4	2.7	2.3	2.5
Uruguay	2.1	1.2	1.6	1.1	1.6	1.4
Brazil	1.9	2.3	1.3	1.4	0.4	0.9

Source: COMTRADE, code HS 085020

EU-27 — Imports — Major supplying countries						
000 tonnes	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
<b>Total</b>	<b>1 876.7</b>	<b>1 681.4</b>	<b>1 708.7</b>	<b>1 697.8</b>	<b>1 750.0</b>	<b>1 787.5</b>
<b>N. Hemis., incl.</b>	<b>1 709.5</b>	<b>1 518.5</b>	<b>1 532.8</b>	<b>1 522.7</b>	<b>1 592.2</b>	<b>1 623.5</b>
Spain*	1 422.7	1 241.4	1 262.3	1 157.6	1 295.7	1 317.7
Italy*	54.8	70.9	47.3	91.7	75.1	89.5
Morocco	83.2	76.4	79.9	114.2	90.5	80.6
Turkey	80.3	58.6	80.9	64.3	50.3	45.4
Israel	27.3	23.0	24.8	36.3	29.0	42.7
Greece*	20.8	21.1	14.4	31.5	36.1	31.6
Cyprus*	12.6	12.3	11.5	13.6	8.1	6.4
Portugal*	2.8	4.6	4.4	4.1	2.8	5.8
Pakistan	1.9	5.0	4.3	5.1	3.3	2.6
<b>S. Hemis., incl.</b>	<b>163.0</b>	<b>175.9</b>	<b>175.2</b>	<b>177.4</b>	<b>157.9</b>	<b>164.0</b>
South Africa	68.4	70.4	65.3	65.1	57.8	70.0
Peru	18.5	31.0	23.4	33.2	41.9	48.5
Argentina	33.0	36.2	47.0	39.8	32.1	24.0
Uruguay	34.4	31.0	33.9	37.2	24.2	19.4
Chile	6.9	4.9	2.2	1.4	1.6	1.3

\* Imports from EU producer countries / Source: Eurostat, code HS 080520

Other Western Europe countries — Major markets						
000 tonnes	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
<b>Total</b>	<b>70.9</b>	<b>66.1</b>	<b>69.3</b>	<b>71.1</b>	<b>69.0</b>	<b>72.7</b>
Switzerland	42.4	37.6	41.3	40.8	41.4	43.4
Norway	27.2	27.6	27.0	29.2	26.6	28.2
Iceland	1.2	0.8	1.0	1.1	1.0	1.1

Source: COMTRADE

Russia — Imports — Major supplying countries						
000 tonnes	2007	2008	2009	2010	2011	2012
<b>Total</b>	<b>479.3</b>	<b>510.2</b>	<b>533.4</b>	<b>660.4</b>	<b>739.5</b>	<b>762.8</b>
<b>N. Hemis., incl.</b>	<b>427.5</b>	<b>447.2</b>	<b>469.0</b>	<b>590.8</b>	<b>668.7</b>	<b>696.1</b>
Morocco	157.4	152.2	132.5	167.7	198.7	191.8
Turkey	95.8	116.0	134.6	162.7	186.9	158.8
Pakistan	22.9	32.2	43.5	82.9	77.1	91.3
China	56.9	62.3	79.0	66.7	66.0	87.1
Spain	40.4	37.6	19.9	27.5	57.7	59.7
Georgia	9.3	6.5	10.9	0.0	0.0	29.2
Israel	19.1	18.2	23.7	22.7	21.5	19.9
Cyprus	5.6	3.3	6.2	9.4	16.6	15.8
Greece	1.7	1.2	2.3	3.4	7.4	12.7
<b>S. Hemis., incl.</b>	<b>50.9</b>	<b>60.8</b>	<b>62.2</b>	<b>69.6</b>	<b>70.8</b>	<b>66.7</b>
Argentina	33.1	37.8	40.6	46.5	48.1	42.0
South Africa	7.3	12.4	11.1	14.1	13.2	13.0
Uruguay	3.8	3.5	3.2	5.8	5.6	7.0
Peru	0.4	2.7	1.0	3.2	3.9	4.7

Source: COMTRADE

Ukraine — Imports — Major supplying countries						
000 tonnes	2007	2008	2009	2010	2011	2012
<b>Total</b>	<b>135.5</b>	<b>132.5</b>	<b>136.2</b>	<b>157.6</b>	<b>181.8</b>	<b>175.7</b>
Turkey	50.2	56.4	54.9	75.3	85.5	70.0
Spain	15.3	20.4	14.5	16.3	34.1	35.2
Pakistan	11.2	15.0	8.4	11.0	20.9	25.4
Italy	4.5	3.9	8.5	10.7	16.9	16.8
Georgia	34.0	22.1	37.8	28.7	10.8	13.4
Greece	1.9	1.5	2.9	5.6	5.6	5.8
Israel	8.4	4.4	2.4	1.8	0.0	2.5
Cyprus	4.9	2.7	0.6	0.9	1.6	2.2

Source: COMTRADE

Other Eastern Europe countries — Major markets						
000 tonnes	2007	2008	2009	2010	2011	2012
<b>Total</b>	<b>94.2</b>	<b>95.6</b>	<b>94.2</b>	<b>103.7</b>	<b>98.0</b>	<b>110.5</b>
Belarus	28.9	28.6	27.9	29.4	32.5	38.9
Serbia	25.0	25.2	22.1	27.3	23.0	24.4
Bosnia	14.1	17.8	16.5	18.7	16.2	17.3
Albania	10.0	8.8	9.9	10.4	7.7	8.4
Moldavia	5.3	5.3	6.9	6.6	7.6	8.2
Macedonia	6.1	6.6	7.4	7.5	6.5	7.5
Croatia	4.8	3.3	3.3	3.8	4.7	5.8

Sources: COMTRADE and national customs

Japan — Imports — Major supplying countries						
000 tonnes	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
<b>Total</b>	<b>4.6</b>	<b>10.2</b>	<b>9.0</b>	<b>10.9</b>	<b>21.3</b>	<b>20.3</b>
<b>N. Hemis., incl.</b>	<b>2.1</b>	<b>7.9</b>	<b>7.2</b>	<b>9.3</b>	<b>17.7</b>	<b>16.7</b>
USA	2.1	7.8	7.1	9.2	17.6	16.6
Taiwan	0.1	0.1	0.1	0.1	0.1	0.1
<b>S. Hemis., incl.</b>	<b>2.5</b>	<b>2.4</b>	<b>1.8</b>	<b>1.6</b>	<b>3.6</b>	<b>3.6</b>
Australia	1.1	1.6	1.2	1.0	2.3	2.1
New Zealand	0.5	0.4	0.5	0.3	0.9	1.0
Chile	0.9	0.2	0.2	0.3	0.5	0.3
<b>Local prod.</b>	<b>1 066.0</b>	<b>1 018.0</b>	<b>1 097.0</b>			

Source: Japanese customs; local production: FAO, USDA-IFAS

Other Asian countries — Major markets						
000 tonnes	2007	2008	2009	2010	2011	2012
<b>Total</b>	<b>344.2</b>	<b>390.6</b>	<b>483.2</b>	<b>443.2</b>	<b>541.2</b>	<b>615.3</b>
<b>South East Asia, incl.</b>	<b>316.3</b>	<b>348.5</b>	<b>433.8</b>	<b>391.0</b>	<b>462.2</b>	<b>534.6</b>
Indonesia	89.1	109.6	189.0	160.3	182.3	179.4
Thailand	11.8	17.2	38.7	30.8	73.8	144.8
Philippines	37.6	42.7	56.6	41.8	46.7	72.6
Malaysia	77.4	96.6	65.9	75.3	72.8	59.3
China	49.9	33.7	36.5	31.2	36.1	29.5
Vietnam	27.8	23.9	25.8	21.2	20.1	21.0
Singapore	19.1	19.6	16.8	19.5	19.8	17.5
Sri Lanka	3.7	5.3	4.5	10.9	10.5	10.6
<b>Central Asia, incl.</b>	<b>27.9</b>	<b>42.2</b>	<b>49.3</b>	<b>52.2</b>	<b>79.0</b>	<b>80.7</b>
Kazakhstan	20.9	30.8	28.8	40.0	51.6	65.9
Kirghizstan	5.5	8.2	8.1	7.0	7.3	10.2
Armenia	1.4	2.2	3.0	2.6	10.1	3.7
Azerbaijan	0.1	1.0	9.5	2.6	10.1	0.9

Source: COMTRADE

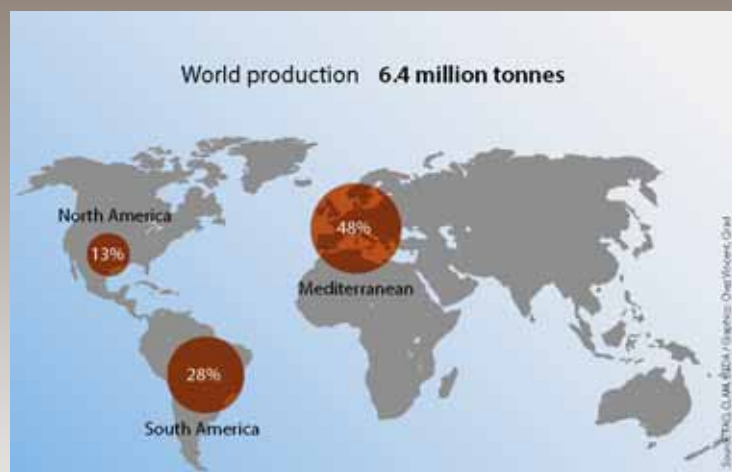
Persian Gulf — Major markets						
000 tonnes	2007	2008	2009	2010	2011	2012
<b>Total, incl.</b>	<b>134.1</b>	<b>257.8</b>	<b>161.9</b>	<b>255.7</b>	<b>326.8</b>	<b>315.7</b>
Iraq	5.0	26.0	55.0	72.0	105.0	100.0
Iran	28.9	113.0	36.5	74.2	65.6	70.0
Saudi Arabia	36.1	27.0	20.4	57.5	59.3	60.0
Un. Arab Emirates	39.3	55.1	17.2	17.3	50.0	50.0
Kuwait	10.6	17.6	14.1	15.0	15.0	15.0
Qatar	3.1	3.9	3.5	4.9	5.0	9.1
Oman	9.3	13.1	11.5	11.2	23.0	7.6

Source: COMTRADE



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## LEMON — Production (2011-12)



### Lemon — The 8 leading producer countries

tonnes	2011-12
Argentina	1 456 000
Spain	999 000
Turkey	959 000
United States	771 000
Italy	458 000
China	400 000
South Africa	239 000
Chile	232 000

Sources: FAO, CLAM, USDA

## LEMON — Imports (2012)



### Lemon — The 8 leading importing countries

tonnes	2012
Russia	198 585
France	123 000
Germany	122 000
Netherlands	109 000
Italy	103 000
United Kingdom	88 000
Ukraine	62 319
Japan	53 834

Source: national customs

## LEMON — Exports (2011-12)



### Lemon — The 7 leading exporting countries

tonnes	2011-12
Spain	523 000
Turkey	436 000
Argentina	272 000
South Africa	155 000
United States	98 900
Chile	39 500
Italy	30 300

Professional sources and national customs

### USA — Imports — Major supplying countries

tonnes	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
<b>Total</b>	<b>66 803</b>	<b>62 266</b>	<b>37 287</b>	<b>39 789</b>	<b>52 577</b>	<b>51 937</b>
<b>N. Hemis., incl.</b>	<b>38 771</b>	<b>40 177</b>	<b>20 402</b>	<b>23 184</b>	<b>33 603</b>	<b>33 603</b>
Mexico	21 854	39 277	16 954	22 286	23 413	32 374
Spain	15 230	139	3 159	609	835	1 581
Dom. Rep.	364	560	285	248	387	197
<b>S. Hemis., incl.</b>	<b>28 031</b>	<b>22 089</b>	<b>16 885</b>	<b>16 605</b>	<b>23 674</b>	<b>23 674</b>
Chile	27 591	21 598	16 821	16 333	23 413	17 020

Source: US Customs, specific code lemon excl. lime

### Canada — Imports — Major supplying countries

tonnes	2007	2008	2009	2010	2011	2012
<b>Total</b>	<b>39 057</b>	<b>39 764</b>	<b>38 450</b>	<b>38 677</b>	<b>43 980</b>	<b>48 645</b>
<b>N. Hemis., incl.</b>	<b>26 544</b>	<b>29 004</b>	<b>30 365</b>	<b>31 310</b>	<b>32 470</b>	<b>35 471</b>
USA	22 879	28 849	30 250	31 109	31 555	30 481
Spain	3 665	156	115	201	915	3 940
Turkey	160	0	20	88	306	1 050
<b>S. Hemis., incl.</b>	<b>11 942</b>	<b>10 522</b>	<b>7 724</b>	<b>6 787</b>	<b>11 013</b>	<b>12 216</b>
Argentina	9 778	7 509	6 213	4 606	7 381	9 299
South Africa	1 469	2 020	443	1 612	2 789	2 560
Others	67	34	203	169	181	174
Chile	139	552	653	311	435	112

Source: COMTRADE

### South America — Major markets

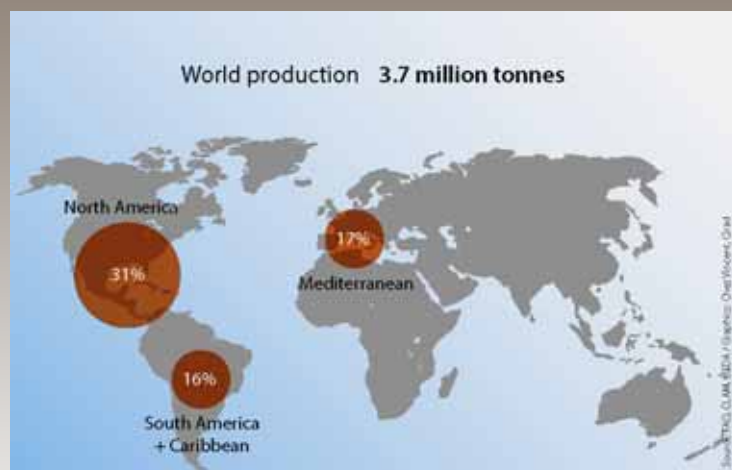
tonnes	2007	2008	2009	2010	2011	2012
<b>Total</b>	<b>5 052</b>	<b>12 605</b>	<b>13 911</b>	<b>18 391</b>	<b>29 557</b>	<b>15 536</b>
Chile	669	1 441	1 319	3 966	17 574	4 497
Colombia	1 454	4 480	4 639	956	2 993	4 194
Brazil	635	346	918	1 248	1 954	2 381
Ecuador	453	4 889	819	4 088	2 356	1 823
Mexico	841	364	453	602	2 398	1 419
Costa Rica	457	348	511	536	802	731
Argentina	23	238	4 837	6 524	1 177	331

Source: COMTRADE





## GRAPEFRUIT — Production (2011-12)



## GRAPEFRUIT — Imports (2012)



### Grapefruit — The 9 leading producer countries (or states)

tonnes	2011-12
Florida	761 481
South Africa	406 000
Mexico	394 000
Turkey	270 000
Texas	228 614
Israel	186 000
Sudan	183 000
Argentina	172 000
California	156 401

Sources: FAO, CLAM, USDA

### Grapefruit — The 8 leading importing countries

tonnes	2012
Netherlands	168 500
Japan	149 567
Russia	79 075
France	77 200
Germany	56 700
Poland	42 800
Canada	33 972
United Kingdom	37 000

Source: national customs

## GRAPEFRUIT — Exports (2011-12)



### Grapefruit — The 8 leading exporting countries

tonnes	2011-12
United States	207 700
South Africa	195 000
Turkey	178 000
Israel	78 000
Spain	47 000
Syria	39 400
Cyprus	23 000
Mexico	17 000

Professional sources and national customs

### USA — Imports — Major supplying countries

tonnes	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
<b>Total, incl.</b>	<b>19 797</b>	<b>14 257</b>	<b>11 143</b>	<b>8 066</b>	<b>6 088</b>	<b>2 851</b>
Mexico	5 056	2 741	3 336	4 608	4 410	2 263
Israel	220	104	119	123	158	473
Bahamas	14 420	10 362	7 538	3 162	1 234	0
Others	101	1 050	150	173	286	115

Source: USDA

### Canada — Imports — Major supplying countries

tonnes	2007	2008	2009	2010	2011	2012
<b>Total, incl.</b>	<b>52 631</b>	<b>48 593</b>	<b>45 216</b>	<b>43 614</b>	<b>43 360</b>	<b>41 146</b>
<b>Total winter</b>	<b>47 373</b>	<b>42 877</b>	<b>39 552</b>	<b>38 512</b>	<b>35 915</b>	<b>33 972</b>
United States	44 793	40 977	38 152	37 212	35 277	33 054
Mexico	767	512	335	641	328	735
Thailand	315	304	192	262	173	183
Bahamas	1 498	1 084	874	396	137	
<b>Total summer</b>	<b>4 133</b>	<b>4 912</b>	<b>5 220</b>	<b>4 488</b>	<b>6 472</b>	<b>5 396</b>
South Africa	3 852	3 993	4 589	4 288	6 374	5 267
Argentina	281	919	626	124	98	127
Chile	0	0	5	76	0	2

Sources: COMTRADE, national customs

### South America — Major markets

tonnes	2007	2008	2009	2010	2011	2012
<b>Total</b>	<b>12 819</b>	<b>10 804</b>	<b>11 222</b>	<b>11 816</b>	<b>4 511</b>	<b>9 612</b>
Mexico	11 511	9 081	9 118	9 816	2 469	8 272
Argentina	1 308	1 723	2 104	2 000	2 041	1 340

Sources: COMTRADE, national customs

### EU-27 — Imports — Major supplying countries

tonnes	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
<b>Total</b>	<b>398 540</b>	<b>377 102</b>	<b>386 530</b>	<b>373 288</b>	<b>372 610</b>	<b>333 714</b>
<b>N. Hemis., incl.</b>	<b>268 974</b>	<b>254 310</b>	<b>273 654</b>	<b>271 878</b>	<b>252 081</b>	<b>246 601</b>
Turkey	52 761	42 767	64 634	75 004	66 286	81 960
United States	66 275	77 089	64 548	55 132	52 721	45 988
Spain	37 700	37 800	36 300	47 900	51 825	44 560
Israel	60 849	60 898	68 502	58 101	48 576	44 170
Mexico	9 834	9 304	11 600	9 167	14 385	13 217
Cyprus	15 133	12 521	11 880	10 617	11 773	13 081
Honduras	12 385	8 820	9 478	6 063	1 109	81
Cuba	5 434	0	1 276	754	0	0
Others	8 603	5 111	5 436	9 140	5 406	3 544
<b>S. Hemis., incl.</b>	<b>129 566</b>	<b>122 792</b>	<b>112 876</b>	<b>101 410</b>	<b>120 529</b>	<b>87 113</b>
South Africa	90 825	86 852	88 616	78 897	94 006	74 367
Swaziland	10 085	9 260	6 707	9 906	14 986	8 455
Argentina	23 186	24 171	14 828	9 129	8 276	1 458
Zimbabwe	3 556	1 409	1 947	2 053	2 228	1 360
Mozambique	0	0	240	669	1 016	840
Chile	959	719	70	363	18	176
Uruguay	775	298	213	140	0	0
Others	180	83	255	251	0	457

\* imports from EU producer countries / Sources: Comtrade, national customs

### Other West European countries — Major markets

tonnes	2007	2008	2009	2010	2011	2012
<b>Total</b>	<b>9 796</b>	<b>9 506</b>	<b>9 880</b>	<b>8 767</b>	<b>8 393</b>	<b>8 745</b>
Switzerland	8 366	8 029	8 554	7 434	7 174	7 445
Norway	1 430	1 477	1 327	1 333	1 219	1 300

Sources: COMTRADE, national customs

### Russia — Imports — Major supplying countries

tonnes	2007	2008	2009	2010	2011	2012
<b>Total</b>	<b>67 373</b>	<b>66 637</b>	<b>71 262</b>	<b>81 491</b>	<b>94 274</b>	<b>79 075</b>
<b>N. Hemis., incl.</b>	<b>45 942</b>	<b>44 599</b>	<b>52 705</b>	<b>56 621</b>	<b>65 205</b>	<b>56 215</b>
Turkey	28 719	32 950	38 211	43 377	48 811	41 595
Israel	14 172	8 383	11 845	11 978	15 581	13 655
Spain	2 610	2 129	891	691	678	303
Morocco	371	441	544	365	122	660
United States	71	696	1 214	209	13	2
<b>S. Hemis., incl.</b>	<b>20 490</b>	<b>21 120</b>	<b>17 963</b>	<b>24 316</b>	<b>27 583</b>	<b>20 580</b>
South Africa	13 085	15 463	15 402	19 768	22 492	15 589
Mexico	941	880	1 004	2 704	3 016	4 020
Argentina	4 484	3 975	691	1 025	903	268
Swaziland	345	314	298	631	910	622
Zimbabwe	1 025	158	481	188	262	81
Honduras	610	330	86	1	0	
Others	940	919	593	554	1 486	2 280

Sources: COMTRADE, national customs

### Other East European countries — Major markets

tonnes	2007	2008	2009	2010	2011	2012
<b>Total</b>	<b>32 400</b>	<b>33 956</b>	<b>32 912</b>	<b>36 163</b>	<b>40 907</b>	<b>41 891</b>
Ukraine	16 391	17 684	17 344	20 807	25 691	26 786
Serbia	4 151	5 020	4 569	4 255	4 154	4 322
Belarus	4 675	3 959	4 049	4 000	3 880	4 000
Croatia	3 087	2 563	2 549	2 446	2 729	2 408
Moldavia	1 570	1 613	1 636	1 703	1 655	1 597
Bosnie Herz.	1 661	2 093	1 679	1 852	1 695	1 581
Macedonia	865	1 024	1 086	1 100	1 103	1 197
Georgia	203	298	381	334	536	929
Montenegro	230	328	330	436	521	507

Sources: COMTRADE, national customs

### Japan — Imports — Major supplying countries

tonnes	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
<b>Total</b>	<b>220 379</b>	<b>187 459</b>	<b>180 378</b>	<b>166 075</b>	<b>168 438</b>	<b>149 567</b>
<b>N. Hemis., incl.</b>	<b>151 761</b>	<b>133 350</b>	<b>119 320</b>	<b>119 175</b>	<b>113 939</b>	<b>101 061</b>
United States	145 031	127 958	115 592	115 350	109 981	96 444
Israel	6 730	5 392	3 728	3 825	3 492	2 850
Turkey					465	1 639
<b>S. Hemis., incl.</b>	<b>68 618</b>	<b>54 109</b>	<b>61 058</b>	<b>46 900</b>	<b>54 499</b>	<b>48 506</b>
South Africa	64 335	49 611	57 818	44 602	53 579	48 120
Swaziland	4 283	4 498	3 240	2 237	857	0
Chile				61	60	0

Sources: COMTRADE, national customs

### Other Asian countries — Major markets

tonnes	2007	2008	2009	2010	2011	2012
<b>Total</b>	<b>28 238</b>	<b>24 552</b>	<b>33 483</b>	<b>36 838</b>	<b>42 592</b>	<b>42 242</b>
China	17 284	14 416	22 606	23 517	27 538	25 268
South Korea	5 935	4 889	5 724	7 861	9 337	10 452
Singapore	4 349	4 118	4 022	4 530	4 571	5 252
Malaysia	670	1 129	1 131	930	1 147	1 270

Sources: COMTRADE, national customs

### Persian Gulf — Major markets

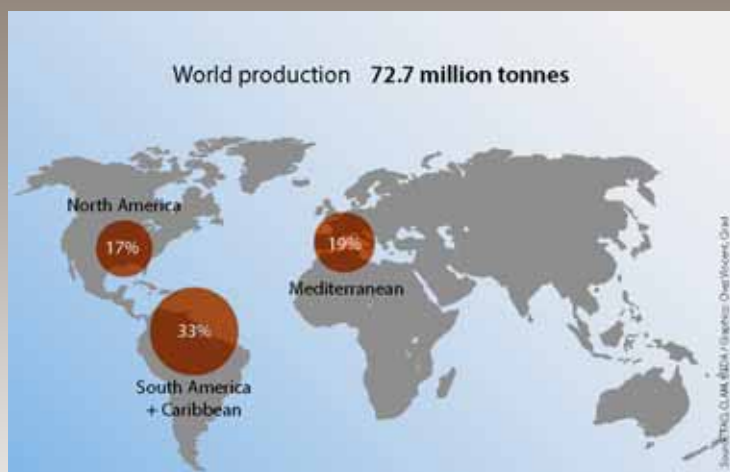
tonnes	2007	2008	2009	2010	2011	2012
<b>Total</b>	<b>22 204</b>	<b>20 897</b>	<b>21 750</b>	<b>21 685</b>	<b>23 154</b>	<b>22 000</b>
Un. Arab Emirates	9 927	8 928	9 000	9 000	9 000	
Kuwait	2 806	2 219	3 000	3 000	3 000	
Qatar	1 246	1 250	1 250	1 228	1 250	
Saudi Arabia	8 226	8 500	8 500	8 457	9 904	

Sources: COMTRADE, national customs



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## ORANGE — Production (2011-12)



Orange — The 10 leading producer countries	
tonnes	2011-12
Brazil	19 800 000
United States	8 147 000
China	6 900 000
India	4 571 000
Mexico	4 080 000
Spain	3 723 000
Egypt	2 350 000
Italy	2 020 000
Indonesia	1 818 000
Pakistan	1 387 000

Sources: FAO, professional sources

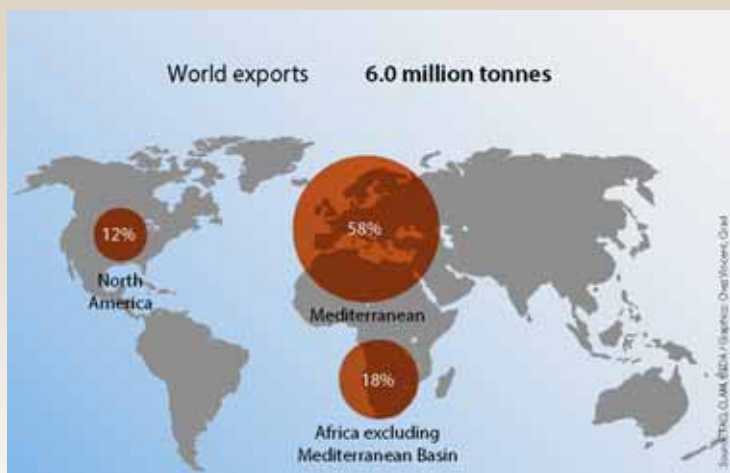
## ORANGE — Imports (2012)



Orange — The 10 leading importing countries	
tonnes	2012
Russia	489 149
Germany	477 313
Netherlands	467 666
France	465 015
Saudi Arabia	360 597
China	292 309
United Kingdom	281 174
Canada	194 473
Iran*	184 287
United Arab Emirates*	182 000

\* 2011 / Source: national customs

## ORANGE — Exports (2011-12)



Orange — The 10 leading exporting countries	
tonnes	2011-12
Spain	1 600 000
Egypt	1 100 000
South Africa	1 019 000
United States	699 000
Turkey	351 000
Greece	303 000
Morocco	140 000
China	129 000
Italy	89 000
Argentina	84 000

Professional sources and national customs

USA — Imports — Major supplying countries						
tonnes	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
<b>Total</b>	<b>116 320</b>	<b>77 134</b>	<b>89 933</b>	<b>106 839</b>	<b>104 335</b>	<b>118 895</b>
<b>N. Hemis., incl.</b>	<b>54 259</b>	<b>19 060</b>	<b>18 386</b>	<b>23 631</b>	<b>15 208</b>	<b>19 954</b>
Mexico	19 241	16 126	16 089	20 636	12 318	17 421
Dom. Rep.	1 860	1 587	1 482	1 840	2 084	2 380
<b>S. Hemis., incl.</b>	<b>62 061</b>	<b>58 075</b>	<b>71 547</b>	<b>83 208</b>	<b>89 127</b>	<b>98 941</b>
South Africa	28 658	33 636	27 246	33 632	35 662	35 961
Chile	2 445	0	20 312	33 393	44 933	51 510
Australia	28 969	21 505	23 486	15 361	7 959	11 100

Source: USDA

Canada — Imports — Major supplying countries						
tonnes	2007	2008	2009	2010	2011	2012
<b>Total</b>	<b>171 738</b>	<b>204 379</b>	<b>185 932</b>	<b>200 795</b>	<b>208 119</b>	<b>194 473</b>
<b>N. Hemis., incl.</b>	<b>127 033</b>	<b>160 203</b>	<b>148 668</b>	<b>162 379</b>	<b>163 728</b>	<b>149 339</b>
USA	94 896	155 542	141 246	159 779	161 300	145 012
Spain	9 502	1 214	3 268	1 452	1 149	3 001
<b>S. Hemis., incl.</b>	<b>40 506</b>	<b>43 244</b>	<b>36 498</b>	<b>37 392</b>	<b>43 588</b>	<b>44 467</b>
South Africa	26 863	31 887	27 128	26 828	33 094	36 297
Chile	4 506	6 764	2 297	3 754	4 928	3 562
Australia	3 602	3 096	3 840	3 708	3 255	3 107
Argentina	3 717	607	472	1 568	1 329	935

Sources: COMTRADE, national customs

Latin America — Major markets						
tonnes	2007	2008	2009	2010	2011	2012
<b>Total</b>	<b>237 115</b>	<b>228 274</b>	<b>238 946</b>	<b>257 694</b>	<b>276 625</b>	<b>305 017</b>
Costa Rica	54 762	41 412	71 880	55 016	74 284	84 001
Guatemala	54 614	47 499	34 826	47 860	40 698	53 066
Surinam	48 836	50 294	47 967	50 000	50 000	50 000
Mexico	18 586	24 867	10 939	22 535	25 132	35 501
Paraguay	14 301	20 588	28 840	37 001	28 784	31 470
El Salvador	33 370	23 149	19 000	22 824	23 000	21 693
Brazil	1 850	971	1 824	6 002	11 527	11 873
Colombia	5 507	1 621	9 775	1 209	17 408	11 203
Ecuador	5 123	17 402	13 702	9 022	2 562	3 321

Sources: COMTRADE, national customs





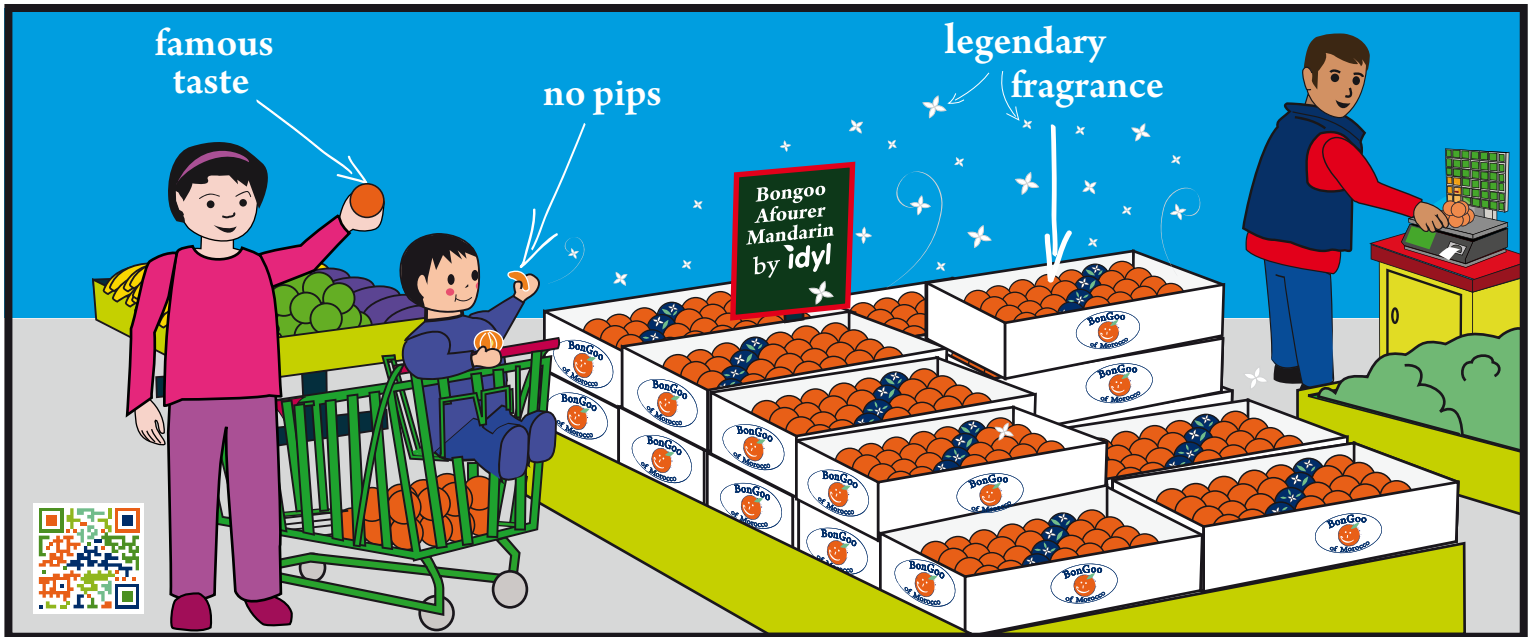
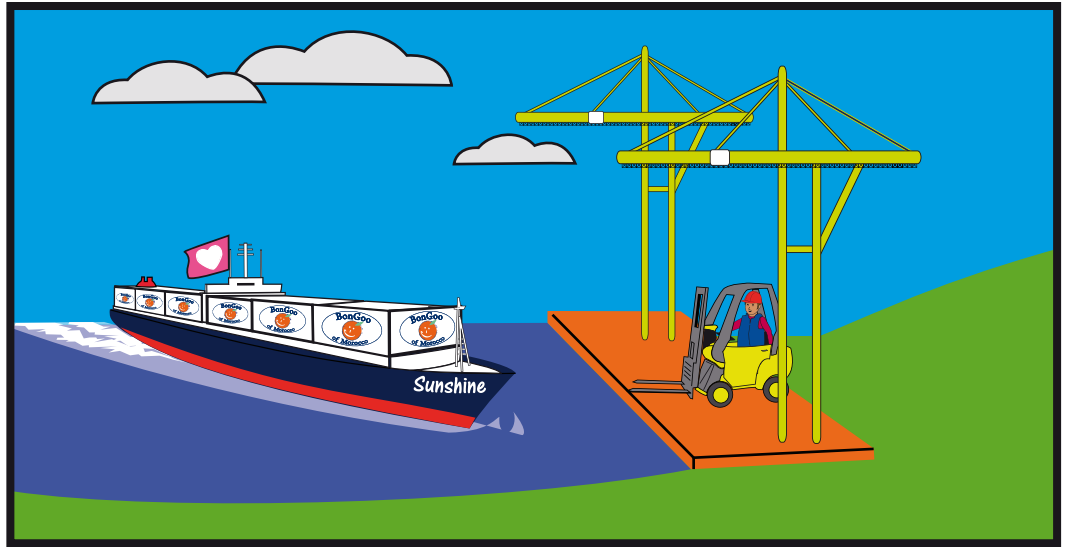
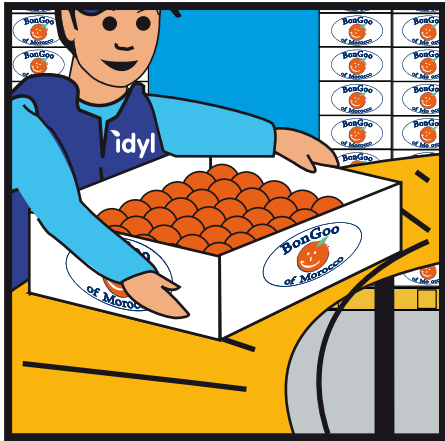
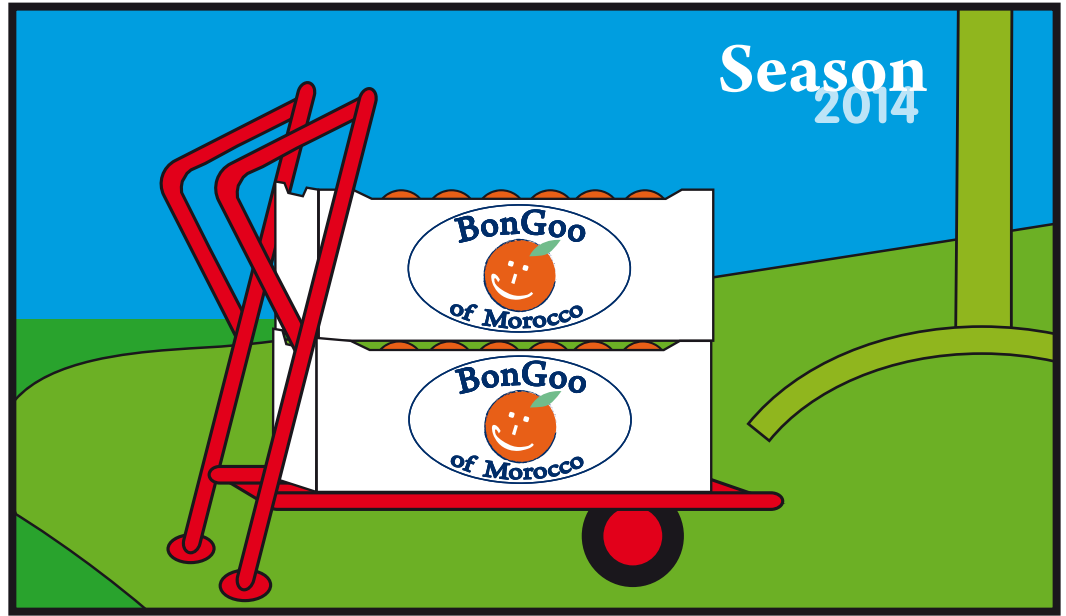
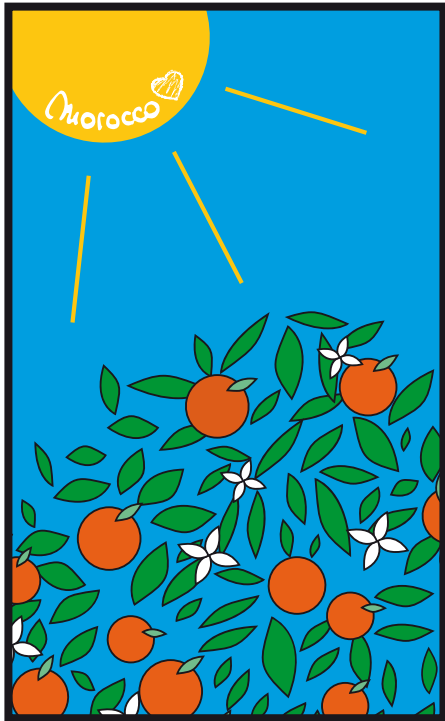
## 2013-14 harvest forecasts for Mediterranean citruses

A major upturn and nearly a record harvest

The 2012-13 season had represented a hiatus in the growth of Mediterranean production, with the combined harvest of the region's main countries dropping back under the 20-million tonne mark. Thanks to these moderate volumes and to a demand taking advantage of the scarcity of the European apple supply, most exporter countries in the zone had been able to re-establish a satisfactory profitability level, with the notable exception of Morocco and Israel. We are set for a completely different season in 2013-14, with a market context much heavier in competing fruits and a considerably more substantial Mediterranean production, approaching the absolute record registered in 2011-12, with more than 21 million tonnes.



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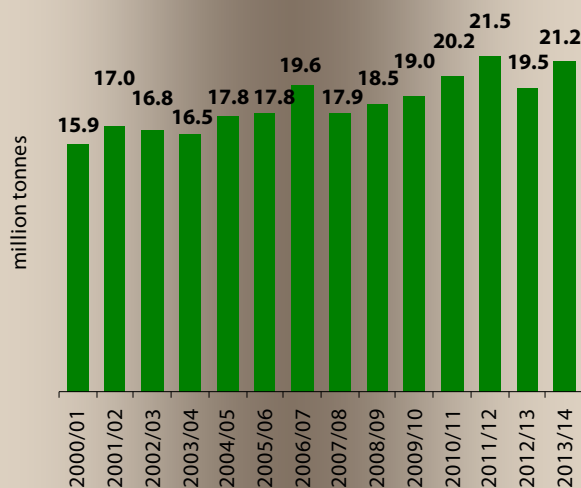
## Mediterranean citrus growing

- Production approximately 23.5 million tonnes, of which more than 21 million tonnes is in CLAM countries.
- 18 % of world production estimated at 131 million tonnes.
- World number 2 production zone after China (23 million tonnes).



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**Citrus - CLAM countries production**



**Citrus — CLAM countries production forecast**

000 tonnes	2013-14	2012-13	2013-14 comparison with	
			2012-13	average of the 4 last years
Spain	6 552	6 801	- 4 %	0 %
Egypt	3 719	3 719	0 %	+ 5 %
Italy	3 250	2 941	+ 11 %	0 %
Turkey	3 095	2 370	+ 31 %	+ 7 %
Morocco	2 203	1 494	+ 47 %	+ 34 %
Greece	1 180	1 126	+ 5 %	+ 7 %
Israel	545	504	+ 8 %	+ 4 %
Tunisia	337	277	+ 22 %	+ 17 %
Cyprus	245	232	+ 6 %	+ 8 %
France	26	29	- 10 %	- 5 %
<b>Total</b>	<b>21 153</b>	<b>19 492</b>	<b>+ 9 %</b>	<b>+ 6 %</b>

## A rise across the board!

All the countries in the region without exception are exhibiting a harvest level above the four-year average. The difference is relatively modest for Italy and for Spain, the leading producer in the zone, which has a good orange production, but only average volumes of easy peelers and lemon. It is more distinct for most of the region's other big citrus growing countries, whose production is measured in millions of tonnes. Turkey is back to a very big harvest, particularly in easy peelers and oranges, which contrasts with its low 2012-13 season. Production is maintaining a record or near-record level in Egypt and Greece, both countries having large volumes of oranges this season. Finally, the increase is particularly steep in Morocco, where the first effects of the citrus growing part of the "Maroc Vert" plan are starting to bear fruit. Among the more modest producers, the rises above the average range from between less than 5 % for Israel and approximately 10 % for Cyprus and Tunisia.

The market context is set to be distinctly more difficult than last season. The apple will recover its full competitiveness, with production returning to an average level in the two main West European producer countries (Italy and France) and exhibiting an extremely high level in Poland, the European leader. Another negative point is the late market entry for citrus at the beginning of the season (late maturity of easy peelers and oranges, extension of the Mexican grapefruit season), which could increase the volumes available during the always critical high-season period.



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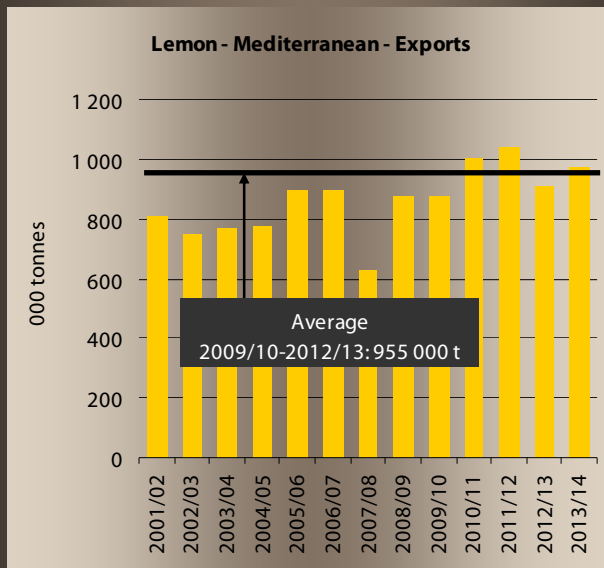


## Mediterranean lemon

- Growing exports between 0.9 and 1.1 million tonnes.
- 63 % of world trade estimated at 1.6 million tonnes.
- The world's leading export zone.



© Régis Domergue



**Lemon — Provisional exports from CLAM countries**

000 tonnes	2013-14	2012-13	Average of the 4 last years	2013-14 comparison with	
				2012-13	average
Spain	440	496	464	- 11 %	- 5 %
Cyprus	8	8	6	+ 3 %	+ 27 %
Turkey	439	336	414	+ 31 %	+ 6 %
Greece	7	7	3	0 %	+ 118 %
Italy	39	29	32	+ 33 %	+ 19 %
Egypt	32	32	30	- 1 %	+ 7 %
Morocco	4.6	2.6	5	+ 77 %	+ 1 %
<b>Total</b>	<b>969</b>	<b>911</b>	<b>955</b>	<b>+ 6 %</b>	<b>+ 1 %</b>

## Lemon: just an average season

The 2012-13 season was highly auspicious for the lemon. The next one is set to be a more ordinary year! The Mediterranean harvest will be bigger than last year, but will exhibit only an average level. Production is rising in Turkey, but is only returning to a normal season level. The same can be said for Spain, where the rise in the Verna harvest appears slightly greater than for the Primofiore. The size range, on the small side in Turkey, is set to be normal in Spain. Italy, which supplements the supply, has a good production level both in terms of volume and size range. The market context seems mainly positive: the frost which hit the Tucuman region (Argentina) in August 2013 should favourably influence the progress of the Mediterranean season. The meagre Argentinian volumes received in August & September enabled Spain and Turkey to start their season under good conditions. In addition, the very probable production shortfall expected in 2014 should enable these two sources to extend their export season in a context of limited competition.



© Denis Loallit

## The orange in distress?

The Mediterranean is set for a very large, or even maybe record, orange production. Yet unlike with easy peelers, the pressure could be very high on the Community market. Spain, which occupies a key position in the supply to the EU with a market share of approximately 80 % in this sector too, has a production level even higher than last season. Despite the growth of the cultivation area, the late season supply does not seem to be rising, but should be just as big as last season, both for table oranges and Valencias, which now represent less than half of the production of Navel Late varieties. On the other hand, the production of Naveline is set to rise, which would make it among the highest recorded. As an aggravating factor, the delayed maturity of the production could also concentrate the supply of this family during the winter months.

On the other hand, the EU markets are set to be much less open than last season, when the scarcity of the apple supply and the high price of apples meant that volumes well above average for the other “basics” of the fruits section could be sold, especially record quantities of oranges from February to April. Furthermore, the prices paid at the production stage for the Spanish Naveline in early November exhibited their lowest level for the past ten years. In addition, the harvest is also set to reach a very good level for the supplementary sources. Egypt, now the number two supplier to the EU far behind Spain, has as high an export potential as in 2012-13, in excess of one million tonnes. Morocco, which follows Egypt in the ranking, has seen its production rise back above the one-million tonne mark for the first time since the late 90s. Italy, which rounds off the supply with its blood varieties, only has an average production, largely comprising small-size fruits. The season is not looking particularly rosy either on the East European markets. As well as the size of the Egyptian harvest mentioned above, the major suppliers on these markets, namely Turkey, Greece and Morocco, are announcing near-record harvests.

### Mediterranean orange

- Growing exports between 3.4 and 3.6 million tonnes.
- 60 % of world trade estimated at 6.0 million tonnes.
- The world’s leading export zone.



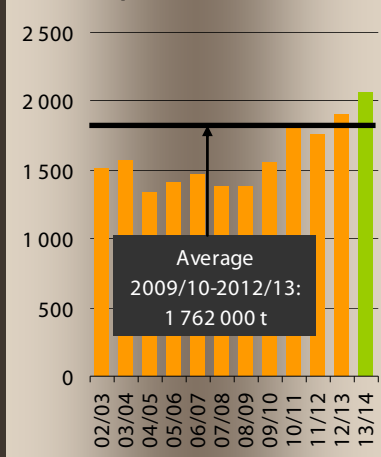
Orange — Provisional exports by variety

000 tonnes	2013-14	2012-13	Average of the 4 last years	2013-14 comparison with	
				2012-13	average
Navel Navelina	2 068	1 900	1 762	+ 9 %	+ 17 %
Blonde	362	312	283	+ 16 %	+ 28 %
Blood	164	148	156	+ 11 %	+ 6 %
Late	1 377	1 305	1 149	+ 6 %	+ 20 %
<b>Total</b>	<b>3 972</b>	<b>3 656</b>	<b>3 343</b>	<b>+ 9 %</b>	<b>+ 19 %</b>

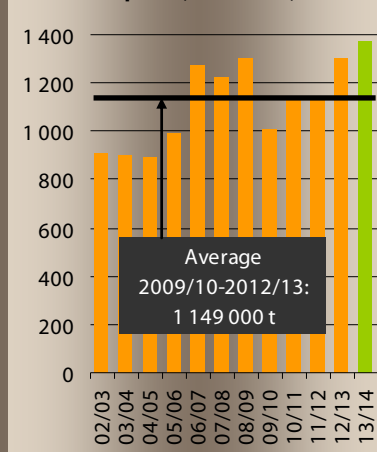
Orange — Provisional exports from CLAM countries

000 tonnes	2013-14	2012-13	Average of the 4 last years	2013-14 comparison with	
				2012-13	average
Spain	1 799	1 771	1 535	+ 2 %	+ 17 %
Morocco	144	75	138	+ 91 %	+ 4 %
Israel	16	7	14	+ 119 %	+ 18 %
Tunisia	20	20	21	0 %	- 4 %
Turkey	434	245	280	+ 77 %	+ 55 %
Italy	121	106	117	+ 14 %	+ 3 %
Cyprus	26	23	26	+ 15 %	+ 2 %
Greece	360	346	340	+ 4 %	+ 6 %
Egypt	1 052	1 063	874	- 1 %	+ 20 %
<b>Total</b>	<b>3 972</b>	<b>3 656</b>	<b>3 343</b>	<b>+ 9 %</b>	<b>+ 19 %</b>

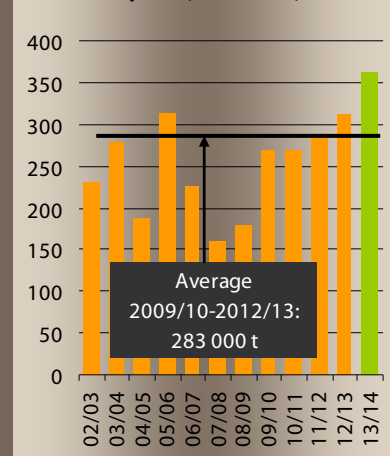
Navel oranges - Mediterranean Exports (000 tonnes)



Late oranges - Mediterranean Exports (000 tonnes)



Blonde oranges - Mediterranean Exports (000 tonnes)



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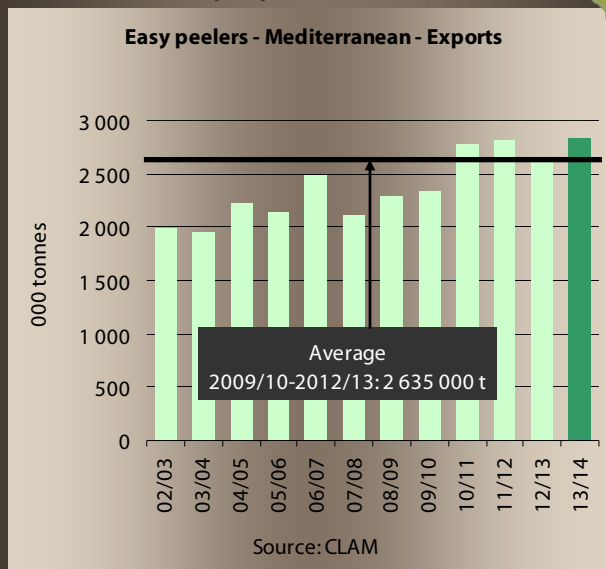
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## Mediterranean easy peelers

- Growing exports between 2.6 and 2.8 million tonnes.
- 67 % of world trade estimated at 4.2 million tonnes.
- The world's leading export zone.



© Régis Domergue



**Easy peelers — Provisional exports from CLAM countries**

000 tonnes	2013-14	2012-13	Average of the 4 last years	2013-14 comparison with	
				2012-13	average
Spain	1 400	1 542	1 536	- 9 %	- 9 %
Morocco	490	307	331	+ 59 %	+ 48 %
Corsica	26	26	22	0 %	+ 17 %
Israel	99	79	72	+ 25 %	+ 37 %
Turkey	551	411	416	+ 34 %	+ 32 %
Italy	78	85	100	- 7 %	- 22 %
Cyprus	59	63	61	- 6 %	- 2 %
Greece	100	91	67	+ 10 %	+ 50 %
Egypt	25	25	30	- 2 %	- 16 %
<b>Total</b>	<b>2 828</b>	<b>2 628</b>	<b>2 635</b>	<b>+ 8 %</b>	<b>+ 7 %</b>

## Easy peelers: production at a historic level with very high pressure on the East European markets

Mediterranean production of easy peelers should beat a record in 2013-14, exceeding for the first time the symbolic 6-million tonne mark. Nonetheless, the supply to the Community market should barely change from last season. Spain, which provides 80 % of volumes, has an average production level in terms of quantity, very similar to that of 2012-13. Volumes of easy peelers, slightly bigger than last season for early clementines (Clemenrubi, first market volumes of Clemensoon, Oronules), should be again comparable to those of 2012-13, with the start of an average Nules season, distinctly lighter than in 2011-12. The Clemenvilla supply is also set for a normal volume. Nonetheless, there are two reasons for concern to consider, relating to the abnormally mild and dry weather since the beginning of the season: the size profile could remain low and the late market entry at the beginning of the season for the early varieties could expand the supply during the always critical high season period. Despite the rise in cultivation areas, the volumes of late Spanish cultivars are set to be lower than last season. This shortfall should however be largely compensated for by the Moroccan Nour and Nadorcott supply, and the Israeli Or supply. Production from these two sources is exhibiting a record level.

It is above all on the East European markets that the pressure is at its most extreme. As in Morocco, the Turkish harvest is set for a historic level, after two light seasons. Only the very probable absence for sanitary reasons of the 80 000 to 90 000 t of Kinnow from Pakistan exported every year to Russia could mitigate the tension from December to February. The supply pressure is also set to be very high in the Balkans. The continuing production of clementines in Greece, which has doubled since the end of the 2000s, should add to the major Turkish volumes already mentioned. Italy and Cyprus, additional players on these markets and more generally on the East European markets, are also announcing volumes of a fairly good level.

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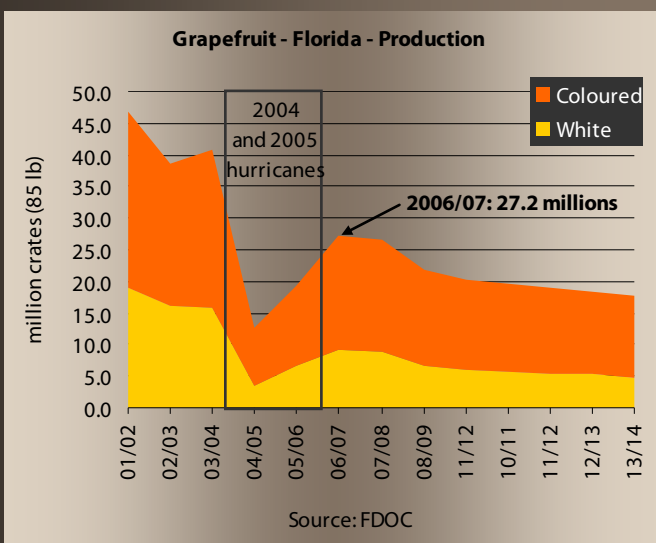


## Florida grapefruit: an unsurprising fall in production

The passing years have seen little change for the Floridian citrus growing industry, with the provisional figure for the 2013-14 season confirming the trend of a slow decline in production since the mid-2000s. The grapefruit harvest is set to be down 3 % for all varieties taken together, with the fall much more considerable for White Marsh (- 9 %) than coloured grapefruits, volumes of which should be practically stable. If this forecast is confirmed, Floridian production will have dropped by practically 10 million boxes since 2006-07 (last normal season after the hurricanes of 2004-05 and 2005-06), i.e. 385 000 t. The only good news is the harvest from Indian River bouncing back by more than 10 %; this zone is more predominant than ever in terms of volumes but also in terms of conditions for quality. Maturity was reached somewhat later than last season, by approximately one month if we analyse the acidity level and sugar/acid ratio. The fruit size is also well down on the already limited size from last season: the size 40 represented barely 6.5 % of production in early October, its lowest level since the early 2000s! Both these indicators, coupled with the lacklustre European grapefruit market in October and November, help provide a better understanding of the extent of the delay in exports since the start of the season. This delayed launch probably points toward a somewhat late end to the season.

Grapefruit — Florida — Production forecast

Million field crates (85 lb)	2013-14	2012-13	2013-14 comparison with	
			2012-13	average of the 4 last years
White	4.8	5.3	- 9 %	- 14 %
Coloured	13.0	13.1	- 1 %	- 5 %
<b>Total</b>	<b>17.8</b>	<b>18.4</b>	<b>- 3 %</b>	<b>- 8 %</b>



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**Grapefruit:  
a taste still as bitter  
for Mediterranean production**

The season is not particularly auspicious for the grapefruit. On the one hand, the umpteenth poor performance registered in the last winter season, despite only average volumes, seems to confirm the aggravation of the consumption crisis affecting this product. On the other hand, the Mediterranean harvest is not exhibiting a record level, but is up considerably from last season. The production in Spain and Israel seems practically stable and near-average, or slightly below-average. On the other hand, it is rising considerably in Cyprus and above all in Turkey, where the size range is also set to be low. Finally, sales have been particularly slow throughout the first part of the season, due to the extension of the catastrophic Mexican season ■

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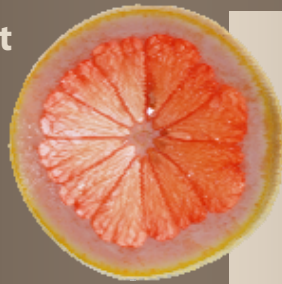
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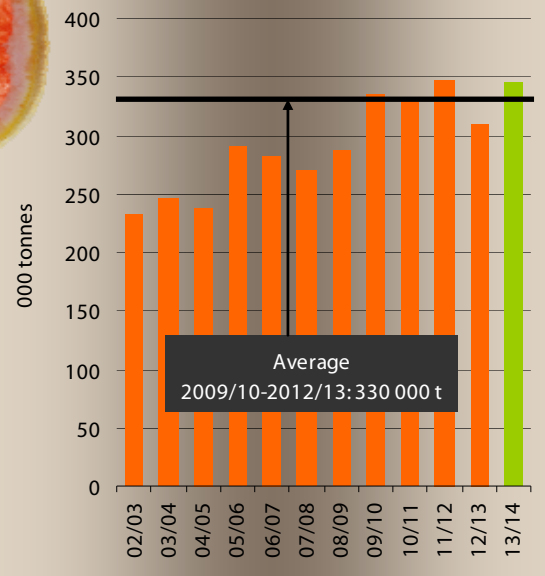


## Mediterranean grapefruit

- Growing exports between 310 000 and 350 000 t.
- 42 % of world trade estimated at 730 000 tonnes.
- The world's leading export zone.



Grapefruit - Mediterranean - Exports



Grapefruit — Provisional exports from CLAM countries

000 tonnes	2013-14	2012-13	Average of the 4 last years	2013-14 comparison with	
				2012-13	average
Spain	50	52	50	- 3 %	+ 1 %
Israel	72	79	81	- 9 %	- 11 %
Cyprus	30	26	25	+ 17 %	+ 19 %
Turkey	175	135	153	+ 30 %	+ 14 %
Italy	2	2	4	+ 31 %	- 47 %
Egypt	15	15	17	- 2 %	- 10 %
<b>Total</b>	<b>344</b>	<b>308</b>	<b>330</b>	<b>+ 12 %</b>	<b>+ 4 %</b>

Citrus — Mediterranean Basin — Provisional exports in 2013-2014

000 tonnes	Total	France	Spain	Morocco	Algeria	Tunisia	Italy	Israel	Cyprus	Greece	Turkey	Egypt	Gaza*
<b>Total easy peelers</b>	<b>2 828.2</b>	<b>26.0</b>	<b>1 400.0</b>	<b>489.5</b>	-	-	<b>78.5</b>	<b>98.5</b>	<b>59.1</b>	<b>100.0</b>	<b>551.2</b>	<b>25.4</b>	-
Satsuma	355.3	-	60.0	-	-	-	-	-	-	-	295.3	-	-
Clementine	1 566.3	26.0	1 000.0	400.0	-	-	74.4	-	-	56.0	9.8	-	-
Mandarin/Wilking	196.8	-	30.0	-	-	-	4.0	-	-	-	137.3	25.4	-
Ortanique	9.8	-	-	5.7	-	-	-	3.5	0.6	-	-	-	-
Nova	159.9	-	95.0	6.2	-	-	-	15.0	3.0	-	40.7	-	-
Various	540.2	-	215.0	77.6	-	-	-	80.0	55.5	44.0	68.1	-	-
<b>Total oranges</b>	<b>4 066.9</b>	-	<b>1 800.0</b>	<b>143.9</b>	-	<b>20.4</b>	<b>120.7</b>	<b>16.0</b>	<b>26.1</b>	<b>360.0</b>	<b>433.8</b>	<b>1 109.2</b>	<b>37.0</b>
Navel/Navelina	2 075.3	-	800.0	12.7	-	-	16.8	1.0	-	307.3	300.3	637.2	-
Salustiana	169.2	-	150.0	19.2	-	-	-	-	-	-	-	-	-
Shamouti	37.1	-	-	-	-	-	-	10.0	-	-	21.1	-	6.0
Common blonde	164.0	-	-	-	-	-	-	-	-	8.8	41.0	114.2	-
Moro-Tarocco	91.8	-	-	-	-	-	91.8	-	-	-	-	-	-
Maltese	19.9	-	-	-	-	19.9	-	-	-	-	-	-	-
Sanguinelli	3.8	-	-	-	-	-	3.8	-	-	-	-	-	-
Other blood oranges	48.9	-	-	20.0	-	-	-	-	-	-	28.9	-	-
Verna	-	-	-	-	-	-	-	-	-	-	-	-	-
Oval	3.9	-	-	-	-	-	3.9	-	-	-	-	-	-
Late	1 405.8	-	849.0	92.0	-	0.5	4.4	5.0	26.1	43.9	42.5	311.5	31.0
Bitter	47.3	-	1.0	-	-	-	-	-	-	-	-	46.3	-
<b>Total lemon</b>	<b>973.7</b>	-	<b>440.0</b>	<b>4.6</b>	-	-	<b>38.5</b>	<b>2.5</b>	<b>8.1</b>	<b>7.3</b>	<b>438.8</b>	<b>32.2</b>	<b>1.7</b>
Other citrus	3.4	-	-	-	-	0.1	-	3.0	-	-	-	0.3	-
<b>Total grapefruit</b>	<b>345.7</b>	-	<b>50.0</b>	-	-	-	<b>2.1</b>	<b>72.0</b>	<b>29.9</b>	<b>1.6</b>	<b>174.7</b>	<b>15.3</b>	-
White grapefruit	63.1	-	-	-	-	-	-	17.0	11.4	-	19.4	15.3	-
Other grapefruit	282.6	-	50.0	-	-	-	2.1	55.0	18.6	1.6	155.3	-	-
<b>Total</b>	<b>8 217.9</b>	<b>26.0</b>	<b>3 690.0</b>	<b>638.0</b>	-	<b>20.5</b>	<b>239.7</b>	<b>192.0</b>	<b>123.2</b>	<b>468.8</b>	<b>1 598.5</b>	<b>1 182.4</b>	<b>38.7</b>

\* estimate / Source: CLAM





## World orange juice market

A breath of oxygen in 2013-14

The 2013-14 season should produce a better vintage than last year for Brazilian and Floridian orange producers, which between them control more than 80 % of world orange juice trade. With the Brazilian harvest set to fall steeply, there is renewed hope of seeing the main concentrated juice market indicators emerge from the red zone. The last two high-production seasons 2011-12 and 2012-13, in a context of structural decline in demand, had driven down rates on the physical market by more than 20 %, plunging the vast majority of Brazilian orange producers into crisis. Faced with juice stocks building up to reach a historic level, raw material purchases by the handful of big manufacturers in the sector had dried up, to the point of pushing the price per field crate of oranges below the production cost.



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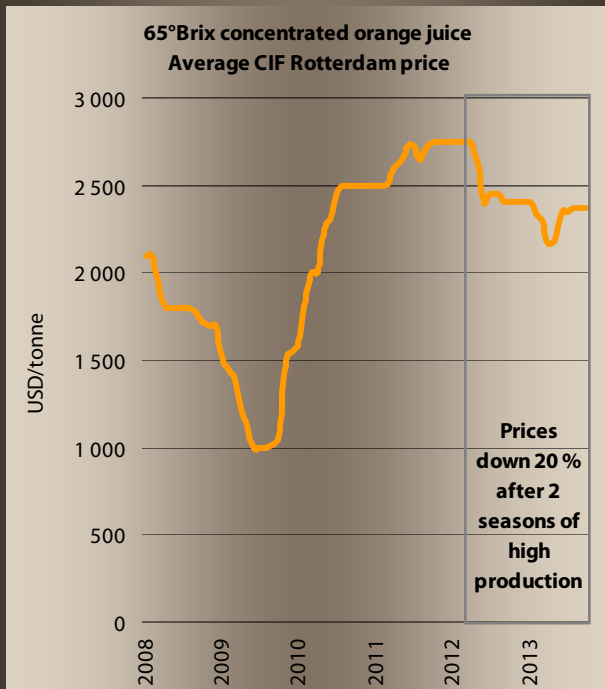
## Harvests nearing their historic low points in Brazil and Florida

With 421 million field crates, the combined 2013-14 harvests for Florida and Sao Paulo state are at their lowest level for the past ten years. The fall from last season is 20 %, and nearly 30 % from 2011-12. The Floridian season seems to be practically stable in relation to last year, if we believe the estimates of the main consultants from the sector (no official forecast from the USDA at the time of going to press, due to the shutdown in October). However, with 130 to 132 million boxes, it would seem to be among the lowest ever recorded, nearly equalling the historic low point of 129 million boxes of 2006-07, when devastating hurricanes had caused extensive direct losses. Yet should this level not itself be considered too high?

This is clearly the case if fruit dropping is as great as in 2012-13, when it led the USDA to slash by more than 20 million boxes the initial October forecast, as the season progressed. At present, Brazil has the most marked production fall: the Sao Paulo region, the country's citrus growing heartland, is reportedly 100 million field crates down on the last two seasons. As in Florida, the harvest, estimated at 290 million field crates, is reportedly verging on the lowest levels ever recorded since the early 2000s. In addition, the juice yield also seems to be among the lowest, for lack of sufficient rainfall during the last cropping cycle. In early October, it took 270 field crates of 40.8 kg to produce one tonne of concentrated juice, as opposed to 240 in a satisfactory year.

## Market health indicators starting to bounce back

The market has reacted positively to this projection. The spot price per field crate of oranges was at 7.80 BRL in mid-October, up by nearly 2 BRL from early 2013 according to CEPEA. The concentrated juice physical market has also bounced back. After dropping 600 USD per tonne in a year, since the announcement in spring 2012 of another heavy season in Brazil, rates have started to bounce back. They were at 2 375 USD/t FOB Rotterdam, according to Foodnews in late July, after strengthening by 200 USD since spring. Why did the upturn not continue from there, and why has it not been as marked as at the opening of the 2010-11 season, when such a low combined production had been announced? The answer lies of course in the Brazilian stocks, which have never been as large.



Source: Foodnews



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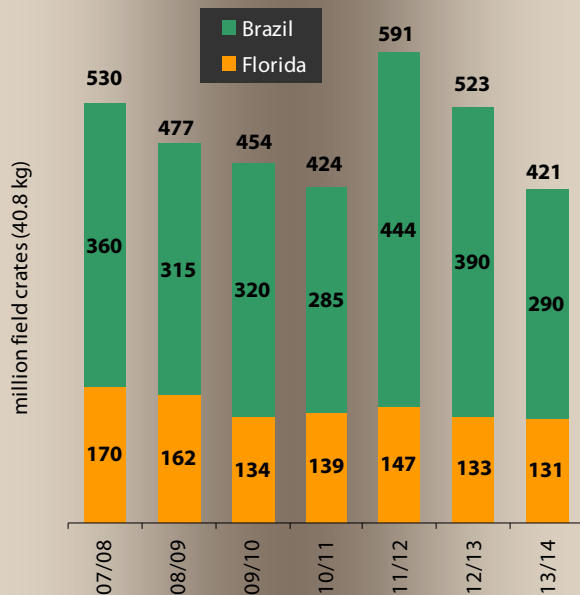


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Orange — Florida and Brazil — 2013-14 harvest

million field crates (85 lb)	2013-14	2012-13	Average of the 4 last years	2013-14 comparison with	
				2012-13	average
Florida	131	133	138	- 2 %	- 5 %
Brazil	290	390	360	- 26 %	- 19 %
<b>Total</b>	<b>421</b>	<b>523</b>	<b>498</b>	<b>- 20 %</b>	<b>- 15 %</b>

Orange - Florida and Brazil (Sao Paulo)



Sources: FDOC, USDA

## Greening weighing down on Brazil more than ever

The fall in Brazilian production which should be seen in 2013-14 is not only due to the lack of rain and to the inevitable stress on the orchards after two high-production years. It also reveals the structural problems from which the Brazilian industry is continuing to suffer, with an intensity seemingly never to have been as great. On the one hand, the sanitary situation of the cultivation stock remains very bad. The toll taken by the most emblematic of the many pathologies affecting Brazilian citrus growing, namely greening, is heavier every year. According to CDA, this incurable and lethal bacteriosis has cost the Brazilian cultivation stock 30 million trees since its appearance in 2004, 7.5 million of which in 2012 alone, i.e. approximately 3 %. And the bill is set to be even greater in 2013, since 3.7 million orange trees were already pulled up in the first half-year alone.

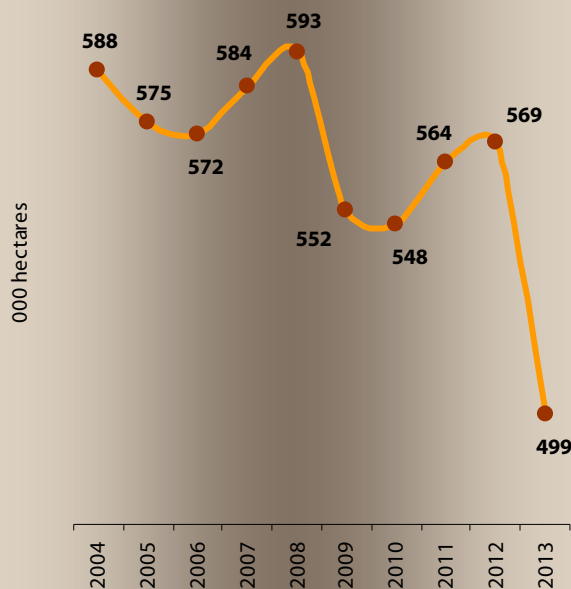
## Economically strangled, a significant proportion of small and medium producers are throwing in the towel

The economic situation of small and medium producers, on which a large proportion of the supply chain continues to rely, is also increasingly worrying. The price per field crate of oranges paid by the industry on a non-contract basis fluctuated between 2.80 and 3.20 USD throughout the 2012-13 season, while the production cost is estimated at between 3.70 and 5.50 USD (4.40 USD according to Consecitrus, the industry's representative body). Meanwhile,





Orange - Sao Paulo - Planted areas



Source: IBGE

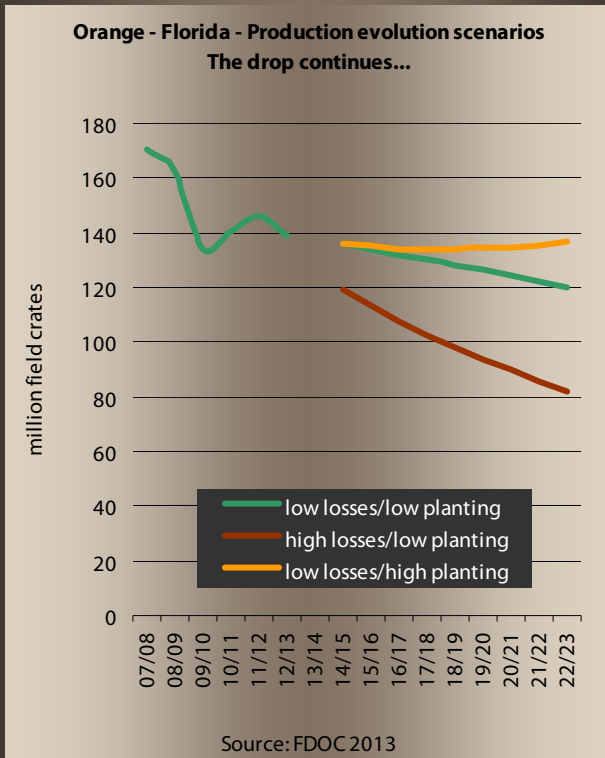
the production costs keep swelling. The steep rise in labour costs in the country, in the midst of an economic boom, comes on top of the worldwide price increases in energy and agricultural inputs. Hence the number of producers abandoning the orange in favour of more lucrative crops such as soy or sugar cane has taken on proportions never seen last season. According to IBGE, the Brazilian orange cultivation area lost 60 000 ha between 2011-12 and 2012-13, i.e. 7.5 % of its total extension. This massive wave of uprooting came when the Brazilian State decided to support the sector by releasing a package of 65 million USD. Manufacturers paying between 11 and 12 BRL per field crate of oranges were entitled to a storage subsidy, helping them protect themselves against the market falls.

Yet faced with rising production costs and sanitary problems, many producers have lost the will to go on, especially since the processing sector is increasingly powerful thanks to the concentration and vertical integration operations performed in recent years. Since 2010 and the merger of Citrusuco/Citrovita, the Brazilian industry no longer has four heavyweights, but three giants who incorporate a growing share of their own production. According to the Chairman of CitrusBR, 40 % of the supply of these groups comprises their own production, as opposed to around ten percent thirty years ago. The producers' associations lament the increasingly imbalanced relationships of power, and the increasingly unequal distribution of added value. The main association, Associtrus, has even taken the matter before the Federal authorities to obtain a re-balance from the State, pointing out that the 180 % increase in concentrated juice rates over the past eight to ten years had coincided with a fall in the purchase price of raw material.

In this context it is hard to imagine seeing the surface areas bounce back, especially in the Sao Paulo region. However, the cultivation area is tending to grow on the other side of the State borders, in the "Triangulo Mineiro" in the western tip of the neighbouring department of Minas Gerais. The sanitary pressure is lower there, and land prices much less high. Surface areas there rose by 7 % in 2012



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and by nearly 30 % since 2008. However, these surface areas seem well short of compensating for the decline of the Sao Paulo region.

### Satisfactory economic results in Florida, though with just as swollen a context

There will be no rising volumes of oranges for processing to be found in Florida either in the coming years. True, the economic results have been convincing in recent seasons, thanks to a positioning on an NFC market more lively and more lucrative than the concentrated market. Since 2006-07, the price per field crate from the orchard has risen to a lucrative level of between 6 and 10 USD (approximately 8 USD in recent seasons). However, most investors are still reticent, given the difficulties facing the industry, and which are also tending to proliferate. In 2010 black spot was added to the list of sanitary problems, which had long since included citrus canker and tristeza, and since 2005 very severe greening. Managing the latter disease and the explosion in energy prices have driven production costs up steeply, not to mention the urban development in this prized region and the shortage of agricultural labour.

### The shrinkage of surface areas in cultivation continues

With so many uncertainties over the long term, the continuing downward trend of the cultivation area is no surprise. True, the tree mortality rate remains stable and rather low, at least for the moment. Nonetheless, it remains twice the renewal rate of the cultivation stock. Assuming this trend is extended over the coming years, FDOC predicts a continued downward trend of production, and a harvest of barely more than 120 million field crates

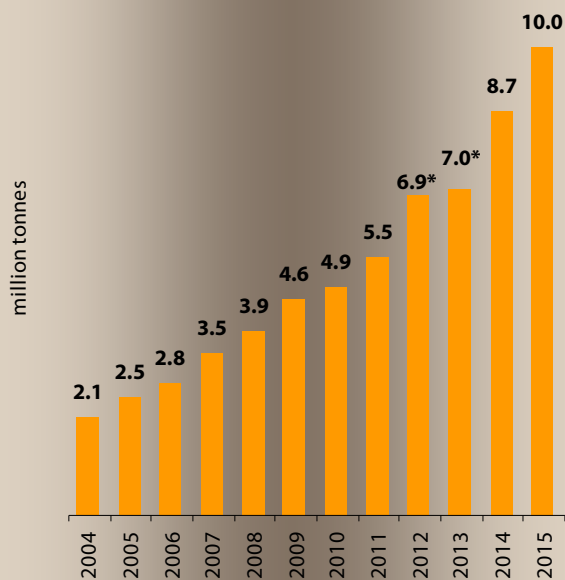


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**Orange - China - Production**



Sources: MOA, USDA\*

by 2020, i.e. approximately 10 million boxes fewer than at present. Yet other problems are coming on top of the reduction in the number of productive trees. Due to lack of renewal, the cultivation stock is ageing and yields are declining: they have gone from 350 field crates per acre before the hurricanes in the mid-2000s to 260-290 field crates per acre in recent seasons. Finally, should we see a one-off and short-term problem in the abnormally abundant fruit dropping that occurred in 2012-13 or, conversely, the sign of very high stress on the trees because of sanitary problems, and in particular greening? Next season will surely provide some answers.

### A boom expected in Chinese concentrated juice production

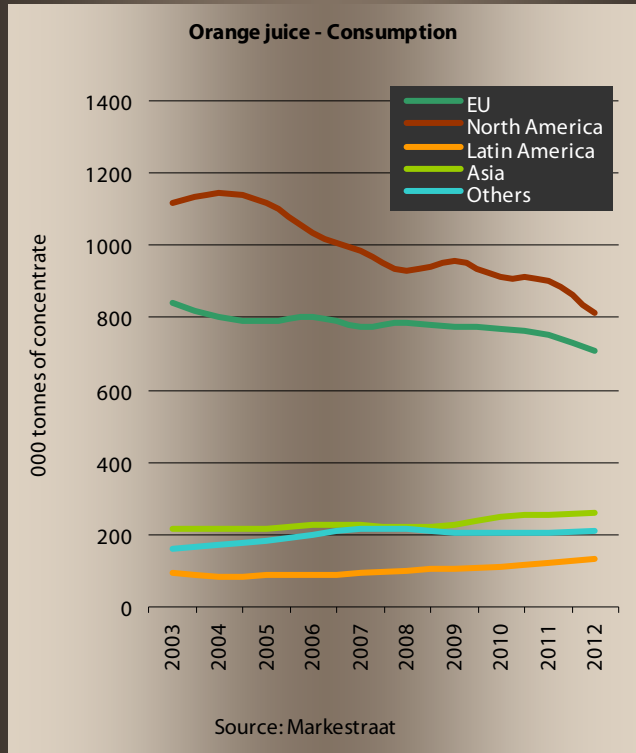
While Florida and Brazil are on a rather downward trend, China is making big steps forward. Could the boom in its citrus production, from under 12 million tonnes to more than 26.5 million tonnes between 2000 and 2010, upset the balances on the world concentrated juice market? A study recently published by the University of Florida makes some interesting points to think about, looking into whether the Middle Kingdom should be seen more as a potential market or as a medium-term competitor. The harvest levels expected in the coming years are somewhat concerning, if we can believe the projections: the production boom does not seem to be close to stopping, since in view of the planted surface areas, China could be capable of producing more than 40 million tonnes of citrus by 2015, with more than 10 million tonnes of oranges (as opposed to fewer than 7 million today). Juice orange production, growth of which is among the main expectations of the 2nd strategic citrus plan launched in 2008, should also take off and rise from its current level of 2 million tonnes to 4 million in 2015 and 7 million in 2020. Under this programme,



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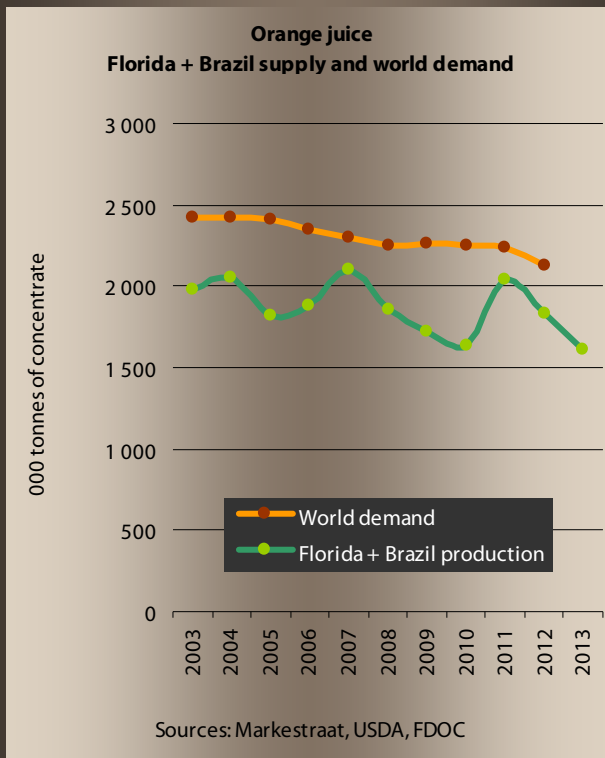
**Orange juice — Consumption (concentrated juice equivalent)**

000 tonnes	2012	World consumption share	Change	
			2003/2012	2008/2012
EU	709	+ 33 %	- 15 %	- 10 %
North Am.	816	+ 38 %	- 27 %	- 12 %
Latin Am.	135	+ 6 %	+ 44 %	+ 38 %
Asia	258	+ 12 %	+ 20 %	+ 16 %
Others	210	+ 10 %	+ 31 %	- 2 %
<b>Total</b>	<b>2 128</b>		<b>- 12 %</b>	<b>- 5 %</b>

Source: Markestraat

a “juice orange citrus belt” has been set up and is continuing to be developed in the upper and middle valleys of the Yangtze, especially in Shaanxi, Sichuan and Gansu provinces. Another reason for concern is that the processing capacity should also increase steeply, going from 1.2 million tonnes in 2010 to 1.5 million tonnes in 2015. While the growth in Chinese orange juice production is not in doubt, will this source be able to compete with, or even as has been seen in other sectors crush, the industries of other producer countries?

For the authors of the study published by the University of Florida, the answer is no, at least in the medium term. Although orange juice remains primarily an ingredient in the composition of low-juice drinks, the annual growth of volumes sold locally has been more than 20 % in the past 10 years. The margin for growth is extremely wide given the present consumption of around one third of a litre per capita. Hence the Chinese market should absorb most of this additional production, with the consumption projections counting on a level of approximately one litre per capita by 2015. The lack of competitiveness of Chinese concentrated juice is another factor reinforcing the hypothesis of a small presence from this source on the international market in the medium term. A processing period shortened to four months because of the tightness of the production window, the high energy price and the lack of organisation of the sector mean that the cost of production is now high, and approximately 10 % above those applicable on the international market. As proof of this, Chinese factories are not operating at full capacity, and 75% of consumption is catered for by imports.



### World demand as ailing as the cultivation stocks of Florida and Brazil

The downward trend in volumes available on the international market seems rather clear. Unfortunately, it seems just as clearly that demand is going the same way. If we believe the statistics in Markestraat, the combined consumption of the world's 40 biggest markets (expressed in concentrated juice equivalent) went down from 2.4 to 2.1 million tonnes between 2003 and 2012, i.e. a fall of just over 12 %. Is this trend, to be attributed to the drop in volumes absorbed by the EU-27 and above all to the clear fall in sales in the United States (down by nearly 27 % over the same period!), about to ease off? That is what the period 2008-2011 could lead us to think, when the extent of the fall seemed less pronounced, before the "Carbendazim crisis", the fungicide discovered in Brazilian juice at doses with no effect on health, arose to sow unease among consumers in 2012. The 2013 figures will help see things more clearly. The acceleration of growth on the emerging markets (particularly South America) seems to be another positive indicator.

The comparison of the worldwide consumption curve and the highly irregular curve of concentrated juice production from the two main players shows that the two phenomena appear fairly parallel. What can we conclude in terms of prices in this context? Perhaps Coca Cola can answer this tricky question. To secure the supply of its brands Minute Maid and Simply, the multinational, the world leader in juice sales, announced the signature of a supply programme for the next 20 years with Cutrale and Peace River Citrus, which should lead to 10 000 ha of orange orchards being planted in Florida. This 2 million USD strategic sourcing makes a much better case than all the statistics on Earth for some pull on the international market in the coming years ■

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# Citrus pests and diseases

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



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



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



## Citrus cultivation

The world's leading fruit crop grown between the latitudes 40° N and 40° S, citrus fruits were domesticated in Asia. Ancient texts refer to sour citrus fruits in India from 800 BC onwards, and mandarins, oranges and grapefruit in China at the time of Confucius. Trade and military conquests contributed strongly to the spread of citrus. This was first overland via Asia Minor and the Middle East as Roman and Greek influence spread (citron fruit, bitter orange) and then through Islam and the Crusades (sour citrus). The cit-

ron fruit was the first species grown in the Mediterranean several centuries before the Common Era. New citrus fruits such as sweet oranges were introduced around the Mediterranean basin in the sixteenth Century thanks to Portuguese navigators and the possibility of direct maritime trade with the Far East and China. These species were then disseminated in Africa and America. The first mandarins were introduced in the Mediterranean region much later. The fruit is mentioned at the beginning of the nineteenth Century in Italy and not until 1850 in North Africa. However, the Mediterranean has been an important diversification zone for the three most important economic species—orange, mandarin and lemon. The grapefruit, *C. paradisi*, a natural hybrid of shaddock, is one of the rare commercial citrus fruits to have originated in the Caribbean.

### Agronomy

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

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

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

Preliminary pruning is performed in the early years. Annual maintenance pruning then balances and aerates the foliage and ensures the renewal of fruit-bearing shoots. Irrigation is essential in dry areas and can be in the form of subfoliar sprinkling or trickle irrigation (soakers, drip, etc.). Fertilisation can be combined with irrigation in this case (fertigation) to save inputs and ensure steady mineral nutrition.

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

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



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

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

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



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

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



## Main citrus varieties

photos © Régis Domergue

### Easy peelers

#### Clementine

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



#### Nova

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



#### Minneola

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



### Orange

#### Valencia Late

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

#### Navel

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

#### Maltese

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

#### Salustiana

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



## Lemon

### Eureka

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

### Fino

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

### Verna

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

### Limes

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





## Citrus harvesting and storage

Citrus fruits are not climacteric and their quality does not therefore improve after harvesting. Suitable storage can slow their development: an appropriate positive temperature, 85 to 90% relative humidity and ventilation. Fruits must be harvested at a stage of maturation close to optimum ripeness—and hence optimum quality. Quality is characterised mainly by the juice content, the dry extract/acidity ratio and flavour. Fruits must be handled with care during the harvest and not be wetted, so as to limit subsequent risks of physiological deterioration or the entry of pathogens. Transport to the packing stations must be carried out as soon as possible.

### Degreening and storage

As fruits approach the ripe stage, green chlorophyll pigments disappear gradually, revealing the other yellow, orange and red epidermis pigments. This change requires cool temperatures lower than 13°C. These temperature conditions are not found in the tropics or in a Mediterranean climate in early autumn when the early varieties are picked. The fruits therefore remain green or are poorly coloured. Degreening is possible if significant breakdown of chlorophyll pigments has started naturally. Degreening is performed by placing the fruits in a chamber with a controlled atmosphere containing 1.0 to 5.0 ppm ethylene. The temperature is set at 22 to 25°C for oranges, and at a lower temperature for lemons, with relative humidity of 85 to 90%. The technique reduces storage time since ethylene stimulates senescence in citrus fruits. The duration of chilled storage can be lengthened by the application of wax or a stretch film reducing respiratory exchange and water loss. In contrast, controlled atmospheres have little or no effect.

### Physiological deterioration

This is caused mainly by impacts in the orchard that are revealed later or during storage.

**Frost:** in the orchard or after the harvest. The skin looks wet and translucent and the segments dry out.

**Chilling injury:** exposure to temperatures that are above freezing point but lower than the optimum storage temperature. They cause the bursting of the essential oil glands, resulting in the burning of tissue and the appearance of small sunken brown spots on the peel; these may become coalescent. Fungal damage may subsequently occur.

**Oleocellosis:** caused by temperature variations in the field or bruising during harvesting or storage. Symptoms are very similar to those of chilling injury.

**Abrasion by brushing:** caused by skin fragility, the use of brushes that are too hard or by too high a brushing speed. The upper layers of the skin are eroded, resulting in dry patches of varying width and flow of essential oil that burns the tissue.

### Fungal damage

More than 75% of postharvest citrus rots are caused by two *Penicillium* moulds (*P. italicum* and *P. digitatum*). Some rots should not appear during storage if harvesting is performed carefully:

- bitter rot caused by *Geotrichum candidum* affects fallen fruits or fruits soiled with earth;
- *Cladosporium herbarum* causes symptoms similar to those of *Alternaria citri*. Contamination by rotting, infested plant wastes occurs during harvesting;
- black mould rot of peel caused by *Aspergillus niger* affects wounded or damaged fruits stored at a temperature of over 15°C;
- infection in the orchard by *Botryosphaeria ribis*, *Physalospora rhodina* or *Diaporthe citri* causes a brown and then blackish rot of the skin and the underlying tissues in the stalk zone during storage. It is controlled by orchard or postharvest treatments.

Post-harvest diseases	Blue mould <i>Penicillium italicum</i>	Green mould <i>Penicillium digitatum</i>	Black rot Anthracnose <i>Alternaria citri</i>	Brown patch <i>Glomerella cingulata</i> (= <i>C. gloeosporioides</i> )	Brown rot <i>Phytophthora</i> sp.
Symptoms and part of the fruit affected	Paling and softening of the skin; white down (mycelium) then appears; covered with blue spores; pulp affected simultaneously.	Slight paling and softening of the epidermis; then bright white down grows in circular layers, covers with green spores from the centre. The entire fruit (peel, pulp) is finally affected, fruit cannot be eaten from the beginning.	Black rot on columella and segments, and/or peel.	Spotting of unripe fruits developing into brown patches that become soft with ripening and then affect the pulp. Marked odour. Degreened fruits very susceptible.	Start: spotted discoloration of peel and then spread of the patches; variable colour with brown patches and finally fruit disintegration. In storage: fine white mycelium with brown areas; characteristic odour.
Infection pathway	Spores on intact epidermis, fruit to fruit contamination.	Spores on wounded epidermis.	Wounds, penetration by the navel and the style scar.	Fruits wounded in the field.	Spores on intact epidermis.
Site of infection	From packing to consumption.	In the orchard, but above all from picking to consumption.	Orchard and warehouse.	Orchard.	Orchard: splashing with water. Packing: contaminated washing water. Storage: fruit to fruit contamination.
Species and varieties susceptible	All varieties.	All varieties.	Navel orange, madarin, lemon.	All varieties, but above all mandarins.	All varieties (orange more susceptible).



# Wholesale market prices in Europe

## October 2013

					EUROPEAN UNION — EURO				
					Germany	Belgium	France	Holland	UK
<b>AVOCADO</b>	Air Sea	TROPICAL ETTINGER HASS	BRAZIL	Box			12.80	17.50	14.24
			ISRAEL	Box	5.00		5.17	6.28	6.23
			BRAZIL	Box					7.12
			CHILE	Box	9.25		8.75		
			KENYA	Box			6.33		
			MEXICO	Box			7.50		
	Truck	RINTON RYAN TROPICAL BACON	PERU	Box	9.25	8.63	6.50	8.25	
			SOUTH AFRICA	Box		6.00		9.75	8.30
			SOUTH AFRICA	Box				6.85	
			SOUTH AFRICA	Box				7.00	
			DOMINICAN REP.	Box			11.20		
			SPAIN	Box				6.00	7.12
<b>BANANA</b>	Air	RED SMALL	ECUADOR	kg				4.88	
			COLOMBIA	kg			6.80	5.17	
	Sea	SMALL	ECUADOR	kg		5.67			
			ECUADOR	kg			1.70	2.65	
<b>CARAMBOLA</b>	Air		MALAYSIA	kg		5.67	5.41	4.93	
	Sea		COLOMBIA	kg					3.39
<b>CHAYOTE</b>	Sea		COSTA RICA	kg				1.39	
<b>COCONUT</b>	Sea		COSTA RICA	Bag		6.00			
			COTE D'IVOIRE	Bag			10.50	11.23	12.46
			DOMINICA	Bag					10.68
			SRI LANKA	Bag			13.50	20.10	8.90
<b>DATE</b>	Sea	MEDJOO NOT DETERMINED	ISRAEL	kg				7.82	6.53
			TUNISIA	kg				2.00	
<b>DURIAN</b>	Air		THAILAND	kg				7.90	
<b>EDDOE</b>	Sea		COSTA RICA	kg			1.60		
<b>GINGER</b>	Sea		BRAZIL	kg		2.62		2.78	
			CHINA	kg	1.85		2.55	2.48	2.47
<b>GUAVA</b>	Air		BRAZIL	kg			6.20	6.34	
			ECUADOR	kg				7.00	
			ISRAEL	kg				7.00	
			KENYA	kg					2.09
			THAILAND	kg				7.25	
<b>KUMQUAT</b>	Air		SOUTH AFRICA	kg				4.38	
<b>LIME</b>	Air		MEXICO	kg			4.50		
	Sea		BRAZIL	kg	1.11	1.33	1.25	1.21	1.15
			MEXICO	kg		1.44	1.32	1.21	0.93
<b>LONGAN</b>	Sea		THAILAND	kg				3.92	
<b>MANGO</b>	Air	NAM DOK MAI PALMER	THAILAND	kg				8.20	
			BRAZIL	kg		5.00		3.88	
	Sea	ATKINS NOT DETERMINED	BRAZIL	kg			1.13	1.03	
			BRAZIL	kg					1.12
			ISRAEL	kg					1.32
	Truck	KENT OSTEEN	SPAIN	kg			4.20		
			SPAIN	kg			2.70		2.67

					EUROPEAN UNION — EURO					
					Germany	Belgium	France	Holland	UK	
<b>MANGOSTEEN</b>	Air		THAILAND	kg				10.00		
<b>MANIOC</b>	Sea		COSTA RICA	kg			1.20	1.08		
<b>MELON</b>	Sea	CANTALOUPE GALIA	BRAZIL	kg				1.90	0.79	
			BRAZIL	kg	1.00			1.30	1.01	
			ISRAEL	kg		1.00		1.20		
		HONEY DEW PIEL DE SAPO SEEDLESS WATER WATERMELON	BRAZIL	kg	0.63	0.63			0.76	0.74
			BRAZIL	kg					1.08	
			BRAZIL	kg					0.58	
		BRAZIL	kg				0.54	0.63		
<b>PAPAYA</b>	Air	FORMOSA NOT DETERMINED	BRAZIL	kg				3.20	2.76	
			BRAZIL	kg			3.50	3.63		
			THAILAND	kg				4.81		
	Sea		BRAZIL	kg		2.71				
			ECUADOR	kg				2.24		
<b>PASSION FRUIT</b>	Air	NOT DETERMINED PURPLE	COLOMBIA	kg	5.50	7.00	6.20	6.68	4.75	
			KENYA	kg			5.50	5.25		
			VIETNAM	kg			8.50			
			COLOMBIA	kg			11.00	9.06		
		ECUADOR	kg				9.00			
		YELLOW								
<b>PHYSALIS</b>	Air	PREPACKED	COLOMBIA	kg			8.25	9.40	9.88	
	Sea		COLOMBIA	kg				7.39		
<b>PINEAPPLE</b>	Air	SMOOTH CAYENNE VICTORIA	BENIN	kg			2.10			
			MAURITIUS	Box				13.35		
			MAURITIUS	kg			3.50			
			REUNION	kg			4.20			
	Sea	MD-2	SOUTH AFRICA	Box				11.57		
			COSTA RICA	Box	6.50	7.50	7.50	6.50	7.12	
			COTE D'IVOIRE	kg			0.90			
<b>PITAHAYA</b>	Air	RED	MALAYSIA	kg				8.73		
			VIETNAM	kg				6.35		
		YELLOW	COLOMBIA	kg				10.00		
	Sea	RED	ECUADOR	kg				9.00		
			ISRAEL	kg				5.63		
<b>PLANTAIN</b>	Sea		COLOMBIA	kg			1.00	0.86		
			COSTA RICA	kg					1.26	
			ECUADOR	kg			0.90			
<b>RAMBUTAN</b>	Air		THAILAND	kg				7.59		
<b>SWEET POTATO</b>	Sea	NOT DETERMINED	BRAZIL	kg			1.40			
			EGYPT	kg			1.00	1.10		
			HONDURAS	kg			1.25	1.27		
			ISRAEL	kg				1.27		
			SOUTH AFRICA	kg				1.35	0.89	
		PURPLE	BRAZIL	kg				2.25		
<b>TAMARILLO</b>	Air		COLOMBIA	kg				6.94		
<b>TAMARIND</b>	Air		THAILAND	kg				3.07		
<b>YAM</b>	Sea		GHANA	kg			1.25	1.22		
			UGANDA	kg				1.23		

Note: according to grade

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



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