



European grapefruit market  
2012-13 European season:  
from bad to worse...

Imported garlic and onions:  
don't count your chickens  
before they're hatched!

Mangosteen:  
a delicacy in a fine case

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*Novembre 2013*

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If anybody sceptical or naive is left, a study by the prestigious Institut national de la santé et de la recherche médicale (Inserm - France) has just hammered the last nail into the coffin of the question of the impact of pesticides on human health. It concludes unambiguously that there is a link between pesticide use and occupational diseases. In France alone, nearly 6 million people are exposed to pesticides. As is stressed in the study, 'Pesticides are by nature intrinsically dangerous for the target organisms [...] — this is even the objective sought — [...] and to variable degrees for non-target organisms'. The term 'non-target' should be understood as meaning manufacturers, farmers, users, neighbours and consumers. In short, the whole chain of production, sale and use of agricultural products. The Inserm study raises the question of the long term effects on health, even when small doses are concerned. And the replies are not clear and massive as links have many factors and the effects take a long time to appear—often a lifetime. It is more a case of '... the presumption of a link between [professional] exposure to pesticides and the appearance of a pathology...'. However, the results send a shiver up your spine. For example, presumption of a link between exposure of farmers and workers and multiple myeloma is described as being medium strong. The same goes for prostate cancer. The list is shockingly long. But be reassured. Certain pesticide companies seem to have found the antidote. One of them is now holding paella evenings for farmers, doubtless to help them to swallow a pill that will remain particularly bitter for decades.

Denis Loeillet



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**FRUITROP**

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Cover photograph: Régis Domergue

## Banana

May 2013

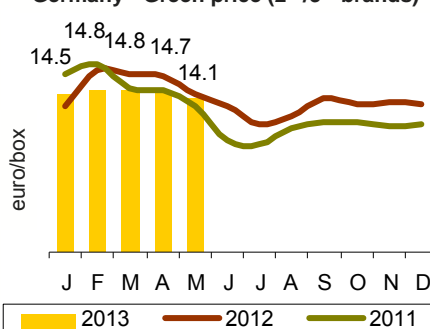
The balance strengthened on all the European markets in May even though supply from Africa and the West Indies remained strong. Indeed, arrivals from the West Indies continued to increase at levels higher than the seasonal average (+ 9%) and those from Africa remained substantial in comparison with the average (Cameroon stable, Ghana and Côte d'Ivoire down slightly). Dollar banana supply remained stable and moderate. Arrivals from Ecuador were below average (□ 23%) and supply from Colombia started to decrease, returning to a seasonal level (+ 5%). Costa Rican shipments held at normal levels.

Although the trading weeks were short as there were several bank holidays in various countries, demand for banana remained very strong in Europe as a whole. The cold, wet spring and the very weak competition from other fruits (high prices, poor quality and late harvests) contributed to continued strong demand for bananas in both Western and Eastern Europe. Green prices were therefore comparatively stable and close to the seasonal normal. However, a slight fall in prices was seen in Eastern Europe as a result of fiercer competition between suppliers. The Spanish market started to improve after a decrease in the volume of arrivals from the Canary Islands and prices started to rise. Finally, the situation was more difficult in Russia as supply was still considerable at the beginning of the month, temperatures were summer-like and national holidays slowed demand.

### NORTHERN EUROPE — IMPORT PRICE

May 2013 euro/box	Comparison	
	previous month	average for last 2 years
14.10	- 4%	+ 2%

### Germany - Green price (2<sup>nd</sup>/3<sup>rd</sup> brands)



■ Bananas: where is Ecuador going? Ecuador is gradually losing its footing in the banana market. These might seem hard words as it is still the largest supplier of the EU and Russia and the third largest supplier of the USA. However, the direction taken a few years ago leads to thinking that the legendary competitiveness of the world's leading exporter will soon be nothing but a memory. First, the political environment is death-dealing for both the production and export sectors. The question here is not that of judging the validity of the measures taken. Whether for ideological or purely social reasons, the government has undertaken to reform the sometimes doubtful practices seen in the sector. Minimums for workers have been improved (labour contracts, minimum wage, etc.) and administrative procedures set up to ensure the respect of the payment of the minimum price and the actual payment of growers. Many measures go towards improving the working and living conditions of plantation workers and this is a good thing. A sheriff has arrived in Ecuador, which has always been the Far West of the banana world. Alvaro Noboa is paying the price now. His historic plantation, La Clementina, was confiscated at the end of May and it is planned to resell it to cover the tax debts of the former leader of the sector. The economic environment has also changed considerably and Ecuador is paying for its status as spot market supplier. The US market is operating increasingly on a contract basis and, after the 2006 reform, Europe is increasingly structured and contract supply is becoming very common. The cost structure has also changed. Price increases of raw materials, services (energy

and passage through the Panama Canal) and also of labour are affecting operators' results. Ecuador is obviously not the only Latin American source to be losing competitiveness, but it is not necessarily well placed geographically (and not only that) in the race. Finally, although we do not possess reliable indicators, it would seem that agronomic conditions have become more difficult for banana. Black Sigatoka seems to be having an increasing impact.

The puzzle is thus a complicated one and difficult to analyse. Indicators do not all show the same thing. It has been announced, for example, that average productivity has increased considerably from 1300 to 1700 boxes per hectare. In parallel the national authorities have stated that banana is now grown on 'only' 85 000 ha. It is completely impossible to check this figure even though the government wants to set up registers of planters. However that may be, exports from Ecuador to the EU are down (- 6% in the first quarter of 2013) and the United States (- 7%). However, the figure for shipments to Russia in the first five months of the year is up by more than 10%.

Source: CIRAD



© Denis Loelliet

### EUROPE — RETAIL PRICE

Country	Mai 2013		Comparison	
	type	euro/kg	Avril 2013	average for last 3 years
France	normal	1.60	+ 1%	+ 4%
	special offer	1.44	+ 3%	+ 11%
Germany	normal	1.33	- 2%	+ 5%
	discount	1.23	0%	+ 10%
UK (£/kg)	packed	1.18	0%	- 4%
	loose	0.68	- 5%	- 17%
Spain	plátano	1.78	- 2%	- 4%
	banano	1.35	+ 1%	- 3%



« Le fruit  
d'une nature  
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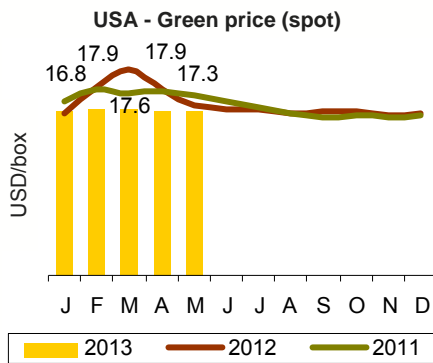


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## Banana

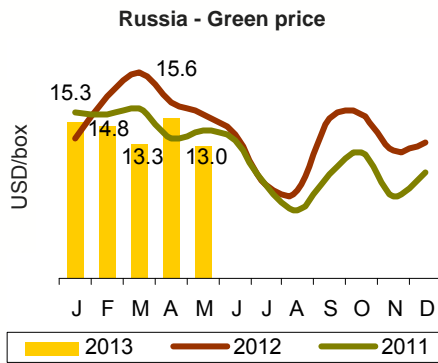
UNITED STATES



## USA — IMPORT PRICE

May 2013 USD/box	Comparison	
	previous month	average for last 2 years
15.80	0%	- 7%

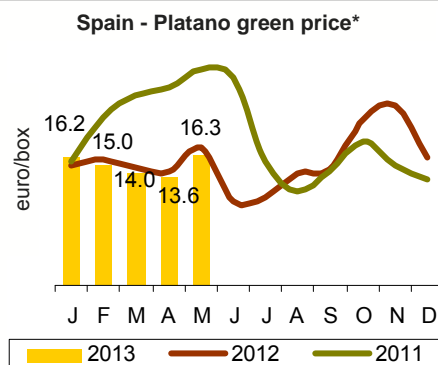
RUSSIA



## RUSSIA — IMPORT PRICE

May 2013 USD/box	Comparison	
	previous month	average for last 2 years
13.00	- 17%	- 15%

CANARIES



## CANARIES — IMPORT PRICE\*

May 2013 euro/box	Comparison	
	previous month	average for last 2 years
16.30	+ 20%	- 27%

\* 18.5 kg box equivalent

■ Bananas: the European market gets under way again. Imports during the first two 2-monthly period of 2013 were 5% up on those of 2012. Only three major sources are in the red: Ecuador (- 3%) and two ACP countries, the Dominican Republic (- 3%) and Ghana (- 28%). All the other suppliers are making progress and this is sometimes substantial : + 25% for Cameroon and + 44% for Panama. After a slight dip in March, April was very busy, with a 10% increase in comparison with April 2012. Adding European production imports gives a 4% increase in consumption during the first four months of the year. Martinique is following market growth (+ 3%) while shipments from Guadeloupe increased by 10%, setting a new record. Both the US and EU markets increased by 4%. This means that these two markets took an additional 120 000 tonnes in four months.

Source: CIRAD

■ Alarming weather forecasts. Medium term weather forecasts for Central and South America are pessimistic, at least as regards rainfall. Rainfall will be

short from June to August 2013 in southern Chile, northern Peru, in the central coastal region and south of Ecuador and on the northern coast of Colombia. The Pacific coast of Colombia should be a little wetter than usual and the Caribbean should have considerable rainfall.

The 2013 hurricane season in the Atlantic and the Caribbean will be very active. Forecasters talk in terms of 13 to 20 named tropical storms from 1 June to 30 November this year and 7 to 11 of them could be come hurricanes and 3 to 6 of these could be considered as major (categories 3, 4 and 5). As a comparison, the annual average is 12 names storms including 6 hurricanes, of which 3 are major.

Sources: CIIFEN, NOAA



## Banana - January to April 2013 (provisional)

tonnes	2011	2012	2013	Difference 2013/2012
<b>EU-27 — Total supply</b>	<b>1 772 331</b>	<b>1 783 757</b>	<b>1 856 657</b>	<b>+ 4%</b>
<b>Total import, of which</b>	<b>1 587 440</b>	<b>1 572 589</b>	<b>1 643 810</b>	<b>+ 5%</b>
MFN	1 278 158	1 259 969	1 308 217	+ 4%
ACP Africa	167 003	160 798	182 531	+ 14%
ACP others	142 279	151 823	153 062	+ 1%
<b>Total EU, of which</b>	<b>184 891</b>	<b>211 167</b>	<b>212 847</b>	<b>+ 1%</b>
Martinique	43 636	56 370	57 866	+ 3%
Guadeloupe	13 907	17 979	19 694	+ 10%
Canaries	120 333	129 804	130 614	+ 1%
<b>USA — Imports</b>	<b>1 390 926</b>	<b>1 441 846</b>	<b>1 495 071</b>	<b>+ 4%</b>
Re-exports	183 079	168 423	173 628	+ 3%
<b>Net Supply</b>	<b>1 207 847</b>	<b>1 273 423</b>	<b>1 321 443</b>	<b>+ 4%</b>

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

## EUROPE — IMPORTED VOLUMES — FEBRUARY 2013

Origin	Comparison		
	April 2013	May 2012	cumulated total 2013 compared to 2012
French West Indies	↗	+ 9%	+ 6%
Cameroon/Ghana	↘	+ 6%	+ 13%
Surinam	↗	0%	+ 3%
Canaries	↘	- 11%	- 2%
Dollar :			
Ecuador	↗	- 23%	- 21%
Colombia*	↘	+ 5%	+ 9%
Costa Rica	↗	+ 15%	+ 1%

Estimated thanks to professional sources / \* total all destinations

## Pineapple

May 2013

Arrivals of 'Sweet' were smaller than forecast in May, when operators were expecting an increase in supply. The decrease seems to have been caused by several factors, the main one being the energy of the North American market and a decrease in the availability of fruits after smaller natural flowering. Operators were even informed at the end of the month that the decrease in supply would certainly continue until Week 25 and even Week 26. Sales were fairly fluid overall with stable prices in spite of the numerous national holidays that could have affected demand. The fluid sales can be explained by the lateness of the season's fruits and by the organisation in the first half of the month of promotion operations that help to shift the few fruits available contributed to maintaining prices.

The 'Smooth Cayenne' market remained busy thanks in particular to very small arrivals and the high quality of the fruits released.

Supply by air was fairly irregular throughout the month. Arrivals were often limited but prices did not rise. Awaiting the season's fruits, demand tended to mark time, preventing operators from applying a more aggressive price policy. It also rained in the production zones, especially in Benin, with a negative effect on fruit quality and colour. Sales of 'Sugarloaf' were also stable as supply was limited. They were available at between EUR 1.90 and 2.05 throughout the month.

As the season's fruits were about to start, supply of 'Victoria', especially from Réunion, decreased throughout the month. Demand was just enough to take the fruits released on the market. But prices remained stable throughout the month.

■ **Passion fruit: bad year in Brazil.** Production of passion fruit in Brazil, the world's leading source, is forecast to decrease by 16% to 420 000 tonnes in 2013. The drastic fall is the combined result of a virus diseases and recurrent drought in the Nordeste, the main production zone. Prices on the domestic market have doubled since 2012, reaching BRM 3.00 per kg (about USD 1.5). Brazil may therefore be much less visible on international markets in 2013.

Source: FoodNews

■ **A new fruit on the European market: the achacha.**

The achacha (*Garcinia humilis*), a member of the Clusiaceae family, grows on a small tree whose height hardly exceeds 6 to 7 m. It has a smooth, dark trunk. The branches grow horizontally. It is found mainly in the Greater and Lesser Antilles and also in the northern part of South America (Bolivia, Guiana) where it probably originated. It has recently been introduced in Queensland, Australia, and is grown commercially.



The achacha is an ovoid berry 5 to 6 cm long and about 4 cm in diameter. It resembles a medlar in shape and colour. The pretty orange skin is about 2 mm thick, forming a kind of shell that protects the fruit. It is easy to remove and does not cling to the pulp. The

interior of the fruit consists of pearly flesh around one or two brown seeds of varying size. The flesh is similar to that of mango-teen in texture and taste.

The fruit is sensitive to low temperatures. It keeps for a few days at room temperature and for longer when in a hermetically closed box or bag.

Achacha has been available from December March since it was planted in Australia. It is generally packed loose in 4-kg boxes. The first sales in 2013 showed that it is appreciated by a clientele that enjoys exotic fruits and new produce. The achacha is still a niche item that has been little developed, but it could become successful with a larger fringe of consumers. Its novelty, small availability and high price (around EUR 15.00 per kg) mean that it is still an exceptional item.

Source: Pierre Gerbaud



© Pierre Gerbaud

### PINEAPPLE — IMPORT PRICE

Weeks 19 to 22	Min	Max
By air (euro/kg)		
Smooth Cayenne	1.70	1.90
Victoria	3.00	3.80
By sea (euro/box)		
Smooth Cayenne	7.00	8.50
Sweet	7.00	9.00

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

Weeks 2013		19	20	21	22
By air (euro/kg)					
Smooth Cayenne	Benin	1.70-1.85	1.70-1.85	1.70-1.85	1.70-1.85
	Cameroon	1.70-1.90	1.70-1.90	1.70-1.90	1.70-1.90
	Ghana	1.75-1.90	1.75-1.90	1.75-1.90	1.75-1.90
Victoria	Réunion	3.50-3.80	3.50-3.80	3.50-3.80	3.30-3.60
	Mauritius	3.00-3.30	3.00-3.30	3.00-3.30	3.00-3.30
By sea (euro/box)					
Smooth Cayenne	Côte d'Ivoire	7.00-8.00	7.00-8.00	7.00-8.00	7.00-8.50
Sweet	Côte d'Ivoire	7.00-9.00	7.50-9.00	7.50-9.00	7.50-9.00
	Cameroon	7.00-9.00	7.50-9.00	7.50-9.00	7.50-9.00
	Ghana	7.00-9.00	7.50-9.00	7.50-9.00	7.50-9.00
	Costa Rica	7.00-8.50	7.00-8.50	7.50-9.00	7.50-8.50



# Mango

May 2013

The last batches of fruits from Peru were sold in the first week of May at fairly high prices as supply was dwindling. The fairly rapid ceasing of Peruvian shipments, the late and slow start of the season in West African countries and late production of the season's fruits gave May a special profile that was unusual for the time of year. Supply was limited throughout the month and demand fairly brisk for lack of substantial volumes of stone fruits that generally capture most of demand. This shortage of supply resulted in very high prices for the sea mangoes available, whatever the source or variety. 'Tommy Atkins', 'Palmer' and 'Keitt' shipped from Brazil to the Northern European markets displayed the same pattern with similar or even higher prices of as much as EUR 9.00 to 10.00 per box). Prices weakened at the end of the month as the supply of the season's fruits increased but remained distinctly higher than during the same period in 2012.

The movement of the air mango market was much the same. Supply was dominated by Côte d'Ivoire, followed by the other West African sources, and sales were at strong, stable prices during the first half of the month. Prices decreased in the second half of the month as a result of large shipments and a switch of part of the clientele to fruits shipped by sea whose prices were lower. The uneven quality of mangoes from Mali and Burkina Faso also contributed to the fall in prices at the end of the month.

■ Mango variety: 'Osteen'. The fruit is oblong with a rounded base and a rounded apex that sometimes has a small beak. The skin is thick and not very clinging. It is violet-purple with mauve-lavender lights and white lenticels. The lemon yellow flesh is firm, juicy and of excellent quality with few fibres.

'Osteen' is from Florida, where it was bred from sown 'Haden' in 1935. It is little grown at the world scale in spite of its good commercial features. It has become more common on the EU market since 2000 as it forms most of Spanish production.

Source: CIRAD



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■ Litchi from Thailand: a slow start to the season. The first shipments of Thai litchis to the European markets are usually between mid-March and the beginning of April but have been much later this year. The first batches shipped by air were not received until: the end of April – beginning of May. Most of the shipments went to the Netherlands and quantities were measured. Selling prices were set at between EUR 10.00 and 12.50 per kg in the first half of May and then fell to around EUR 8.75 per kg in the second half of the month. The late start of the Thai season seems to confirm the trend seen for a number of years: not only smaller quantities by also a shorter export season.

Source: Pierre Gerbaud

## MANGO — ARRIVALS (estimates) Tonnes

Weeks 2013	18	19	20	21	22
By air					
Peru	5	-	-	-	-
Mali	30	30	30	40	40
Burkina	20	50	20	20	20
Côte d'Ivoire	100	100	80	80	50
By sea					
Brazil	750	590	860	770	660
Peru	90	-	-	-	-
Côte d'Ivoire	330	440	1 760	1 760	1 100

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

Weeks 2013	18	19	20	21	22	Average May 2013	Average May 2012
By air (kg)							
Peru Kent	5.00-5.50	-	-	-	-	5.00-5.50	4.00
Mali Amélie	-	-	2.70	2.90-3.00	2.80	2.80-2.85	2.70-2.80
Mali Valencia	3.00-4.00	3.00-4.00	2.50-3.50	3.00-3.50	3.00-3.50	2.90-3.70	2.00-3.00
Mali Kent	4.50	4.00-4.50	3.50-4.50	3.50-4.00	2.50-3.50	3.60-4.20	2.30-3.35
Burkina Amélie	2.80-3.00	2.50	-	-	-	2.65-2.75	na
Burkina Kent	3.00-4.50	3.50-4.00	3.50-4.00	3.50-4.00	3.50	3.40-4.00	2.80-3.35
Côte d'Ivoire Kent	4.50-5.50	4.80-5.50	4.50-5.00	4.00-4.80	4.00-4.80	4.35-5.10	3.35-3.90
By sea (box)							
Côte d'Ivoire Kent	7.50-8.50	7.50-8.50	7.00-8.50	6.50-7.50	6.00-7.00	6.90-8.00	4.00-4.80
Mali Kent	-	-	7.00-8.00	7.50-8.50	6.00-7.00	6.80-7.50	3.50-4.50
Peru Kent	6.00-8.00	-	-	-	-	6.00-8.00	3.15-4.30
Puerto Rico Keitt	8.00	7.50-8.50	7.00-8.00	7.00-7.50	6.00-7.00	7.10-7.80	4.00-4.60



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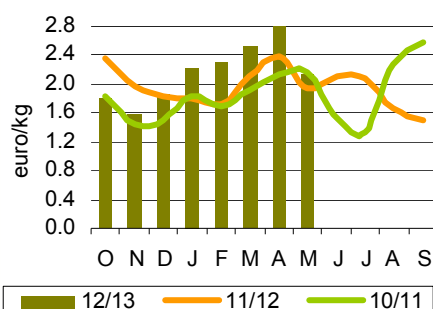
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## Avocado

May 2013

After performing well since the beginning of the year as sales were brisk, the market became sluggish and then collapsed at the end of the month. Supply was particularly large with more than 1.5 million boxes per week for most of the month. Supply from South Africa was larger than average. But it was above all shipments from Peru that peaked as a result of increased production of early fruits and the fact that the US market was still saturated with Californian and Mexican produce. Supply was completed by a few batches from Kenya and the last shipments from Spain. Prices of 'Hass' fell throughout the month and those of the small fruits that were numerous in supply from Peru reached an extremely low point.

Avocado - France - Import price



PRICE	Varieties	Average price in France euro/box	Comparison with the last 2 years
	Green	7.50	+ 86%
	Hass	8.50-9.00	+ 3%

VOLUMES	Varieties	Comparison	
		previous month	average for last 2 years
	Green	↗	- 4%
	Hass	↗↗	+ 41%

VOLUMES	Source	Comparison		Observations	Cumulated total / cumulated average for last 2 years
		previous month	average for last 2 years		
	S. Africa	↗	+ 29%	Shipments of 'Fuerte' larger than average but modest. The 'Hass' season got under way as rapidly as in 2012; cumulated volumes were large.	+ 11%
	Peru	↗↗	+ 66%	Very small arrivals of green varieties but very large, even excessive, volumes of 'Hass' in the second part of the month.	+ 40%
	Kenya	↘	+ 24%	Very modest arrivals in the EU. Marked deficit in green varieties but large than average supply of 'Hass'.	- 27%
	Spain	↘↘	- 63%	End of the 'Hass' season. Last significant volumes in mid-month.	+ 5%

■ Colombia: avocado exports set to take off... Exports were limited to some 60 containers in 2012-13 but should increase very soon! This is at least what is expressed by the Corporacion Antioquena del Aguacate that hopes to profit from the excellent soil and climate conditions in this region near the capital, Medellin, and also from the good logistic location thanks to the country's Atlantic coast as this means that there is no need to ship via the Panama Canal. The association aims to increase today's planted area of 3 500 ha, that is to say half of the total under avocado in the country, to 10 000 ha by 2020. But Colombia should already be much more visible on the European market from the 2013-14 season onwards, with the GLOBALGAP accreditation of about a hundred exporters in comparison with some fifteen in 2012-13. But Europe is not the only market targeted and negotiations for entry to the US market are to start this year with the hope that the frontiers will open for the 2014-15 season.

Source: Infohass

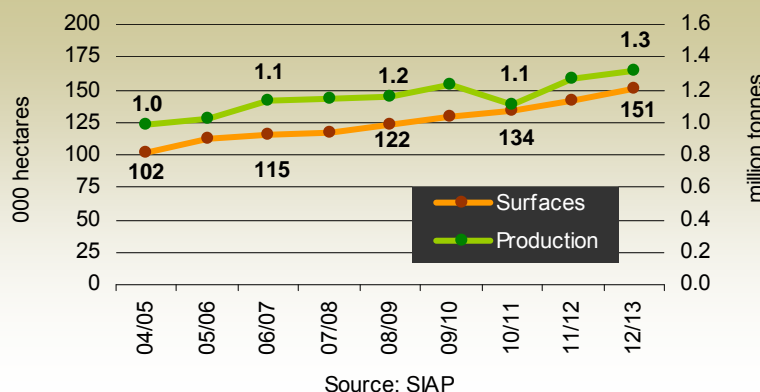


© Guy Brehmer

■ Green gold: the same problems as black gold. This is what is shown by analysis of the effects on the Michoacán avocado sector performed by a Mexican economist. While oil accounts for a third of the country's wealth, a third of the resources of this East coast state is drawn from avocado, that is to say 17.5 thousand million pesos (more than a thousand million USD). But the downside is as bad as the oil industry: loss of biodiversity, soil erosion, pollution of ground water and land. Although this seem caricatural, it is gaining increasing weight in Mexican public opinion.

Source: Infohass

Avocado - Mexico - Production and planted areas



Source: SIAP



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## Orange

May 2013

Demand for oranges was very brisk throughout the period because of the poor weather and very small competition from the season's fruits whose prices were high, volumes small and quality poor. The 'Navelate' season continued to slow early until mid-May. A few batches of late navels ('Powell Navel') completed the supply of dessert oranges until the end of the month. As a result, the supply and sales of 'Valencia Late' increased very rapidly. Supply was completed by a few small batches of 'Maroc Late'. Prices of both dessert and juice oranges firmed to high than average levels at the end of the season.



■ Promoting citrus fruits is possible! Paramount is demonstrating this. The main easy peeler production company in California, it is to invest USD 100 million over a 5-year period to develop the brand Wonderful© Halos. It is the easy peeler feature of the Wonderful range that already includes pistachios, almonds and pomegranates. This is a colossal sum but certainly a good investment in the light of the small consumption of easy peelers in the USA: less than 2 kg per person per year in comparison with an average of 4.6 kg in the non-producer countries of EU-15 and even more than 5 kg in Russia. It is also a fine example for Mediterranean production that controls nearly three-quarters of world trade in this speciality, but which gets cold feet in matters of promotion operations.

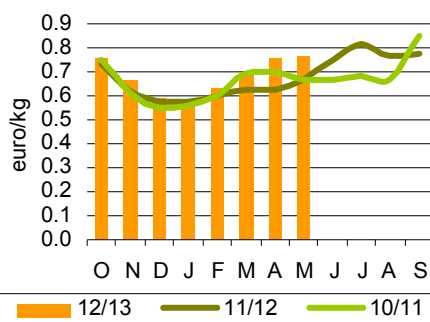
Source: CIRAD

■ Floridian orange juice: a historic, doubly symbolic investment. It is the largest citrus project in Florida for 25 years! Peace River Citrus, the Floridian producer, and Cutrale, the Brazilian juice giant, are to invest in the planting of 10 000 ha of orange groves near Orlando.

The fruits of the 5 million trees involved will be for Coca-Cola, which has undertaken to purchase the entire production for twenty years. This surprising piece of news shows that Florida is still a credible source in spite of the today's dark sanitary panorama with greening, and much higher production costs than in Brazil. It also shows that orange juice has become a 'sensitive' production for US beverage professionals and for which strategic sourcing is required via investment in production. This is already the picture for other agricultural products like tea and could spread to other fruit production derivatives such as citrus essential oils, concentrated lemon juice, etc.

Source: Reefer Trends

Orange - France - Import price



PRICE	Type	Average monthly price euro/box 15 kg	Comparison with average for last 2 years
	Dessert oranges	12.60	+ 19%
	Juice oranges	10.80	+ 13%

VOLUMES	Type	Comparison	
		previous month	average for last 2 years
	Dessert oranges	↘	+ 13%
	Juice oranges	↗	+ 94%

VOLUMES	Varieties by source	Comparison		Observations	Cumulated total / cumulated average for last 2 years
		previous month	average for last 2 years		
	Navelate from Spain	↘	+ 13%	Continued decrease in volume. Volumes not significant from the second half of May.	+ 7%
	Valencia Late from Spain	↗	+ 94%	Strong increase in volumes at the beginning of the month.	+ 80%
	Maroc late from Morocco	↗	- 49%	Volumes increasing slightly. Very short since the beginning of the season.	- 67%



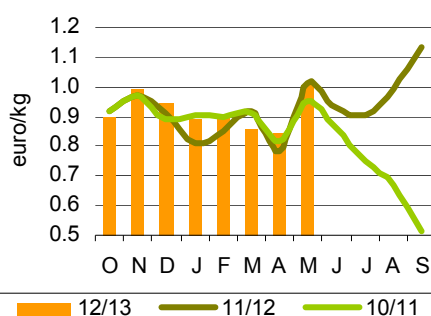
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## Grapefruit

May 2013

A smooth but dull transition from the winter to the summer season. Overall supply was modest for both northern and southern hemisphere suppliers. Indeed, the Mediterranean seasons were practically over at the beginning of the month, supply from Florida was based on fruits stored in April, the volumes delivered to the EU from South Africa were slightly smaller than average and the practically total disappearance of Argentina from the market was confirmed. But prices were only average as demand just continued to tick over in spite of a poor spring favourable for the sale of citrus fruits.

Grapefruit - France - Import price



Increasingly marked weakening of the Brazilian citrus sector. Although citrus variegated chlorosis seems to be increasingly better controlled in Brazil, the same does not apply to greening. According to the CDA (Coordenadoria de Defesa Agropecuária), 7.2 million of a national total of 225 million trees (2012-13) had to be grubbed up in 2012 for reasons of this disease. EMBRAPA, the agricultural research institute, has decided to set up a new research network devoted to the disease, known by the name of 'Arranjo', to increase the effectiveness of work performed at the local or international scale. In all, nearly 25 million trees of a total of 270 million were grubbed up in Brazil (source: USDA) for various reasons (sanitary, economic, etc.) in 2012. Meanwhile, 2.5 million were planted.

Source: FoodNews

Morocco: a strong recovery of exports to the EU is expected from 2013-14. The results of the 2012-13 citrus season are very poor. Small production for reasons of very unfavourable weather sent exports to below 400 000 t, one



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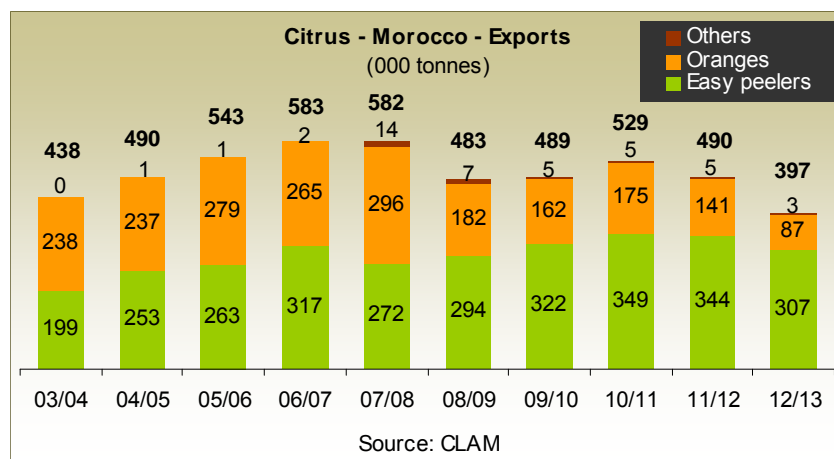
of the lowest levels observed in the last 40 years! However, according to the secretary-general of the Association des Producteurs d'Agrumes du Maroc, exports should start to grow strongly in the 2013-14 season. Even if the target of tripling shipments seems very ambitious, volumes should increase as there have been many new plantations and replacements since the privatisation of the land that belonged to the SO-DEA and the launching of the Maroc Vert plan. The news is important for the community market as Moroccan exporters aim to return strongly to the EU in particular thanks to a richer and more competitive range of varieties.

Sources: Bloomberg, Reefer Trends

PRICE	Type	Average monthly price euro/box 17 kg box eq.	Comparison with average for last 2 years
	Tropical (Florida)	16.50	- 1%
	Tropical (S. Africa)	15.50	- 1%

VOLUMES	Type	Comparison	
		previous month	average for last 2 years
	Tropical	↘	- 11%

VOLUMES	Source	Comparison	
		previous month	average for last 2 years
	South Africa	↗↗	- 11%
	Florida	↘↘	-
	Israel	↘↘	+ 47%



Source: CLAM

Observations	Cumulated total / cumulated average for last 2 years	
The season started at the beginning of the month. Exports to the EU and Japan slightly smaller than average but the Russian market was better served.	- 11%	
Last arrivals at the end of April. Supply consisted only of the last stocks.	- 2%	
End of the season with arrivals larger than average but modest.	+ 6%	

## Sea freight

May 2013

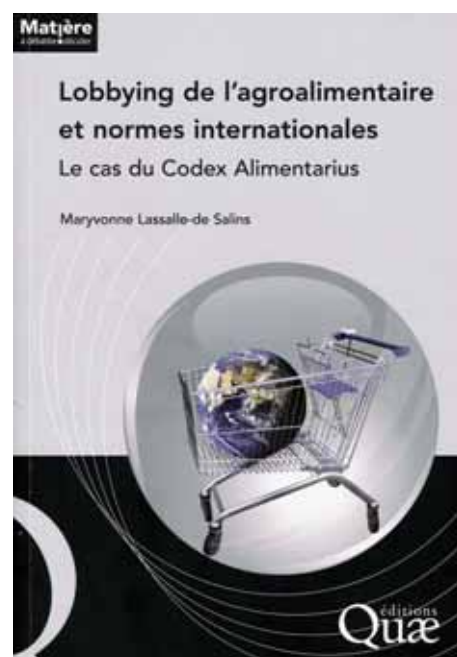
The 150 c/cbft TC fixture to Del Monte at the start of the month looked a lifetime away by the start of June at which time charterers were counter offering rates that yielded no more than 30 c/cbft TCE on fuel-efficient vessels – and barely break even on older tonnage. There were several such units prompt at Cristobal as the month ended. After an encouraging peak season it seemed reasonable enough to expect that off-season rates and yields would be at least similar to last year. What operators tended to forget is that although a lot of tonnage was demolished in the first six months of 2012, an estimated 30-40 ships were laid up, off the market. While it is undeniable that demand for capacity had fallen since April, until the supply issue is addressed, off-season reefer rates will never recover. It would be wrong to lay the blame for the slump in rates exclusively at the door of Seatrade. However the failure to reach a commercial accommodation with NYKCool over the VSA citrus shipments from South Africa to Europe did lead directly to an increase of Open tonnage, which certainly contributed to a downwards slide in market sentiment. From an industry perspective the breakdown in negotiations between the two reefer operators was disappointing because it forced more fruit into containers on third party services. This not only handed the lines a commercial victory but also a riposte in the propaganda battle at a time when the specialized reefer looked as if it might be winning the argument on service quality. From a Seatrade perspective it has eased the position of Universal Reefers, allowing the Capespan subsidiary to fix tonnage at competitive rates on the Cape Town to USEC trade lane. Seatrade would almost certainly have won back this trade next year had Universal been obliged to charter in at uncompetitive rates in order to fulfill its contract with the Western Cape Citrus Producers Forum.

■ *Lobbying de l'agroalimentaire et normes internationales. Le cas du Codex Alimentarius.*  
Maryvonne Lassalle-de Salins.

**One of the rare works that focuses on the Codex Alimentarius.**

The issues of the Codex Alimentarius, drafted in 1963 to set international food standards, have changed with WTO accords. Its standards are now accepted as reference for the settling of trade disputes between countries. The status of observer means that both industry and consumer representatives can put forward an opinion on an official basis. It is also possible to act upstream of meetings of the Codex Alimentarius by the direct addressing of member states. Criticism is sometimes levelled at industry influence but although companies would appear to succeed in being heard on some occasions, they do not draft all the Codex Alimentarius standards. The book provides a documented description of specific activities and decision processes of the Codex Alimentarius. Detailed cases are used to examine the procedures and conditions of influence of companies. It also shows the constraints involved in an inter-governmental organisation as regards the influencing of its decisions and the necessary adaptation of lobbying by companies.

In French. Coll. Matière à débattre et décider, Editions Quae, March 2012  
ISBN 978-2-7592-1664-2, ref. 02286,  
264 pages, 40 euros,  
serviceclients@quae.fr,  
<http://www.quae.com>



■ Reyes Gutierrez opens its French subsidiary. Established at Rungis wholesale market, this new enterprise specialised in the import and sale of mangoes and avocados is managed by Philippe Mendez.



Source: CIRAD



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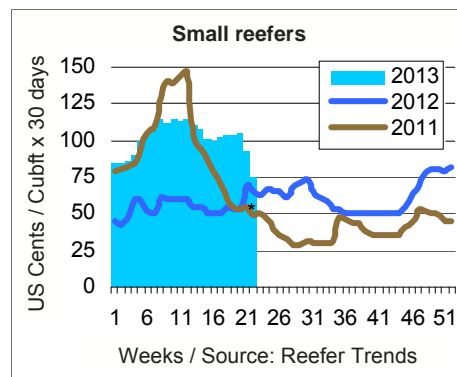
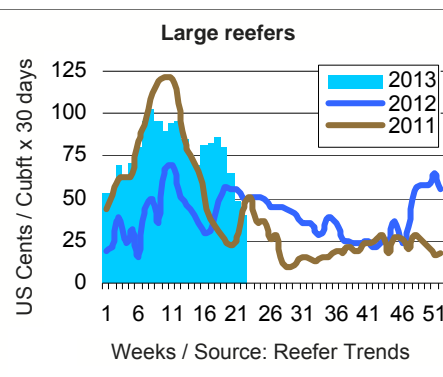
# reefertrends

The independent news and information service for the reefer and reefer logistics businesses

REEFER

### MONTHLY SPOT AVERAGE

USD cents/cubic foot x 30 days	Large reefers	Small reefers
May 2013	52	95
May 2012	49	60
May 2011	30	48





# Imported garlic and onions

Don't count your chickens  
before they're hatched!

## Chinese imports watched

Onion and garlic imports to the European market from third countries fluctuate according to the scale of domestic production. Imports of onion form just a modest complement, ranging between 250 000 and 370 000 t (although a record 450 000 t was attained in 2007) while European production is 4.5 to 5.3 million tonnes. In contrast; imports of garlic exert strong pressure, reaching 70 000 to 80 000 t while European production does not exceed 220 000 t to 270 000 t.

Most of the tonnage of onions imported to Europe is from the southern hemisphere and especially New Zealand (70 000 to 80 000 t) and Tasmania (35 000 to 40 000 t). Imported garlic comes mainly from China (average 50 000 t over the last 5 years) and to a lesser extent from Argentina (18 000 t). The Chinese production calendar is similar to that of Europe. Planting is performed in September-October for a harvest towards mid-May while the European harvest in Spain, France and Italy is staggered from May to July. European garlic imports are therefore closely supervised and

subject to a 9.6% customs duty and a specific charge of EUR 1 200 per tonne to

compensate the difference between the production and sales costs of EU garlic and Chinese garlic. However, concessions have been made with a fixed tariff quota (certificates shared out according to operators' applications) that is now at 58 870 t after various calculations to allow for EU enlargement. The season runs from 1 June to 31 May with a quarterly distribution (see table).

**Although onion imports, mainly from the southern hemisphere, are a necessary complement outside the period of large European production and do not cause strong tension, the garlic market is very closely scrutinised because of the strong pressure of Chinese production on the modest European harvest.**



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Onion — EU — Extra-Community imports					
tonnes	2008	2009	2010	2011	2012
New Zealand	114 675	87 757	90 849	71 330	76 449
Egypt	46 029	35 591	62 220	72 869	52 481
Australia	37 320	33 781	32 969	40 463	38 541
Chile	43 471	24 153	47 563	56 393	20 724
Mexico	10 261	13 392	8 356	12 448	11 239
India	16 221	11 038	13 795	11 678	10 172
Peru	3 219	2 319	3 689	5 066	6 919
<b>Total</b>	<b>372 174</b>	<b>269 972</b>	<b>308 758</b>	<b>331 023</b>	<b>241 306</b>

Source: European customs

Garlic — EU — Extra-Community imports					
tonnes	2008	2009	2010	2011	2012
China	56 795	51 500	48 270	53 201	42 998
Argentina	19 331	19 035	17 450	17 368	16 402
Egypt	2 637	2 387	2 348	4 235	4 790
Chile	1 272	1 755	1 711	3 127	3 217
<b>Total</b>	<b>84 015</b>	<b>77 555</b>	<b>73 188</b>	<b>82 290</b>	<b>71 045</b>

Source: European customs

Garlic - Distribution of the European tariff quota					
Country	01/06 to 31/08	01/09 to 30/11	01/12 to 28/02	01/03 to 01/05	Total
Argentina	-	-	13 700	5 447	19 147
China	8 725	8 725	8 125	8 125	33 700
Others	1 344	2 800	1 327	552	6 023
<b>Total</b>	<b>10 069</b>	<b>11 525</b>	<b>23 152</b>	<b>14 124</b>	<b>58 870</b>

Source: OJEC 341/2007 - 29/03/2007



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## Sudden increase in Chinese capacity

Restrictions have been applied in many countries in the world in addition to Europe. This is the case in particular in the USA where the import tax is 390%, with imports from China reaching 140 000 to 160 000 t while domestic production is 170 000 t to 190 000 t. Measures were taken as early as 1994 to face China's increasing firepower in the 1990s. And this increased in the 2000s. Chinese production and trade increased strongly from 2001 after the country had joined the World Trade Organization, giving a strong boost to exports as it could finally get around certain limitations to access to many markets. Production then increased considerably from 7.4 million tonnes in 2001 to 12.5 million tonnes in 2002, reaching 19.2 million tonnes in 2011 according to the most recent FAO figures. This is more than 80% of world production estimated to be between 22 and 23.7 million tonnes. However, Chinese development seems to have quietened in recent years as a result of substantial fluctuations in price, especially in 2009 and 2010, resulting from the H1N1 epidemic that boosted consumption and hence the planting of garlic, with its antiseptic properties, and resulted in heavy financial losses for many growers. A number of destinations are still closed to Chinese production while competition is increasing in neighbouring countries especially in India where the crop has also increased in recent years (1.05 million tonnes in 2012 in comparison with 500 000 t in 2002). During the same period, exports increased from 1 million tonnes in 2002 to 1.6 million tonnes in 2011.



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## A source that claims its originality

Chinese producers have decided to counter-attack. The '10+10' initiative agreed by the European Commission and Beijing in 2007 is aimed at the reciprocal protection of 10 European and 10 Chinese geographic indications. This has been used as the framework for an application for a PGI for Chinese garlic from Jinxiang Da Suan and the specifications were approved on 27 October 2011. This white garlic production area is in the county of Jinxiang (Shandong Province) which accounts for 15% of the tonnage growth and 70% of Chinese garlic exports. European producers are worried as the recognition of Jinxiang garlic protects 40 000 hectares of this crop, that is to say more than double the area sown in the main EU producer countries (Spain, France and Italy), with production of about 800 000 tonnes. They fear in particular that the evidence provided to show the difference between garlic from Jinxiang and elsewhere is not sufficient to ensure that the production with truly be from the zone indicated and handling and packing performed by certified companies. In addition, the recognition of PGI Jinxiang Da Suan garlic should make it possible for this produce to remain outside the tariff quota system.

## The difficulty of maintaining production in the southern hemisphere

The calendar and smaller scale of garlic and onion production in the southern hemisphere is more complementary to European production but maintaining the crop is hard. Garlic is experiencing a difficult period in Argentina, especially in San Juan province before of the continued increase in production costs in recent years and also drought that means growers have to operate in zones where water supply is ensured, without counting competition with Chinese produce on export markets, and especially in Brazil. But the crop area was still 17 000 ha in Argentina in 2011, with 75% of this in Mendoza province, and production totalled 175 000 t.

Market conditions have also become for difficult for onions in recent years as result of higher production costs and the exchange rates of New Zealand and Australian currency—limiting purchases by foreign partners. Nevertheless, onions are still a large crop in both these countries, with 188 200 t produced in New Zealand and 250 000 t in Australia in 2011. It is New Zealand's third largest horticultural export (110 000 t) after kiwis and apples, whereas exports from Tasmania, the site of 85% of Australian production, do not exceed 45 000 t.

## But a certain dynamism

However, operators in Argentina, New Zealand and Australia still have hope. The production shortfalls in Brazil and especially in China, with a switch to wheat and poor meteorological conditions, meant that Argentinian operators had a very good 2012-13 season in both volume and value. Prices were 20% higher than average and this may stabilise the cultivated areas in the coming season, even if growers are aware that market conditions will remain difficult in the coming years. In particular, Argentinian operators are hoping for a lower exchange rate towards the end of 2013 (promised by the government) and this could give a 20% improvement. But pressure from China will be strong although production is not expected to increase much this year because of late planting and a 24% decrease in 2012 ■

**Cécilia Céleyrette**, Consultant  
c.celeyrette@infofruit.fr



# European grapefruit market

## 2012-13 European season: from bad to worse...

The EU market is still sluggish in spite of a very buoyant context

Figures from professional sources indicate that the volumes traded in the EU were down by 10% in comparison with the previous season, reaching the level of the 2004-05 historical low when several hurricanes ravaged production in Florida, the leading supplier at that time. To the dip should be added the very special context of this season when sales of other citrus fruits were boosted by a long hard winter and when apples, a major competitor, were particularly expensive. The volumes of oranges shipped from Spain to the community market reached levels previously unseen in February and March. It is true that a conjunctural decrease in production in several sources such as Turkey played a role here. However, the scale of the fall illustrates the major problem: average annual consumption in EU-15 has fallen by 200 g in the last four years, reaching 800 g in 2012. This was a double whammy for professionals as poor financial performance was added to poor sales. Our market

watch observed that the average season price stagnated in spite of the decrease in volumes.

**The decrease in grapefruit consumption in the EU is nothing new. However, the fresh decrease observed during winter 2012-13 was different, given the scale and the very special market context.**



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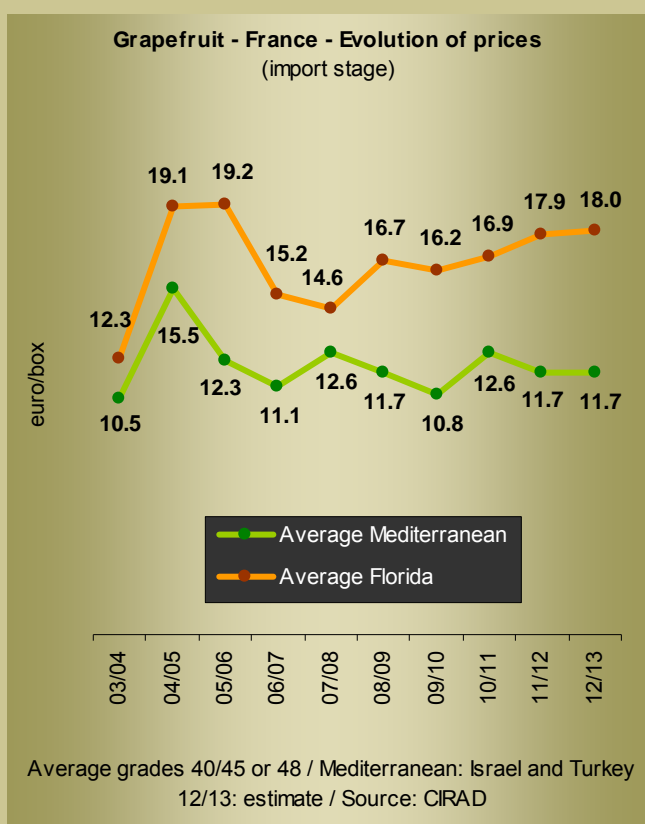
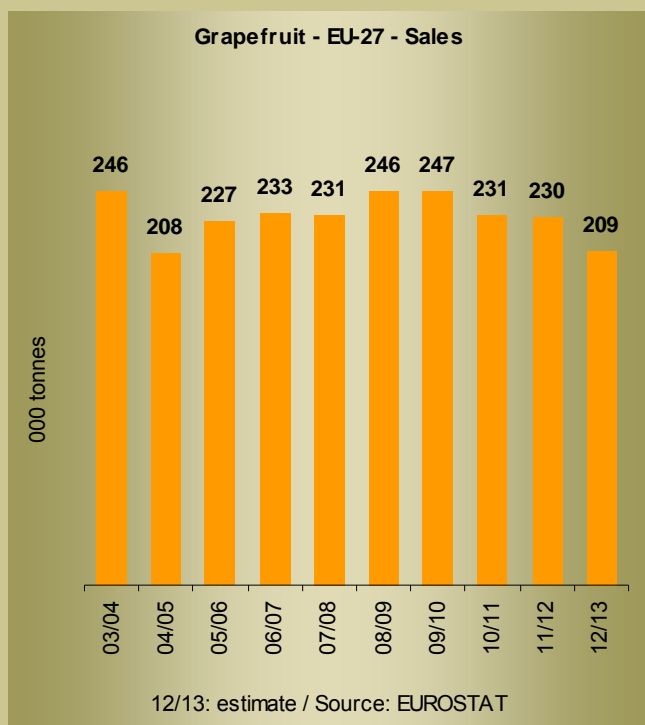
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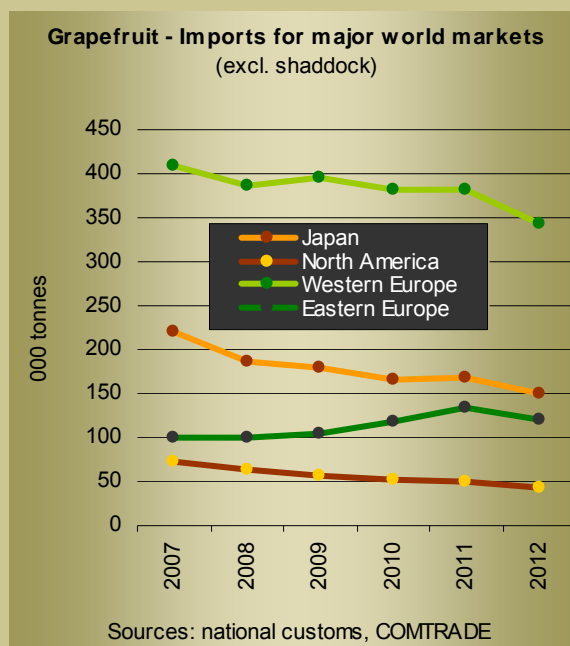
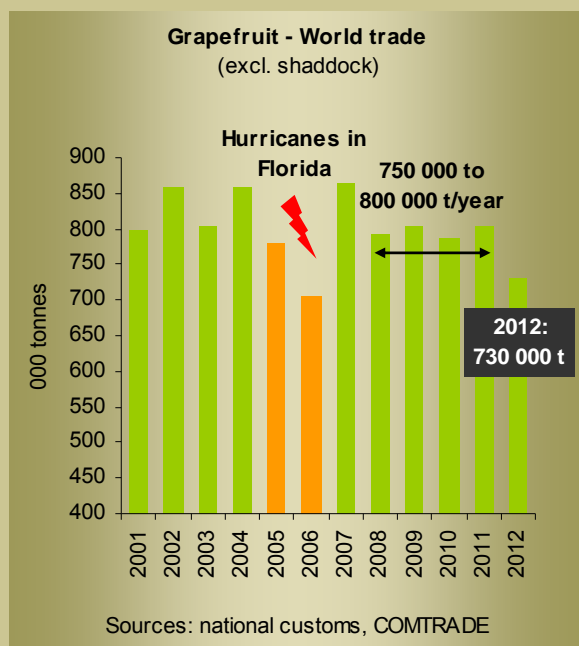


## A world market to match

Unfortunately, the last full figures available for the world market (2011-12) confirm that consumption is decreasing everywhere and, more worrying still, tending to become more marked. World trade had been practically stable at about 800 000 t since 2008 and then fell to 730 000 t in 2012, one of the two lowest points since the early 2000s! The decrease is drastic in Japan, the second largest market in the world after the EU. Imports have fallen by more than 50 000 t in the last five years and 2013 promises to be worse still, given the nearly 30% decrease in the first half of the year of imports from Florida, which has a near monopoly of supply to Japan during the winter. No positive signs can be found in the subsequent markets on the list: a decrease is continuing in Canada and warning lights are starting to flash in Eastern Europe, the only large region in the world that was still a driving force for world trade in preceding seasons. Russia, which takes 70% of the volumes sold in the zone, is switching from growth to recession. A sad phenomenon, and the first time that this has happened since the early 2000s.







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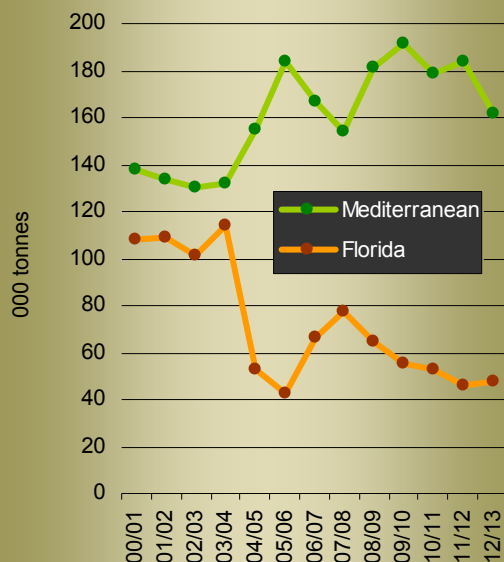
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**Grapefruit - EU-27 - Volumes during the winter season by group of origins**



Source: EUROSTAT



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## Still getting worse in Florida

This season again, the decrease in world trade can be attributed to a considerable extent to the poor performance of Florida, the world's leading production source. The Sunshine State exported hardly more than 14 million boxes (about 275 000 t) in 2012-13, the worst score in terms of volume in the last seven years without a major meteorological catastrophe. The decrease was not caused solely by the downward trend in production that has been much described and whose main determinants are greening, citrus canker, pressure on land and lack of profitability. Less and less fruit is earmarked for export. Exports were fairly stable and concerned about 50% of production until 2009-10 and then slumped to less than 40% in 2012-13. On the one hand, the sanitary problems mentioned above also affect fruit appearance and thus weigh on packing yield. On the other, this factor and the rising cost of disease management make Floridian fruits increasingly expensive, in particular as exchange rates are unfavourable for imports as the dollar has strengthened against the euro and the yen.

The combination of these two factors goes a long way towards explaining the collapse of shipments to Japan in the 2012-13 season. Japan displays strong elasticity of demand in relation to price, a feature aggravated by the economic slump, and 'cosmetic' qualities are very important. The volumes exported to this destination have decreased by 20% with the total now less than 4 million boxes. It is true that the winter was a hard one and communication focused on the refreshing qualities of the fruit were not really very suitable, but it is clear that there is a deep-seated slump. Imports formed a third of average shipments to this market ten years previously.

## Floridian grapefruit volumes stable in the EU but prices were disappointing

The European market was better served than Japan. The shortfall in arrivals in comparison with the preceding season was marked until the end of March when catching up became possible as the season ended later. This extra time, which was really only a return to normal after a very short 2011-12 season, was certainly related to the lack of openness of the Japanese market. Although cumulated exports finally reached 2.9 million boxes, slightly more than in the preceding season, the figure is among the lowest on record. The average season price was also unsatisfactory. Although market difficulties in mid-season are nothing unusual, there was no profitable period towards the end. The appearance of the fruits was clearly worse than during the same period in the preceding season and this weighed on sales. Thus the average season price was merely stable in comparison with that of the preceding year. This made for a very poor performance as the cost price of the produce was up by about 15%.



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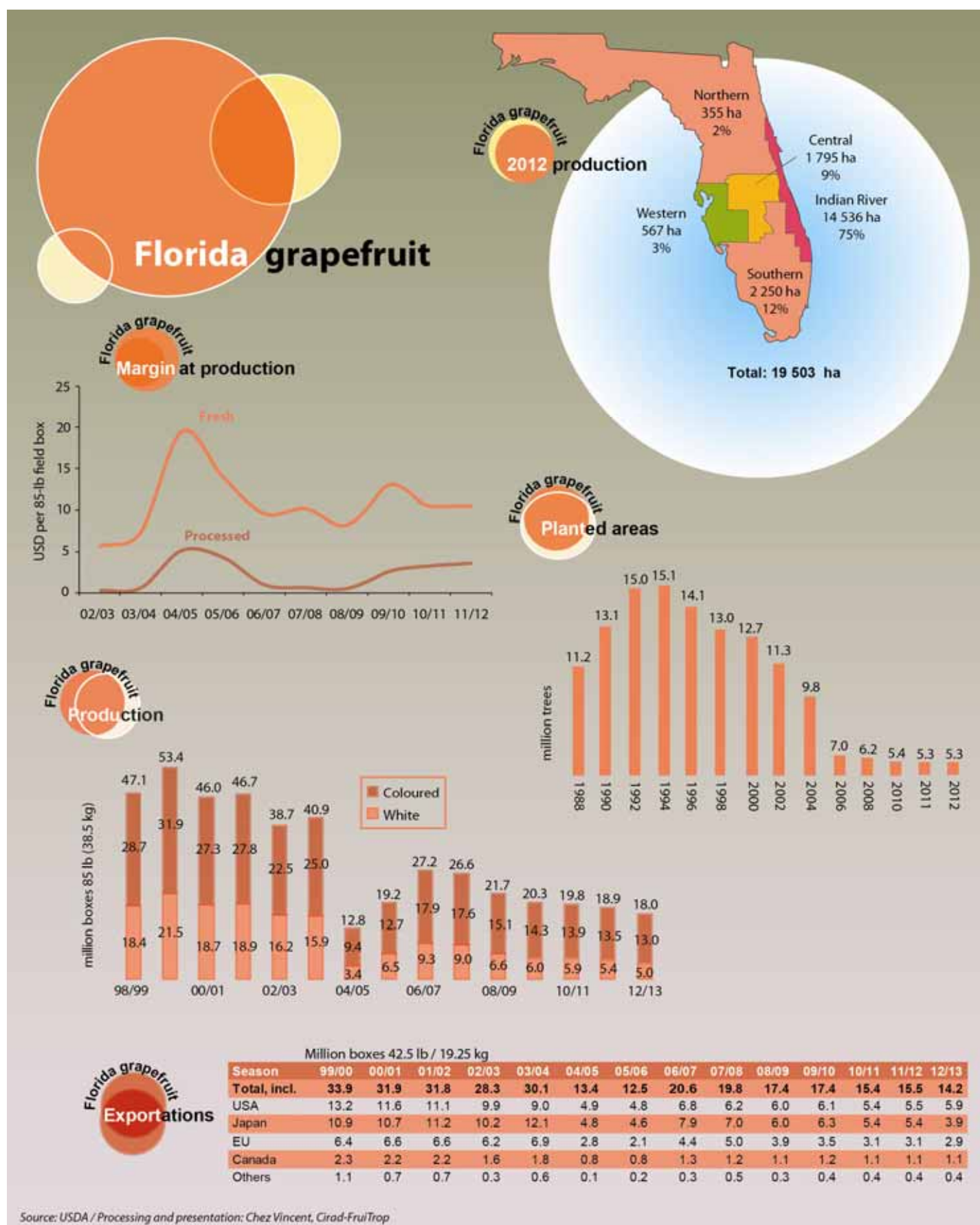
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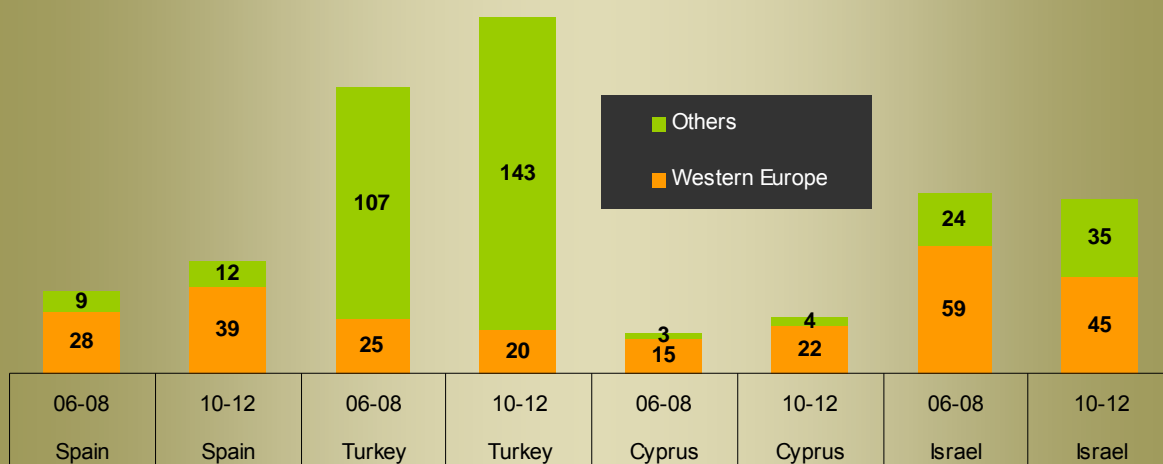
## A mediocre period for most Mediterranean sources

The poor performance of Florida gave nothing for the Mediterranean sources to feel superior about. The 2012-13 season was symptomatic of the waning interest of purchasers in Mediterranean grapefruit. The substantial dip in Turkish production did not result in a search for massive volumes from the other major exporters in the region. Thus the distinct downward trend in the volumes of Mediterranean grapefruit sold in the EU since 2010-11 continued and worsened. The fall of nearly 13% in comparison with the preceding season was all the more disappointing as the indicator calculated by our market watch shows that prices remained at the same poor level as before.

## Small crop in Turkey with the cultivated area unchanged

But Turkey did leave a large space for its competitors. With production hit by the weather, Turkey's exports were the smallest for four years with shipments down by 20% in comparison with those of 2011-12. The decrease was particularly substantial for the EU (more than 30% down according to professional figures while awaiting confirmation from the customs) as exporters had maintained fairly steady shipments to the heart of their market in Eastern Europe (Russia and Ukraine). However, plantation of grapefruit has stopped even though Turkey has profited from the most recent growing markets. Growers prefer to develop easy peelers and late oranges that are more profitable and for which market prospects seem more open.

**Grapefruit - Mediterranean - Evolution of exports**  
(000 tonnes / Source: CLAM)





## Diversification of outlets and grubbing up in Israel

The Israeli grapefruit sector had another difficult season in spite of an apparently open market context. One professional described it as 5 satisfactory weeks and 25 weeks of hell. Exports thus reached the level of the previous season's and prices were just as disappointing on the European market—an essential outlet for Israeli exporters. The hope generated by the decrease in competition from Florida in the middle of the last decade has turned into bitter disillusion. Trade professionals have reviewed their strategy as shipments to the EU have returned to levels close to that seen before the problems in Florida (about 40 000 to 45 000 t each season). There is increased determination to diversify outlets. More than 25% of shipments of 'Sunrise' were to Russia and Ukraine in 2012-13 in comparison with hardly more than 20% in the preceding season. Exports of the same variety to North America doubled, although the volume was modest at no more than 4% of total shipments. Drastic decisions are also being taken: there has been much grubbing up of 'White Marsh' for several years and 'Sunrise' is now reported to be concerned as well. The census that should be made at the end of the year should show the situation.

## Only one positive feature: increased exports from Cyprus and Spain

Performance by the other two large Mediterranean exporters was a little less disappointing. With larger crops thanks to more rainfall than in recent seasons, Cyprus and Spain exported larger quantities in 2012-13, although the levels remained moderate. But the cultivated areas are no longer increasing for either grapefruit or other citrus. The balance ranges from medium to satisfactory for Spanish operators. First, as regards volumes a preliminary estimate based on

Grapefruit — European Union — Imports from northern hemisphere

Tonnes	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13*
<b>Total northern hemisphere*</b>	<b>246 088</b>	<b>208 065</b>	<b>227 089</b>	<b>232 718</b>	<b>231 075</b>	<b>245 863</b>	<b>246 755</b>	<b>231 181</b>	<b>229 759</b>	<b>209 300</b>
Turkey	43 017	42 709	80 893	52 761	42 767	64 634	75 004	66 286	81 960	55 000
Israel	44 536	62 612	54 453	60 849	60 898	68 502	58 101	48 576	44 170	42 000
United States	114 010	53 077	42 911	66 275	77 089	64 548	55 132	52 721	45 988	47 800
Spain	28 100	32 700	34 000	37 700	37 800	36 300	47 900	51 825	44 560	50 000
Cyprus	16 425	16 967	14 832	15 133	12 521	11 880	10 617	11 773	13 081	14 500

\* estimate / Source: EUROSTAT



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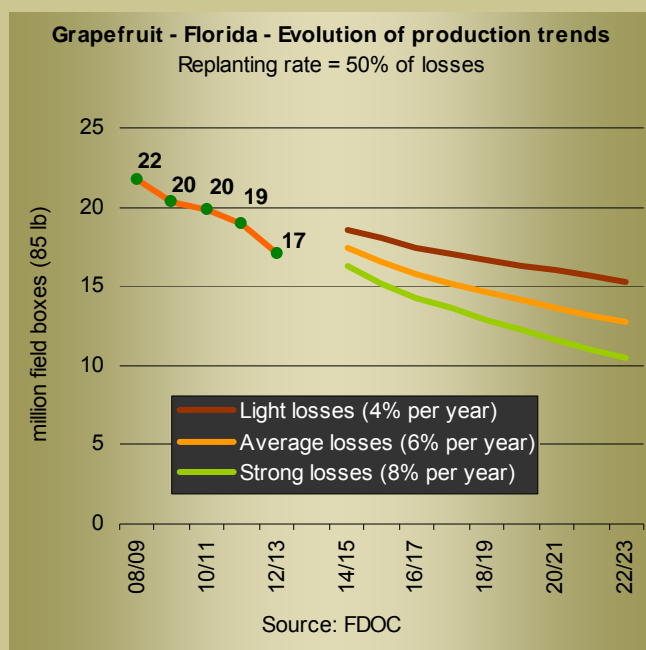
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## Grapefruit from Florida: less and less

According to the FDOC, the harvest in Florida should total some 15 million field boxes in 2022-23 if current trends remain unchanged: low annual rate of tree mortality (4%) and a low replanting rate at about half the mortality rate. The decrease is a little more than 10% of present production, which reached 17 million boxes in the 2012-13 season.



customs figures indicates that exports were larger than in the preceding season in spite of a start slowed by small fruits, substantial sorting rejects (for reasons of pitting) and a fairly early end of the season. As regards prices, even if the last part of the season was fairly difficult for some exporters, the export result was positive overall. The domestic market is still limited but is growing and takes small fruits (consumed as juice). Finally, grapefruit trees have high yields and cost prices are comparatively modest. Some professionals are therefore continuing to develop their production capacity for coloured grapefruit.

What could be the new economic model for Florida in the face of the decrease in exportable produce?

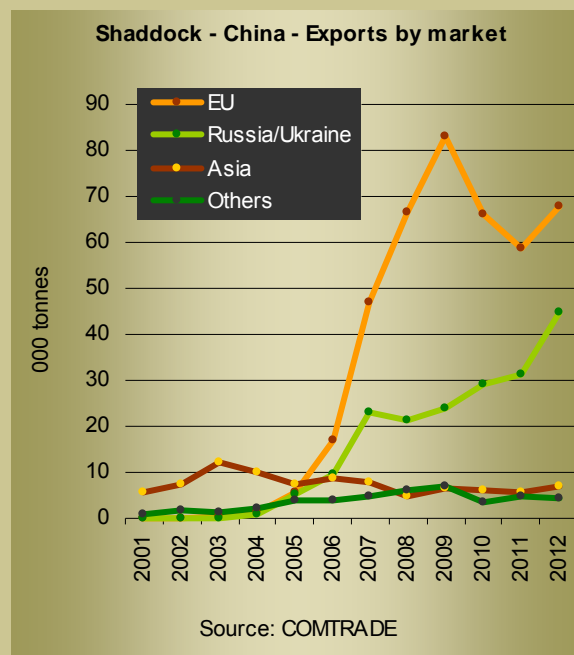
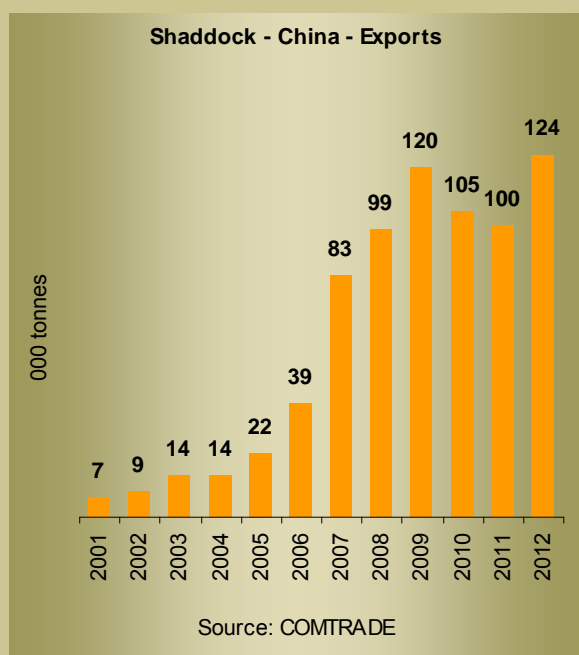
There were no good surprises this season, which confirmed the extreme fragility of the EU market. The continuation and even acceleration of the decrease in consumption worldwide raises questions for the future. The equation seems very complex for Florida as cost prices will probably increase and production continue to decrease, as is confirmed by the latest FDOC forecasts. The option chosen by a fair proportion of exporters is the launching on the EU market of a low-priced 'third brand' with fruits whose appearance is less attractive than grades 1 and 2. This option received approval from certain distributors during the first part of the season.

However, might this be a time-bomb in the medium term? Early dereferencing at the end of the season for reasons of the appearance of fruits is a first warning. Is such a third brand compatible with the high-quality position of Floridian fruits on a more long term basis? How can consumers be led to understand that less attractive appearance has no effect on the unequalled taste qualities? This challenge was taken up successfully in Spain by Canary Island banana producers who succeeded in converting visual defects into a sign of quality, but this was after substantial investment in marketing over a long period and this is not within the scope of Florida today. Might it not be better to keep the high quality criteria and a small and legible range at a risk of losing volumes but conserving margins? Is this second option compatible with the economies of scale required for the Florida sector to continue to function?



## Chinese shaddock has secured a position on the EU market but is no longer gaining ground

Is it a question of fashion? The figures for 2012 confirm the peaking of shaddock exports from China. After particularly vigorous growth during most of the 2000s, volumes have now varied between 100 000 and 125 000 t per year since 2009. The EU, taking the largest quantity, no longer plays the role of driving force. Imports peaked at more than 80 000 t in 2009 but have ranged from 60 000 to 70 000 t in recent years. Shipments to Asia are also stagnating at 6 000 to 7 000 t. The only rapid growth is seen in the Eastern European markets. The total exported to Russia and Ukraine has doubled since 2008, approaching 45 000 t in 2012.

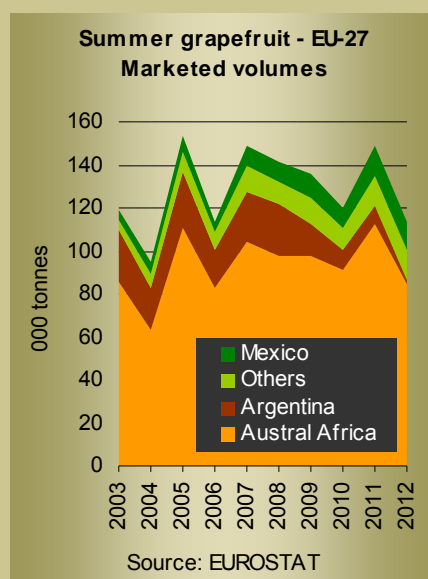




## Summer season forecasts

The crop in South Africa should be good with positive alternate bearing and the increase in production of the young groves planted from 2004 to 2009. The 400 000 t mark should be exceeded for the first time, and with a distinctly smaller proportion of small fruits. South African exporters therefore hope to be able to reach and even exceed 15 million 15-kg boxes (225 000 t). This would be 15% more than the last season and not very far from the record 15.8 million boxes shipped in 2011. Exchange rates are distinctly more favourable than in the past two years as the rand has fallen against the euro and the yen, easing the effect of the increase in production and transport costs. The more or less complete disappearance of competition from Argentina on the Russian and EU markets is also an advantage. It is true that the threat of closure of the European frontiers if Black Spot is found in more than five batches is a sword of Damocles. However, the efforts and seriousness of South African professionals have reassured the European trade even if they have not yet succeeded in convincing the European sanitary authorities.

The Mexican season should be very similar to the preceding one. Shipments from Michoacán will start in the second half of August. Export potential promises to be much the same as the 12 500 t shipped in 2012 but with slightly better fruit size. Yucatan will complete supply from the beginning of September. Quantities will be moderate again this season and in the following season too (about 3 000 t) with the switch of production from old to young groves.



© Eric Imbert

## The pleasure of eating grapefruit—a strategic point for Mediterranean production

The problem is different but no less complex in the Mediterranean region. Some sources or brands are perhaps cutting the branch that they are standing on. Continuing to supply produce with very standard organoleptic qualities—especially at the beginning of the season—can only maintain or accelerate a firmly established decrease in consumption. Wouldn't it be better to work on terroirs and production calendars to propose at least one market segment more likely to please consumers and hence stimulate demand? These are not new questions but they have so far only received an answer from the 'small' Corsican sector and from a very limited number of operators in the other Mediterranean export countries ■

Eric Imbert, CIRAD  
eric.imbert@cirad.fr

Grapefruit — European Union — Imports from southern hemisphere

Tonnes	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>Total</b>	<b>114 726</b>	<b>89 404</b>	<b>145 885</b>	<b>109 298</b>	<b>139 400</b>	<b>132 096</b>	<b>124 476</b>	<b>110 577</b>	<b>134 914</b>	<b>100 330</b>
Mexico	3 939	5 728	7 594	4 527	9 834	9 304	11 600	9 167	14 385	13 217
<b>Total S. hemisphere</b>	<b>110 787</b>	<b>83 676</b>	<b>138 291</b>	<b>104 771</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	76 658	55 833	97 170	72 924	90 825	86 852	88 616	78 897	94 006	74 367
Swaziland	6 111	5 369	7 197	7 210	10 085	9 260	6 707	9 906	14 986	8 455
Argentina	24 504	19 583	26 869	17 627	23 186	24 171	14 828	9 129	8 276	1 458
Zimbabwe	2 586	1 436	5 001	2 227	3 556	1 409	1 947	2 053	2 228	1 360
Mozambique	88	780	919	120	-	-	240	669	1 016	840
Chile	-	200	474	2 513	959	719	70	363	18	176
Uruguay	665	401	576	2 063	775	298	213	140	-	-
Others	175	75	85	87	180	83	255	251	-	457

Source: EUROSTAT



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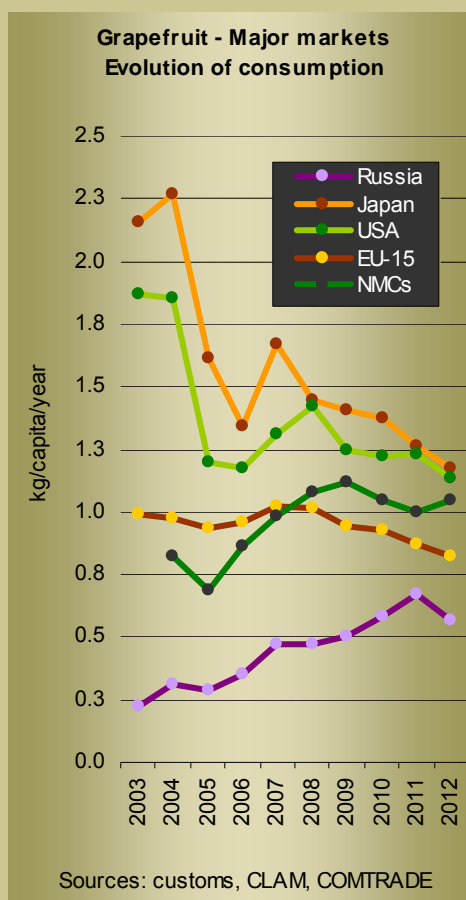
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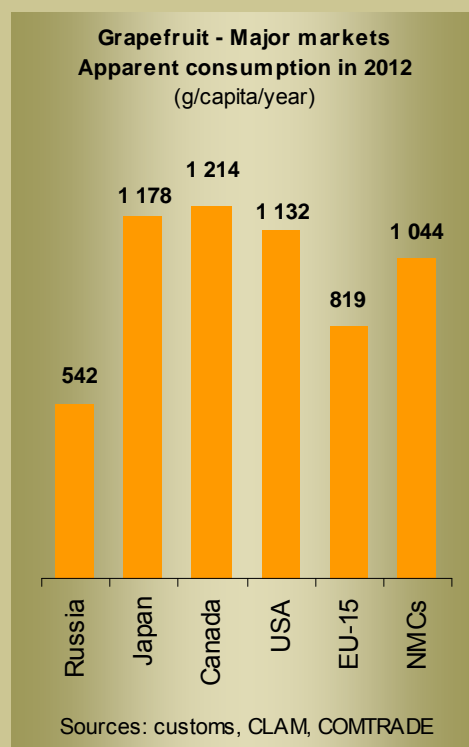
## A general decrease in consumption

The problem is increasingly widespread. Unsurprisingly, consumption is decreasing more on the markets supplied mainly by Florida. Japan is a good illustration of this. The quantity per person has decreased by more than a kilogram in less than ten years and the trend is continuing. The movement seems to have worsened in the last two years, with a decrease of about 200 g per person. There is also a slow but steady decrease in Canada and United States where average annual consumption is about 1.2 kg. The decrease is also moderate but inexorable in Western Europe where 100 g per person has been lost in two years. France is still the European champion with consumption of some 1.1 kg per person. The decrease was very marked until 2011 and slowed considerably in 2012. A similar trend towards stability is noted in the United Kingdom where the 550 g per person per year is much smaller than the regional average. Germany shows the worst performance with a very marked decrease since 2010. Average consumption was less than 550 g in 2012 in comparison with nearly 900 g in 2009. The most stability is seen in Scandinavia, with average consumption since 2007 oscillating between 700 and 750 g per year, and in the eastern part of the EU where consumption is still about 1 kg per year. The most alarming situation is seen in Eastern Europe. Will anything be made of the substantial scope for growth in Russia, where consumption is still small at about 600 to 700 g per person? The volumes sold increased continuously from the early 2000s and then decreased in 2012. Ukraine is the only market in the region to have increased in 2012 to slightly more than 600 g per year. The other eastern markets (Serbia, Croatia, Bosnia, etc.) have been stable with consumption at 420 to 450 g per year since 2007.



Grapefruit — Consumption			
	Consumption in 2011-12 (g/capita/year)	Evolution 2012 on average 2009-10 (g/capita/year)	Population (millions)
France	1 072	- 150.7	65
Sweden	969	+ 158.4	9
Belgium	907	+ 64.7	11
<b>Average EU-15</b>	<b>843</b>	<b>- 91.5</b>	<b>253</b>
Denmark	728	- 274.1	6
Ireland	708	+ 53.5	5
Germany	577	- 267.8	82
United Kingdom	551	- 6.3	62
Luxemburg	538	- 94.7	1
Austria	431	+ 3.2	8
Finland	318	+ 27.1	5
Bulgaria	1 352	+ 7.0	8
Baltic states	1 307	- 197.8	7
Romania	1 280	- 79.9	22
<b>Average NMCs</b>	<b>1 021</b>	<b>- 63.2</b>	<b>100</b>
Poland	1 014	- 35.0	38
Czech Rep.	971	- 139.0	11
Slovakia	925	+ 1.2	5
Hungary	299	- 94.5	10

Sources: EUROSTAT, CLAM







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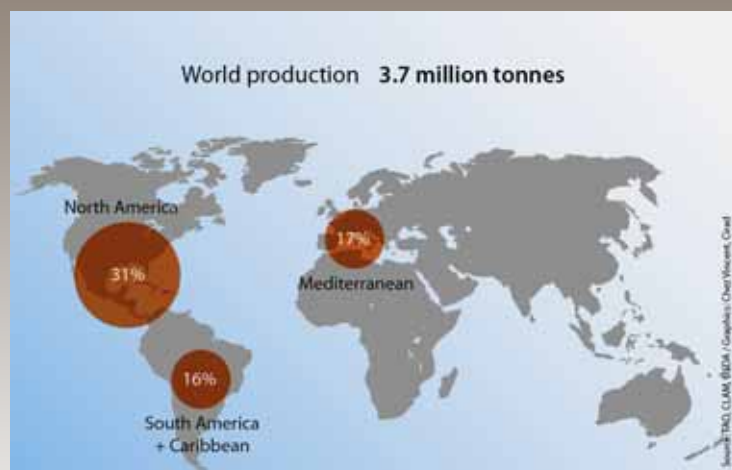
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## GRAPEFRUIT — Production



Grapefruit — The 9 leading producer countries (or states)

tonnes	2011
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 — Imports



Grapefruit — The 8 leading importing countries

tonnes	2012
Netherlands	168 500
Japan	149 567
Russia	79 075
France	77 200
Germany	56 700
Canada	41 146
Poland	42 800
United Kingdom	37 000

Source: national customs

## GRAPEFRUIT — Exports



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 — Main supplier countries

tonnes	2007	2008	2009	2010	2011	2012
<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	-
Others	101	1 050	150	173	286	115

Source: USDA

Canada — Imports — Main supplier 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
Bahamas	1 498	1 084	874	396	137	6
Mexico	767	512	335	641	328	735
Thailand	315	304	192	262	173	183
<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	-	-	5	76	-	2

Sources: COMTRADE, national customs

South America — Main 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 — Main supplier 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. hem., 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. hem., 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

\* supply from EU citrus producer countries / Sources: COMTRADE, national customs

Other western European countries — Main 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 — Main supplier 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. hem., 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
Morocco	371	441	544	365	122	660
Spain	2 610	2 129	891	691	678	303
United States	71	696	1 214	209	13	2
<b>S. hem., 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
Swaziland	345	314	298	631	910	622
Argentina	4 484	3 975	691	1 025	903	268
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 eastern European countries — Main 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
Bosnia 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
Albania	170	292	396	201	257	222

Sources: COMTRADE, national customs

Japan — Imports — Main supplier 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. hem., 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. hem., 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 — Main 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 — Main 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>
Saudi Arabia	8 226	8 500	8 500	8 457	9 904	-
United Arab Em.	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	-

Sources: COMTRADE, national customs



© Régis Domergue



# Mangosteen

## A delicacy in a fine case

**Referred to as 'the queen of fruits' in English and 'the king of fruits' in French, this distinction comes from both its delicate pure white flesh of the fruit and the superb reddish purple casing that surrounds it.**



© Fabrice Le Bellec

In his book *'Les plantes alimentaires chez tous les peuples'*, published at the beginning of the twentieth century, Désiré Bois wrote that 'mangosteen is certainly the most precious fruit tree in hot countries [...] white, semi-transparent mangosteen flesh is extremely succulent; it releases a perfume in which some people believe they recognise raspberry, peaches and grapes all at once. I find that it can be compared above all with a delicious Chasselas...'. And in a book published in 1892, Bayard Taylor wrote that the fruit appeared too beautiful to eat, seeming to hold the sweetest and rarest essence of the tropics, melting in the mouth and seducing the palate! Although its taste qualities are indisputable, unfortunately they fade very fast,

just a few days after ripeness if the fruit is not kept well. This is one of the reasons why mangosteen is still too little known outside production regions. But there are others. You have to be quick but not in a hurry with mangosteen! Quick because the seeds must be sown as soon as possible after extraction from the fruit, and not in a hurry because several years elapse before this royal plant gives its first fruits—at least 8 years and sometimes 15 to 20! The fruits are extremely perishable, the seeds have a limited germination life and so the mangosteen does not possess all the aces to become the emperor of the fruit department. However, it has made progress in recent years, in particular thanks to its recently identified nutritional and antioxidant qualities.



© Fabrice Le Bellec

## Ecology and cultivation

The mangosteen tree (*Garcinia mangostana* L.) originated in South-East Asia. Linné gave it the generic name *Garcinia* in honour of the work carried out on the species by the French botanist Laurent Garcin in the eighteenth century. It is grown from the southern Philippines to southern India but is seen above all in Indonesia and the south of the Indochinese peninsula. Nearly 100 000 tonnes is grown on nearly 25 000 hectares in Thailand and Malaysia alone. Its reputation has also assured the fruit broad distribution throughout the tropics and it is now seen in Central America (with production exported to the United States), Brazil, Madagascar and Queensland in Australia. A few specimens are found in the French overseas departments, but mangosteen is not grown there as a serious crop.

The tree grows to a height of 10 to 15 metres. It has a magnificent slim pyramidal habit, gaining volume with time. The upper surface of the leaves is glossy green while the underside is greenish-yellow and matt. The flowers grow at the extremity of the previous year's shoots and have four tough-looking waxy petals. The fruit is round, slightly flattened at the top and the bottom, with a thick smooth corky skin; this is pale green to yellow, turning purple-violet when the fruit is ripe. The sepals are evergreen. The interior of the fruit consists of 6 to 8 white segments that separate like those of a mandarin and contain one or more seeds.

Mangosteen is a tropical tree and requires heat and moisture. Annual precipitation of more than 1 500 mm, well distributed throughout the year, is essential. However, a short period of drought is beneficial for floral induction. The optimum temperature for growth is about 25 to 30°C. The young trees cannot stand direct sunlight well and so are grown with companion crops that provide shade. Combining the trees with bananas can be a good choice in the early years as the bananas provide the shade needed. However, care must be taken to avoid any competition from the companion crop as regards water and nutrients.

Multiplication is easy by means of seeds although these are not real seeds as they are formed without pollen and so without pollination! A form of vegetative multiplication takes place. The germination capacity of the seeds removed from the fruit is very short-lived. They must be sown quickly or pre-germinated on moist cotton wool performed until a shoot appears. The seedlings can then be trans-

planted delicately to a pot containing a light substrate rich in organic matter. It is possible to take cuttings but this is very difficult as it must be performed in a saturated environment. Whatever the propagation method, this phase in a shade house is long as it takes to two or three years to grow a mangosteen ready for planting.

© Fabrice Le Bellec



There seems to be only one main mangosteen variety although several mutations have been reported around the world. The tree grows very slowly and the first fruits are borne after eight to ten years. Many planters are discouraged by this long non-productive period. This is why the species is rarely planted in orchards in its region of origin but often with other trees such as durian or rambutan. An adult tree may yield 200 to 2 000 fruits. However, average yields in Asia are more

like 4 to 6 tonnes per hectare. The fruits are picked two or three days after they have changed colour—from green to violet. This harvest stage determines the final quality of the fruits. Picking too early (greenish yellow peel with no pink patches) affects the flavour of the flesh.

### A few pre- and postharvest features that affect mangosteen quality

Unsuitable cultivation conditions such as poor drainage or mineral deficiency (mainly calcium and zinc) can affect fruit quality and make them unsuitable for sale (translucent pump). Likewise, certain pests cause serious indirect effects: pricking by fruit flies or bugs cause flows of yellow latex that make the white flesh of the fruit bitter if they touch it. Thrips seem to be main pests of mangos-



## Le verger tropical Cultiver les arbres fruitiers

by Fabrice and Valérie Le Bellec

How to care for tropical fruit trees. How to prune them. How to graft the various species. How to limit the use of chemical inputs. Distinguishing between beneficial insects and pests, etc. The book describes the main cultural techniques in tropical fruit production, with care to seek a balance between production and avoiding damage to the environment. But above all it gives detailed, abundantly illustrated descriptions of more than 120 tropical, subtropical and Mediterranean fruit species, whether they are considered as major, minor, forgotten or full of promise.

Editions ORPHIE, ISBN: 978-2-87763-384-0  
In French, 272 pages, 2007, 35 euros



Mangosteen — Asia — Situation in 2009

	Surfaces (hectares)	Production (tonnes)	Exports (tonnes)
Thailand	51 000	200 000	100 000
Indonesia	12 000	105 000	20 000*
Vietnam	10 000	40 000	na
Malaysia	73 000	28 000	na

\* 2012 / FAO estimate



© Guy Bréhiniér

teen and repeated pricking strongly affects the fruit colour that is a major selling point.

At postharvest stage, the fruits will keep for only a few days at ambient temperature while at 10-12°C (with 85-90% relative humidity) they can keep for three weeks without quality being affected. Storage temperatures lower than 10°C cause serious physiological damage. Finally, even though the pericarp of mangosteen seems strong, impacts during fruit handling result in much loss.

## Use

The delicacy of mangosteen flesh is incomparable when the fruit is perfectly ripe and freshly cut. In Thailand, the fruits are picked when they begin to turn pink (de 5 to 50% of the surface). They are opened delicately with care taken to prevent latex from touching the pulp and placed in acid juice (lime juice for example) for 30 minutes to prevent browning. The Thais like this very much even though the lifetime of the product is limited to 5 hours, making daily preparation necessary.

Mangosteen can also be processed. The main products are fruit jelly, dried fruits, fruits frozen whole and juice. The latter are much appreciated for their antioxidant content and their presumed role in human health such as the lowering of fat levels in blood. As the colour of mangosteen juice is too pale, a colorant extracted from the pericarp is added. This gives a pinkish hue and also tannins that are also beneficial for health. These tannins are found in fruit skins and also the bark of the tree. They have anti-inflammatory properties and are reported to be effective in the treatment of amoebic dysentery. Finally, mangosteen wood is red, hard and strong. It is appreciated in cabinetmaking but rarely used because of the value of the species!

## An ethnic market base

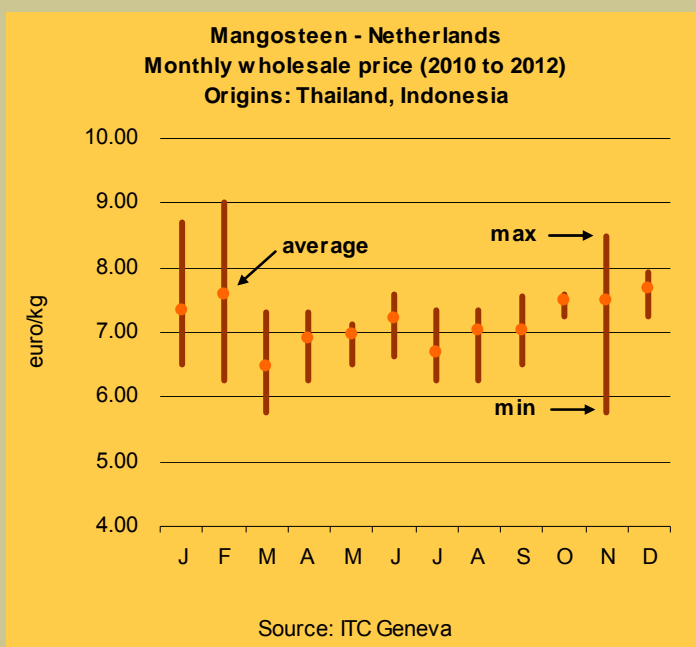
Mangosteen remains an ethnic fruit in Europe, with a market base consisting of Asian clientele. Most sales are in shops specialising in products from Asia and these are often supplied by special channels that obtain produce directly. Mangosteen is not sold in supermarkets and is only seen by the general public in displays of exotic produce during the Christmas period.



## South-East Asia dominant in trade

A small number of South-East Asian countries reign over the international trade in mangosteen. Thailand is the key supplier with the largest crop in the world. Another strong point is its long production calendar, with fruits from the east of the country from the spring to the beginning of the summer and then from the south in winter. Vietnam, with a smaller number of operators, is present on the market from May to the end of the summer. Malaysia also supplies the international market but its produce is less sought-after by European importers as the fruits are generally smaller.

Suppliers other than this Asian foursome are rare. Colombia provides complementary supply, mainly during the winter. Regular shipments arrived from Africa in the 1980s and 1990s but these are now very sporadic. The fruits from all sources are packaged in filmed 1 kg trays that generally contain 10 to 12 fruits. Each box contains two trays.



## Fine flavour is an advantage, but there are serious obstacles to development

Everyone appreciates the fine, fruity flavour of mangosteen and certain enthusiasts describe it as 'the best fruit in the world'. But there is unlikely to be a sales boom tomorrow. Mangosteen is still an expensive fruit sold at a fairly steady 7 to 8 euros per kg wholesale throughout the year. The price hardly ever falls to less than 6 euros even in the summer when peak production in Thailand and summer fruits coincide. The high cost of transport (air freight only) comes over and above a fairly high production cost because of the very slow build-up of fruiting and the small yield of the trees. The fruit must also be sold fairly quickly before the skin hardens. Finally, in some seasons internal quality problems (blackening) occur and this slows the development of a fruit whose retail price is very high ■

Mangosteen — Production calendar for main origins												
	J	F	M	A	M	J	J	A	S	O	N	D
<b>Thailand</b>												
East												
South												
<b>Indonesia</b>												
<b>Vietnam</b>												
<b>Malaysia</b>												
<b>Colombia</b>												

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# Wholesale market prices in Europe

## May 2013

					EUROPEAN UNION — EURO				
					Germany	Belgium	France	Holland	UK
AVOCADO	Air	TROPICAL ETTINGER FUERTE	BRAZIL	Box			14.00		
			PERU	Box	7.00				
			KENYA	Box			5.50		
			PERU	Box		9.00	6.75	9.38	
		HASS	SOUTH AFRICA	Box			7.25	9.44	10.65
			BRAZIL	Box			5.75	15.43	
			KENYA	Box	7.20		6.69	6.75	6.80
			PERU	Box	6.31	10.00	7.50	9.13	9.23
		NOT DETERMINED	SOUTH AFRICA	Box	5.92	7.75	7.25		
			SPAIN	Box		7.75			
			BRAZIL	Box					8.28
			ISRAEL	Box					9.76
			SOUTH AFRICA	Box					8.58
		PINKERTON RINTON ZUTANO	SOUTH AFRICA	Box			7.38	9.75	
			SOUTH AFRICA	Box				9.50	
			PERU	Box			6.00		
BANANA	Air	RED SMALL	ECUADOR	kg				4.88	
			COLOMBIA	kg			6.60	5.17	
			ECUADOR	kg		5.67			
	Sea	RED SMALL	ECUADOR	kg				2.29	
			ECUADOR	kg			1.70	2.00	
CARAMBOLA	Air		MALAYSIA	kg		5.33	4.77	5.13	
	Sea		MALAYSIA	kg					3.88
CHAYOTE	Sea		COSTA RICA	kg			1.20	1.43	
COCONUT	Sea		COSTA RICA	Bag		15.00			
			COTE D'IVOIRE	Bag			14.98	10.67	13.01
			DOMINICAN REP.	Bag				19.00	
			SRI LANKA	Bag			13.50		9.91
DATE	Sea	MEDJOL	ISRAEL	kg			7.00	6.50	4.97
			SOUTH AFRICA	kg				7.60	
		NOT DETERMINED	TUNISIA	kg				1.88	1.57
EDDOE	Sea		COSTA RICA	kg			2.00	1.57	
GINGER	Sea		CHINA	kg			1.50	1.14	
			THAILAND	kg			1.75	1.33	
GUAVA	Air		BRAZIL	kg			6.20	7.28	
			THAILAND	kg				7.25	
KUMQUAT	Air		ISRAEL	kg					5.62
			SOUTH AFRICA	kg			6.50	8.25	
LIME	Air		MEXICO	kg			4.50		
	Sea		BRAZIL	kg	2.44	2.22	3.13	3.22	2.61
			MEXICO	kg			3.45		2.96
LONGAN	Air		THAILAND	kg				9.52	
	Sea		THAILAND	kg				3.92	
MANGO	Air	AMELIE KENT	MALI	kg			2.90		
			COTE D'IVOIRE	kg				5.00	
			MALI	kg			4.90		
		NOT DETERMINED NAM DOK MAI PALMER	COSTA RICA	kg					3.55
			THAILAND	kg				7.20	
			BRAZIL	kg				3.88	

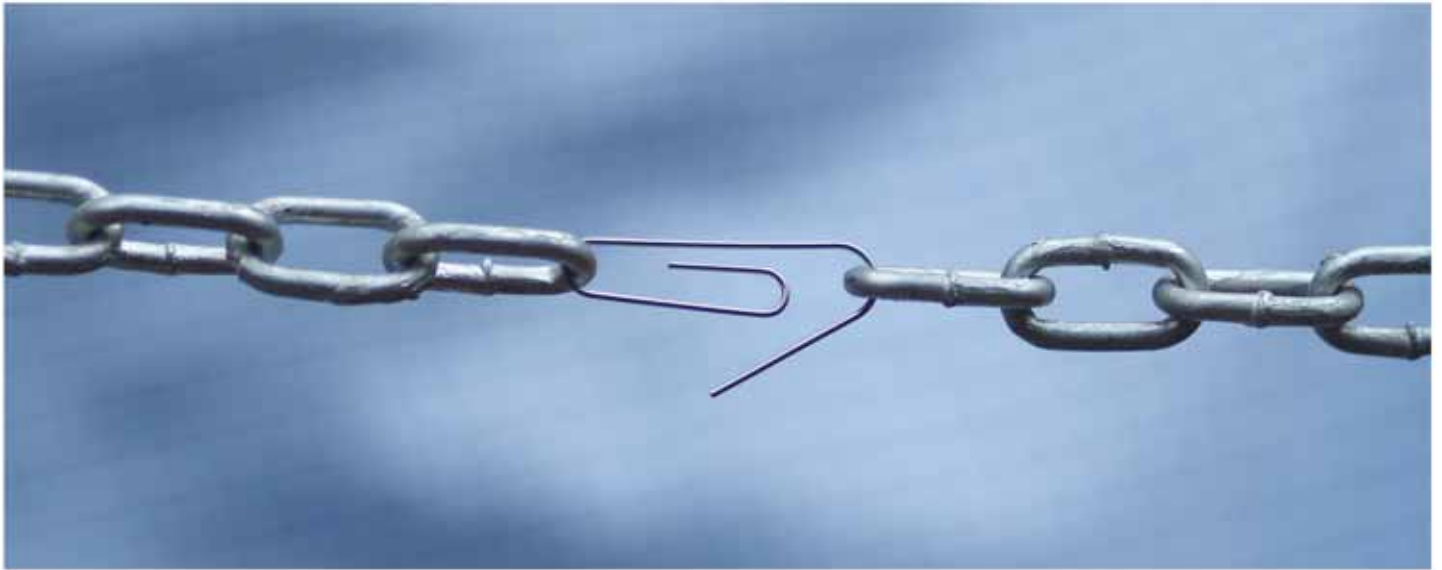


					EUROPEAN UNION — EURO				
					Germany	Belgium	France	Holland	UK
MANGO	Sea	ATKINS KEITT KENT	BRAZIL	kg				2.63	
			PERU	kg					2.37
			BRAZIL	kg	2.13				
		NOT DETERMINED	COTE D'IVOIRE	kg		2.00	2.27		
			BRAZIL	kg					1.05
			INDIA	kg					1.48
			PERU	kg			2.00		
MANGOSTEEN	Air		THAILAND	kg			9.80	8.18	
			VIET NAM	kg				8.35	
MANIOC	Sea		COSTA RICA	kg			1.15	1.04	
MELON	Sea	CANTALOUPE CHARENTAIS GALIA SEEDLESS WATER	BRAZIL	kg					1.61
			MOROCCO	kg			1.55		
			BRAZIL	kg					1.30
			BRAZIL	kg					1.10
			HONDURAS	kg					0.75
PAPAYA	Air	FORMOSA NOT DETERMINED	BRAZIL	kg			3.30	3.25	
			BRAZIL	kg		2.50	3.65	3.70	4.21
			THAILAND	kg				4.81	
PASSION FRUIT	Air	NOT DETERMINED PURPLE	COLOMBIA	kg	5.00		6.65	6.70	4.43
			KENYA	kg		4.50		5.00	4.73
			SOUTH AFRICA	kg			7.50	5.83	
			VIET NAM	kg			6.80		
		YELLOW	ZIMBABWE	kg				5.75	
			COLOMBIA	kg				9.22	
			ECUADOR	kg				9.50	
PERSIMMON	Sea		SOUTH AFRICA	kg	3.00	2.60			5.03
PHYSALIS	Air	PREPACKED	COLOMBIA	kg	6.88	8.33	7.50	9.25	7.89
PINEAPPLE	Air	SMOOTH CAYENNE	BENIN	kg			2.20		
			GHANA	kg			2.10		
			MAURITIUS	Box				13.20	
		VICTORIA	MAURITIUS	kg			3.55		
			REUNION	kg			3.75		
			SOUTH AFRICA	Box		10.00		11.82	
	Sea	MD-2	COSTA RICA	Box	10.69	8.00	9.25	9.00	9.17
			COTE D'IVOIRE	kg			1.05		
PITAHAYA	Air	RED YELLOW	VIET NAM	kg			8.00	6.68	
			COLOMBIA	kg			13.00	10.22	
			ECUADOR	kg				9.60	
PLANTAIN	Sea		COLOMBIA	kg			1.02	0.91	
			COSTA RICA	kg					1.31
			ECUADOR	kg			0.90	0.84	
RAMBUTAN	Air		THAILAND	kg				7.75	
			VIET NAM	kg			9.80	7.93	
SWEET POTATO	Sea	NOT DETERMINED	BRAZIL	kg					1.54
			EGYPT	kg			0.95		
			HONDURAS	kg					1.28
			ISRAEL	kg					1.09
		PURPLE WHITE	SOUTH AFRICA	kg					1.66
			CHINA	kg				2.45	
			HONDURAS	kg				1.36	
TAMARILLO	Air		COLOMBIA	kg			7.60	6.89	
TAMARIND	Air		THAILAND	kg			2.90	3.07	
YAM	Sea		BRAZIL	kg					1.42
			GHANA	kg			1.30	1.40	

Note: according to grade

These prices are based on monthly information from the Market News Service, International Trade Centre UNCTAD/WTO (ITC), Geneva.  
MNS - International Trade Centre, UNCTAD/WTO (ITC), Palais des Nations, 1211 Geneva 10, Switzerland  
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