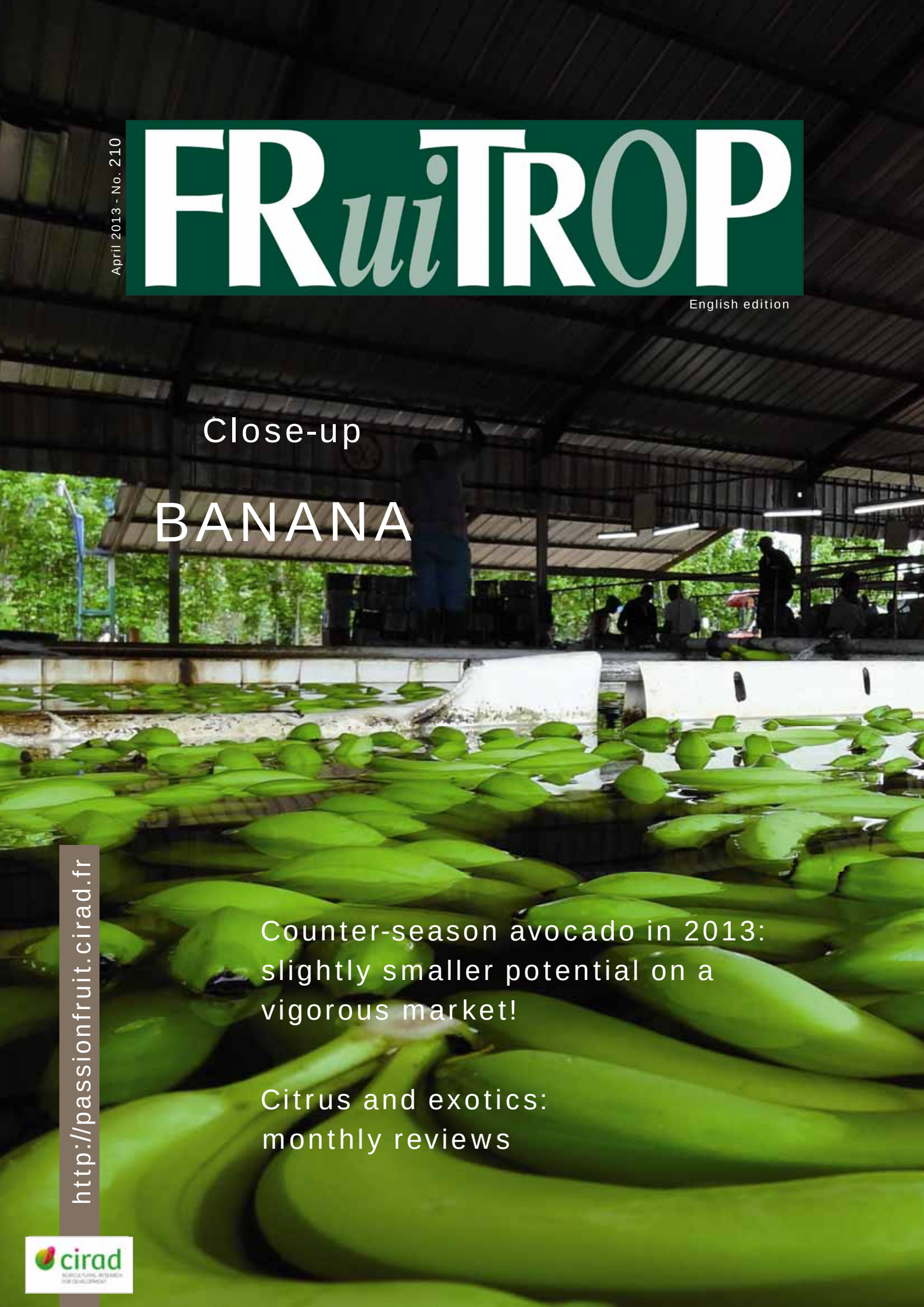
April 2013 - No. 210

FRuiTROP

English edition



Close-up

BANANA

Counter-season avocado in 2013: slightly smaller potential on a vigorous market!

Citrus and exotics: monthly reviews

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'All animals are equal, but some animals are more equal than others' *wrote George Orwell. This is something that everyone can check in their lives, whether in the old European democracies or elsewhere. Tax inequality is a common feature. The thousand and one ways of 'optimising' fiscal expenditure forms a body of expertise with shop fronts. Transnational companies have made it one of their basic principles for decades, making the profits appear where the taxes are lowest. This is not necessarily fair play for everyone—both countries and people—involved in a production chain, but it is legal. It is healthy accounts management in a way but it does not go well with healthy social management. But it is the model and there would seem to be little—including the current systemic crises—that could call it into question. And then there is inequality in the face of regulations. France has just given us another example of this. Bursting with good intentions, it wants to apply an ecotax on heavy goods haulage. Various lobbies—including the dairy sector—hit the roof and some regions are exonerated. Hauliers in Brittany are spared. But their colleagues in Normandy cough up. The river Couesnon, the frontier between Brittany and Normandy, marks the limit. Apart from anything else, this is going to revive ancestral enmities between the two regions. It can be seen that in questions of equality before the law, the authorities have preferred once again to go for Orwell's Animal Farm than apply Article 1 of the French Constitution: '…the equality of all citizens before the law…'.*

Denis Loeillet

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FRuiTROP

Contents

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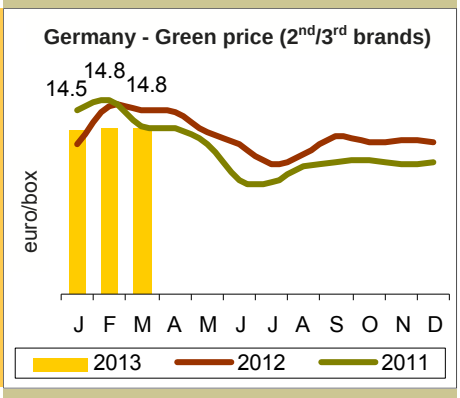
Banana

March 2013

In spite of an overall increase in the supply of bananas, most markets became better balanced in March. However, the seasonal increase in volumes from several sources that had started in February continued. Supply from the French West Indies continued to increase very moderately but at levels that were 15% higher than the average. Shipments from Africa continued to rise to high levels with quantities from Cameroon still stable and higher than the average and the start of the seasonal increase in shipments from Côte d'Ivoire. Furthermore, the shortfall in dollar bananas continued to decrease. Shipments from Costa Rica were similar to last year's, the deficit in produce from Ecuador was smaller and Colombian shipments increased distinctly. Demand was slow at the beginning of the month but after the end of the school holidays in most countries it began to liven up in mid-March, especially because spring has been late (cold weather and no or little competition from the season's fruits) and promotion operations were run. As a result, several markets regained their balance. Likewise, sales to Eastern European countries were busier. The fall in green prices seen in France and Italy at the beginning of March was thus halted and prices remained stable until the end of the month, but slightly lower than the average. Prices in Germany remained at the same level throughout the month after the renegotiation of contracts for March-April. Finally, the Spanish market kept a certain balance as arrivals of Canary Island bananas were stable and slightly short. The collapse of the Russian market continued with prices at record lows for the season after massive shipments since the beginning of the year.

NORTHERN EUROPE — IMPORT PRICE

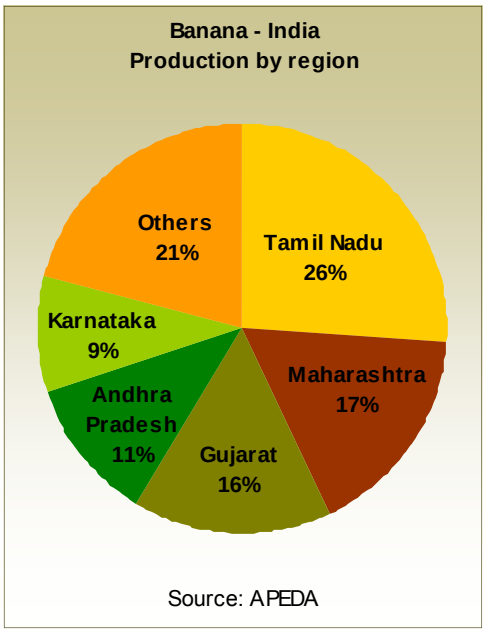
March 2013 euro/box	Comparison	
	previous month	average for last 2 years
14.80	0%	- 6%



EUROPE

■ India, the leading country for Musaceae. The Indian harvest is reported to have exceeded the symbolic figure of 30 million tonnes in 2012-13 for the first time. India is the leading world producer of banana and plantain ahead of China, the Philippines and Uganda (between 9 and 10 million tonnes). The main production states are in the south (8 million tonnes in Tamil Nadu) and west of the country (slightly more than 4 million tonnes in the states of Gujarat and Maharashtra). Practically all the fruits are sold locally. Exports have totalled some 45 000 t to 60 000 t in recent years, with shipments going mainly to the markets in the Middle East.

Source: Apeda

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■ The United States market opens to Philippine bananas. At the end of March, USDA authorised the entry of bananas from the Philippines to the USA, on condition that a drastic sanitary protocol is respected. The fruits must be grown with a system approach that limits the presence of fruit flies and must be inspected by the Philippine officialdom. Each batch must also be accompanied by a phytosanitary certificate that guarantees traceability and the absence of quarantine diseases. The Philippines export some 2 million tonnes of bananas each year, mainly to Asia (Japan, South Korea and China) and the Middle East.

Source: Reefer Trends

EUROPE — RETAIL PRICE

Country	March 2013		Comparison	
	type	euro/kg	February 2013	average for last 3 years
France	normal	1.61	0%	+ 3%
	special offer	1.46	+ 8%	+ 10%
Germany	normal	1.37	+ 2%	+ 4%
	discount	1.24	+ 2%	+ 8%
UK (£/kg)	packed	1.19	- 1%	- 3%
	loose	0.78	0%	- 7%
Spain	plátano	1.84	- 2%	+ 3%
	banano	1.33	+ 3%	- 3%


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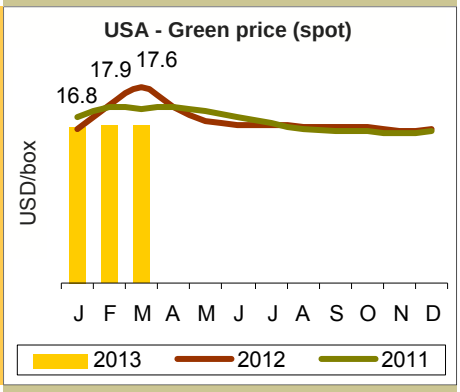
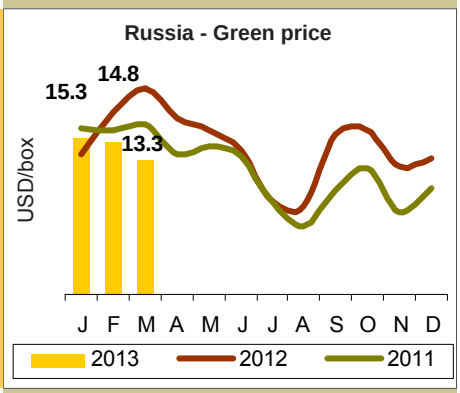
Banana

UNITED STATES



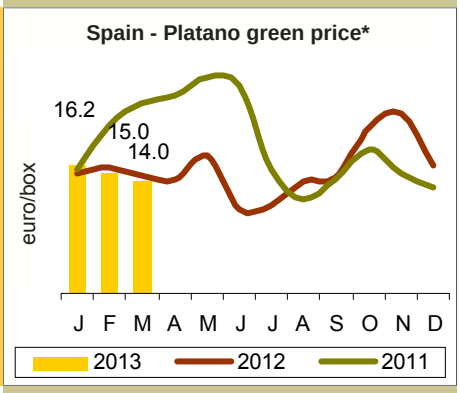
USA — IMPORT PRICE		
March 2013 USD/box	Comparison	
	previous month	average for last 2 years
16.00	0%	- 15%

RUSSIA



RUSSIA — IMPORT PRICE		
March 2013 USD/box	Comparison	
	previous month	average for last 2 years
13.30	- 11%	- 28%

CANARIES

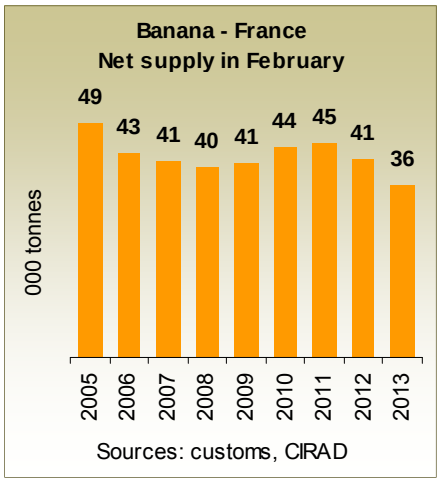


CANARIES — IMPORT PRICE*		
March 2013 euro/box	Comparison	
	previous month	average for last 2 years
14.00	- 7%	- 28%

* 18.5 kg box equivalent

■ **Jump in the volumes of bananas sold in the EU in February 2013.** Supply to the European market increased again in February. After strong growth in January (+ 4 %), this favourable trend was confirmed in February with consumption up by 3% to 435 000 t. This time, imports drove the trend with an increase in arrivals of ACP and dollar produce. Shipments from Africa continue to increase in February but at a reasonable rate: 5% against the previous 22%. The other ACPs gained 10% in comparison with February 2012. The increase was smaller from dollar suppliers at about 3%. Community production confirmed the decrease that started in November 2012. On an individual basis, Panama performed best with 17 000 t, a figure not attained since June 2010. Costa Rica confirmed its good January performance. Shipments increased from Cameroon, Surinam and Brazil in comparison with last year. Côte d'Ivoire took breathing space after a very positive January. Exports from the Dominican Republic stabilised after a catastrophic start to the year. Ecuadorian shipments remained smaller than those of 2012. However, the worst performance was that of Colombia which, with the exception of November, has seen exports decrease since July 2012.

Source: CIRAD



■ **French banana consumption continues to decrease.** The January improvement did not last long. Sales decreased substantially in February at 13% less than in 2012. On a month on month basis, the shortage was greatest in bananas from African ACP sources—both Côte d'Ivoire and Cameroon. Exports from French territory remained substantial. In spite of the increase in French production, the decrease in the supply of imported bananas weighed on the trend. The 36 000 tonnes sold in February marked an almost historical low point. It is reminded that the average for February since 2005 is 42 000 tonnes.

Source: CIRAD

Banana - January to February 2013 (provisional)				
tonnes	2011	2012	2013	Difference 2013/2012
EU-27 — Total supply	**824 579**	**852 807**	**881 493**	**+ 3%**
Total import, of which	737 901	751 376	785 523	+ 5%
MFN	594 624	606 844	630 050	+ 4%
ACP Africa	80 483	77 387	87 983	+ 14%
ACP others	62 794	67 145	67 490	+ 1%
Total EU, of which	86 678	101 431	95 970	- 5%
Martinique	16 542	25 891	22 910	- 12%
Guadeloupe	6 576	9 537	9 873	+ 4%
Canaries	60 053	62 496	60 849	- 3%

EU sources: CIRAD, EUROSTAT (excl. EU domestic production)

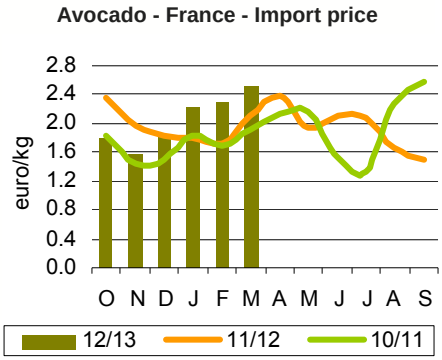
EUROPE — IMPORTED VOLUMES — MARCH 2013			
Origin	Comparison		
	February 2013	March 2012	cumulated total 2013 compared to 2012
French West Indies	↗	+ 15%	0%
Cameroon/Ghana/Côte d'Ivoire	↗	+ 13%	+ 18%
Surinam	↗	0%	+ 3%
Canaries	↗	- 10%	- 5%
Dollar:			
Ecuador	↗	- 22%	- 22%
Colombia*	↗	+ 18%	+ 10%
Costa Rica	=↗	- 7%	- 2%

Estimated thanks to professional sources / * total all destinations

Avocado

March 2013

The performance of the 'Hass market' was excellent once again with prices and volumes sold increasing simultaneously for the third month running. Supply of the European market was fairly substantial in spite of limited arrivals of green varieties. Arrivals of 'Hass' were large. The Israeli and Spanish seasons were still at their peak and exports held at higher than average levels. Chile remained strongly present in the EU in spite of an increase in the United States, and complementary Mexican supply was still substantial. However, the market remained very tense and even under-supplied at the end of the month, proof of strongly growing sales on some markets. Prices firmed, with the monthly average reaching levels previously unseen for 'Hass' in March.



	Varieties	Average price in France euro/box	Comparison with the last 2 years
PRICE	Green	7.00-7.50	+ 28%
	Hass	9.50-10.00	+ 17%

	Varieties	Comparison	
		previous month	average for last 2 years
VOLUMES	Green	=↘	- 5%
	Hass	↗	+ 53%

■ **Strong ambitions for avocado exports in the Dominican Republic.** The FEDA (*Fondo Especial para el Desarrollo Agropecuario* — the Dominican government's 'Special Fund for Agricultural Development') has decided to allocate some USD750 000 for the strengthening of the avocado export sector. This funding is destined for producers in the Cambita region and will be used for the rehabilitation of orchards and the development of international sales, especially to the United States. The FAO reports that the Dominican Republic is the second largest avocado producing country after Mexico, with an annual harvest of around 300 000 t. Its position on the international market is more modest as West Indian type cultivars like 'Semil 34' form an essential part of the orchards. Exports, with more than 80% shipped to the United States, have oscillated between 18 000 and 22 000 t in recent years.

Sources: El Caribe, El nuevo diario

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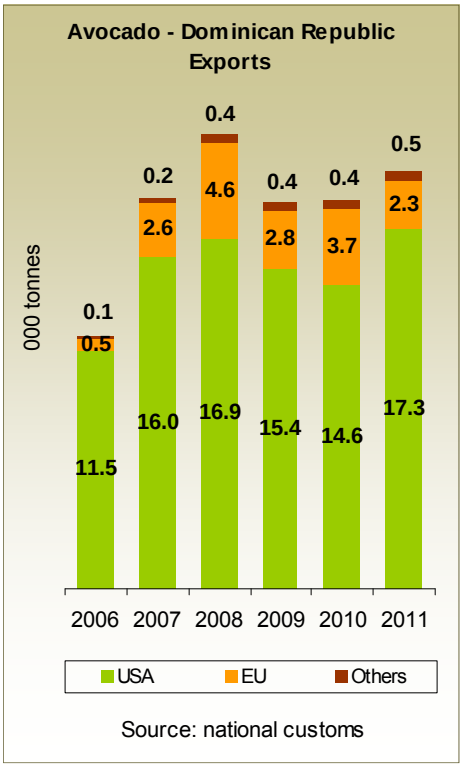


Source: national customs

■ **Enough for a monstrous quantity of guacamole!** Some 900 to 1 000 containers of avocados per week, that is to say about 18 000 t, are shipped from Mexico to the United States during the three weeks running up to the Super Bowl. When the further volumes from other sources are added to this, the 55 000 t imported to the USA during this period is the equivalent of a quarter of the volumes entering the EU in the year from September 2011 to August 2012!

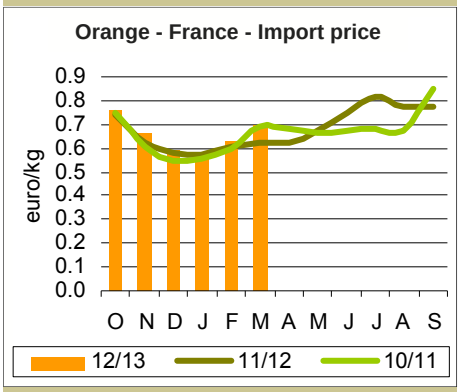
Sources: InfoHass.com, HAB

	Source	Comparison		Observations	Cumulated total / cumulated average for last 2 years
		previous month	average for last 2 years		
VOLUMES	Chile	↘	+ 293%	Late end of the 'Hass' season. Volumes large during the first half of the month and still significant in the second.	+ 39%
	Israel	=↘	+ 43%	Arrivals of 'Hass' peaked at a significantly higher level than average, especially during the first fortnight. Decline of the season for green varieties but volumes larger than average.	- 2%
	Mexico	=↗	+ 3 400%	Supply still average in the EU in contrast with the practically total absence of produce in the two preceding seasons.	+ 132%
	Spain	=	+ 10%	The 'Hass' season continued strongly with quantities slightly larger than average. Green avocado season reaching the end with limited volumes.	+ 12%

Orange

March 2013

Confirmation of the improvement seen in February. Demand held at a fairly good level for the season thanks to cold weather favouring the purchase of citrus fruits, the small supply of competing fruits (apples and spring fruits) and improved quality of the supply of oranges with 'Navelate' from Spain. The price of the latter variety was therefore increased, returning to an average level even though fairly large volumes were available for sale this season. The prices of 'Salustiana' from Spain also increased with the season for this variety finishing at the end of the month. The volumes of produce from other sources remained very modest in Western Europe, with the exception of 'Maltese' from Tunisia that continued to complete supply on the French market.



PRICE

Type	Average monthly price euro/box 15 kg	Comparison with average for last 2 years
Dessert oranges	10.50	+ 4%
Juice oranges	8.85	+ 2%

VOLUMES

Type	Comparison	
	previous month	average for last 2 years
Dessert oranges	↗	+ 21%
Juice oranges	=↘	+ 25%

VOLUMES

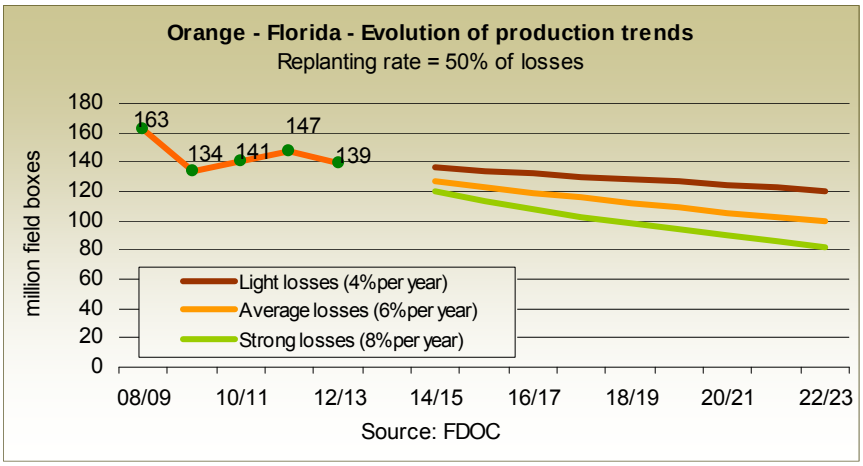
Varieties by source	Comparison		Observations	Cumulated total / cumulated average for last 2 years
	previous month	average for last 2 years		
Navelate from Spain	↗	+ 24%	Volumes peaking at higher than the average, especially during the second half of the month.	+ 21%
Salustiana from Spain	=↘	+ 25%	Season prolonged. Supply held at a practically steady level, higher than average, for the whole of the month.	+ 5%
Maltese from Tunisia	=↘	- 20%	Volumes smaller than the average. Season ending and uneven quality of certain brands in the second half of the month.	- 10%

■ Record sanction for Brazilian juice industry giants. Total fines of USD 227 million for Sucocitrico Cutrale, Louis Dreyfuss Commodities, Citrovita and Fisher. The court in Mataõ found that the companies infringed labour laws for more than 10 years by setting up cooperatives whose sole function was the harvesting of fruits. The four companies concerned are to appeal.

Source: FoodNews

■ Dark prospects for medium and long-term citrus production in Florida and possibly Brazil. The situation is still precarious for the Florida citrus sector according to the conclusion of FDOC's biennial forecast. The decrease in world demand for orange juice and the poor sanitary state of orchards, mainly because of the impact of greening, continue to have a very negative effect on the sector. The most probable trend, with the maintaining of replanting rates (small) and mortality rates (small), is a decrease in production of about 14% by 2022-23 (down to 120 million field boxes from 139 million this season). The decrease would be much more marked with an increase in mortality on a moderate scale (99 million boxes in 2022-23) or a strong one (82 million boxes in 2022-23) and if the rate of replanting were to remain small. The picture is no better in Brazil. The 2012 slump is reported to have led a large number of small growers to abandon citrus. Eduardo Teofilo of the specialised consultants GCONCI estimates that between 80 000 and 100 000 hectares of orange groves were grubbed up. If the figure is confirmed, it would represent about 15% of the groves in the Sao Paulo region.

Source: FoodNews



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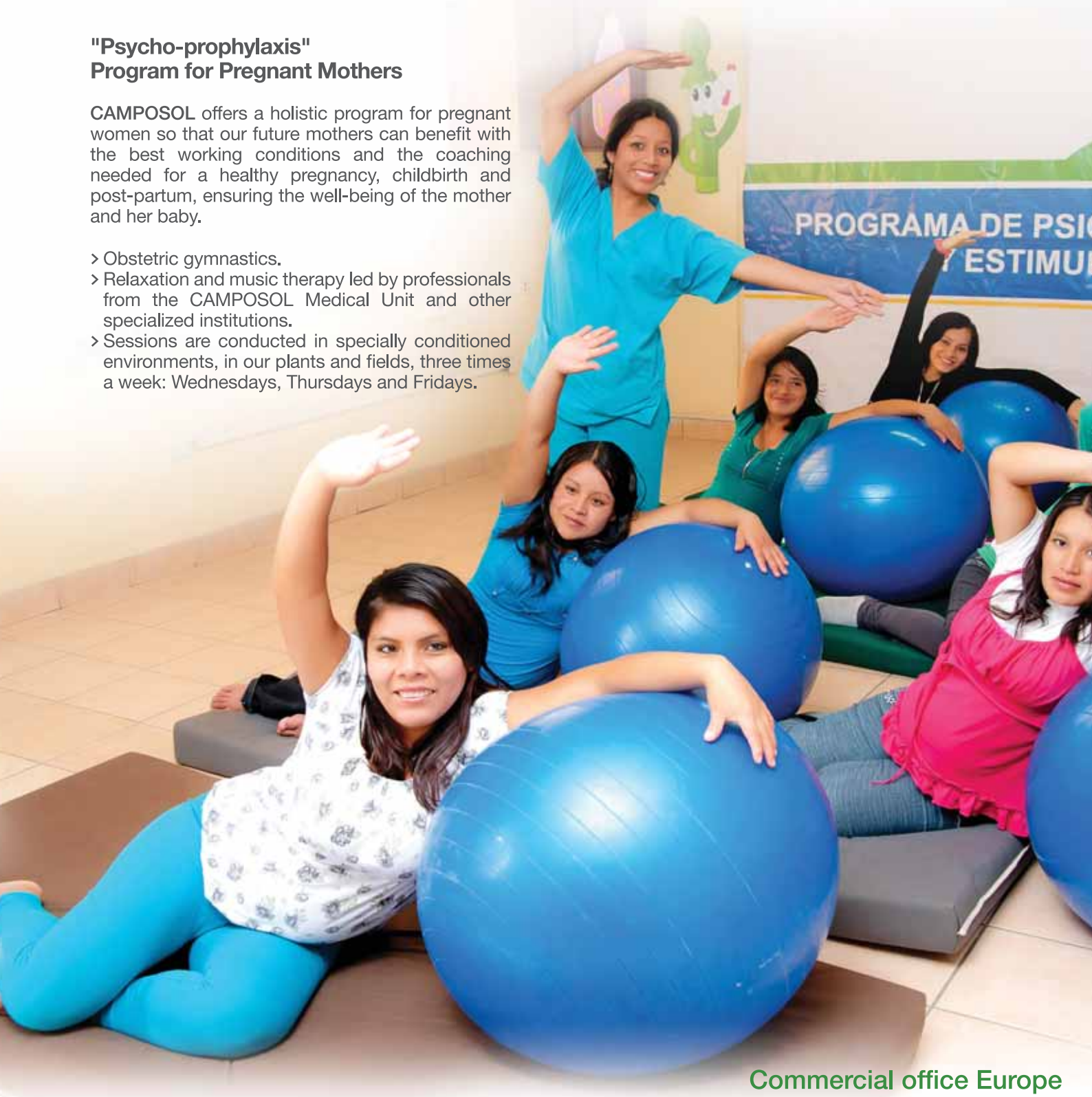

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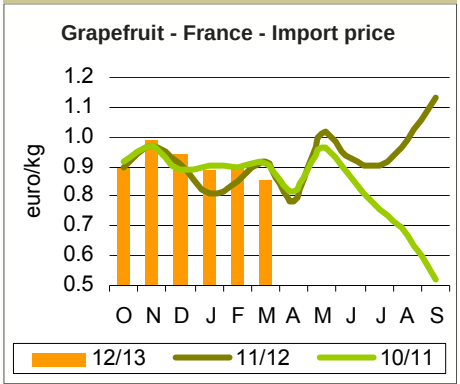
Grapefruit

March 2013

Spring does not mean improvement on the grapefruit market. Arrivals of fruits from Florida held at slightly above average volumes while demand did not increase, especially because of the disappointing peel quality of some batches. Prices decreased slightly and remained close to cost price. The situation was no better for Mediterranean grapefruit. In spite of the early ending of Turkish and Israeli seasons, supply was above average while demand remained slow. Prices did not follow the seasonal upward movement and remained low. Supply was completed by a few batches from Cyprus and Corsica.



■ Two new easy peeler varieties coming soon from UC Riverside. 'Encore LS' and 'Nova Sin' will be launched by the University of California in July. The fruits of both varieties contain fewer than three seeds under conditions of strong cross-pollination. They are resistant to *Alternaria* and yields can reach 45 tonnes per hectare. They were bred by the irradiation of existing cultivars ('Encore' and 'Nova', better known in Spain as 'Clemenvilla'), like four other varieties: 'Tango' in 2006, 'Daisy LS' in 2009, 'Fairchild LS' in 2010 and 'Kinnow LS' in 2012. The hybrid breeding programme at the same university made it possible to launch three triploid easy peelers in 2002 ('Shasta Gold®', 'Yosemite Gold®' and 'Tahoe Gold®') and two diploids ('Gold Nugget' in 1999 and 'USDA 88-2' in 2010).

Easy peelers — New varieties		
	'Encore LS'	'Nova Sin'
Harvest period	Feb.-April	Dec.-Feb.
Diameter	67 mm	65 mm
Brix*	15.5°	14.5°
Acidity*	1.10%	1.07%
Maximum number of seeds	2.6	0.9
Yield	45-55 t/ha	45 t/ha

* totally ripe / Source: University of Riverside

Sources: Riverside, agraria.pe

■ Florida grapefruit: less and less. According to the FDOC, the Florida harvest should total some 15 million field boxes in 2022-23 if present trends remain unchanged: tree mortality low at around 4% and low replanting rate representing half the mortality rate. The decrease represents a little more than 10% of present production (17 million boxes this season). The Florida harvest has shrunk by nearly 10 million boxes in the last five years, that is to say a decrease of more than 35%.

Source: FDOC

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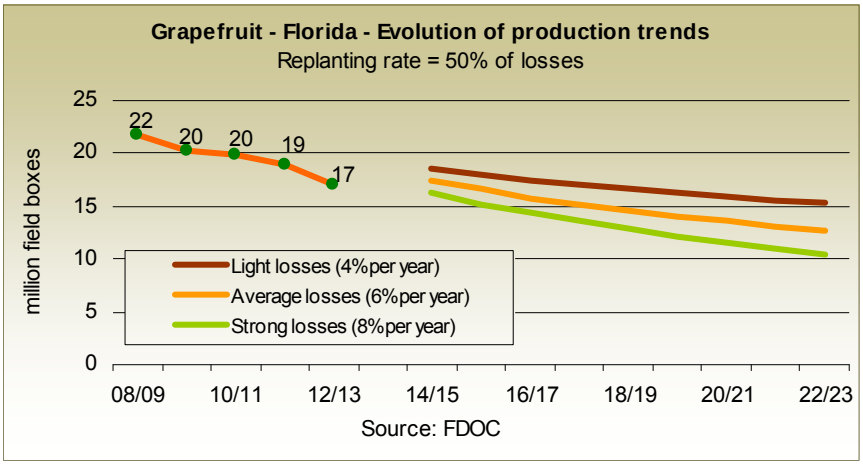


PRICE

Type	Average monthly price euro/box 17 kg box eq.	Comparison with average for last 2 years
Tropical	17.20	- 2%
Mediterranean	10.50-11.00	- 12%

VOLUMES

Type	Comparison	
	previous month	average for last 2 years
Tropical	=↘	+ 8%
Mediterranean	↗	+ 10%

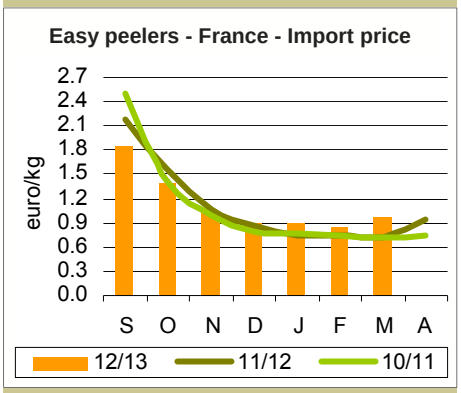
VOLUMES

Source	Comparison		Observations	Cumulated total / cumulated average for last 2 years
	previous month	average for last 2 years		
Florida	=↘	+ 8%	Total exports smaller than normal but the flow remained higher than the EU average.	- 4%
Israel	↗	+ 21%	Seasonal peak in supply at higher than the average. Mainly large fruits.	+ 8%
Turkey	=↘	- 27%	Early end to the season and exports smaller than average, especially to the EU.	- 13%
Spain	=↘	- 35%	Early end of the season. Steady, limited volumes throughout the month.	- 10%

Easy peelers

March 2013

The market remained satisfactory overall. Demand slowed distinctly as every year at this time. But it matched the increasing volumes of top of the range fruits. Sales of 'Nadorcott' from Spain and 'Or' from Israel were fairly brisk in spite of high prices. The market was merely adequate for 'Nadorcott' from Morocco as the quality of some brands was uneven. The price range was broad according to brand and fruit sizes from this source. Sales of 'Ortanique' from Spain remained slow.



PRICE

Type	Average monthly price euro/kg	Comparison with average for last 2 years
Hybrids	1.09	+ 15%

VOLUMES

Type	Comparison	
	previous month	average for last 2 years
Hybrids	↘	- 15%

■ Southern Africa: moving towards another record year for citrus exports! This is what can be understood from the cumulated export forecasts for South Africa, Zimbabwe, Mozambique and Swaziland released by the Citrus Growers' Association. Volumes should exceeded 100 million boxes for the second time, in spite of the floods that hit certain northern provinces at the beginning of the year and hail in the Nelspruit region and the Western Cape. After a dip in 2012, positive production alternation should allow grapefruit exports to return to slightly above the average of about 15 million boxes seen in the past. All the other varietal groups display record export potential, with a slight increase in comparison with 2012 but 8 to 13% above the four-year average. The increase in areas under easy peelers should lead to exports increasing to some 13% above the average, with the rise being greater for late varieties than early ones. The scale of the rise in the figures for lemons should be similar but, unlike easy peelers, will concern early fruits more than late ones. As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regards oranges, the increase in 'Navel' exports should rise to 8% above the average and 'Valencia' about 13%. Fruit size should also be greater (especially for grapefruit, 'Navel' orange and lemon in the Eastern Cape) and the crop will be markedly early.

Source: CGA

Citrus — South Africa — Exports

million boxes (15 kg)	2008	2009	2010	2011	2012	Estimate 2013	Comparison 2013/ 2012	Comparison 2013/ average 4 years
Valencia	43.2	38.5	46.7	44.2	47.2	47.7	+1%	+8%
Navel	21.5	19.4	22.9	21.2	24.6	24.9	+1%	+13%
Grapefruit	12.8	14.2	12.5	15.9	13.0	15.0	+15%	+7%
Lemon	9.6	8.7	9.7	10.8	10.5	11.1	+6%	+13%
Easy peelers	7.3	6.8	7.5	6.9	7.6	8.2	+7%	+13%
Total	**94.5**	**87.6**	**99.3**	**99.0**	**103.0**	**106.8**	**+4%**	**+10%**

Source: CGA

VOLUMES

Varieties by source	Comparison		Observations	Cumulated total / cumulated average for last 2 years
	previous month	average for last 2 years		
Ortanique from Spain	=↘	- 24%	Arrivals distinctly smaller than average.	- 4%
Nadorcott from Spain	=↘	+ 83%	Arrivals distinctly larger than in previous years, especially during the first half of the month. New groves yielding increasing volumes.	+ 80%
Nadorcott from Morocco	↘↘	- 35%	Early end of the season in the EU. Last arrivals in mid-month.	+ 15%
Or from Israel	=↘	+ 43%	Arrivals remained markedly larger than average.	+ 38%

Pineapple

March 2013

At the beginning of the month operators received confirmation that supply of 'Sweet' would be much smaller than planned for Easter. The first fortnight of the month therefore featured a firming of prices because of the decrease in supply from Latin America. However, the price rise was short-lived. Cold and bad weather affected demand and it was difficult to shift the small quantities released on the market. Operators had trouble selling the few batches that they held, except for promotion operations. The market situation became more tense at the end of the month as supply was small (ships delayed) and there was no particular enthusiasm for this fruit, even though Easter was approaching.

Sales of 'Smooth Cayenne' remained fluid with a good price level throughout the month. The fruits received were well coloured, kept well and had no trouble in occupying their niche market.

Air supply was fairly small throughout the month and so sales were fluid for fruits from all sources. The momentary increase in arrivals from Cameroon at the beginning of the second half of the month did not cause a real increase in overall supply. Small supply thus gave stable prices in spite of a few quality problems here and there. Fairly small volumes of 'Sugarloaf' from Benin sold at EUR 1.95 to 2.05 per kg throughout the month.

Sales of 'Victoria' were fluid and prices high since market supply was small overall. Although not dynamic, demand was sufficient for sales at fairly high prices.

Mango

March 2013

The European supply of mango was strongly dominated by Peru in March. However, deliveries decreased in the second half of the month and were partially compensated by an increase in arrivals from Brazil. The arrival of regular quantities while demand increased in the run-up to Easter helped to maintain firm prices for Peruvian fruits, with an increase for the holiday. Meanwhile, shipments from Brazil were stepped up in the second part of the month. They consisted mainly of 'Tommy Atkins', with most sales being the markets in Northern Europe at a stable average price of EUR 5.50 per box. A few batches of 'Palmer' and 'Keitt' completed Brazilian supply and sold at around the same price as 'Tommy Atkins'.

The air market was strongly disturbed throughout the month. Attracted by the high prices seen at the end of February, Peruvian exporters increased their shipments and soon saturated the market. The substantial increase in arrivals coincided with the winter half-term holiday period when demand for air produce decreases. In addition, logistic problems resulting from strikes at the airline Iberia resulted in the accumulation of goods at departure airports and many late deliveries. The European market and the French market in particular were already saturated and were soon clogged by very ripe produce requiring rapid sale at low prices. Price ranges broadened with the upper limit rarely exceeding EUR 4.00 per kg for fruits with good keeping potential and good colour. Riper produce changed hands at around EUR 3.00 per kg and sometimes less. Finally, the release on the market in the second half of the month of sea mangoes of air quality also aggravated sales difficulties, with Peruvian produce competing with Peruvian produce (EUR 2.50 per kg). The West African season started in this difficult context with the first small quantities of 'Amélie' and 'Valencia' from Mali, broadening the range of varieties available.

EUROPE

MANGO — ARRIVALS (estimates) Tonnes

Weeks 2013	10	11	12	13
By air				
Peru	130	150	130	30
By sea				
Brazil	880	970	1 430	1 320
Peru	2 840	3 250	2 730	2 510

MANGO — IMPORT PRICE ON THE FRENCH MARKET — Euro

Weeks 2013		10	11	12	13	Average March 2013	Average March 2012
By air (kg)							
Peru	Kent	3.50-4.50	3.50-4.20	3.00-3.80	3.00-3.80	3.25-4.10	4.30-4.90
Mali	Amélie	-	-	3.20	3.20-3.50	3.20-3.35	3.00-3.35
Mali	Valencia	-	-	3.50	3.50	3.50	3.65-3.95
By sea (box)							
Peru	Kent	4.00-5.50	5.00-6.00	5.00-6.00	6.00-6.50	5.00-6.00	4.25-5.10

EUROPE

PINEAPPLE — IMPORT PRICE

Weeks 10 to 13	Min	Max
By air (euro/kg)		
Smooth Cayenne	1.70	2.00
Victoria	3.00	3.80
By sea (euro/box)		
Sweet	7.00	9.00

PINEAPPLE — IMPORT PRICE IN FRANCE — MAIN ORIGINS

Weeks 2013		10	11	12	13
By air (euro/kg)					
Smooth Cayenne	Benin	1.80-1.95	1.80-1.95	1.80-1.90	1.90-1.95
	Cameroon	1.70-1.95	1.70-1.95	1.70-1.90	1.70-1.95
	Ghana	1.80-1.95	1.80-2.00	1.80-2.00	1.80-1.95
Victoria	Réunion	3.50-3.80	3.50-3.80	3.50-3.80	3.30-3.60
	Mauritius	3.00-3.30	3.00-3.40	3.00-3.40	3.00-3.40
By sea (euro/box)					
Sweet	Côte d'Ivoire	7.00-9.00	7.00-8.50	8.00-8.50	8.00-8.50
	Cameroon	7.50-9.00	7.50-9.00	7.50-9.00	8.00-9.00
	Ghana	7.50-9.00	7.50-9.00	7.50-9.00	8.00-9.00
	Costa Rica	7.50-9.00	7.50-8.50	7.50-8.50	8.00-9.00

Roots & tubers

First quarter of 2013

Sweet potato

Sweet potatoes with red skin and white flesh seem to have clearly dominated the French market in the first quarter of 2013. The main source countries were Egypt, China and Honduras. Egyptian produce was sold at an average of EUR 0.70 per kg, with a minimum at EUR 0.60 per kg and a few peaks at EUR 0.90 in periods of shorter supply. Produce from China fetched around EUR 1.10 per kg. Honduras supplied higher quality produce sold at more than EUR 1.50 per kg until the beginning of February before the price fell and stabilised at about 1.35. Prices recovered to their initial levels in the second half of March. Brazil only shipped sweet potato in January with prices the same as those for produce from Honduras.

At the same time, the USA shipped sweet potatoes with red skin and orange flesh, selling at an average of EUR 1.20-1.25 per kg in January and February and EUR 1.10 per kg in March. Israel only shipped sweet potatoes with orange flesh in January at rising prices. Honduras had been a large supplier of sweet potatoes with orange flesh in previous years but now shipped mainly produce with white flesh. It only started sending larger quantities of sweet potatoes with orange flesh in March. These were sold at lower prices than those of the white flesh varieties.

The USA and Brazil sent a few very limited shipments of sweet potatoes with white peel and flesh. These sold at EUR 1.40 to 1.80 per kg.

Yam

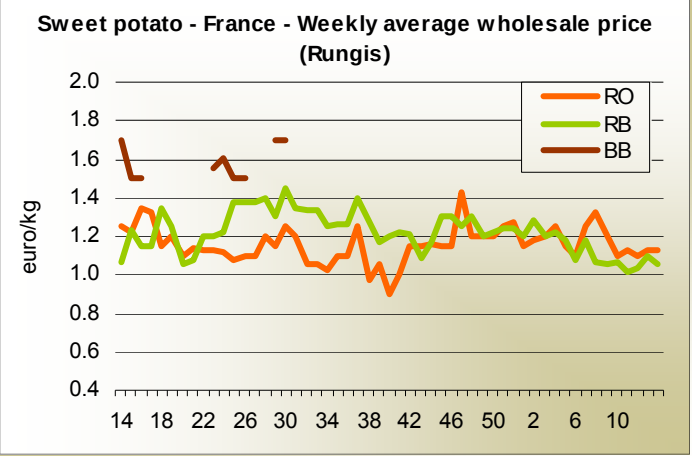
The first quarter was marked by the French yam season from January to mid-March. Prices ranged from EUR 2.30 to 2.40 per kg with a few peaks at EUR 2.60, especially at the end of the period. Sales of yams from Ghana continued, with prices slightly lower from mid-February. The fairly irregular volumes consisted of white yams and pona yams in proportions that varied each week. Pona, delivered in smaller quantities, were generally sold at a slightly higher price. A few batches from Côte d'Ivoire also reached the market but their uneven quality and irregular delivery did not allow coherent, continued sales.

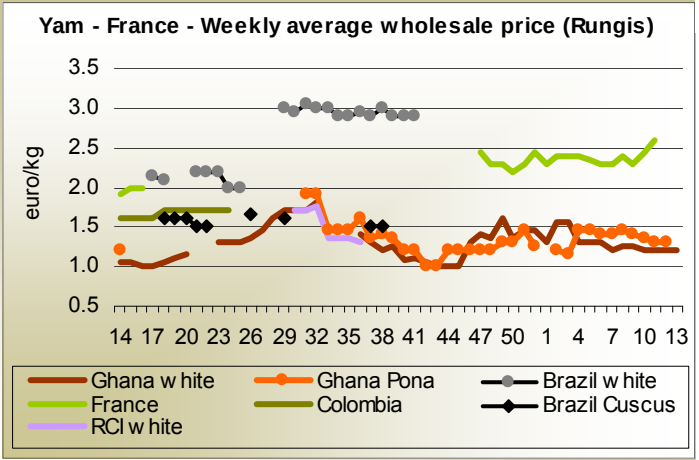
Cassava

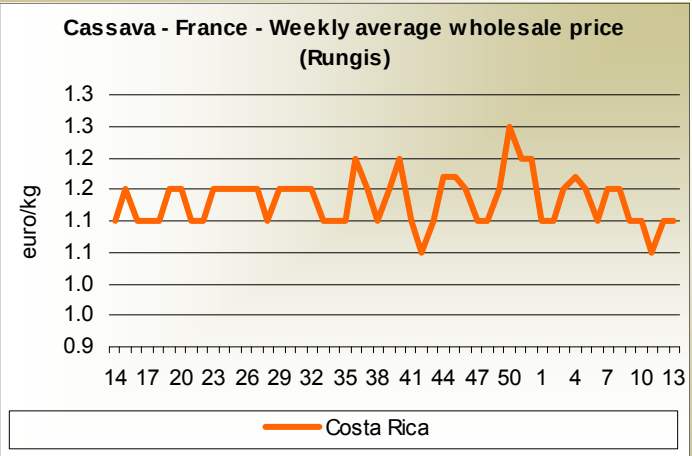
Costa Rica is still the only regular supplier of cassava to the EU, with prices generally stable. Variations in volume can cause upward or down price movements but these are very limited. The average of EUR 1.10 per kg masks different prices for different commercial brands. Ordinary cassava is often sold at EUR 1.00 per kg whereas brands that apply greater rigour in selection and packing sell at around EUR 1.20 per kg.

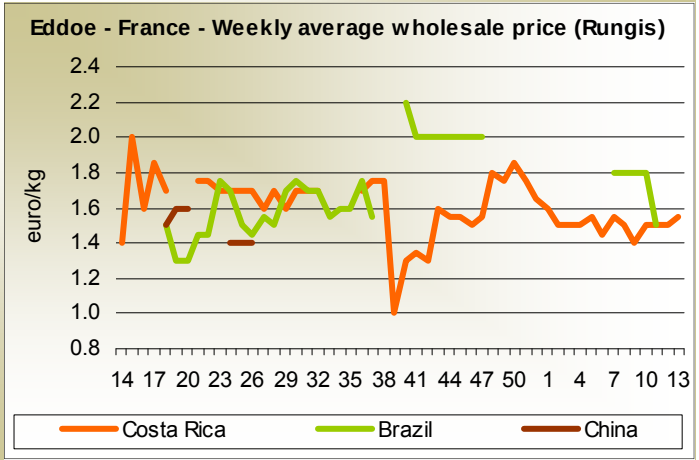
Eddoe

In the first quarter the bulk of eddoe supply was exported from Costa Rica. Prices remained stable and healthy at an average of around EUR 1.50 per kg, with peaks at EUR 2.00 per kg during periods of small arrivals. From February to mid-March, modest volumes from Ecuador sold for EUR 0.30 per kg more because of the higher transport costs. A few batches of cocoyams, a related tuber, also arrived from Costa Rica in mid-February (EUR 2.70 per kg) and at the end of March for Easter. The small quantities available and brisk demand resulted in sales at a good price. Cocoyams with red flesh sold at EUR 2.80-3.00 per kg and the rarer white fleshed variety changed hands at EUR 3.00-3.50 per kg at the end of March.









Sweet potato: RB: red skin, white flesh / RO: red skin, orange flesh / BB: white skin, white flesh / Source: Pierre Gerbaud

Other exotics

First quarter of 2013

Plantain

The market was supplied by Colombia and Ecuador. The quality of the Colombian produce was more regular and it fetched slightly higher prices than that from Ecuador. The general trend for the first quarter of the year was a descending curve. In March in particular, the larger volumes shipped from Colombia coincided with weak demand and prices fell. There were also problems of quality. The start of an 'excessive supply – storage – quality deterioration' cycle increased pressure on prices and resulted in clearance sales at low prices.

A few small batches shipped from Martinique by air were put on sale at EUR 2.00-2.30 per kg.

Chayote / christophine

The last batches of French chayote were sold in January, marking the end of a season that had started in August and finished early because of cold weather in the production zones. Costa Rica thus became the sole supplier of chayote in February and March with prices at a steady average of EUR 1.10-1.15 per kg. Prices were higher in March as shipments from Costa Rica decreased.

Christophine from Costa Rica supplied the market throughout the first quarter of 2013. It fetched higher prices because supply was smaller. Prices rose before Easter as demand was stronger. A few batches arrived from Martinique in the second half of March to meet growing demand from the ethnic market. The produce was shipped by air and sold at EUR 2.00-2.50 per kg.

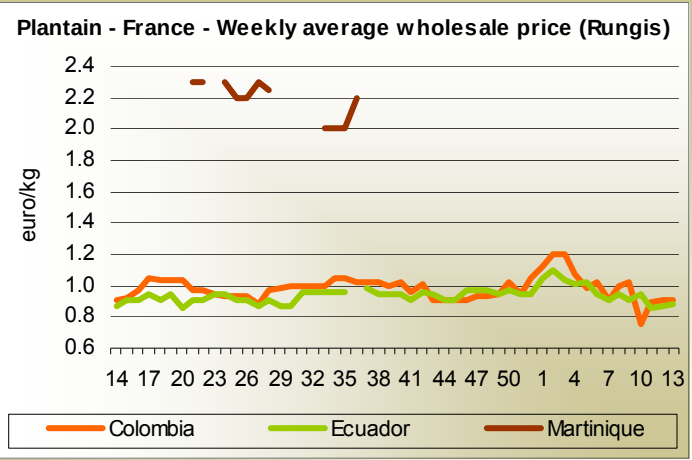
Dasheen

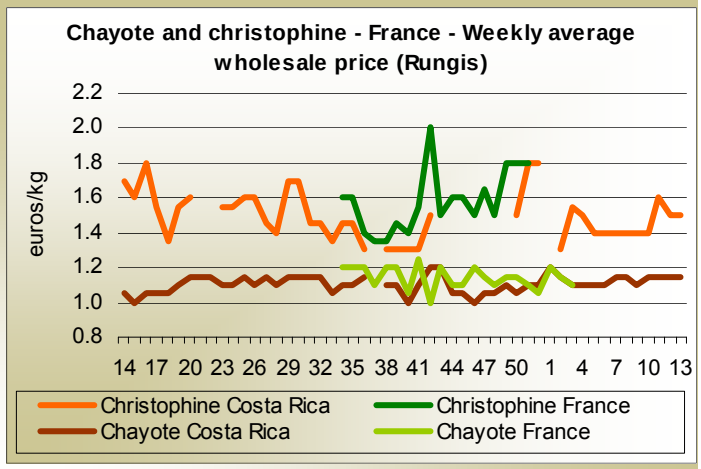
Dasheen from St Vincent was practically the sole supply for the French market and sold steadily at around EUR 2.20-2.30 per kg. The price sometimes rose when deliveries were smaller. Small batches from Martinique completed supply from St Vincent. Transport was by air with the produce selling at a distinctly higher price (EUR 3.50-4.00 per kg).

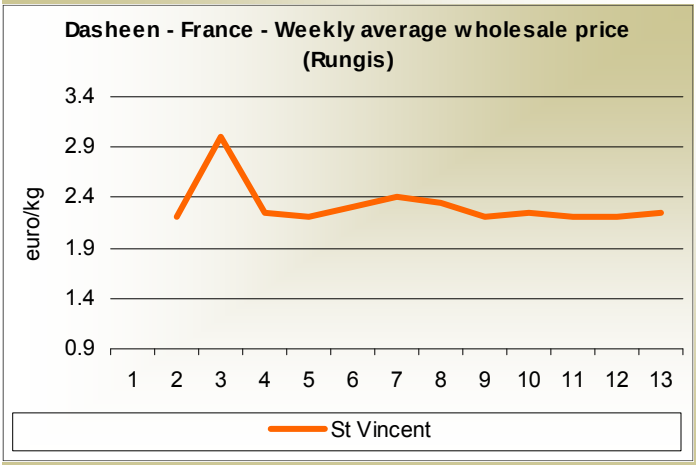
Chilli peppers

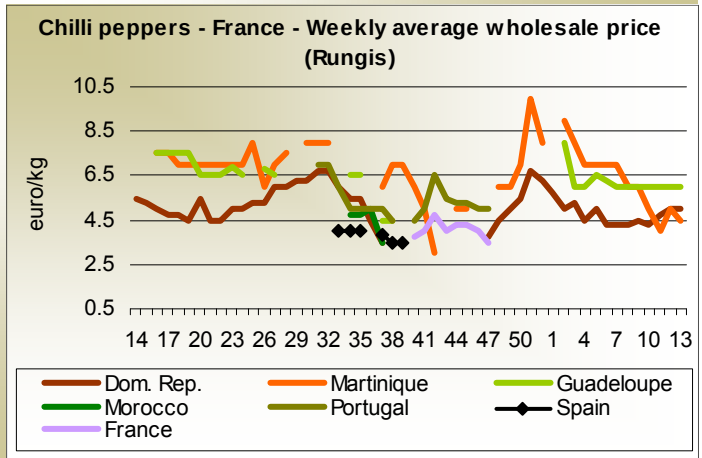
The Dominican Republic supplied most of the West Indian chilli pepper sold on the French market in the first quarter of 2013. Prices were high in January, decreased in February and then rose again in the second half of March, although they did not return to the price observed at the beginning of the year. The price recovery in March resulted from a decrease in shipments. It is reported that heavy rain hit the production zones, disturbing plant growth and harvesting.

There were also regular shipments from Guadeloupe during this period. Price was stable at about EUR 6.00 per kg. In contrast, shipments from Martinique were more variable and speculative. The high prices asked since the beginning of the year gradually decreased, especially from mid-February onwards, as the quality of the batches received was more uneven.









Sea freight

March 2013

The TCE average for March is almost identical to February, disguising an inactive period before and after an early Easter. A disappointing banana market in the eastern Med, saturated with poor quality fruit coupled with a relatively high exit price and general shortage in Ecuador inhibited banana chartering. It was Chile that made the difference this year.

The slow start to the grape season led to an early mini- peak, leaving reefer schedules under tonnaged. With Star Reefers absent for the first time ever, chartering this year was dominated by Seatrade and NYKCool. Such was the strength of demand for grapes in the US that principal charterers Pacific Seaways and CSAV were obliged to fix in extra tonnage – as indeed was NYK-Cool. While top quality modern units with deck-stow capacity were achieving TC numbers in the 110-120c/cbft range, it was the yields from the 'workhorse' units fixing bananas that brought the average down.

The strikes in the container ports of San Antonio in Chile and Kwai Tsing in Hong Kong were a potent reminder to charterers and cargo interests all over the world of the potential dangers of entrusting cargo into box-based supply chains in which there are too many variables outside their control.

■ *L'évaluation de la durabilité*
by Franck-Dominique Vivien, Jacques Lepart and Pascal Marty.

How can the actual notion of sustainable development be evaluated? Sustainability analysed from the socio-economic and political viewpoints.

The notion of sustainable development was defined in the 1980s by the Commission on Environment and Development and is still the subject of considerable controversy. The main aim of this book is to contribute to its evaluation. What is the distinctive nature of sustainable development? What are its relations with growth? What time scale is it set in—that of long-term development or that of a countdown?

Sustainability is studied via several sector aspects: urban, landscape, biodiversity, industry and agromaterials. Evaluation using the so-called 'procedure approach', that is more pragmatic and favoured today, consists of respecting a number of principles (precautionary principle, participation principle, etc).

In French

Indisciplines series, Editions Quae,
ISBN 978-2-7592-1904-9,
March 2013, 280 pages, EUR 30,
serviceclients@quae.fr,
http://www.quae.com

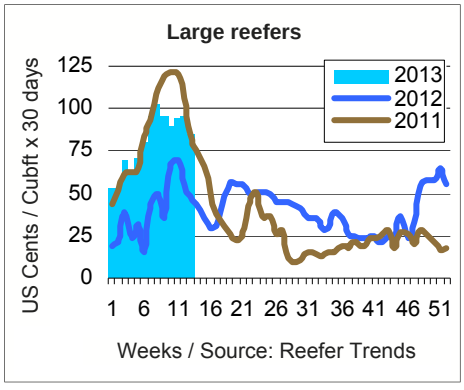
■ Development of Cape Verde fruit production. The policy of re-launching and diversifying the fruit sector is continuing in the Cape Verde Islands, thanks to support from the European Union (annual funding of EUR 600 000). Banana, mango and pineapple cultivars with better resistance to diseases were introduced at the beginning of the year. In March, pitahaya, a species well suited to semi-arid environments, made its appearance in the archipelago.

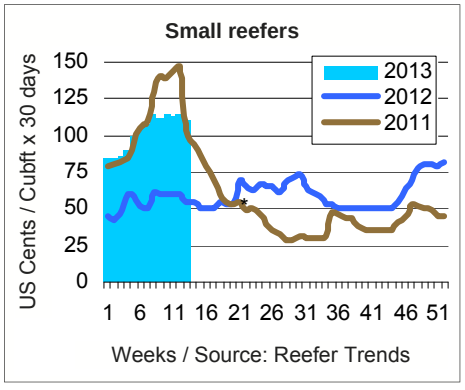
Source: Reefer Trends

REEFER

MONTHLY SPOT AVERAGE

USD cents/cubic foot x 30 days	Large reefers	Small reefers
March 2013	88	113
March 2012	53	59
March 2011	110	131





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Counter-season avocado in 2013

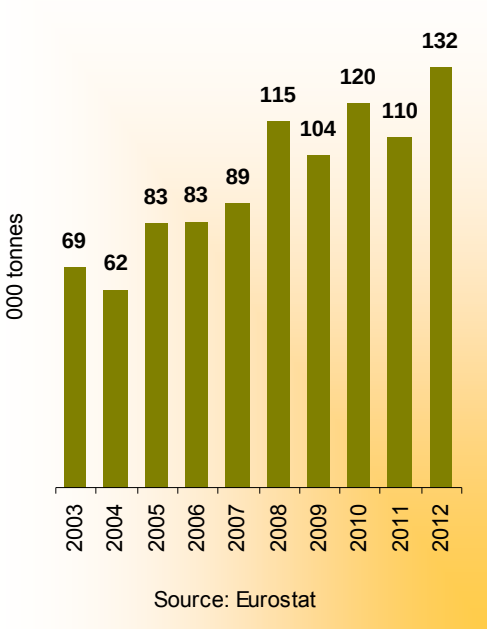
Slightly smaller potential on a vigorous market!

The counter-season avocado season has not been hit by the slump, as was clearly demonstrated by the 2012 season. European imports reached a record 132 000 t, an all-time record that is even higher than the figure for volumes sold in the winter. What will happen in 2013?

© Régis Domergue

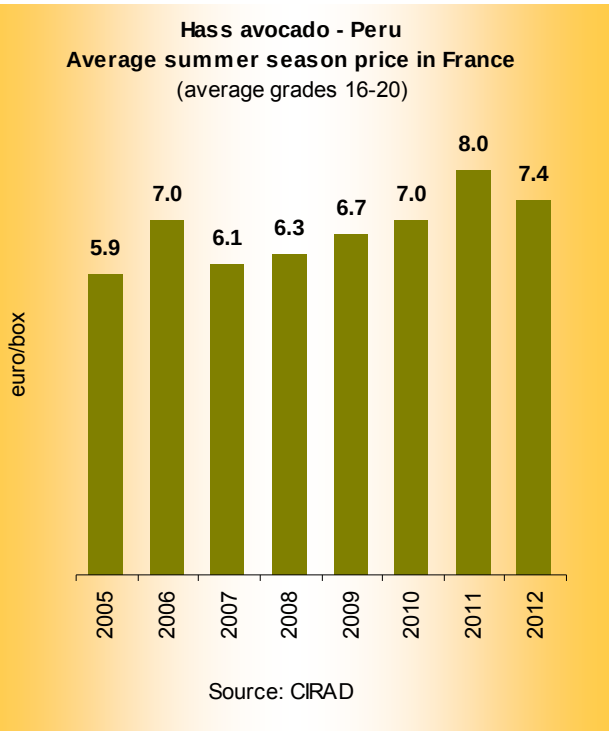
The dynamics—within the limits set by alternate bearing—has been faultless since the early 2000s, when volumes peaked at between 50 000 and 60 000 t. Success was complete as this fine performance in volume has been accompanied by excellent prices. In spite of the scale of supply, the average season price calculated by our market watch was a very honourable EUR 7.40 per 4 kg box in 2012. This was the second best performance after the EUR 8.00 per box in 2011, a season that was very short in volume because of the strong South African deficit. What are the prospects for 2013? Although the volumes available seem to be at a good level they are probably not such as to set a new record. Cumulated arrivals from Peru, South Africa and Kenya, the sources that provide more than 95% of EU supply, promise to be somewhat smaller than in 2012.

Avocado - EU-27 - Summer season supply



Source: Eurostat


© Denis Loeillet

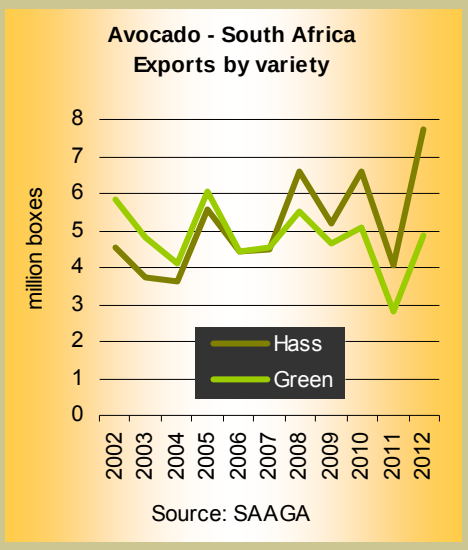


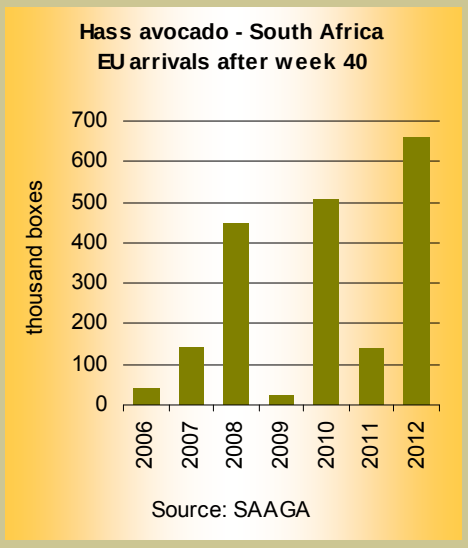
Avocado — EU-27 — Summer season supply										
tonnes	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total	**68 937**	**62 386**	**82 664**	**83 329**	**88 956**	**114 946**	**104 013**	**120 419**	**109 712**	**131 985**
S. Africa	36 404	29 872	46 955	35 934	37 944	50 451	38 377	47 286	26 844	48 376
Peru	11 266	14 590	18 096	30 508	35 857	49 894	45 818	56 345	65 217	62 480
Kenya	19 828	16 236	15 458	13 641	11 999	11 841	15 038	14 123	14 273	17 078
Brazil	979	979	931	1 442	1 447	1 790	2 797	2 665	3 006	3 937
Argentina	460	709	1 224	1 804	1 709	970	1 983	0	372	114

Source: Eurostat

A good South African harvest but not as exceptional as in 2012

South African export potential is clearly smaller than it was in 2012 because the latter was a record season with volumes exceeding the symbolic 12 million boxes for the second time ever. With 10.5 million boxes expected in 2013, SAAGA (South African Avocado Growers Association) is expecting good supply running at about 15% above the average for the last years of normal production, in spite of heavy rainfall in April. Supply of 'Hass' could even be as large as last year, because the decrease affects mainly green varieties. 'Fuerte', 'Ryan' and 'Pinkerton' are sold increasingly on the domestic market (average EUR 0.50 per kg (ZAR 25 per box) according to the National Department of Agriculture) which is growing in particular thanks to the promotion operations conducted by SAAGA. The good export potential in 'Hass' is an indicator of the increase in the area devoted to this variety. Exports reached an average of 5 million boxes in the mid-2000s and approached 8 million boxes in 2012. Growth is marked in particular in late shipments, with an increase in volumes of 'Lamb Hass' and fruits from Kwazulu-Natal and the cool highland zones of Mpumalanga and Limpopo.






© Eric Imbert

Avocado — South Africa — Exports										
tonnes	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
EU-27	36 404	29 872	46 955	35 934	37 944	50 451	38 377	47 286	26 844	48 376

Source: Eurostat

Avocado — Kenya — Exports							
tonnes	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
EU*	11 832	13 229	13 371	15 964	15 743	14 273	17 078
Arabic peninsula	1 243	2 107	2 196	2 972	4 280	-	-
Others	172	366	121	147	160	-	-
Total	**13 246**	**15 702**	**15 688**	**19 083**	**20 183**	**-**	**-**

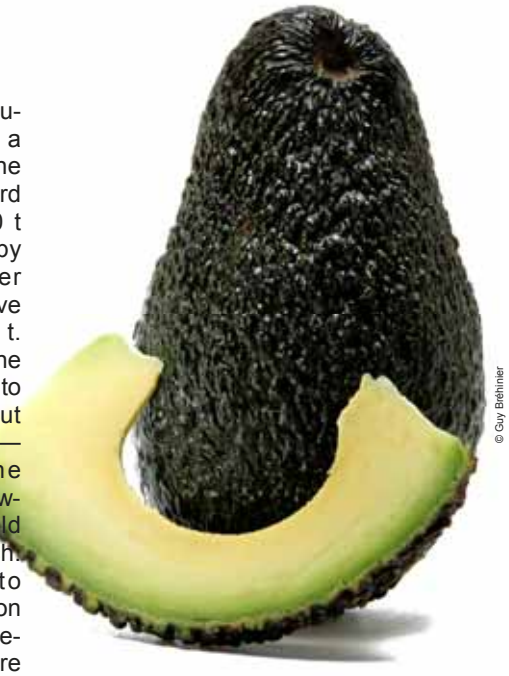
Sources: Eurostat*, Comtrade

Slight decrease in Kenyan export potential that does not reflect the increase in the area under 'Hass'

A decrease, but probably just as small, will be observed in Kenya. Although the rise of the shilling against the euro affected returns, the 2012 season was nonetheless a good one for this source, with a record total of about 17 000 t shipped to the EU (best performance since 2003) and the consolidation of its image. This success is closely linked to the increase in the production of 'Hass', which formed nearly three-quarters of shipments in 2012, against 20% six years previously. However, the increase in exports of this variety should pause in 2013, even though volumes will remain very close to those of 2012. The increasing yields from new plantations is counter-balanced by a conjunctural decrease in the main producer's harvest. Although problems of piracy in the Gulf of Aden are less acute, logistic facilities are limited and costly. But operators have learned to live with that. The companies operating can ship produce to the south of Europe in about 20 days, with a weekly service.

An unexpected 20% increase in Peruvian exports that should benefit the EU only very partially

The expected increase in Peruvian production will not be a surprise for anybody, given the annual 20% increase in orchard area since 2006. The 89 000 t export potential announced by ProHass is somewhat lower than the first estimates that give a total in excess of 100 000 t. Colder weather than usual at the beginning of the year seems to have slowed fruit growth. But the increase will be large—nearly 20% more than the 75 000 t exported in 2012. However, the extra volume should not benefit the EU very much. The 65 000 t allocated to Europe is less than 10% up on last year's figure if export forecasts for the other markets are accurate.



© Guy Bréhinier

Avocado — Peru — Exports								
tonnes	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
EU, of which	**18 380**	**30 521**	**36 129**	**49 832**	**46 312**	**56 750**	**67 050**	**64 208**
Netherlands	5 601	8 011	14 430	23 106	24 160	26 570	38 124	35 209
Spain	6 111	12 291	12 362	17 669	13 612	20 224	20 708	21 313
UK	3 378	4 757	5 899	4 953	4 097	4 412	6 030	5 428
France	2 934	4 962	3 058	3 957	4 170	5 025	1 828	1 902
N. America	**224**	**891**	**807**	**1 013**	**1 426**	**1 700**	**11 481**	**17 530**
United States			54	563	84	434	8 998	15 729
Canada	224	891	753	450	1 342	1 266	2 483	1 801
Chile	**-**	**102**	**400**	**453**	**479**	**281**	**400**	**678**
Others	66	224	270	0	129	790	2 500	931
Total	**18 670**	**31 738**	**37 606**	**51 298**	**48 346**	**59 521**	**81 431**	**83 347**

Source: SUNAT

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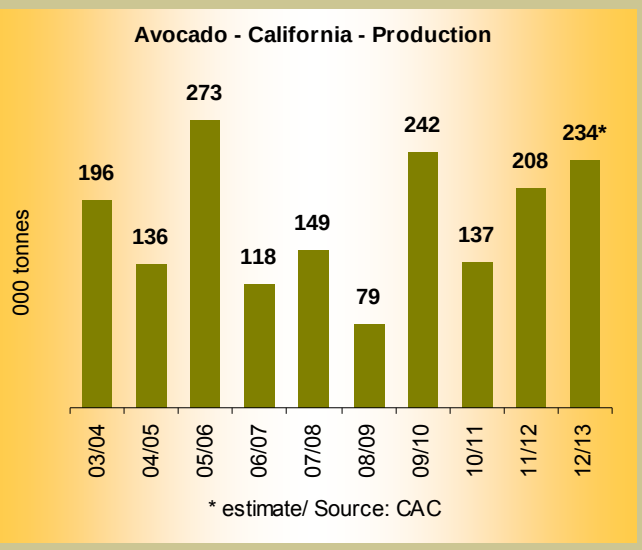
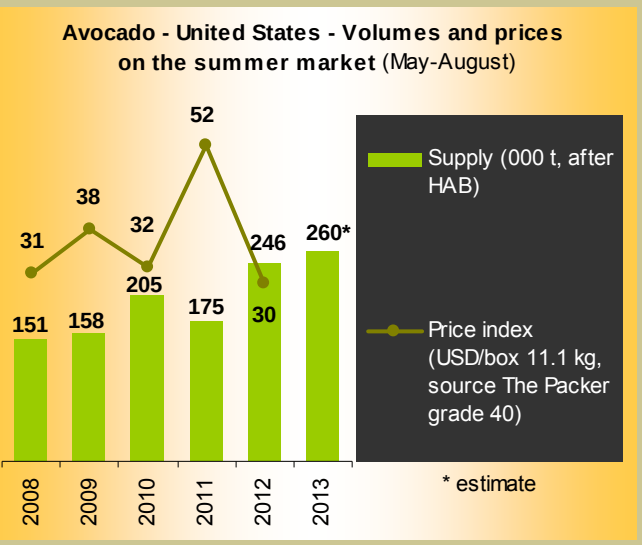
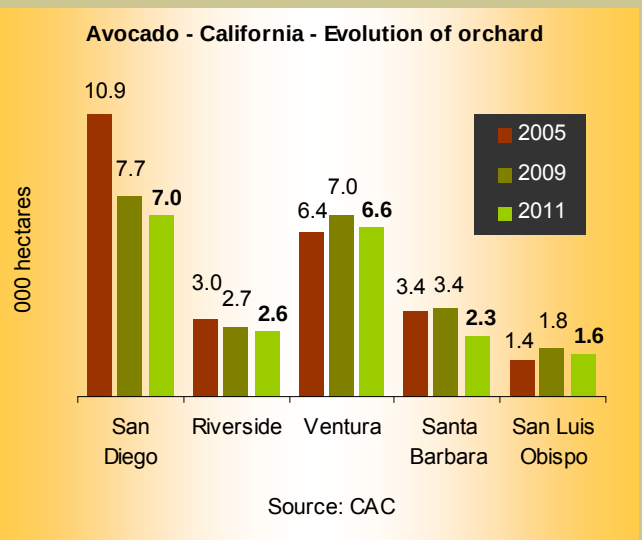
The United States market under very strong pressure in 2013

The degree of opening of the US market is topical again this season, and more strongly than in 2012. Pressure from Mexico, which should be very marked in the coming months, is no surprise in the light of the historic size of the harvest of 1.3 million tonnes forecast in 2012-13, mainly from Michoacán. According to professional sources, US imports from Mexico already exceeded 400 000 t at the beginning of April and could reach 500 000 t by the end of the season in July, breaking the previous record set in 2013 by nearly 140 000 t! However, the very large Californian harvest was completely unexpected as it defies the practically systematic law of alternate bearing. But a near record 230 000 t, 40% above the average of the last four years, will follow the very large 208 000 t harvest of 2012. It seems that satisfactory weather conditions and good cultural practices have counter-balanced alternate bearing and the decrease in cultivated area, especially in the San Diego area.







Avocado — Peru — Main operators	
	% 2012 exports
CAMPOSOL S.A.	15%
CPF (Consor. Prod. Frutas)	12%
Soc. Agri. DROKASA	8%
Agro. SOLCACE	8%
AVO PERU SAC	5%
Corp. Fruticola de Chincha	4%
Agro. VERDEFLOR	4%
Agro. Las Lomas de Chilca	4%
Agri. AYACUCHO	3%

Source: SUNAT

A probable increase of shipments from Peru to diversification markets

Canada should also import increasing volumes (about 2 000 t in preceding years) while Japan, a sizeable diversification market, could open its doors this year. The process of access to this strongly growing market of nearly 50 000 t, with no post-harvest treatment planned, is being finalised. But the Chilean frontier will probably not be opened before at least 2014. This neighbouring county has strong counter-season market potential and large domestic consumption potential but the phytosanitary protocol as defined today is incomplete according to Chilean growers because it does not cover avocado sunblotch disease.

A sizeable argument to allow Peru to sell better in the USA than in 2012

The HAB (Hass Avocado Board) forecasts cumulated supply of the United States market with 10% more Mexican and Californian fruits than last season from April to June, with a very conservative hypothesis with regard to the entry of Mexican fruits. Can Peru sell more than the 15 000 tonnes exported in 2012 under these circumstances? ProHass counts on 23 000 t, using the serious argument that the size of Californian fruits is limited to an average of 60 this season, corresponding to European size 22 for a 4 kg box. Peruvian fruits could find a position as they seem to be of good size, in contrast with fears at the beginning of the season. In addition, the trade agreement recently concluded between large Peruvian and Chilean exporters with a longstanding position in the United States are also advantages.

Increased but still very limited volumes from outsiders

Among 'outsider' sources, the volumes shipped from Argentina could increase by about 30% but should remain limited (about 100 tonnes last year according to customs sources). The sector is still very small and tending to shrink. A further increase in supply from Brazil is expected. Shipments consisting almost entirely of 'Hass' approached 4 000 t in 2012 (about 1 million boxes). Tanzania, a new source, has also made its debut in Europe this season. Its production calendar is particularly interesting and the still modest volumes should increase in the coming years (see box).

© Robert Clowes

Tanzania

Production of 'Hass' for export is centred in two zones. Most of production, on 650 hectares, is in the south of the country near Mount Rungwe. The Rungwe Avocado Company controls about a 100 hectares with the rest being in the hands of nearly 3 500 small growers. The production calendar runs from the beginning of January to mid-May, thus stretching from the end of the winter season to the beginning of the summer. Exports transit via the port of Dar es Salaam or Mombasa. The export potential should attain 1 250 000 boxes in five years. The other production zone is in southern Tanzania, south-west of Mount Kilimanjaro near the town of Sanya Juu. The area is smaller (about 150 ha) and the production calendar is slightly later.

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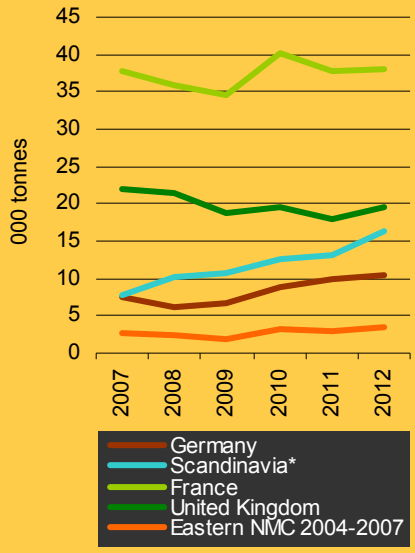
Strong awakening of demand in Europe

The various hypotheses result in forecasting total supply of the European market at between 125 000 and 130 000 t, slightly less than in 2012. The quantity should be perfectly manageable, especially as the season is starting under particularly favourable conditions. Prices per box of size 18 peaked at EUR 11 to 12 at the beginning of April, a level hitherto unseen at this time of the year. But what should be highlighted is the excellent behaviour of the market in recent months, revealing a distinct acceleration of demand in Europe, bringing hope for the coming summer season and for the future in general. Statistics supplied by professionals and those of our market watch indicate a parallel increase of 25% in prices and volumes in the first quarter of 2013 in comparison with the four-year average.

Avocado - Apparent consumption (May to October)



* excl. Norway / Source: Eurostat

Sales during the 2012 summer season

Do trees grow to the sky? This is a question that can be asked in the light of the development of sales in Scandinavia. These were 24% greater than in the preceding season while the annual consumption of over 2 kg per person in Sweden and Denmark is already the highest in Europe and an excellent level for non-producer countries. The two main EU markets held their positions: volumes held at within the 38 000 to 40 000 t range of the two preceding years in France. The difference in consumption of nearly 1 kg per person in comparison with Denmark and Sweden indicates the margin for growth still available and the interest of investing in promotion in a country in which the generalisation of ready-to-eat fruits means that full benefit can be drawn from sales promotion operations. The small increase to nearly 20 000 t in the United Kingdom may indicate the end of the downward trend from 2007 to 2011. The UK, with consumption at less than 600 g per person, and Denmark are the only countries in which avocado sales are greater in the summer than in the winter (53 to 54% of volumes are sold in the summer). Germany has continued to make progress, slowly but surely! And operators working in this market in the winter consider that the increase should be more marked this season, especially as the scope for development is still enormous (annual consumption is less than 300 g per person). The volumes sold in the countries in the eastern EU are also growing but are still very limited, as in Russia. Summer avocado consumption forms only 35 to 40% of annual consumption in the eastern part of Europe.

Avocado — Estimated annual consumption per capita

	Population (millions)	Summer season 2012 (g)	Year 2012 (g)
Scandinavia	**24.5**	***817**	**1 616**
Denmark	5.4	1 124	2 131
Sweden	9.1	1 035	2 064
Norway	4.7	*766	1 509
Finland	5.3	176	418
France	**63.4**	**600**	**1 197**
United Kingdom	**60.8**	**320**	**592**
Germany	**82.3**	**127**	**272**
Eastern Europe	**102.2**	**35**	**87**
Russia	**141.9**	**28**	**79**

* estimate / Source: Eurostat

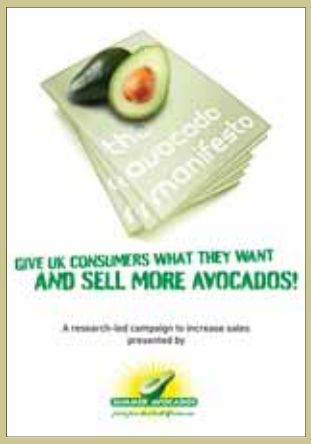
Avocado — Apparent consumption in the main European markets (May to October*)

tonnes	2007	2008	2009	2010	2011	2012	Comparison 2012 on 2011	Comparison 2012 on average 2007-08
Germany	7 446	6 029	6 689	8 748	9 816	10 471	+ 7 %	+ 55 %
Scandinavia**	7 649	10 285	10 768	12 520	13 241	16 423	+ 24 %	+ 83 %
France	37 803	35 942	34 545	40 131	37 659	38 049	+ 1 %	+ 3 %
United Kingdom	22 033	21 377	18 771	19 631	17 889	19 439	+ 9 %	- 10 %
Eastern NMC 2004-2007	2 801	2 289	1 984	3 097	2 965	3 579	+ 21 %	+ 41 %

* including most customs declarations for South African, Peruvian and Kenyan produce / ** excl. Norway / Source: Eurostat

Promotion

ProHass is to invest in the promotion of avocado in Europe for the fourth year running. The basics of the 2013 season are the same as those of 2012. The budget of about USD 1 million will be divided between the United Kingdom, France and Germany. Stress will be laid on the multiple uses of the fruit that can be mashed (guacamole), diced (in salad) or sliced (sandwich fillings). Information about the nutritional qualities and ripening of the fruit are also available to consumers in shops and on the website www.deliciousavocados.co.uk. Competitions will be organised in France and the UK. A press campaign and cookery workshops are also scheduled in France.



South African professionals, the historical organisers of the summer market, are also continuing their efforts, targeting three markets. In the UK, still the main focus for South African professionals, the aim will still be the broader application of the recommendations of the 'Avocado Manifesto'. This covers the development of sales along five main lines: segmented supply including ripe fruits and sales of individual fruits, better information about the degree of ripeness, the provision of recipes and nutritional advice and the setting up of marketing combining avocado and other salad ingredients. The latter principle will also be one of the central features of the campaign run in Sweden:

joint salad/avocado marketing with, in particular a sticker printed with 'salad + avocado = love'. For its first year of operations in Germany, SAAGA has chosen to focus on produce information ('Hass' and green varieties too) for both consumers (preparation, ripeness, etc.) and middlemen (varieties, storage, etc.).

Dynamic markets!

The increase is spectacular but not surprising. The analysis of customs figures that will be published in the September issue of **FruiTrop** should confirm the strong growth trend on certain markets that is clearly sensed by professionals in the downstream part of the sector. The desire of Scandinavian countries for avocado seems unlimited. Well supplied with fruits thanks to high prices, consumption seems to be maintaining strong growth dynamics. French consumers also seem to be reacting positively to the spread of the availability of read-to-eat fruits in supermarkets. Finally, and above all, it seems that the large German market is waking up. Consumption from October 2012 to March 2013 is reported to be 20% up on the last season.

Promotion efforts continuing

The main supplier countries will maintain their efforts to develop demand in the coming summer season. Via ProHass, Peruvian operators are to continue investing this year, with about USD 1 million to promote avocado on the UK, French and German markets. South Africa, historically the driving force of the market, is to step up its presence by adding Germany to the list of countries in which promotion operations are carried out. The list already includes the United Kingdom and Sweden.

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Measures to strengthen weak points

But a few adjustments must be made for management to make the most of the season or simply not to spoil it. Major progress has already been made to ensure better ripeness at the beginning of the season. The setting up of a control system had become a necessity in Peru with the increase of production in very early zones. This has now been done: ProHass has decided to set a minimum dry matter content of 22% for 'Hass' avocadoes to qualify for export. The SENASA, which supervises application of the measure, will not issue a phytosanitary certificate if this threshold has not been attained. A similar measure already exists in South Africa with a 23% minimum dry matter content for 'Hass' and professionals use other techniques as well to ensure that the fruits will ripen satisfactorily.

Other progress remains to be made

All operators remember the price collapse of June 2009 and the more recent depression at the end of the 2012 season. Although remaking history is a perilous exercise, it can be affirmed without taking too much risk that these events that seriously damaged the average seasonal price could have been avoided. In 2012, the peak in volumes at over 1.4 million boxes per week at the end of July/beginning of August, sending prices down to less than EUR 6 for five weeks (including three with prices lower than EUR 5), was preceded by three weeks with less than 900 000 boxes! It is essential to improve volume management, especially during the June risk period when South African and Peruvian production peaks overlap. These large volumes should be smoothed as much as possible by holding volumes over until July.

The increasing marginalisation of green varieties well taken into account by source countries

The increase in the supply of ready-to-eat avocadoes is tending to marginalise green varieties. Downstream professionals experienced this again during the winter season. The gap between the average price of 'Hass' and that of the other varieties continued to widen. Fortunately, supplier countries have adjusted supply to this new market feature. The volumes of green varieties exported to the EU in the summer decreased from a little less than 9 million boxes in 2008 to slightly under 7 million boxes in 2012. The figure should be even lower in 2013 as all suppliers forecast a decrease in their export potential as a result of more limited production, development of the domestic market or shipments to non-EU destinations.


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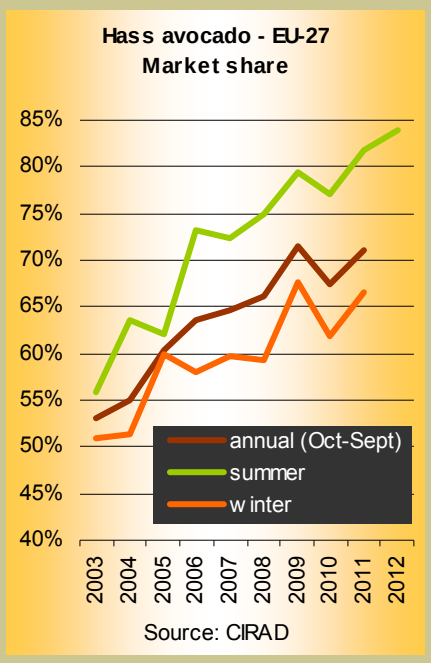

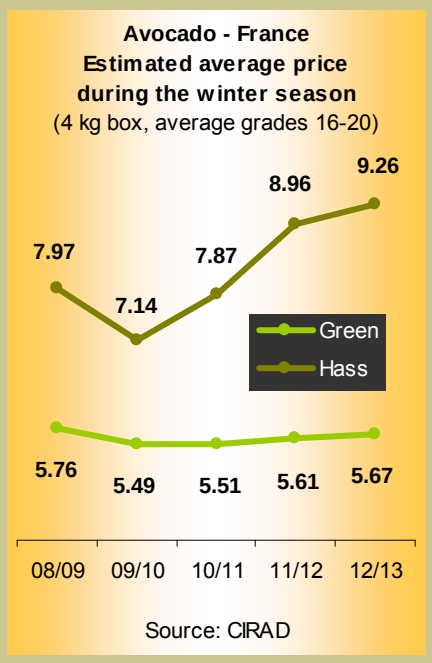


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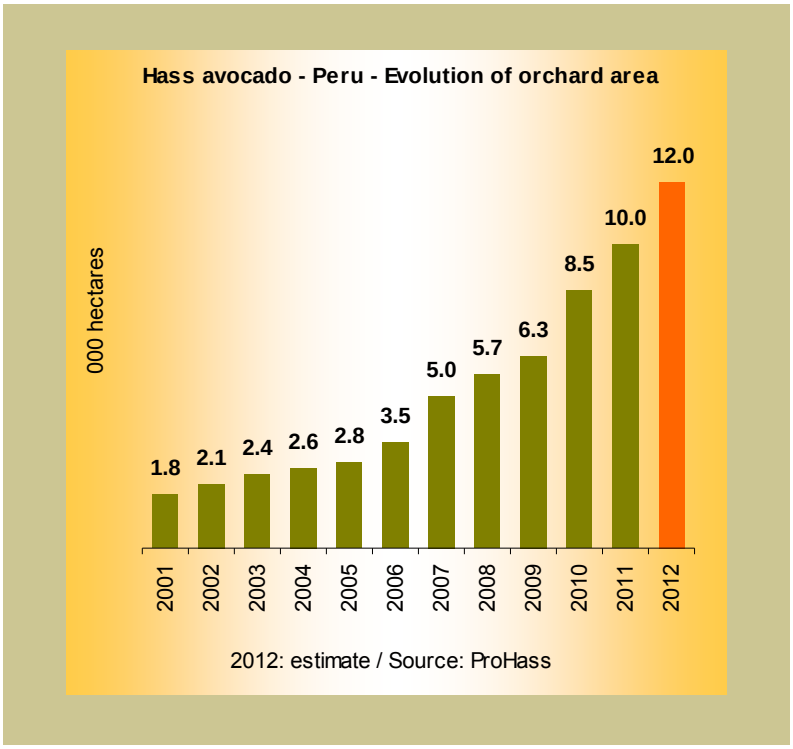

Increased production expected in all supplier countries

None of the adjustments mentioned above are superfluous. Even if the United States market may take a distinctly larger proportion of Peruvian exports in 2014, given the very probable decrease in Californian production, supply of the EU market will probably increase definitively in the medium term. The area under 'Hass' in South Africa is still increasing by 300 to 350 hectares per year, especially in the zones that can supply the beginning and end of the summer season. Growth is also observed in Kenya. Yields are continuing to increase in the estimated 1 250 ha of young orchards. The Kenya Fruit Project funded by Dutch cooperation and that recommends the planting of new 'Hass' orchards and the top grafting of 'Fuerte' could also boost the sector.


© Eric Imbert

Peru still very much a driving force in the years to come

Above all, the increase of Peruvian production will continue. Practically the whole of the 12 000 ha of 'Hass' is less than eight years old and has thus not reached the nominal mature yield of 20 t/ha. In addition, a large proportion of the trees are simply not yet in production. Peru can hope to exceed 200 000 t by 2020 just with the areas in production today and planting is continuing. It is true that production costs are increasing, but they are still attractive and soil and climate conditions are still just as favourable, as is shown by the yield mentioned above, which is double the world average. So although the rate of planting seems to be less than in the last two years, extensions and small to medium-sized new projects (10 to 50 ha) are still being set up in the coastal valleys and in the Olmos irrigated perimeter in the north. Areas under 'Hass' are also increasingly marked in the highland zones (new small orchards, top grafting of old 'Fuerte' orchards) where the production calendar starts very early, from January onwards.

This increase in production should not be feared as long as it remains in reasonable proportions. The European market has considerable scope for growth and has improved thanks to work by professionals in promotion and by those who have invested in ripening facilities. New dynamics that should enable a change in the scale of the market seems to be in motion, but it is still necessary to strengthen the foundations of the market, especially as regards the management of volumes ■

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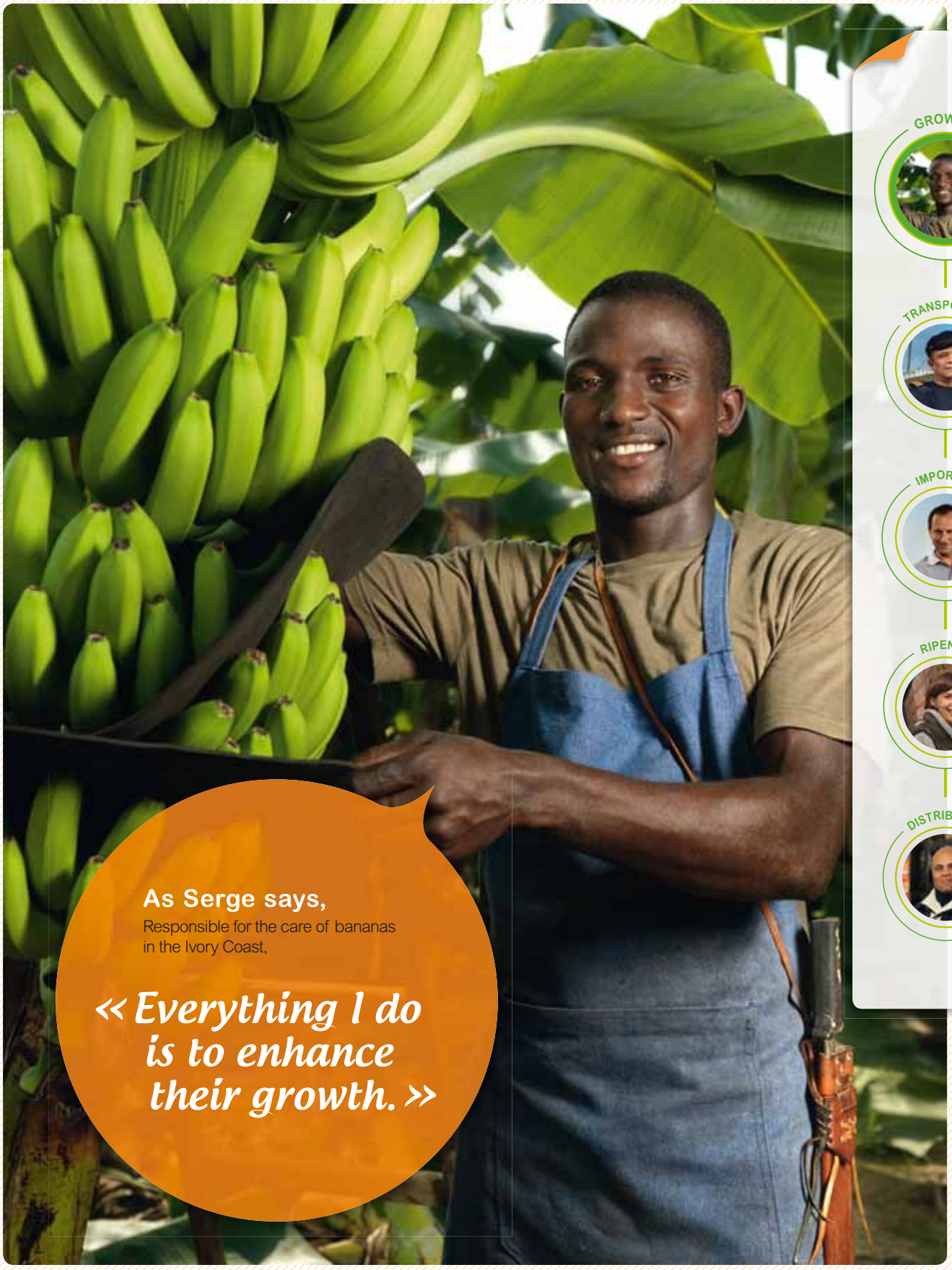

As Serge says,
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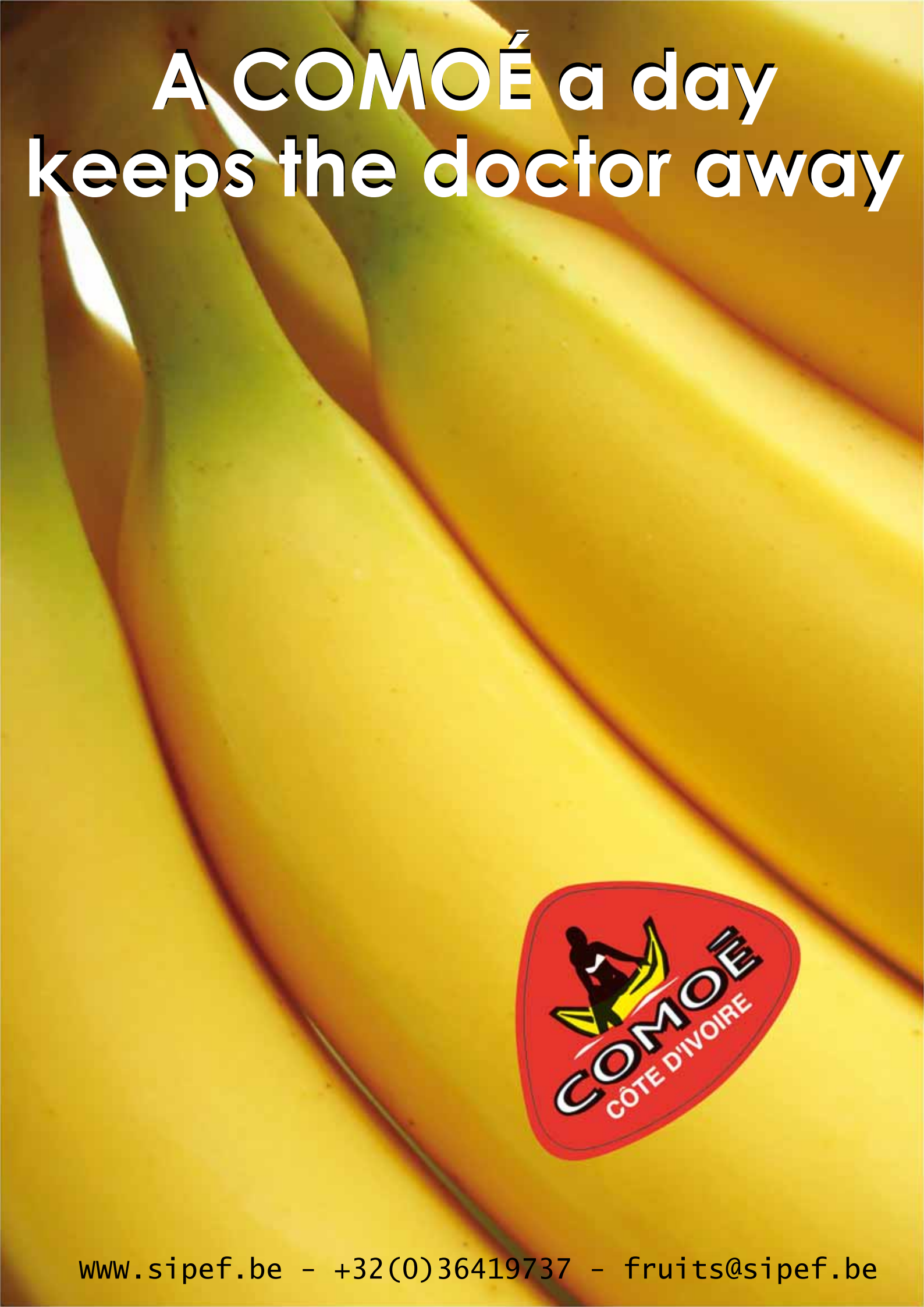
Banana

A report by
Denis Loeillet

Contents

EU-27 has never bought so little bananas and the United States has never bought so much. This is a known paradox but one that seems to have peaked in 2012. Morose dollar banana supply seems to have sent the European market to sleep. Fortunately, green prices held as it is rare to see so many factors favourable for banana consumption and especially such limited competition from other fruits. Banana, reputed for being crisis fruits, could soon become a banana crisis.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The European banana market

A *trompe-l'oeil* effect

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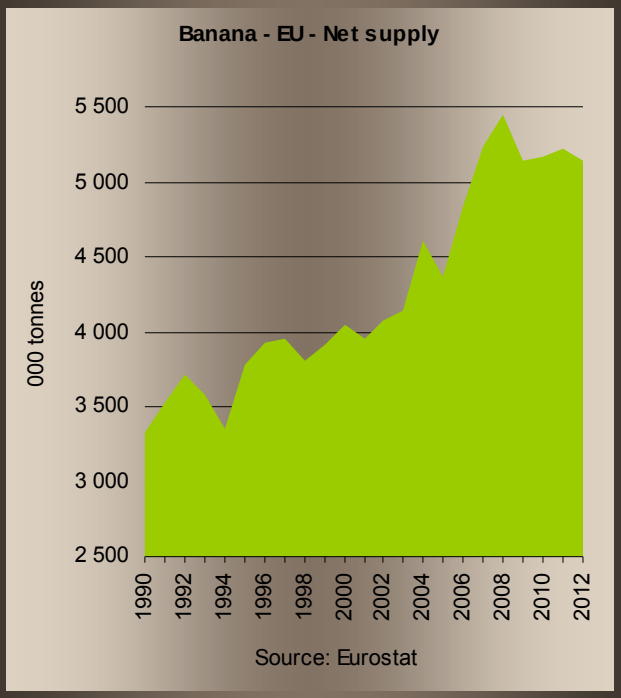
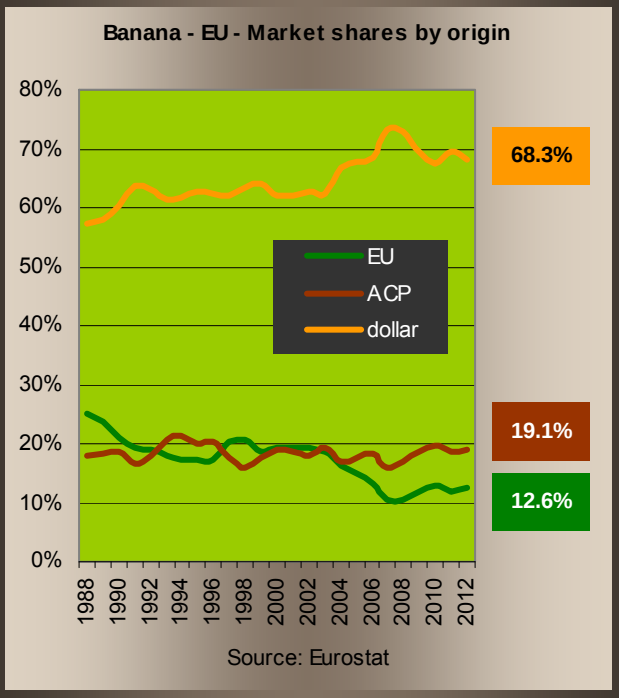
Although selling prices were fairly satisfactory in 2012, the volumes sold were down. The EU-27 has never bought so few bananas. 2012 was also a very different year because of the convergence of all factors: decrease in the supply of competing fruits, a fall in the euro against the dollar, increased production costs, caution in release on the market and in retail distribution, etc.





After two years of slow growth (2010 and 2011), 2012 tipped downwards. The quantity of bananas sold decreased by 1.5% to 5.134 million tonnes. The loss was therefore 81 000 tonnes, a record dip. EU-27 has never consumed so few bananas. Allowing for natural population growth, annual per capita consumption even fell by 200 g to 10.2 kg. Analysis by main type of source is particularly interesting. Indeed, the decrease was some 3% and affected the dollar group alone, with a 121 000 tonne year on year decrease. And the situation was not the fault of a single source. Practically all dollar suppliers were concerned. The leading four reduced their shipments to the EU, headed by Costa Rica (- 75 000 t) and followed by Ecuador (- 34 000 t) and Panama (- 16 000 t). Colombia limited the damage (- 2 000 t) and consolidated its position as the second largest supplier. Further down the list, Brazil displayed a strong decrease in shipments (- 11 000 t, that is to say - 21%), as did Honduras which lost its footing in the market totally (- 12 000 t, that is to say - 69%).

Peru and Mexico were the only two dollar sources to save their bacon. Peru is one of the leaders in organic and fair trade banana supply and increased shipments to Europe by a quarter at 81 000 tonnes, a new record. It is reminded that not a single banana was exported from Peru at the beginning of the 2000s! The situation is more complex for Mexico. Banana production exceeds two million tonnes but it has been a dilettante on the European market since 2009. It has doubled exports to the EU from a modest 10 000 t to slightly over 20 000 t. It remains to be seen whether this is a lasting trend. This might well be so, given the strong development of Mexican exports to the North American market.

European production regaining the market

Exceptionally, the comparative weakness of the dollar group was partly compensated by a very marked increase in European production, with supply reaching 648 000 tonnes. With 6% annual growth, this is excel-

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*Etude Institut Ginger en mai 2011 auprès de 1003 individus de 15 ans et plus, échantillon représentatif de la population française.

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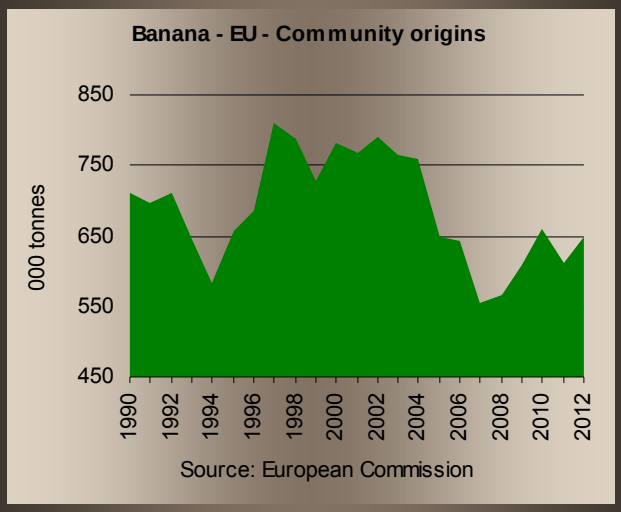

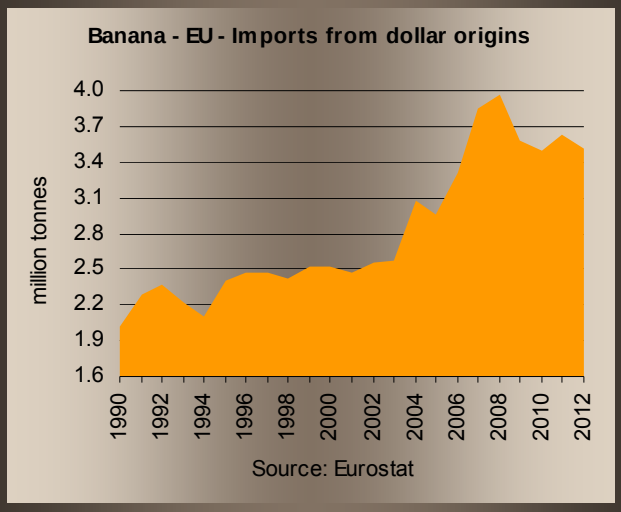

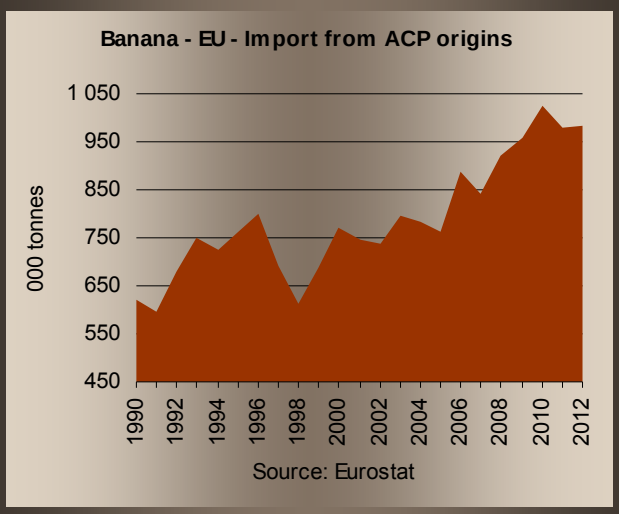


© Régis Domergue

lent news for the European production sector. And nobody is left out as all six production regions were involved in this growth. The Canary Islands made the largest contribution in terms of volume with 25 000 of the extra 37 000 tonnes in 2012. In terms of proportion, Madeira (+ 16%), Greece (+ 10%) and Guadeloupe (+ 9%) displayed the best performances. But let's be lucid and remember that European production is very much in the minority on its market. Even if it gained 1%, reaching 12.6% in 2012, this was just a return to the 2010 situation and is still far from the record levels of the mid-1990s when its share exceeded 20%. It is true that this was a different period with the EU having only 15 members and when the market was managed via a Common Market Organisation (CMO). This was practically prehistory! However, it is noted that the 2012 French production performance was not, unfortunately, the premise of a strong and lasting recovery of supply from the French West Indies. Black Sigatoka disease is spreading slowly but surely in Martinique and Guadeloupe. Its impact is beginning to weight on production potential and on export productivity. Given the scheduled end of the authorisation of aerial spraying to control the disease and the drastic shortening of the list of fungicides whose use is permitted, it is not possible to see how current production can be increased.

In appearance, the situation remained unchanged in 2012 for the third major type of source. The so-called ACP exporters shipped slightly less than a million tonnes, 982 000 tonnes to be precise, that is to say 4 000 tonnes more than in 2011. This has something of the tree that hides the forest as the performances by supplier are very variable.

Africa is contrasted for example. Côte d'Ivoire, shipping 224 000 tonnes to the EU, moved ahead of Cameroon and became the leading African supplier. The return to normal in politics made it possible for the sector to consolidate what had become a fragile situation. The future now seems a bit clearer and

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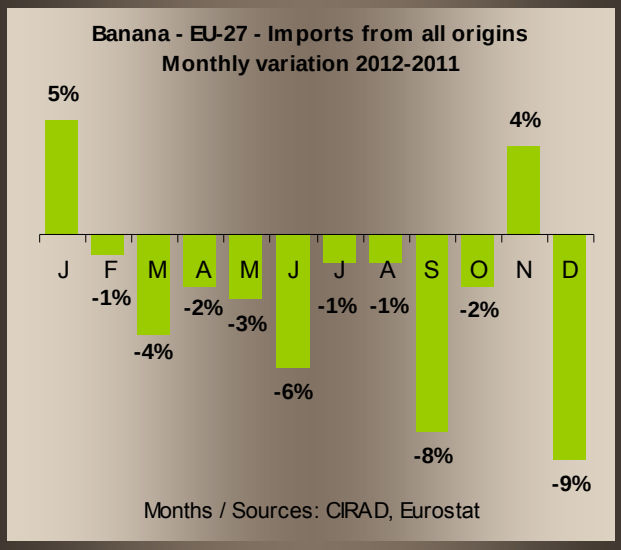

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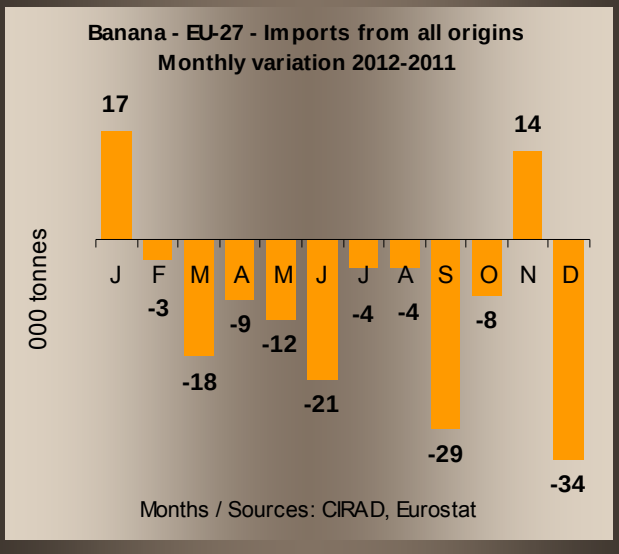

plans for the extension or creation of plantations are witness to the country's attractiveness. In contrast, Cameroon's 214 000 tonnes was a 15% decrease in comparison with 2011 and marked the fourth year of the decrease in exports to the EU. The situation is difficult for some local operators from both the technical and financial points of view, but large operations (purchases, extension and why not privatisation?) could re-stimulate banana production. The third-largest African supplier, Ghana is recovering strongly. Exports to the EU exceeded 50 000 tonnes once again after a difficult 2011 and a record 2010 that is already receding into the past. The extension and technical renovation of certain plantations seem to be having positive effects.

Situations are very clear-cut in the West Indies and Central and South America. Some sources are in difficulty and others booming. The fragile ones are still the same: St Vincent, Dominica and St Lucia. These three producers have cumulated meteorological damage and very serious impact of Black Sigatoka for several years. For the moment, St Lucia would seem to be able to recover (+ 97% from 2011 to 2012 at 12 000 t). But no mistake should be made. Any recovery will only come from the implementation of a vigorous plan. The aid offered by the EU via Banana Adjustment Measures (BAM) should allow useful investment in the sector. In any case, we hope that the effects for both the sector and for European public finance will be more convincing than the previous aid plan.

For once, and in spite of its leading position in the ACP group, the Dominican Republic is part of the group at the bottom of the class. Very difficult weather conditions (drought) and management of Black Sigatoka considered by some to be amateurish or even suicidal have reduced exports to the EU by 10%. In addition, the current 295 000 tonnes should not increase much in the coming years. In contrast, the strongly growing sources are Belize (+ 40%) and Surinam (+ 32%). They have benefited for many years from European aid for the modernisation or even the re-starting of their sectors and each broke their own record in 2012. Belize nudged 100 000 tonnes and Surinam reached 83 000 tonnes. News in the latter country has once again concerned the SBBS, the national company that controls 100% of production. After several failures, the old refrain of privatisation was heard again in 2012. Consultations were made and large groups showed signs of interest, but nothing concrete has yet emerged.

2012: a perfect year?

Annual analysis is good. Monthly analysis is better because although the 1.5% shrinking of the market may lead some people to think that we are fussing about a detail or even a statistical error, this is not the case. European statistics are certainly far from being infallible by when the market rhythm in terms

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of volume and prices obeys certain large economic principles, it has to be observed that 2012 was truly a year with a difference. In a previous article (cf. **FruiTrop** 202, July/August 2012, page 11 ff.) we showed that each year is different and that it is difficult to find universal laws to explain the functioning of the banana market. There are so many factors weighing on the market that they never all go in the same direction and the variation of one compensates or scrambles another or, worse still, sends the market in an unpredictable direction. But although it is a truism to say that a market is influenced by numerous factors, it is very true for the banana market. It is very competitive, the produce is easily substituted and ordinary (not essential), both supply and demand vary according to weather conditions and it is exposed to external effects such as variations in exchange rates, freight capacity, etc.

Banana — European Union — Evaluation of supply — Tonnes

Year	Banana type or origin			Sub-total	Exports	Net supply
	Community	ACP	Others ($)			
1988	719 270	514 061	1 644 100	2 877 431	17 265	2 860 166
1989	698 925	544 441	1 716 175	2 959 541	13 415	2 946 126
1990	710 635	621 875	2 024 248	3 356 758	36 219	3 320 539
1991	695 402	596 416	2 286 019	3 577 837	53 468	3 524 369
1992	711 191	680 191	2 365 883	3 757 265	39 689	3 717 576
1993	646 242	748 120	2 219 721	3 614 083	36 138	3 577 945
1994	584 622	726 927	2 102 303	3 413 852	58 044	3 355 808
1995	658 206	763 886	2 405 180	3 827 272	43 082	3 784 190
1996	684 605	798 109	2 471 263	3 953 977	30 598	3 923 379
1997	810 537	692 731	2 464 412	3 967 680	16 571	3 951 109
1998	786 232	614 459	2 426 419	3 827 110	26 448	3 800 662
1999	729 303	688 170	2 522 455	3 939 928	27 359	3 912 569
2000	782 176	770 095	2 528 170	4 080 441	35 327	4 045 114
2001	767 268	747 131	2 474 665	3 989 064	34 284	3 954 780
2002	790 622	738 439	2 554 508	4 083 569	8 011	4 075 558
2003	765 416	797 269	2 578 827	4 141 512	6 020	4 135 492
2004	758 206	782 979	3 077 361	4 618 546	11 029	4 607 517
2005	648 375	763 974	2 959 463	4 371 812	4 970	4 366 842
2006	641 559	889 176	3 306 538	4 837 273	8 386	4 828 887
2007	554 734	842 959	3 848 266	5 245 959	9 270	5 236 689
2008	567 560	918 923	3 968 269	5 454 752	10 002	5 444 750
2009	608 048	958 326	3 587 737	5 154 111	7 840	5 146 271
2010	659 525	1 023 674	3 492 406	5 175 605	7 437	5 168 168
2011	611 841	978 540	3 632 816	5 223 197	8 169	5 215 028
2012	648 459	982 373	3 511 488	5 142 320	5 349	5 136 971
	(1)	(2)	(2)		(3)	

(1) 1988 to 1993 inclusive: Eurostat + European Commission data for Madeira and Greece. From 1994 onwards: supplementary aid data or POSEI.
(2) Eurostat data.
(3) Duty-paid bananas (released for free circulation) in one of the EU-27 member countries and then exported outside EU-27.
General note: before 1994: dessert bananas + plantains / From 1994 onwards: dessert bananas. Before 1995: EU-12 / From 1995 to 2003: EU-15 / From 2004 to 2006: EU-25 / Since 2007: EU-27. The study concerns extra-community import data for ACP and dollar bananas and re-export. The rules of operation of the common market organisation of banana (1993 version) have been applied to the data from 1988 onwards in order to give comparable results.
Source: Eurostat, European Commission / Processing: CIRAD Market News Service

Banana — Europe — Import and retail prices				
euro/box	**2011**	**2012**	**Variation**	**Var. %**
United Kingdom **(£/box)**				
Retail price Loose banana	13.2	12.9	- 0.36	- 3%
Retail price Prepacked banana	21.9	21.8	- 0.18	- 1%
Import price	10.3	10.6	+ 0.33	+ 3%
Spain				
Retail price Canary bananas	35.0	32.5	- 2.54	- 7%
Retail price Other origins	24.3	24.3	0.00	0%
Import price - Canary bananas - Super Extra	18.9	15.6	- 3.30	- 17%
Germany				
Retail price - Traditional retail distribution	21.6	23.0	+ 1.45	+ 7%
Retail price Discount stores	18.9	20.3	+ 1.45	+ 8%
Import price	12.9	14.1	+ 1.17	+ 9%
France				
Retail price	27.2	27.9	+ 0.73	+ 3%
Retail price Special offer	23.8	23.9	+ 0.18	+ 1%
Import price	11.8	12.9	+ 1.10	+ 9%
Italy				
Retail price	32.8	33.6	+ 0.73	+ 2%
Import price	12.5	13.5	+ 1.00	+ 8%

Sources: CIRAD, TWMC, SNM

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And, to be simple, what if all these factors had moved in the same direction in 2012? With an even moderate decrease in supply, especially of dollar fruits, weaker competition from other fruits, a euro:dollar exchange rate that was a little less attractive for most exporters, caution among European operators and, why not, a slump atmosphere favourable for the consumption of a fruit that is always competitively priced in the shops.

Hallelujah! The banana world was perfect in 2012. Although intermediate operators can be happy about their satisfactory returns and although retailers sometimes succeeded in benefiting from a price increase to improve their margins (**FruiTrop** 207) and although all shoppers continued to profit from attractive prices in comparison with those of other fruits, the market is still perfectible. As we said, consumption is decreasing and the value transmission mechanism is jammed. Satisfaction in Europe is not shared by everybody at production.

Dollar supply sets the trend

Let's return to the monthly rate of supply from all sources, one of the keys of the market that appears to be almost perfect. It only exceed 2011 figures in January, February and November. In the other nine months, supply dipped by as much as 8% (September). Supply during the summer season—the scary period for the market—was even reduced by 2 to 4% in June, July and August.

Analysis with the comparison between one year and the next is always delicate. But comparison of the rate of supply in 2012 and that of the 2009-10-11 average confirms the more limited supply in most months, except for the first two. In fact the difference is significant above all from May to August (with June being an exception). Comparison with the average for this period shows that supply was far from being light: 5% more than the three-year average was released in May and 4% more in August. If the market succeeded in taking the same or greater quantities than usual during a traditionally delicate period, it means that its structure was sufficiently flexible to take larger quantities. Operators were indeed frightened at certain moments during the summer but the market held up, getting up speed nicely after the school holidays and well served by historically low supply in September.

Dollar supply set the trend in the details of sources. Although it decreased overall, this affected specifically and in priority spot offers 'with no fixed abode' that are finally the bane of the European market. The other sources are either not very compatible from one market to another or strongly contractual. For example, this is the case of the Fair Trade and organic fruits from the Windward Islands, part of African supply and also Canary Island bananas. This operated fully in 2012 because of the shortage of

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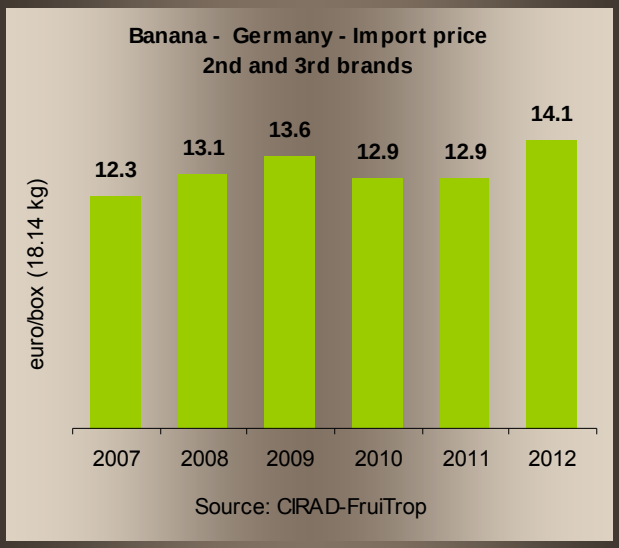

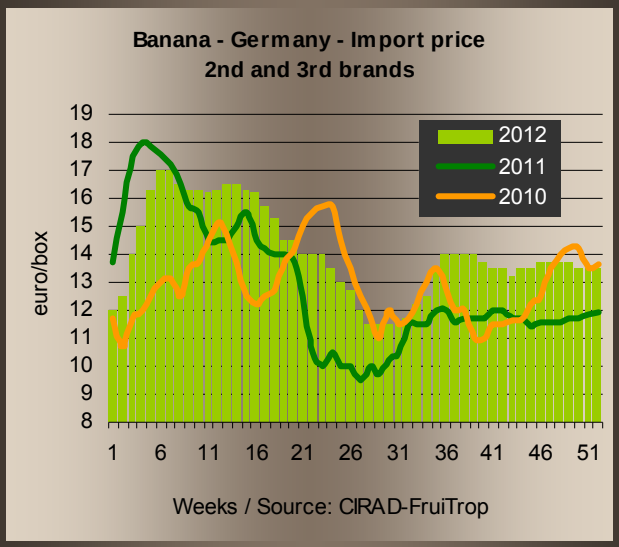

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dollar bananas; this was fairly small (- 3.3%) but was spread among key periods.

European and ACP production complete this examination of monthly supply rate. European production (12.6% market share) was strongly present in the first half-year, as usual, often with two-figure increases. ACP supply is more difficult, even impossible to summarise. The two types of source—ACP suppliers in the Caribbean and Central and South America on the one hand and those in Africa on the other—yo-yoed very jerkily throughout the year. In the same month, the variation could exceed plus or minus 20% in an annual comparison.

A market with a chiaroscuro appearance

In our Close-up on banana in January 2013 (**FruiTrop** 207, page 13 ff.), we noted a large increase of the green price in 2012; this amounted to more than a euro per box at EUR 14.1 per box (ref.: Germany: second and third brands). Comparison of this with the year on year decrease of some 1.5% indicates strong market elasticity. The explanation is rather succinct since, as mentioned above, the supply rate has a strong effect on the trend and this is not the only factor. Others that are internal or external as regards the sector account for the movement of the market.

But is the situation a lasting one and truly interesting for all sector stakeholders? It has been seen how good price behaviour requires the precise aligning of all the planets! Such a miraculous situation will be difficult to find again. Furthermore, the extreme conjunctural fragility does not even benefit everybody. Producers are complaining (in Ecuador, Colombia, etc.), the major operators are announcing smaller returns and a lasting decrease in consumption is not acceptable. Finally, while all the indicators are green, import prices, in Europe in particular, are still low or at least disappointing at the beginning of 2013. It is very difficult to pass on price increases to the downstream part of the sector. The market displays considerable resistance to rises during periods of contained supply. Nobody is mad enough to consider that this resistance is topical when market conditions are more difficult. Here, we are describing a market that refuses to be euphoric and that is threatened with catastrophe at all times. This is a deep-seated and harmful change for stakeholders in the upstream part of the sector, importers and ripeners included. So what is the solution? Beside consideration of the imperious need for better sharing of value in the sector, it is urgent to increase consumption. This necessarily involves stimulation of the market and for the moment this is only done using price ■

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Accompanying measures for bananas at last!

The funds will finally be released in 2013. It is reminded in passing that the aid programme was initially planned for 2009-2013. The long, slow, complex and uncertain process that should enable ten ACP countries to use EUR 190 million to improve their competitiveness, the working conditions of plantation workers and reduce environmental impacts is approaching the end. Priorities by country have been set. They are the result of negotiations between states, production and export sector operators and the European Commission (on-site delegation and Brussels). The European Parliament is also a major player. With its new prerogatives, it has powers of supervision of the good use of funds—powers that will be exercised throughout the programme. This is in any case what the European authorities are saying and what is desired by some beneficiaries who sometimes wonder about the validity of certain projects, especially in the Caribbean.

Banana — EU — Banana Accompanying Measures (BAM)

	Average ACP exports to the EU 2009-2010-2011-2012		MAB - Allocation by country		Aid intensity
	tonnes	%	million EUR	%	EUR/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%	id
Dominica	3 353	0%	15.27	8%	4 554
St Vincent	1 842	0%	9.93	5%	5 390
Suriname	72 158	7%	9.30	5%	129
Dom. Rep.	308 354	31%	16.34	9%	53
Ghana	50 068	5%	7.24	4%	145
Other ACP	364	0%	0.00	0%	
Total	**994 862**	**100%**	**189.00**	**100%**	

id: indeterminable / Sources: Eurostat, ACP Secretariat

The effective field launching of the projects should therefore be possible in autumn 2013. Actions are very varied: credit, housing, competitiveness, training, the emergence of new producers, re-launching of the sector, etc. Two discussion seminars are planned, one in Douala, Cameroon, in mid-April 2013 for the whole of West Africa, and the other in Santo Domingo (Dominican Republic) in the autumn for the countries in the Caribbean zone. The Douala meeting will be focused on the implementation of projects and impact assessment with regard to the objectives set.

The example of accompanying measures for banana for the Dominican Republic

Funding totals EUR 16.34 million over a 4-year period (2013 to 2017). Growers provide joint funding of EUR 2 million for the project, taking the total to EUR 18.34 million. This aid forms part of the national banana sector strategy that totals USD 110 million (approximately EUR 143 million). The plan was decided by all the sector stakeholders.

In addition to monitoring the effects, the plan is structured in three parts:
- improvement of loan facilities for producers (EUR 9 million),
- provision of technical assistance (EUR 5.5 million),
- improvement of conditions for sector workers (EUR 3 million).

The steering committee consists of the Dominican Ministry of Agriculture, the EU delegation, the Adobanano inter-branch organisation and international agencies such as UNDP.

The general aim is that of improving economic (competitiveness), social and environmental performance in the Dominican banana industry. Specific targets are:
- increasing cropping from 27 to 38 tonnes per hectare, i.e. from 29 to 40 boxes per hectare per week;
- a 50% reduction of pesticide application;
- increasing banana exports by some 10% per year;
- increasing labour productivity by 20% during the period.

The plan then contains a very complete list of the effects expected for each component. For example, 500 plantations are to diversify their incomes, 1 500 growers are to receive technical assistance, 5000 workers are to receive training, etc.

The monitoring of the expected effects is also planned.

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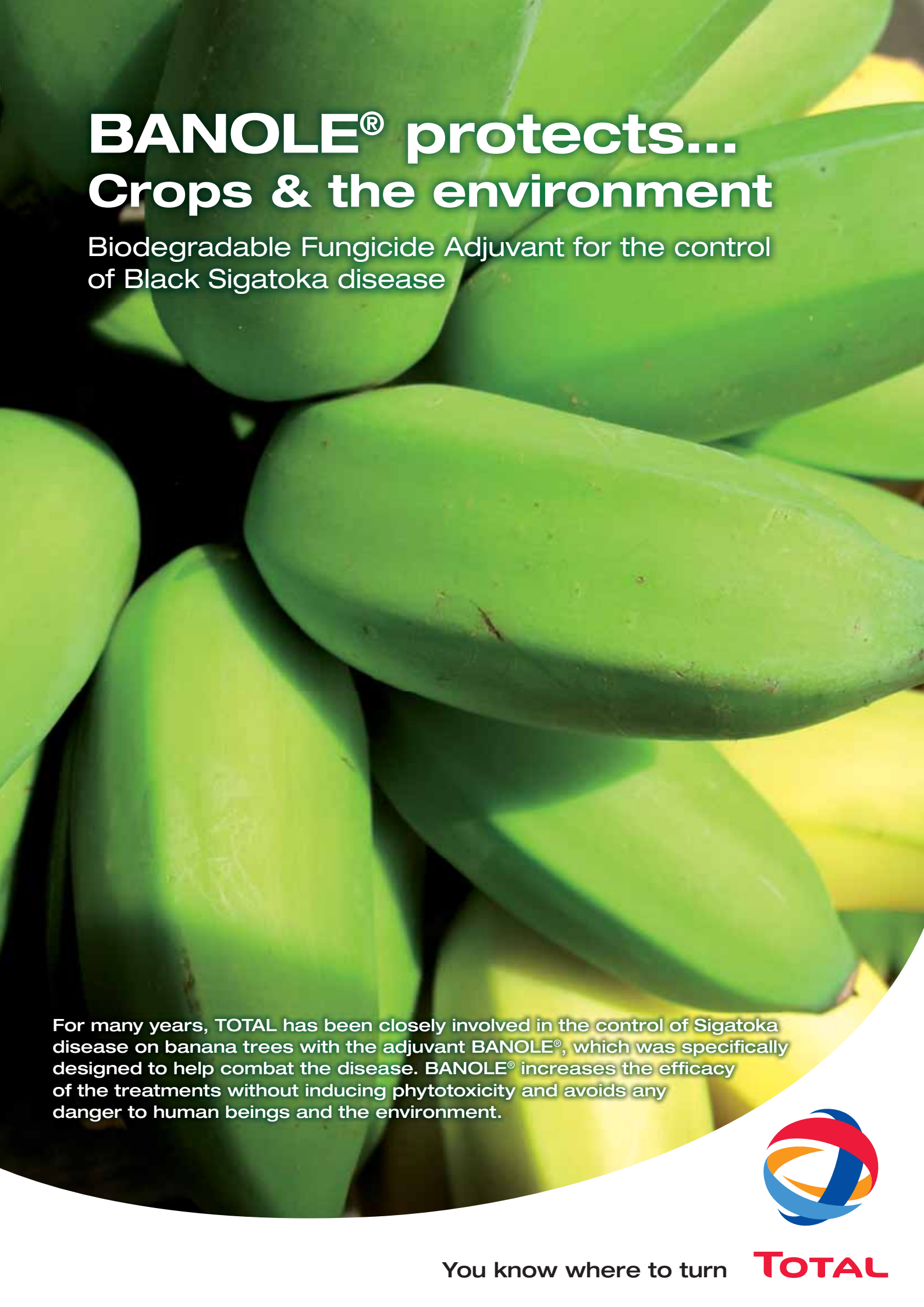

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Banana — EU-27 imports — 2012

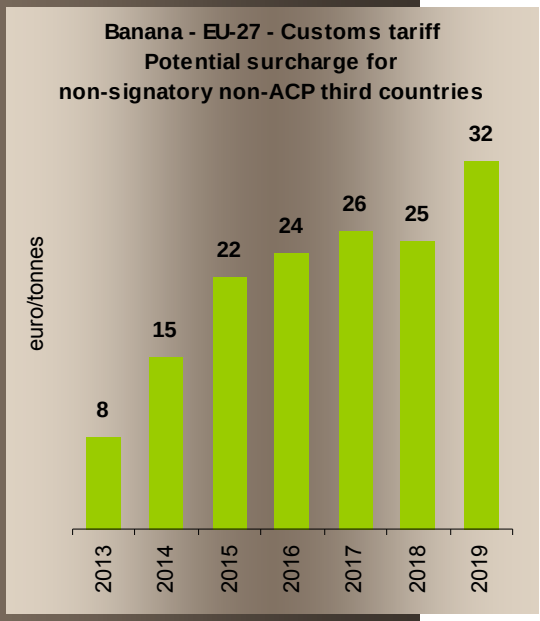
tonnes	AT	BE-LU	BG	CY	CZ	DE	DK	EE	ES	FI	FR	UK	EL	HU	IE	IT	LT	LV	MT	NL	PL	PT	RO	SE	SI	SK	UE-27
Total intra EU	117 829	4 709	7 221	3 067	118 362	544 703	69 343	4 812	40 840	67 185	236 283	80 351	3 830	35 412	4 159	99 210	22 398	17 876	1 996	91 684	172 999	65 802	43 015	65 155	7 136	44 597	2 040 248
incl. NMC-12	3 058	1 594	2 352	0	7 388	3 297	36	4 615	0	31	70	0	1 149	2 163	0	10 221	2 730	3 844	691	675	8 125	84	17 079	0	20	20 790	91 606
Belgium	29 363	3 819	136	185	27 116	401 263	1 130	0	1 024	3 533	69 355	6 515	203	6 946	0	37 884	5 486	9 474	7	31 911	83 959	433	513	7 841	2 782	6 389	741 085
Germany	47 423	4 731	1	0	24 350	0	62 394	0	0	24 269	7 827	538	302	4 684	141	4 169	3 886	3 058	0	55 811	53 456	8	5 159	27 666	13	1 116	335 730
Netherlands	26 972	8 234	118	0	13 167	68 786	1 627	19	840	15 913	16 263	29 958	138	3 806	65	17 501	4 442	811	260	0	16 007	228	812	13 162	1 273	1 658	250 292
France	9 786	10 720	115	0	40 274	6 853	2 786	0	33 272	0	0	9 077	142	11 622	175	21 850	5 791	690	0	1 295	7 032	4 116	16 524	4	6	7 185	200 034
Spain	195	36	717	0	78	186	45	0	0	0	42 491	1 245	41	141	0	2 585	0	0	0	0	1 038	60 932	292	3 380	0	0	113 437
UK	0	0	0	0	0	55 180	0	0	0	0	0	33 018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	88 198
Italy	0	7 818	0	0	402	5 598	395	0	127	0	64 394	0	0	78	3 779	61	42	0	0	206	2 259	0	697	938	0	60	94 670
Ireland	1 032	152	0	896	3 063	781	0	0	369	0	35 181	0	1 855	336	0	0	0	0	1 038	0	1 122	0	833	0	1 114	7 213	55 134
Czech Rep.	0	1 594	0	0	0	1 615	0	0	0	0	0	0	0	1 337	0	0	2	105	0	125	6 990	0	7 070	0	0	19 981	40 413
Sweden	0	282	0	0	1 591	1 375	910	0	0	23 440	71	0	0	0	0	0	21	0	0	25	0	0	0	0	0	0	27 997
Portugal	0	0	0	0	934	1 073	0	0	0	0	511	0	0	5 635	0	297	0	0	0	1 758	0	0	235	0	1 928	187	12 558
Slovenia	0	0	0	0	0	17	0	0	0	0	66	0	0	0	0	18	0	0	0	2	0	0	0	12 164	0	0	12 266
Austria	0	92	0	0	0	0	0	0	5 208	0	15	0	0	0	0	4 624	0	0	0	1	0	0	0	0	0	0	10 033
Greece	217	0	480	0	2 569	1 000	2	0	0	0	3	0	0	235	0	1 638	379	21	0	473	0	80	2 723	0	0	113	9 931
Denmark	570	0	0	0	4 631	1	0	0	0	0	0	0	0	47	0	4 599	0	0	0	0	11	0	20	0	0	0	9 879
Slovakia	260	0	1 677	0	0	0	0	0	0	0	0	0	0	545	0	2 609	0	0	0	0	491	0	1 709	0	0	219	7 510
Lithuania	0	0	0	0	0	621	0	3 805	0	0	0	0	0	0	0	22	2 343	0	0	0	0	0	0	0	0	0	6 791
Poland	0	0	3 783	1 986	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	851	0	0	0	6 620
Latvia	0	0	0	0	0	0	0	0	0	0	0	0	1 128	0	0	0	0	0	0	0	102	0	4 109	0	0	0	5 339
Hungary	0	0	0	0	0	60	33	810	0	0	0	0	0	0	0	0	0	3 697	0	0	530	0	0	0	0	0	5 131
Romania	1 403	0	0	0	0	0	1	0	0	0	67	0	0	0	0	992	0	0	0	0	0	0	347	0	20	477	3 306
Bulgaria	0	0	14	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	691	0	0	0	1 025	0	0	0	1 751
Cyprus	608	0	181	0	188	0	0	0	0	0	0	0	0	0	0	361	0	0	0	77	0	0	0	0	0	0	1 415
Finland	0	0	0	0	0	270	20	178	0	0	0	0	0	0	0	0	0	0	0	0	0	1	20	0	0	0	489
Estonia	0	16	0	0	0	26	0	0	0	0	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Luxemburg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	78	0	0	0	78
Malta	0	0	0	0	0	0	0	0	0	31	0	0	0	0	0	0	6	22	0	0	0	5	0	0	0	0	63
Total extra EU	1 494	1 256 146	23 160	1 492	0	614 514	4 079	0	135 354	6 390	286 728	955 669	115	0	57 477	516 528	3 221	0	361	262 066	27 921	63 433	11 186	119	32 261	0	5 750 103
incl. MFN	1 494	1 079 420	23 160	1 492	0	607 697	2 423	0	114 914	6 390	2 771	523 453	115	0	31 761	498 333	3 221	0	361	250 571	27 921	62 596	11 186	114	32 261	0	4 590 985
Ecuador	501	280 432	20 592	1 387	0	344 206	627	0	39 802	2 617	1 196	131 307	92 820	0	118	187 225	2 503	0	182	124 834	14 968	10 884	10 947	18 583	21 646	0	1 587 808
Colombia	993	495 811	0	0	0	116 070	1 541	0	27 963	0	667	240 470	0	0	2 457	132 983	515	0	27	54 910	0	26 011	0	33 076	810	0	1 630 117
Costa Rica	0	200 249	0	105	0	125 126	255	0	39 710	3 006	346	123 172	14 040	0	25 472	155 654	161	0	153	14 493	12 953	24 368	199	25 026	5 722	0	970 456
Panama	0	57 519	0	0	0	388	0	0	1 070	0	0	14 294	8 214	0	0	22 106	0	0	0	1 274	0	0	0	38 124	601	0	201 110
Peru	0	44 199	0	0	0	11 009	0	0	0	0	0	2 419	0	0	721	0	0	0	0	22 964	0	0	0	0	0	0	125 511
Brazil	0	16	0	0	0	9 653	0	0	2 298	767	40	10 954	0	0	0	0	43	0	0	17 333	0	0	0	0	0	0	41 119
Honduras	0	898	0	0	0	78	0	0	3 991	0	519	392	0	0	0	345	0	0	0	12 844	0	1 333	39	0	0	0	21 337
Mexico	0	259	0	0	0	1 156	0	0	60	0	0	425	0	0	2 989	0	0	0	0	116	0	0	0	0	703	0	5 968
Guatemala	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1 783	0	0	0	0	2 779	0	4 561
Turkey	0	0	1 522	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1 522
Albania	0	37	940	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	1 034
incl. ACP	0	176 727	0	0	0	6 817	1 655	0	20 440	0	283 957	432 216	0	0	25 715	18 196	0	0	0	11 495	0	837	0	4 336	0	0	1 159 118
Dom. Rep.	0	38 016	0	0	0	6 749	1 655	0	16 668	0	4 382	204 284	0	0	0	6 163	0	0	0	11 495	0	837	0	4 336	0	0	332 601
Cameroon	0	58 771	0	0	0	0	0	0	824	0	91 050	72 896	0	0	0	1 403	0	0	0	0	0	0	0	0	0	0	283 714
Côte d'Ivoire	0	61 057	0	0	0	1	0	0	0	0	86 585	56 160	0	0	0	10 066	0	0	0	0	0	0	0	0	0	0	274 925
Belize	0	656	0	0	0	0	0	0	2 948	0	0	70 028	0	0	25 715	0	0	0	0	0	0	0	0	0	0	0	100 004
Suriname	0	0	0	0	0	0	0	0	0	0	83 126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	83 126
Ghana	0	18 188	0	0	0	0	0	0	0	0	18 814	13 125	0	0	0	563	0	0	0	0	0	0	0	0	0	0	68 879
Dominica	0	0	0	0	0	0	0	0	0	0	0	12 145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12 145
St Lucia	0	0	0	0	0	0	0	0	0	0	0	2 268	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2 268
St Vincent	0	0	0	0	0	0	0	0	0	0	0	710	0	0	0	0	0	0	0	0	0	0	0	0	0	0	710
Mozambique	0	0	0	0	0	0	0	0	0	0	0	601	0	0	0	0	0	0	0	0	0	0	0	0	0	0	601
Uganda	0	3	0	0	0	67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73
Burundi	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	68
Rwanda	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4

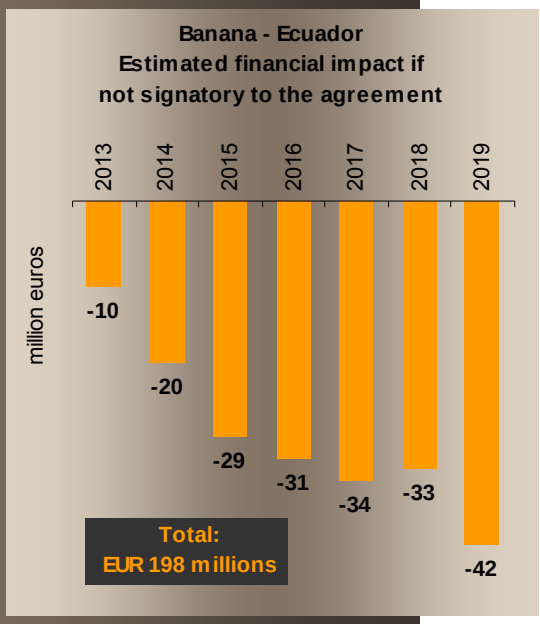
Country codes according to the official EU norm / Source: Eurostat

EU customs duty: silence in 2012

The customs duty paid on shipments from non-EU sources was not the subject of much controversy in 2012. Either its degressive nature has no impact on access for the various sources or the rule, even if unpleasant, is accepted as part of the landscape because the market was good enough in 2012 for the provisional setting aside of the politico-trade battle. Customs duty was EUR 136 per tonne (EUR 2.5 per box) in 2012 and will be EUR132 per tonne for three years from 2013 onwards, given the patent failure of the Doha negotiations. The reduction will resume in 2016 with duty at EUR 127.

The situation will be completely different for the eight Latin American signatories of association agreements with the EU: Costa Rica, Panama, Honduras, Guatemala, Nicaragua, El Salvador, Colombia and Peru. With the final coming into force of the association agreement, which should happen in 2013, duty will be reduced to EUR 124 with effect this year. It will be EUR 114 in 2014 and finally fall to EUR 82 per tonne in 2019. The bill will be a substantial EUR 114 per tonne at that date for non-signatory countries. This is the situation of Ecuador, the leading supplier of the European market. Operators are imploring the authorities to ratify the agreement, but nothing has moved so far. Using a low hypothesis of annual exports of 1.3 million tonnes to the EU, the cumulated extra cost for Ecuador in comparison with its competitors from 2013 to 2019 would be EUR 198 million, an average of nearly EUR 0.9 per box over the period! Thus signing the agreement would result in enough funds for the Ecuadorian government to finance its ambitions to improve the condition of its growers.





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The association agreement thus gives the signatories an advantage as regards the duty to be paid. It is also accompanied by a safeguard clause and a stabilisation mechanism intended to prevent any excesses by dollar suppliers. **FruiTrop** demonstrated that this agreement was ridiculous in its October 2012 issue. The principle is that of suspending the preferential rate of duty for sources that exceed their individual threshold for the calendar year, but only for the extra quantities and without this lasting for more than three months. But it is not finished as the agreement is more than generous in the setting of individual thresholds, making the possibility of triggering the stabilisation mechanism something like pie in the sky. For example, in 2012 Columbia—the second largest supplier of bananas to the EU—used only 76% of the threshold volume laid down in the agreement. At 68%, the figure was even lower for Costa Rica. Peru was the only country whose negotiators had not anticipated an increase in volume. In 2012, it exported 108% of its maximum quantity to the EU and there are no indications that its exports will slow in 2013 when the agreement comes into force. Is the situation serious for Peru? A small calculation shows that on the basis of 2012 figures, Peruvian operators would have to have paid a maximum extra EUR 30 000. Nothing to get hot under the collar about!

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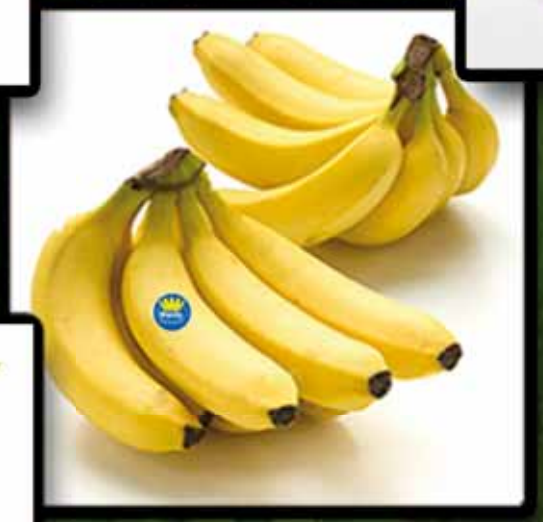

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European banana consumption

EU down and USA up!

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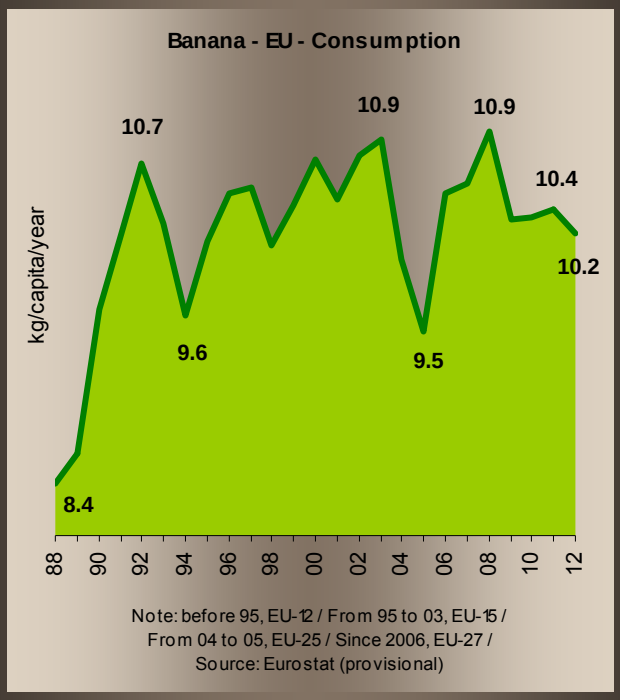
There is little to account for the decrease in banana consumption in EU-27. It is true that dollar supplies have decreased but, in the same context, the US market has taken more produce. Qualified as oligopolistic, that latter is taking increasing quantities. Meanwhile, the European market supplied by dozens of operators is having trouble. When will Sleeping Beauty awake?



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European banana consumption fell to 10.2 kg per capita in 20112. It is true that the decrease is limited at 200 g per person, that is to say 2%, but this is disturbing for several reasons. In fact it is well known that it is more complicated to gain a few grams in the average consumption of produce that has reached commercial maturity than for produce at the launching stage. It is decades since banana was at the stage of avocado or easy peelers. Furthermore, the decrease is six times as fast (- 1.75% from 2011 to 2012) as the increase in the population of Europe (+ 0.26%). Finally, consumption has been lacklustre or falling since the 10.9 kg peak attained in 2009. The 'accident' of 2012 was not solely the result of an overall decrease in world supply. Although it is a pleasant hypothesis, the case of the USA clearly disproves it. In a period of tension for volumes and prices, the US market had the resources for an impressive 660-gramme increase in consumption, taking the figure to 12.2 kg.

Differences of + 660 g on one side of the Atlantic and - 200 g on the other are difficult to understand! The retail price is not the cause. This is low in both cases. There is ready access to competing produce even if there may be differences in supply structure here and there. In fact, market organisation is not the same. The authors of a study published by the University of Texas in 2011 concluded that competition of the US import marked was imperfect, with this implying that American transnationals exercise power on the market. Would the secret lie in having an 'organised' market to be able to step up quantities? We are not yet there in Europe and, given the fines that have just been inflicted on certain large banana groups, it is clear that the competition watch authorities are alert.

Lines of approach for a recovery

Marketing should doubtless be explored. One of the keys to success could well be an increase in consumption opportunity by increasing the number of points of sale and diversifying retail packaging formats. Both the British and US markets have tried this successfully. Individual fruits available at cash desks is an example. The International Banana Association (United States) has shown that a second point of purchase in the shop increases sales by 12 to 18%. Some guides even recommend placing bananas on shelves with cereals and dairy products. Another approach is to restore rhythm in a market which by nature has none. Produce is available 12 months a year. One

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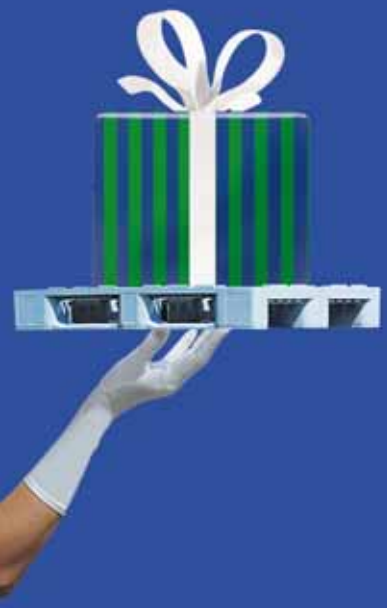

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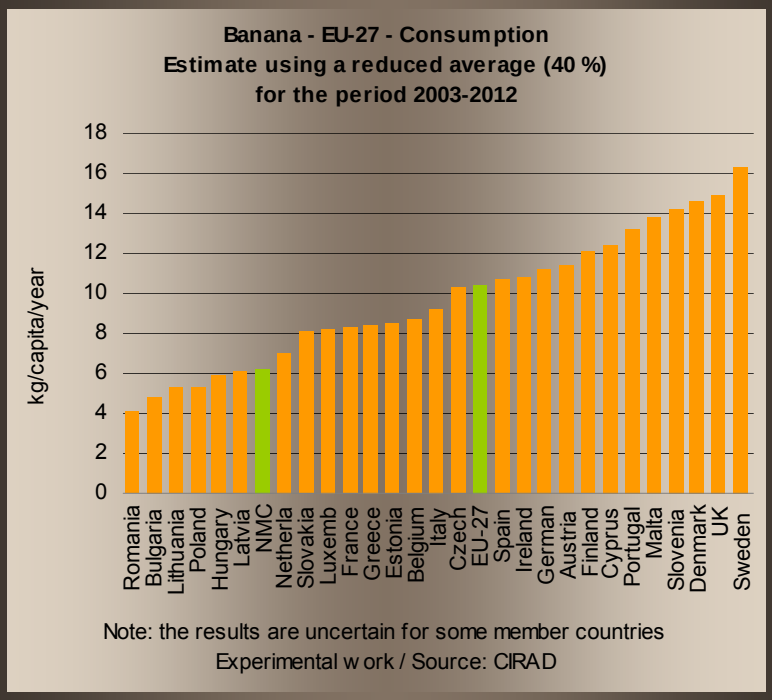

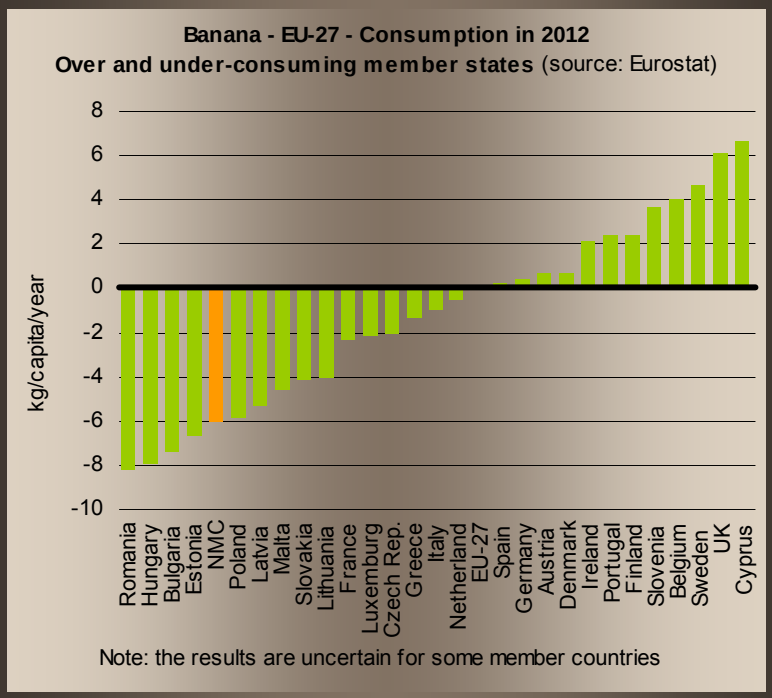


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variety dominates the market to an outrageous degree. Nothing much other than the production method can be segmented (organic, fair trade), as even packaging (loose, prepacked) is still very conventional. Work on the banana promotion calendar could restore a degree of life. We are not in the world of 'Pink Lady' and even less that of *vin nouveau*. A programme of events should be devised to enhance retail sales by the multiplication of purchases and, perhaps, an increase in value-added.

Long far from these considerations except in a few retail chains and a few countries, Europeans are becoming aware of the substantial economic issue of increasing per capita consumption. The ongoing work of the *Association interprofessionnelle de la banane* (AIB) in France should lead to an action plan. More prosaically, it can also be stated that an additional 200 g, that is to say one and a half bananas more per person per year would total an extra 100 000 tonnes for the year. Can we really pass this by?

The EU obviously has its good, less good and bad performers. We need to establish a prior list to clearly understand the limits of the results that we shall give. Calculating banana sales by member-state is a long and perilous operation. It is necessary to separate what is sold in the country from what is exported or re-exported, also counting what is produced, as is the case for France, Spain and Por-

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tugal. The results are then considered as trends and orders of size rather than statistics that are accurate to the decimal point. The theoretical consumption of the 27 EU member-states was calculated for the last decade for the needs of the analysis. An average was calculated after the elimination of 40% of the observations at the lower and upper ends of the series. The top three in descending order are Sweden, the United Kingdom and Denmark, with consumption exceeding 14 kg, with Sweden peaking at 16.3 kg. The last countries are all in the new member country (NMC) group: Romania, Bulgaria, Lithuania, Poland, etc. Per capita consumption is less than 6 kg per year, the average consumption in the 12 NMCs. The gap between the largest and smallest consumers is an astonishing 1 to 4! The 6 to 10 kg group includes France (8.3 kg) and Italy (9.2 kg), two very populous countries. Sales in Spain and Germany are higher than the European average at 10.7 kg and 11.2 kg respectively ■

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The banana market in France

Very disappointing sales

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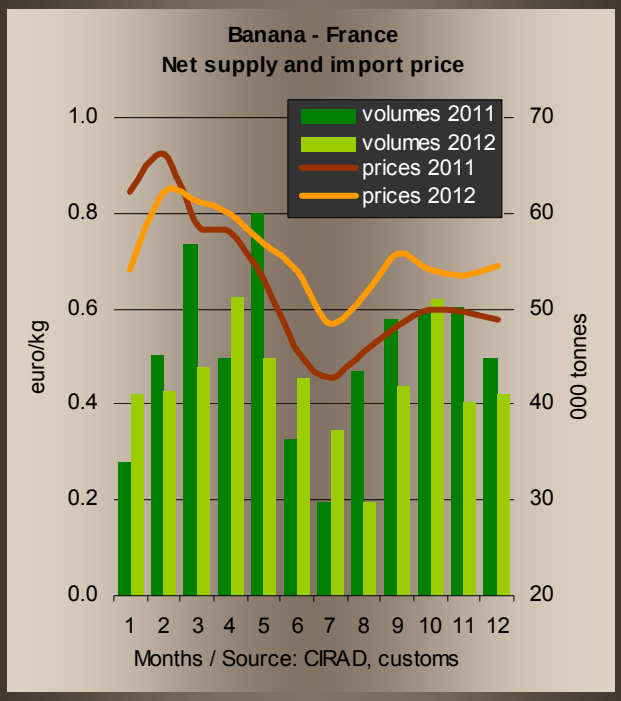
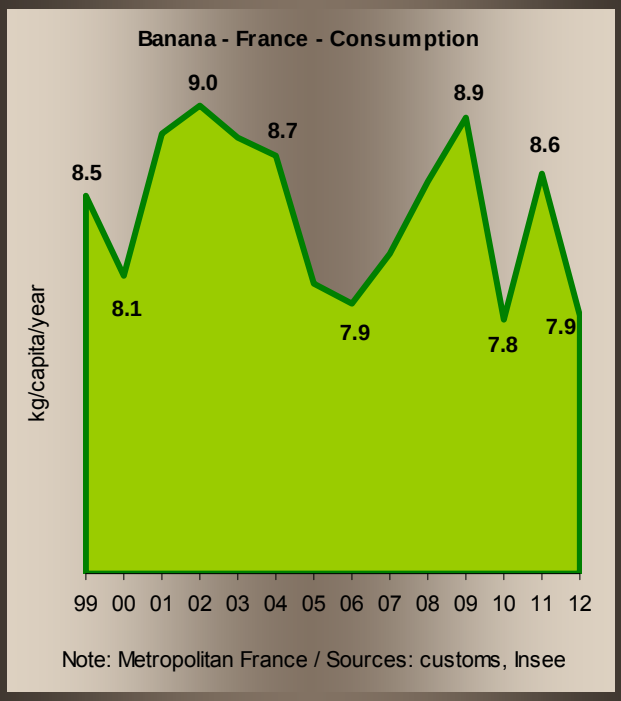
While European sales are not doing too well, those in France are in free fall. In 2012, the market refocused on French production and traditional suppliers, mainly Africa. It is true that dollar banana supply was smaller but not in proportions to cause a decrease to 7.9 kg per person. It is time for recovery.





It is difficult to be positive about the French market supply balance. Arriving shipments fell by 8% from 2011 to 2012 to slightly more than half a million metric tonnes—507 000 t to be precise. Comparison over a longer period is not reassuring. Supply in 2012 was also down by nearly 5% in comparison with the 2009-10-11 average. The figure has not been as small since 2010 when the total went down to 492 000 tonnes.

There is no global explanation for the sluggish market. There was a decrease in supply from the main dollar export zones, the retarded effects of disturbances caused by the civil war in Côte d'Ivoire and the arrival of Black Sigatoka in Martinique and subsequently Guadeloupe. This might seem reassuring at first sight but as Cyrano de Bergerac said 'Ah! No! That's a bit short, young man'. These factors do not account for the marked decrease in supply. It is true that supply of the European market decreased during the same period but 4 or 5 times less. Consumption in EU-27 dipped by only 1.5% (- 81 000 tonnes). It can also be stressed that the United States market finished the year with sales up by 7%. And this was during a period in which world supply was said to decrease.

Consumption per person fell to 7.9 kg per year in France, not much more than the all-time record low or the beginnings of the banana market. But this was 100 g better than in 2010 all the same if we seek some consolation. France does not come out well in a comparison with the other EU member countries. The European average for a decade was 10.4 kg, that of the United Kingdom nearly 15 kg and the figure for Germany exceeded 11 kg. And Spain proves that being a producer country is not a handicap as it scores slightly more than the average European consumption. No. It is better to compare France with the new member-state group: Poland, Estonia, Slovakia, etc. Their average is 6.2 kg, with

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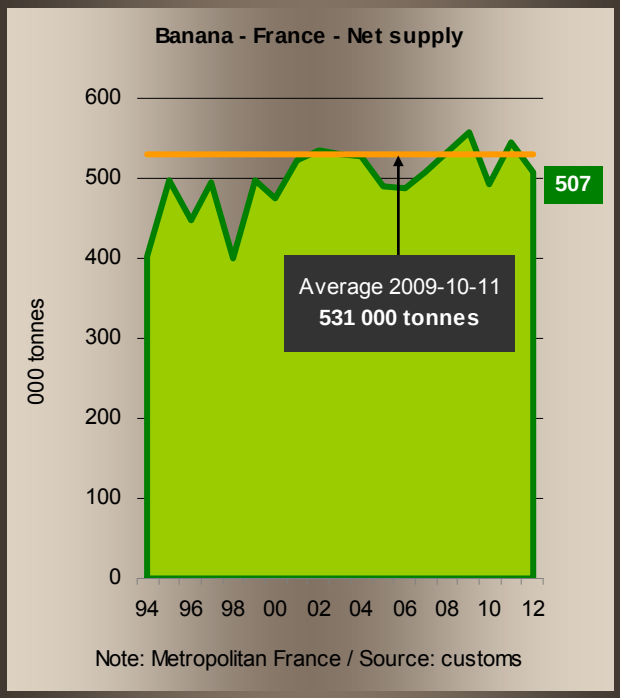

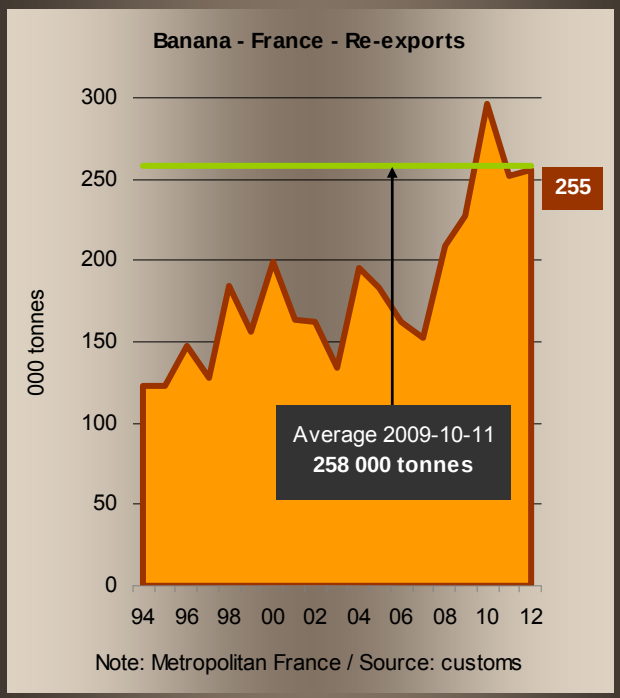

a striking difference between the Czech Republic where consumption is highest at 10.3 kg and Romania, which trails at 4.1 kg. It is noted that experts exclude Slovenia from the classification for reasons of 'statistical consumption' of 14.2 kg resulting mainly from the Adriatic port of Koper.

Consumption adjusts to dollar supply

Although the fact is there (the French eat few bananas), the reasons are obscure. The variety of fruits and vegetables and even food products supplied is no greater than elsewhere and in any case no more than in Italy or Spain. Furthermore, the sources that structure the French market (mainly national production and imports from West Africa) did not suffer any serious meteorological, political or agronomic damage that would prevent normal supply of the market. Supply of French bananas increased by 10% in a year and that of ACP bananas by 3%. The problem was imports from other sources and also shipments from other EU member-states. Imports decreased by 23% and intra-EU arrivals by 51%. Meanwhile, re-exports remained stable. This is doubtless one of the explanations for the sluggishness of the French market. The EU received a slightly small amount of dollar bananas (- 3.3%) and these remained on their natural markets. The dollar banana allocation that was unfavourable for the European market resulted in a decrease in volumes available for consumption that was not compensated by other sources and hence resulted in a decrease in capita consumption. In the last eight years (2005 to 2012), the two variables (supply of dollar bananas to the EU and supply of the French market) have been in phase six times, in particular in the last three years. If this hypothesis is correct, French consumption should increase when dollar supply increases. But obviously not at the same rate! Increases or decreases in consumption are not proportional to European imports of dollar bananas. If not, the rule or trend would be for a slight decrease in dollar banana supply to correspond to a decrease in supply of the French market that would be two or three times as fast. These preliminary features should be checked by a complete statistical analysis and above all field observations in 2013 should dollar bananas increase.

With or without statistical proof, the French market still has to solve a serious problem of underconsumption and there is no hope of solving this by praying for the situation to improve at production. Awareness of the difficulty is not recent and conditions should be created to handle it. This was done a year ago (February 2012) with the setting up of the *Association interprofessionnelle de la banane* (AIB). It is made up of the *Association des producteurs de bananes antillaises* (Assoban), the banana

section of the *Chambre syndicale des importateurs de fruits et légumes* (CSIF), the *Union française des mûrisseurs de banane*, the *Union nationale du commerce de gros en fruits et légumes* (UNCGFL), the *Union nationale des fruitiers détaillants* (UNFD) and the *Fédération du commerce et de la distribution* (FCD). Work is done on information and communication (a working group on 'Making the produce better known'), quality and logistics ('Better conservation of banana quality for arrival quay to the consumer') and finally marketing ('Better display of produce in shops'). This is a big job and the risk is that of wanting immediate results when nothing or little has been done. So we should let the group get set up and allow confidence to grow among its members as although retail chains form the perfect sacrificial victim—ideal in the food world—they are not the whole story of the sluggish banana market in France. The causal chain is long and necessarily includes the intermediate links. In this respect the AIB is an excellent instrument for discussion and even introspection ■

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The banana market in Spain

The Canary Islands increase their market share

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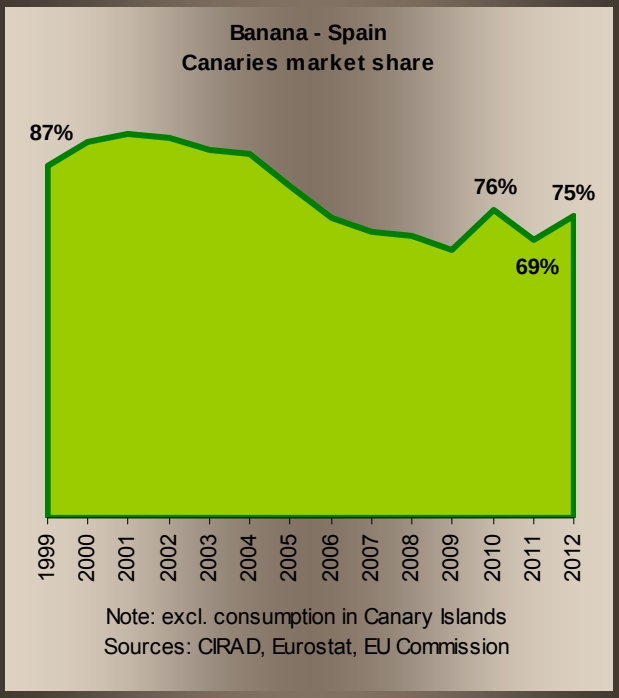
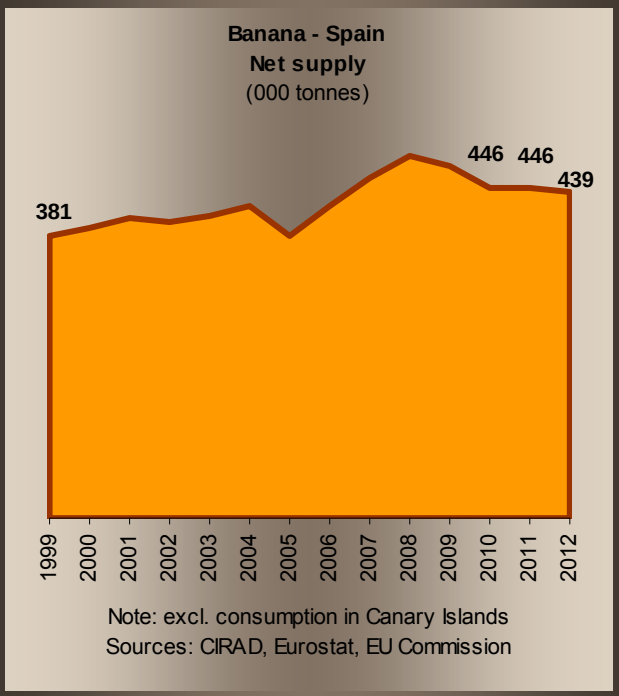
With the decrease in the supply of dollar bananas to the European market, the Spanish market suffered less from pressure from ACP suppliers and the other European production sources. In 2012, Canary Island producers regained their domestic market, now controlling three-quarters of it. It is a pity that prices did not display the same trend. We have seen Spanish operators control their market more effectively.





Although 2012 prices did not give Canary Island operators anything to sing about, the latter will have had at least one subject for satisfaction—their share of the Spanish market. Thanks to an increase in the volume of Canary Island bananas released for sale in mainland Spain (+ 7%) and a simultaneous decrease in arrivals of bananas from other sources (- 21%), the market share of Canary Island bananas increased by 6%, returning to 75%. This is one of the best levels attained since 2006 when the market was opened up to other sources. The market share of domestic production reached a low point of only 66% in 2009. Canary Island production was then smaller than average and imports peaked at 160 000 tonnes.

A magnificent end of the year

As mentioned above, although Spanish producers can be pleased to have regained very strong market presence, this has been at the price of a very strong decrease in returns. The green price (for Super Extra) fell by 17% from 2011 to 2012, from EUR 18.9 to 15.6 per box. It hit bottom at the beginning of summer 2012 with less than EUR 11 per box. The excellent performance at the end of the year only partially made up for the losses of the first half-year.

The Spanish market finally remained stable with sales at 440 000 tonnes, of which 110 000 t was from other sources: African ACP, the EU sources Martinique and Guadeloupe and dollar producers. It should be noted that this figure does not include the some 40 000 tonnes per year sold in the Canary Islands. When this is added, consumption per person increases to 10.4 kg per year, losing ground since the peak of 11.2 kg in 2008. Per capita purchases in Spain consist of 8 kg of Canary Island bananas to 2.4 kg imported bananas, putting Spain in a good position in Europe. It is proof that you can be the largest producer of fruit and vegetables in Europe and the leading European banana producer and also a large consumer of bananas ■

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The banana market in the United States

We are the champions

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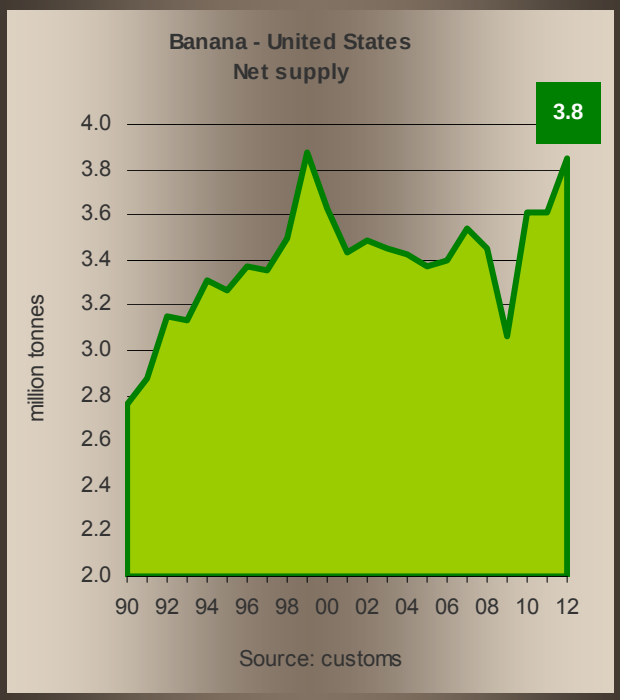
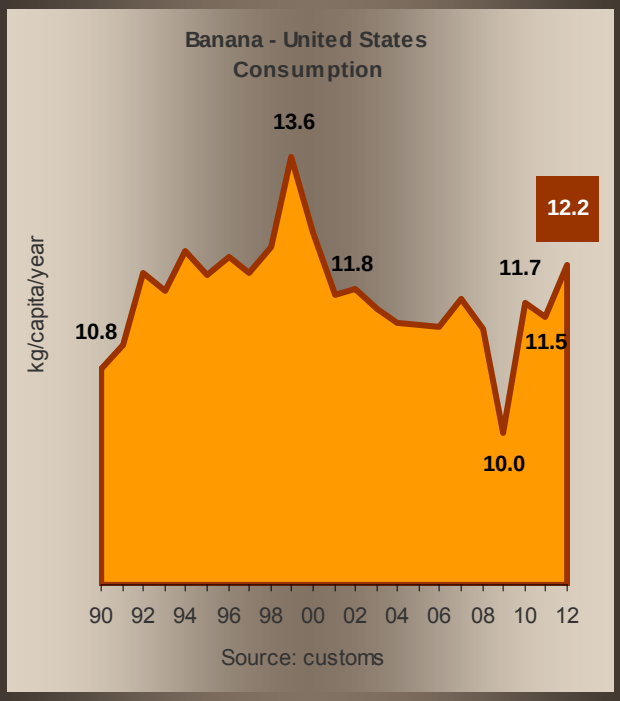
Magnificent! The United States is still racing ahead. Banana consumption has increased by more than 600 g per person and supply is reaching historically record levels. Green prices (spot) have remained stable but at a good level and retail prices are extremely competitive. What more could you want?





Why consume less when you can consume more? This must be the word spread among American consumers. The facts are there. Annual consumption per person increased by 6% in 2012 to 12.2 kg. Supply increased from 3.6 to 3.85 million tonnes, an increase of 241 000 t. This is a high point never previously attained in the USA except in 1999 when the sudden phenomenon left observers puzzled. To be complete, it is noted that in addition to this volume some 500 000 tonnes for Canada is shipped via the USA.

The sources supplying the US market are still the same. Five suppliers account for 93% of the import market: Guatemala, Ecuador, Costa Rica, Honduras and Colombia. The noteworthy feature of 2012 was the decrease in shipments from Ecuador, the only leading supply to lose ground. Ecuador thus confirmed a sip in performance but also allocation of produce in favour of the EU (- 3%) and Russia at the expense of the United States (- 18%). Costa Rica is stable: it fulfilled its US obligations and shipped less to the EU (- 9%). Guatemala strengthened its dominant position with a 9% increase, taking a third of the market. Honduras, Colombia and Mexico displayed two-figure increases. The latter gained 50% from 2011 to 2012 and also confirmed its strong ambitions in January 2013.

Envied success

But as we have said at length in **FruiTrop**, the most surprising feature is the strong and certain convergence of import price and consumption per person over a long period. The green spot price was the same as in 2011 (USD 16.6 per box) and volumes increased. It is true that the retail price remained particularly attractive at USD 1.33 per kg. So what is the secret of the US market? We stressed the importance of marketing in this 'American' style success in a previous article. However that may be, success is tangible. The ways and means remain to be discovered and used in countries where consumption is patently too small ■

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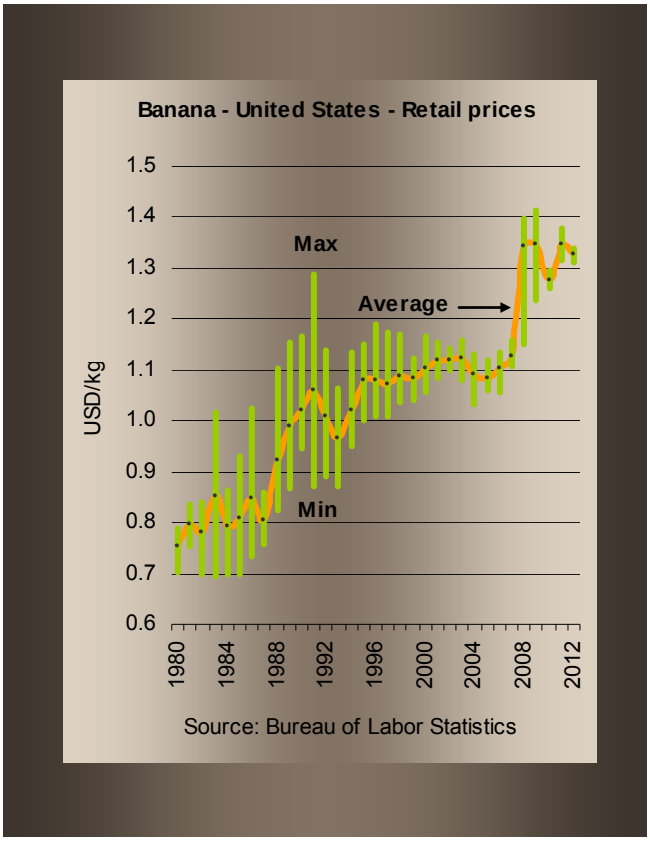

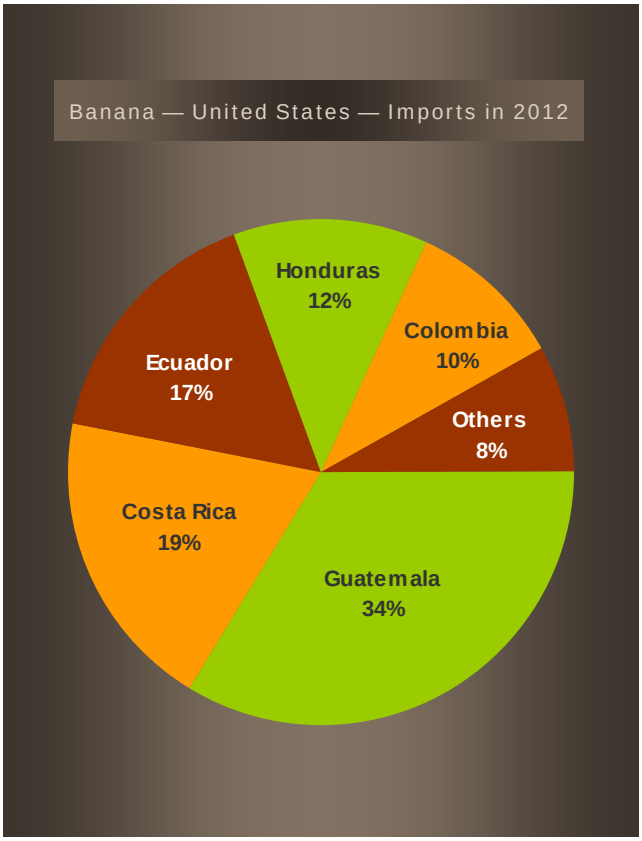

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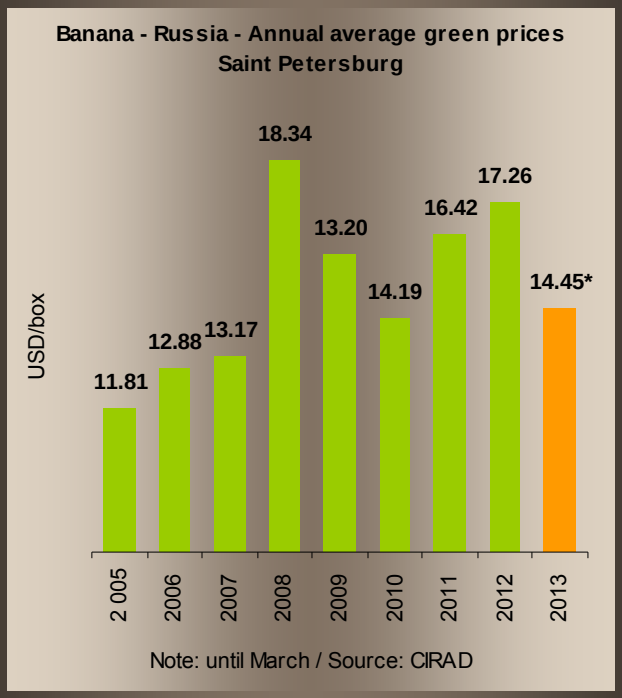
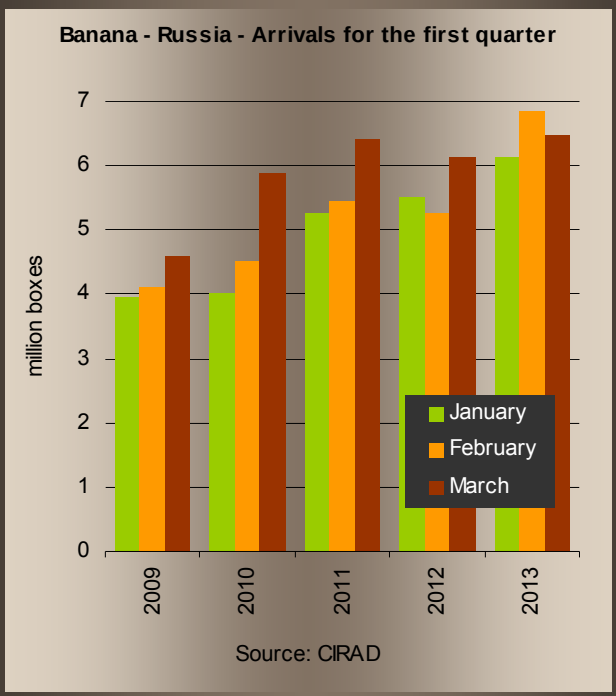
The banana market in Russia

Permanent restructuring

© Denis Loeillet

Volatility has been the major feature of the Russian market in recent years. Nevertheless, recent restructuring leads to forecasting greater stability. But this has not happened yet and the sector is still changing continuously.



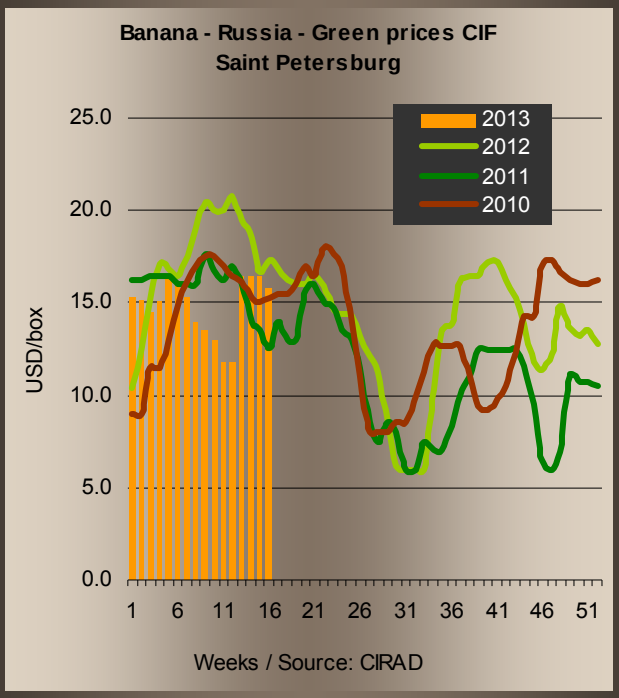


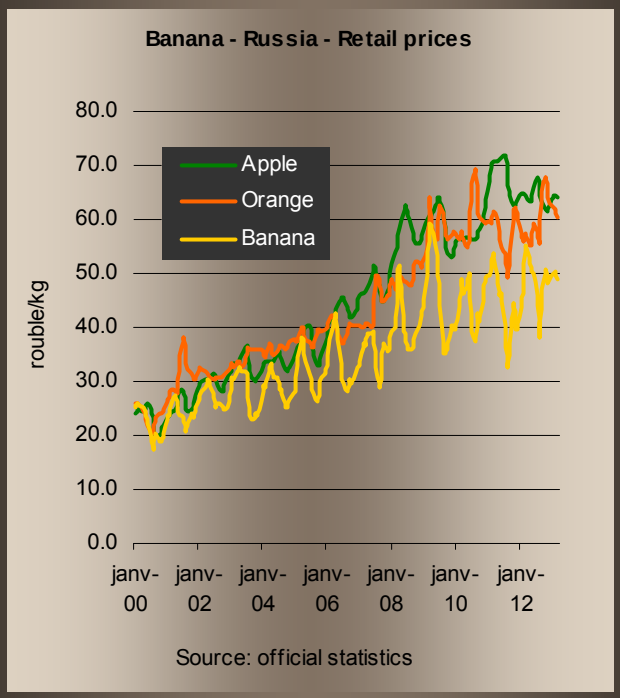
A volatile market

2012 was a record year in many respects. The annual average CIF green price in St Petersburg was USD 14.6 per box, a record since the 2008 slump (**FruiTrop** 207). The first half-year was magnificent with green prices at levels not reached since 2008, exceeding USD 20 per box for four weeks. However, 2012 was also the year of all downward records as prices fell to USD 6 per box for three weeks during the summer. The dollar banana deficit that started at the end of 2011, together with a very marked shortage of European apples and pears, resulted in a better market situation after a gloomy summer. September to November monthly CIF prices increased, reaching much higher levels than those of preceding years (+ 44% in October and + 41% in November), amply compensating the summer catastrophe and adding to a first half-year that was very positive in terms of prices. As regards supply, the volume reached 68 million boxes after two years of increase and a record rise in 2011. Even if the 2012 figure was down by a small 3% on that of 2011, this is a large quantity of produce, 15% greater than the 2008-11 average.

2013, another record year?

Banana imports, mainly from Ecuador and Costa Rica, were massive in the first quarter in order to profit from the good prices at the beginning of the year (USD 15.60 in Week 1) resulting from the continued shortage of dollar bananas and a shortage of competing fruits (shortage of apples and pears in Europe, losses and an early end to the easy peeler season). With imports running at 1.5 to 1.8 million boxes per week, records were beaten in January and February with + 14% and + 28% respectively in comparison with the average. The market situation worsened





with such large volumes at the beginning of the year. After being at USD 16.50 per box in Week 5, prices sank steadily to a very low USD 11.75 per box in March (Weeks 11 and 12), a low point never seen at this time of the year!

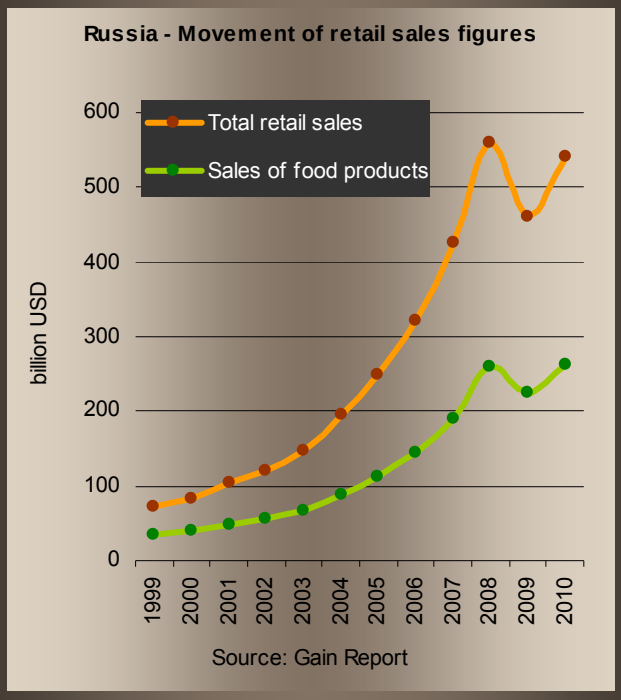
Thus the average green price to March (USD 14.45 per box) was 14% lower than in the two preceding years, while supply (19.4 million boxes) was 14% greater! 2013 started strongly in terms of both volumes and volatility.

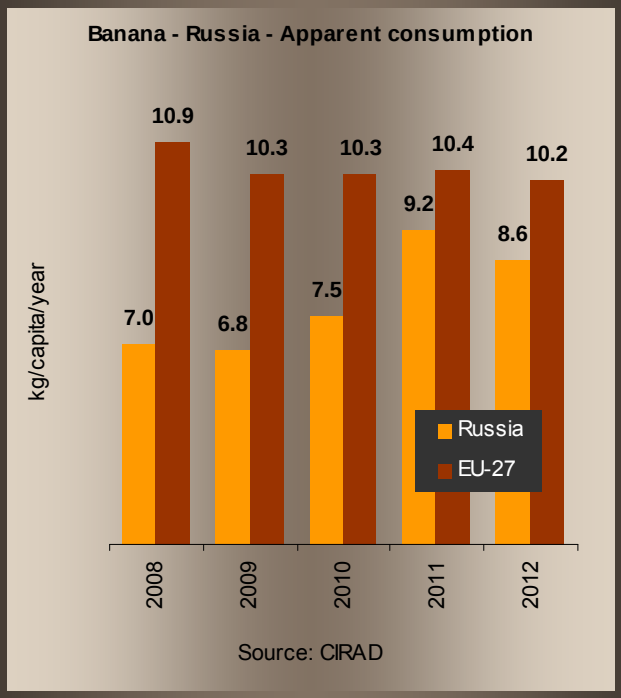
Destabilisation of the Russian market: Episode 1

In 2009, the failure of Sunway, the second largest banana importer, resulted in the disorganisation of the Russian market. A host of small importers appeared, trying their luck each week thanks in particular to the development of containerisation. The fragmentation and diversification of supply very soon caused phenomenal variations in import prices in St Petersburg against a background of a consumption crisis and a decrease of imports of at least 4% (FruiTrop 174 and177).

The average monthly price thus fell to a historically low USD 8.40 per box CIF in July 2010 as a result of strong competition between importers. The price war continued throughout the year and volatility was the watchword.

The consumption crisis trend broke in 2011 (**FruiTrop** 200). Imports resumed very strongly at + 27% per year, with 70 million boxes. It is true that the context was propitious and European and domestic apple supply was short from the end of 2010 and the rouble was strong, enhancing dollar banana





imports and production. But the situation was still volatile, even if the high 2010 price levels were not matched. The result for 2011 was very negative, with large volumes and an average green price of USD 12.30 per box.

Destabilisation of the Russian market: Episode 2

JFC announced its bankruptcy in 2012. Although the company has not closed at the time of writing, the effects of its financial problems (excessive debts, tax scandals, bankrupt agencies) lead to fearing the worst.

In 2009, JFC controlled more than 50% of the bananas imported to Russia (according to Reefer Trends) following the purchase in November 2008 of Sorus, the third largest operator on the Russian market at the time. Struggling with problems of liquid assets and then increasing debt in 2010, JFC was less and less active on the market. Its share was estimated to be no more than a third in January 2012.

However, in contrast with the situation in 2009, small importers no longer formed the majority of stakeholders. The trend was more one of the integration and strengthening of the positions of several large groups handling logistics and distribution. It is considered today that the main importers are Banex (a logistics company), with a 25% market share, and Tander (Magnit), a large and medium-sized store group, with nearly 35%. Small importers thus probably have a market share of about 25% and JFC now only holds 17%. However, this new pattern of operators and the race for first place is probably one of the reasons for the new explosion of volatility observed since 2012.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Large and medium-sized stores—the new importers

Although in the Russian fresh fruit trade importers and wholesalers still play a dominant role in certain segments and geographic zones, it is difficult to ignore the changes resulting from the growth of retail chains. The latter are increasingly important in the shaping of the sector.

The turnover of large retail chains has been increasing for years, reaching a record USD 542.4 thousand million in 2010, with 48.6% of sales being in the food sector.

Retail chains are displaying unprecedented growth in Russia, with the greatest concentration in the major urban centres, while kiosks and small shops continue to lose ground. It is estimated that more than 50% of fresh fruit and vegetable sales take place in modern retail outlets rather than traditional street markets (12.5% of sales). Medium and large retail outlets have also improved their fruit and vegetable departments as regards quality, quantity, consumer information et education and marketing. The main stores in this category are Russian: Group X5, Magnit, Seventh Continent and Dixie. However, international groups are also strongly present (Auchan, Metro AG, etc.).

This increased closeness between medium and large retail outlets and consumers affects the criteria used by retailers in selecting produce and suppliers. Whereas the traditional criteria of price and availability are still important, others are taken into account today such as product quality and standardisation; reliable supply and delivery periods, etc.

Given these new requirements, most Russian groups prefer to import fruit and vegetables directly or in partnership with import services. This growing trend may well affect a large number of international stakeholders who export goods to Russia.

Banana consumption

The retail prices of bananas and of apples and pears display growth resulting mainly from continued strong inflation (7% in 2012 according to the World Bank). Retail prices in constant roubles tend to be falling, indicating that fruits, mainly imported, are becoming increasingly widely sold year after year. However that may be, the observation remains the same: bananas are the cheapest fruits on the shelves, cheaper than other fruits like oranges and apples. Unlike other Eastern European countries, Russia is mainly an importer of fruit and vegetables. The margin for the apparent growth of banana consumption seems to be increasing and this trend could continue.

Trade agreements

Russia has several ports of arrival in both the Baltic and the Black Sea. However, most banana imports arrive via the Baltic, with 95% unloaded at St Petersburg.

Until now, intermediate ports such as Gdansk in Poland or Odessa in the Ukraine gave a certain amount of room for manoeuvre in the unloading of goods during crisis periods on the Russian market. Given the size of the territory and the customs dues levied on entry to Russia, re-exports have never been very profitable. However, the creation of the Customs Union of Belarus, Kazakhstan and Russia has stimulated movements of goods between the three countries. Re-exports of bananas from Russia have thus become viable and have increased, in particular in 2012, although the quantities concerned are still marginal. In 2012, Russia re-exported 3% of its bananas, mainly to Belarus (29 000 t) and also to Kazakhstan (8 800 t). However, this could be a new possibility for relieving pressure in case of crisis, although its limits should not be forgotten as road haulage is seriously disturbed during cold periods!

The Russian market is thus undergoing a structural change via new trade agreements with neighbouring countries, the trend for the westernisation of consumers and of the retail sector, and also via the continuous restructuring of the import sector. Will the banana landscape stabilise or will the race for the leading position on this still buoyant market continue? Summer is traditionally a complicated period for the banana trade and it might provide us with some signs ■

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The banana market in Asia

A market dominated by the Philippines

© Denis Loeillet

An article presenting the Asian banana markets with information about the consumption trends and of main importing markets including Japan, China and South Korea and information about production in the Philippines: production areas and trends, varieties, organization of the industry and the impact of the Typhoon Bopha.

Banana — Asia — Main producers			
tonnes	**2009**	**2010**	**2011**
India	26 469 500	29 780 000	29 667 000
China	**9 006 450**	**9 848 895**	**10 705 740**
Philippines	**9 013 190**	**9 101 340**	**9 165 040**
Indonesia	**6 373 530**	**5 755 070**	**6 132 700**
Thailand	**1 528 080**	**1 584 900**	**2 036 430**
Vietnam	**1 428 080**	**1 489 740**	**1 523 430**
Bangladesh	836 183	818 254	800 840
Malaysia	279 762	332 639	334 302
Australia	**270 393**	**302 173**	**202 751**
Cambodia	155 000	151 209	155 619
Pakistan	154 825	141 145	130 000
Nepal	88 849	91 042	121 742

Source: FAO

Latundan bananas are shorter and overall the most popular banana in Philippines.

The Philippines

The Philippines dominates the banana trade in Asia and accounts for 98 per cent of the banana exports from all Asian suppliers. The country exported 2.6 million tonnes of bananas in 2012 which was 98 per cent of the Asian banana trade and makes it the world's second largest exporter after Ecuador with 12 per cent share of the global export volume. Two thirds of the Philippines export volumes shipped to Japan, China and South Korea.

Cavendish bananas, including Extra Dwarf, Grand Nain and Williams variants are almost exclusively grown for export due to their robustness while the Saba, Lacatan and Latundan among many others are most popular varieties for local consumption. These are very sweet and aromatic, and most versatile for cooking. Unfortunately they do not travel well and mostly remain in the domestic market which is no problem since they are preferred by Filipinos. Approximately one third of the industry is Cavendish and grown for export and the balance being the sweeter varieties for local consumption.

FAOSTAT data records the Philippine banana production as exceeding 9 million tonnes, second only to China in the Asian region. They are grown primarily in Mindanao, the far south of the Philippine archipelago, in the provinces of Davao del Norte, Davao del Sur and Davao City in southern Mindanao, as well as Lanao del Norte in central Mindanao and Misamis Oriental in northern Mindanao. Outside Mindanao, the largest banana-producing provinces are Iloilo in Western Visayas and Isabela of Cagayan Valley.

Banana — Philippines — Exports										
Tonnes	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**Market share in 2012**	**Trend on 5 years**
Japan	918 244	909 613	914 434	1 106 660	950 747	792 738	976 314	1 085 053	41%	0%
China	206 944	173 076	140 280	122 549	84 195	165 797	358 828	423 211	16%	+ 36%
South Korea	234 086	264 948	275 607	186 592	139 416	113 281	195 696	265 506	10%	+ 9%
Iran	223 359	372 680	428 739	401 293	273 390	219 569	149 174	98 980	4%	- 30%
UAE	179 877	207 492	167 164	71 057	64 433	78 881	101 614	262 826	10%	+ 39%
Singapore	25 867	61 529	115 767	91 981	100 523	96 167	107 075	123 286	5%	+ 8%
Saudi Arabia	10 180	18 664	6 502	21 700	12 035	9 542	7 837	116 127	4%	+ 52%
New Zealand	38 537	45 676	48 238	68 105	37 202	34 157	47 853	48 991	2%	- 8%
Hong Kong	19 923	15 225	18 987	38 308	22 306	7 524	19 807	90 310	3%	na
Others	167 311	242 689	102 484	84 385	59 651	72 410	82 573	134 079	5%	+ 12%
Total	**2 024 328**	**2 311 592**	**2 218 202**	**2 192 630**	**1 743 898**	**1 590 066**	**2 046 771**	**2 648 369**	**100%**	+ 5%

Sources: ITC, Comtrade

Lacatan bananas are slender fingers.

Damage to banana plantations in wake of Typhoon Bopha.

According to the Philippine Banana Growers and Exporters Association (PBGEA) the total production area is 41 000 hectares with an average annual yield of 3 500 boxes/hectare, the highest among banana-producing countries. This is attributed to the highly favourable climate, weather and terrain conditions where the plantations are located.

The growth of Philippine exports has been driven by China, now the second largest export destination. Demand from the largest customer Japan has been flat and South Korea has increased 9 per cent per year while demand from China has increased 36 per cent per year and now accounts for 15 per cent of the export volume according to Comtrade data. In June 2012 the Chinese government halted the imports of Philippine bananas over alleged pests on shipments that left thousands of tonnes of the fruit to rot at Chinese ports. The two governments later held talks to resolve the issue though not without some damage to the trade and naturally further measures required for the Philippine industry to ensure the issues do not repeat. The industry was recovering later in the year to record levels when Typhoon Bopha smashed a quarter of the crop in December.

Typhoon Bopha was the latest blow to the Philippines' banana industry. According to the PBGEA the deadly storm in December 2012, which killed some 475 people, has so far cost the industry USD 318 million in lost revenue and redevelopment costs. Bopha destroyed 10 000 hectares of the country's 42 000 hectares of banana farms. It will take nine months after the replanting to begin reaping the next harvest which means it will be late 2013 to recover to more normal supplies. Over 150 000 people depend on the banana industry in the region.

Banana — China — Imports

Tonnes	2005	2006	2007	2008	2009	2010	2011	2012	Market share in 2012	Trend on 5 years
Philippines	303 827	343 415	303 764	317 774	352 118	436 746	693 830	496 404	79%	+ 13%
Ecuador	15 432	36	4 190	2 961	6 983	2 212	8 866	47 747	8%	+ 84%
Burma	0	0	0	4 398	94 308	176 992	54 912	43 409	7%	
Thailand	9 638	14 101	13 809	15 209	17 632	10 398	16 277	22 517	4%	+ 13%
Vietnam	26 787	29 246	9 969	21 684	19 204	31 477	39 281	9 303	1%	- 2%
Costa Rica	0	2	0	0	19	5 068	2 419	4 718	1%	
Others	14	1 028	151	299	1 075	2 337	3 090	1 899	0%	+ 88%
Total	**355 698**	**387 828**	**331 883**	**362 325**	**491 339**	**665 230**	**818 675**	**625 997**	**100%**	**+ 17%**

Sources: ITC, Comtrade


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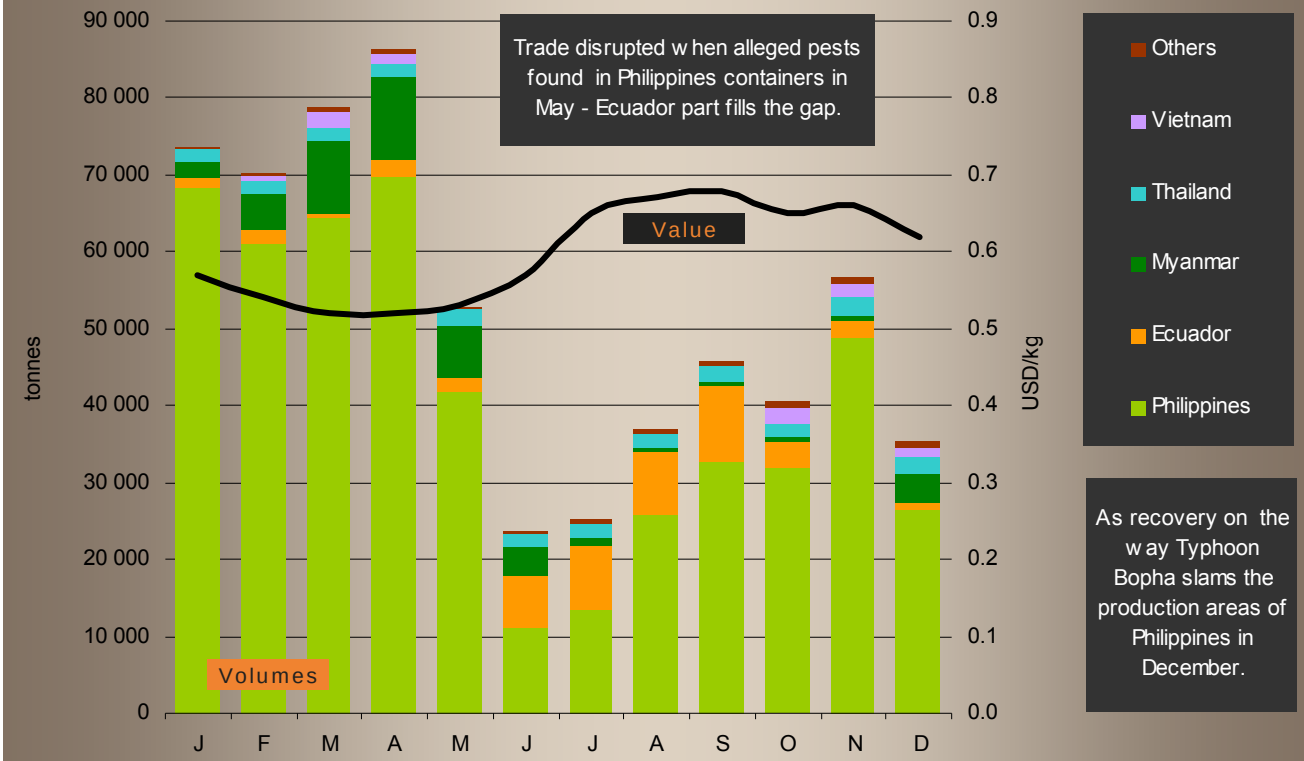
China

China is the largest producer of bananas in Asia and although has expanding production it is not sufficient to meet the demand of its 1.3 billion population. China imports over 600 000 tonnes primarily from the Philippines though also from Burma, Vietnam and Thailand. The issue with Philippines in 2012 severely disrupted trade as seen in the graph.

However in the context of the total production the import volume is less than 10 per cent and the disruption which had a serious impact on the stakeholders is recovering and demand for the Cavendish bananas is increasing again.

Most of the Chinese banana production is in the southern regions which mean that Guangzhou is the centre of trade for imports as well as the local supply from where bananas are distributed throughout the country. In China though, many small grower market their own fruit locally in nearby town markets and stalls and others rely on relationships with vast networks of agents who on sell bananas into the major cities. Supermarkets are developing at a rapid pace and with their development are requiring higher

Banana - China - Monthly imports in volume and value in 2012



Source: ITC Comtrade

standards of fruit quality and shelf life which in turn is increasing opportunities for imported bananas grown for retail markets.

While the main imported varieties are Cavendish, and China is also developing Cavendish plantations, many of the Chinese grown bananas are the small sweet and aromatic varieties which are arguably preferred by Asian consumers though not as much by retailers due to their shorter shelf life.

China's local production plus imports feeds their 1.3 billion people at a theoretical 8.1 kg per person per year although it is acknowledged that a large proportion of the production does not make it through the supply chains to consumers in marketable condition.

Japan

Japan is the largest importer of bananas in Asia. In 2012 Japan imported 1.1 million tonnes which was 60 per cent of its total fresh fruit imports. Of this 95 per cent were supplied by the Philippines, almost all being Cavendish bananas.

Japan boasts the world's second largest retail market, and the enormous influence of Japan's retail industry attracts global attention as being the origin of many Asian trends. For retailers in particular, the Japanese market offers an abundance of diverse opportunities to sell products and services that offer luxury, style, convenience and high value. Japan's largest convenience store chains that sell fresh produce include 7–Eleven with 12 925 stores, Lawson 9 853 stores and FamilyMart with 8 248 stores in addition to supermarkets and department stores with fresh food sections such as AEON Company, Isetan, Daiei, and Takashimaya.

Due to the perishable nature of fresh fruit including bananas and the need to purchase daily, retailers are using high quality fresh produce offers to drive increased consumer shopping visits to stores. Japanese consumers are discerning and expect high standards which and the Cavendish variety is renowned for holding up with blemish free appearance after the journey from Philippines.

Most of Japan's fruit imports are managed through large trading houses such as AIC and Union which supply the supermarkets.

With no apparent change in volume over 5 years Japan's 125 million consumers enjoy around 9.1 kilograms per person per year.

© Ciko Delanoue

South Korea

South Korea has negligible local banana production and relies 99 per cent on imports from Philippines. Their imports have been expanding at annual 9 per cent growth rate and apparent consumption in 2012 was estimated as 4 kg per person. Fresh fruit is among the largest and fastest growing categories of imports in South Korea.

Since the 1960s, South Korea has achieved an incredible record of growth and global integration to become a high-tech industrialized economy. As in other Asian countries fresh food is mostly purchased at wet markets although the retail supermarket revolution is expanding rapidly in South Korea. During the past decade the entry of modern retail stores, shopping malls, department stores, hypermarkets, supermarkets and convenience stores, has widely replaced South Korea's old retail landscape that was characterized by small retailers and traditional open markets.

The major retail chains that sell fresh fruit are E-mart, largest retailer in South Korea with 127 stores Lotte Mart with 92 supermarket stores, Tesco HomePlus a JV with Samsung and Tesco (UK) with 354 stores and Costco with 7 stores in South Korea. The small corner stores also occupy a significant share of the retail environment with the main players in 2010 being Family Mart - 4 621 stores and 7 Eleven (run by Lotte) - 2 282 stores and Ministop 1 100 stores and Lotte's Buy The Way 1 400 stores and GS25 which are part of the GS conglomerate.

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Thailand, Indonesia and Australia

Thailand and Indonesia are also relatively large banana producers in Asia though consume the majority domestically with few exports or imports.

Similarly Australia which produces over 200 000 tonnes of bananas, mostly Cavendish in North Queensland, is self-sufficient and neither exports or imports bananas. However Australia has also had its banana industry smashed by two cyclones in 5 years – Larry and Yasi unleashed devastation of up to 80 per cent of banana production in 2006 and 2011 which took over a year each time to recover normal volumes. During the peak of the shortage banana prices reached USD 15.00 per kilogram in retail stores in a classic supply and demand equation. Bananas are consumed by up to 98 per cent of households in Australia according to Nielsen data and considered a staple product which is less responsive to price changes as seen by the high levels needed to slow demand following the cyclones. Retailers headed the demand of growers and consumers to resist imports while the growers recovered to full production ■

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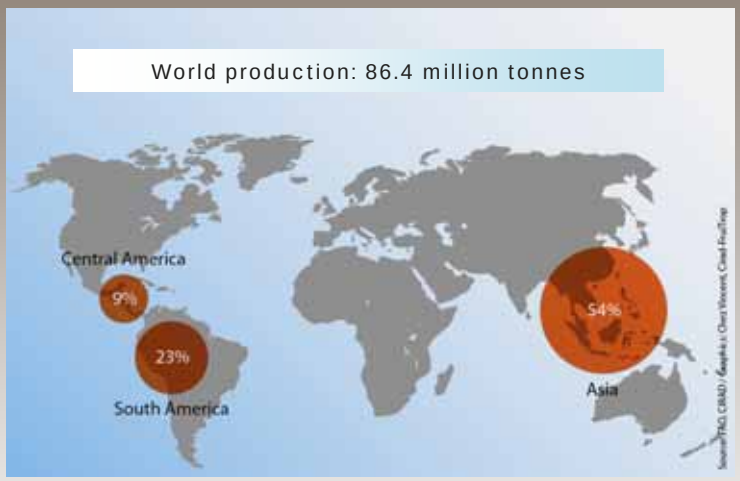
BANANA — Production



Banana — The 10 leading producer countries	
tonnes	**2011**
India	27 430 000
China	10 037 255
Brazil	6 846 120
Philippines	6 370 340
Ecuador	5 555 000
Indonesia	3 762 700
Colombia	2 625 110
Costa Rica	2 210 000
Guatemala	2 110 000
Mexico	1 898 360

Excluding cooking bananas / Professional sources, FAO

BANANA — Imports

Banana — The 10 leading importing countries	
tonnes	**2012**
United States	4 353 136
Belgium	1 256 146
Russia	1 255 608
Japan	1 086 189
United Kingdom	955 669
China*	906 971
Iran*	615 879°
Germany	614 514
France**	538 461
Italy	516 528

* 2011 / ** of which island production sold locally or shipped to the continent
Sources: national customs

USA — Imports — Main supplier countries							
000 tonnes	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Guatemala	913	1 093	1 189	1 112	1 152	1 333	1 459
Costa Rica	927	1 037	874	563	835	845	848
Ecuador	994	929	830	958	980	879	720
Honduras	421	483	506	389	436	445	536
Colombia	474	377	451	422	461	385	440
Mexico	39	32	66	105	146	149	223
Panama	8	1	8	5	29	28	59
Nicaragua	30	33	31	25	36	36	36
Peru	25	18	23	20	20	23	26
Dom. Rep.	6	2	0	1	0	1	2
Total	**3 839**	**4 004**	**3 978**	**3 599**	**4 094**	**4 123**	**4 353**

Source: USDA

Canada — Imports — Main supplier countries							
000 tonnes	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Guatemala	79	75	81	93	90	147	161
Costa Rica	88	125	115	71	106	118	110
Ecuador	94	100	121	164	147	110	106
Colombia	174	138	122	129	115	93	95
Honduras	10	23	29	17	30	27	41
Mexico	2	2	3	2	1	2	7
Peru	2	1	1	1	2	2	2
Panama	5	4	3	3	4	1	2
Total	**459**	**472**	**478**	**482**	**496**	**507**	**527**

Source: COMTRADE

Latin America + Caribbean — Imports							
000 tonnes	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Argentina	296	319	347	344	351	395	
Chile	169	169	175	179	176	381	
Salvador	105	119	113	96	112	*112*	113
Honduras	20	16	0	63	*63*	*63*	
Colombia	31	89	72	67	25	45	
Uruguay	45	42	43	42	*42*	*42*	
Costa Rica	18	24	28	26	22	25	
Trinidad	3	4	4	5	15	14	
Nicaragua	0	3	3	6	8	7	
Guatemala	5	12	7	5	2	5	8
Aruba	0	0	0	3	3	3	
Total	**691**	**798**	**792**	**835**	**819**	**1 092**	

Source: COMTRADE

BANANA — Exports

Banana — The 10 leading exporting countries	
tonnes	**2012**
Ecuador	5 020 000
Philippines	2 648 000
Costa Rica	2 103 000
Guatemala	1 913 000
Colombia*	1 695 000
Honduras*	586 000
Canaries	371 000
Dominican Rep.	300 000
Panama**	263 514
Côte d'Ivoire***	224 943

* estimate / ** 2011 / *** volumes EU / Professional sources and national customs

EU-27 — Imports — Main supplier countries

000 tonnes	2006	2007	2008	2009	2010	2011	2012
Total EU prod., incl.	**642**	**555**	**568**	**608**	**660**	**612**	**648**
Canaries	348	361	371	352	397	346	371
Martinique	221	129	125	180	199	181	185
Guadeloupe	48	38	47	56	43	62	67
Madeira	15	17	18	14	14	15	18
Cyprus	7	6	4	3	5	6	6
Grece	3	3	3	3	2	2	2
Total dollar, incl.	**3 290**	**3 847**	**3 964**	**3 555**	**3 498**	**3 631**	**3 512**
Ecuador	1 026	1 186	1 349	1 278	1 223	1 340	1 307
Colombia	948	1 156	1 281	1 206	1 168	1 137	1 134
Costa Rica	825	971	902	753	777	845	770
Panama	311	354	295	183	184	160	144
Peru	23	34	39	44	51	66	81
Brazil	96	86	58	56	64	52	41
Mexico	1	0	2	22	13	10	20
Honduras	18	32	24	9	15	17	6
Guatemala	27	19	14	4	3	3	5
Venezuela	15	10	0	0	0	0	0
Total ACP, incl.	**889**	**843**	**919**	**958**	**1 024**	**977**	**982**
Dominican Rep.	177	206	171	228	304	327	295
Côte d'Ivoire	222	189	217	229	244	224	225
Cameroon	251	222	280	250	241	234	214
Belize	73	62	82	80	79	71	99
Suriname	45	59	66	58	70	63	83
Ghana	22	34	46	36	52	47	51
St Lucia	37	30	39	33	23	6	12
Dominica	13	7	10	36	4	4	2
St Vincent	17	14	9	8	4	1	1
Jamaica	32	18	40	0	0	0	0
Total	**4 821**	**5 245**	**5 450**	**5 121**	**5 181**	**5 220**	**5 142**

Source: EUROSTAT

Other Western Europe countries — Imports

000 tonnes	2006	2007	2008	2009	2010	2011	2012
Switzerland	74	78	82	81	80	79	*80*
Norway	75	78	84	81	78	78	77
Iceland	5	6	6	6	6	6	*6*
Total	**154**	**162**	**171**	**168**	**164**	**163**	**163**

Source: COMTRADE

Russia — Imports — Main supplier countries

000 tonnes	2006	2007	2008	2009	2010	2011	2012
Ecuador	798	920	903	911	977	1 200	1 122
Mexico	2	0	0	2 559	1 140	410	124
Costa Rica	27	2	66	33	48	39	80
Philippines	30	25	32	25	30	35	38
Colombia	21	22	0	5	10	18	14
China	2	6	5	4	3	2	1
Brazil	0	0	0	0	0	0	1
Panama	10	0	0	0	0	12	0
Vietnam	1	0	0	0	0	1	0
Total	**895**	**979**	**1 007**	**981**	**1 069**	**1 308**	**1 256**

Source: COMTRADE

Ukraine — Imports — Main supplier countries

000 tonnes	2006	2007	2008	2009	2010	2011	2012
Ecuador	220	289	270	202	200	221	203
Costa Rica	22	2	5	8	12	13	24
Colombia	5	1	2	9	3	8	5
Panama	2	0	0	3	0	5	8
Guatemala	13	6	0	5	0	0	3
Mexico	7	0	0	0	0	0	0
Honduras	2	0	0	0	0	0	0
Total	**272**	**298**	**278**	**227**	**215**	**248**	**243**

Source: COMTRADE

Other Central and Eastern Europe countries — Imports

000 tonnes	2006	2007	2008	2009	2010	2011	2012
Serbia	56	66	69	43	42	52	*55*
Croatia	51	55	57	52	49	43	46
Belarus	29	33	42	37	44	40	*44*
Bosnia	38	38	41	37	37	38	33
Albania	17	20	17	17	18	17	*18*
Macedonia	15	16	15	17	17	19	17
Moldavia	8	11	13	12	11	12	11
Montenegro	8	9	8	8	7	7	8
Total	**222**	**248**	**263**	**223**	**224**	**230**	**232**

Source: COMTRADE

Japan — Imports — Main supplier countries

000 tonnes	2006	2007	2008	2009	2010	2011	2012
Philippines	911	879	1 019	1 159	1 035	1 004	1 027
Ecuador	101	52	46	62	46	34	36
Peru	4	8	7	11	8	9	7
Taiwan	16	19	9	9	10	8	8
Mexico	4	5	5	5	4	3	3
Colombia	2	3	2	4	3	2	2
Thailand	2	2	2	2	2	2	2
China	2	2	1	1	1	1	1
Dominica	2	1	0	1	1	0	0
Total	**1 044**	**971**	**1 093**	**1 253**	**1 109**	**1 064**	**1 086**

Source: national customs

Far East — Imports

000 tonnes	2006	2007	2008	2009	2010	2011	2012
China	463	402	437	575	741	907	
South Korea	280	308	258	257	338	353	
Singapore	36	37	38	40	39	42	
Nepal	0	0	0	2	7	17	
Thailand	13	7	20	9	12	11	15
Malaysia	0	0	1	1	2	2	8
Indonesia	0	0	0	0	3	2	
Total	**793**	**754**	**753**	**881**	**1 130**	**1 312**	

Source: COMTRADE

Asia Minor — Imports

000 tonnes	2006	2007	2008	2009	2010	2011	2012
Kazakhstan	25	34	38	47	45	45	43
Afghanistan	0	0	0	38	21	28	*28*
Azerbaijan	10	14	15	18	19	23	16
Armenia	9	17	8	8	8	11	13
Georgia	10	11	10	11	15	13	12
Kirghizia	2	3	5	7	9	12	*12*
Total	**55**	**80**	**77**	**129**	**118**	**131**	**123**

Source: COMTRADE

Middle East — Imports

000 tonnes	2006	2007	2008	2009	2010	2011	2012
Iran	*294*	*429*	*403*	*500*	661	616	
Saudi Arabia	235	248	257	252	307	306	
United Arab Em.	0	123	127	126	124	126	
Kuwait	68	89	96	*100*	*100*	*100*	
Qatar	15	18	22	*25*	28	*30*	
Bahrain	10	10	*12*	14	14	16	
Oman	6	9	11	10	10	14	
Total	**627**	**926**	**927**	**1 028**	**1 244**	**1 208**	

Source: COMTRADE

Africa — Imports

000 tonnes	2006	2007	2008	2009	2010	2011	2012
South Africa	13	22	24	23	37	52	62
Mali	31	11	21	21	19	*19*	
Senegal	16	17	17	17	17	14	16
Botswana	6	6	7	8	9	7	5
Namibia	2	2	3	3	3	5	
Niger	2	1	1	1	4	4	
Burkina Faso	0	0	0	3	3	3	
Mauritania	3	3	3	3	2	3	
Rwanda	0	6	3	4	4	2	1
Nigeria	0	0	0	4	7	1	
Zimbabwe	0	0	0	0	4	0	
Total	**72**	**67**	**79**	**82**	**107**	**109**	**84**

Source: COMTRADE

Mediterranean — Imports

000 tonnes	2006	2007	2008	2009	2010	2011	2012
Algeria	147	163	164	180	208	245	
Syria	323	193	219	219	232	*240*	
Turkey	184	224	219	182	201	235	
Jordan	9	20	33	26	40	48	
Tunisia	20	41	34	37	19	41	
Morocco	5	17	19	27	28	30	
Egypt	6	5	3	2	10	26	
Palestine	0	6	0	1	14	*15*	
Total	**695**	**669**	**691**	**674**	**752**	**880**	

Source: COMTRADE

Oceania — Imports

000 tonnes	2006	2007	2008	2009	2010	2011	2012
New Zealand	88	87	88	84	81	87	87

Source: COMTRADE

A new management tool for **Black Sigatoka** control

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SYLLIT®

Banana

diseases and pests

by Luc de Lapeyre and Eric Fouré

Panama disease

Gros Michel

Panama disease

Panama disease or Fusarium Wilt was first identified in 1874 in Australia. It is now observed in almost all tropical and subtropical banana production zones. It is caused by a soil fungus of a very common genus, *Fusarium oxysporum* sp. *cubense* (FOC).

Different races have been identified. Under certain conditions (soil type, climate, crop intensification, drainage, etc.) each can cause serious vascular damage to the different banana varietal groups, making them practically non-productive.

Race 1 originated in Asia and spread widely via movement of plant material in the form of suckers when the major export banana cultivation areas were established in the early twentieth century. It caused by the progressive disappearance of production of the Gros Michel variety in the Caribbean and Latin America in the 1940s and 1950s, when the variety formed the basis of international trade. Gros Michel was replaced in the industrial plantations by the resistant Cavendish varieties discovered in South-East Asia and that are now the fruits traded internationally. It should be noted that Gros Michel is still the reference for dessert banana consumption in most African and Latin American countries; production is still substantial at approximately 6 million tonnes per year. It appears that race 1 is not active in the areas in which it is cultivated extensively and combined with other varieties and other crops (hence at low density). Experiments conducted in Colombia have shown that Panama disease gains importance when the growing of Gros Michel is intensified (density greater than 1 000 plants per ha).

Race 2 affects the Bluggoe subgroup (ABB, cooking bananas).

Race 3 affects *Heliconia* spp. and sometimes Gros Michel.

Race 4, identified in the Canary Islands in 1931, affects the Cavendish group sporadically and under certain environmental conditions but only in subtropi-

cal zones (Canary Islands, South Africa, Taiwan, Australia) where it is relatively well controlled by the appropriate cultural techniques (buffer zones, fallow, etc.).

Race T4, was described recently (1995) and also affects Cavendish group varieties but only in a few tropical areas—Indonesia (Sumatra and Java) and Malaysia.

All the specialists agree that the main cause of the spread of the disease is the movement of plant material (suckers and corms) from susceptible, infected plantations. Contamination via the soil from an infected area is very slow.

Prevention and control

As for numerous soil pathogens, control methods are limited and consist essentially of keeping areas containing the outbreaks in quarantine. Not much international work is performed on this disease whose study is complicated. Control methods are not specific to bananas and are and will remain very limited. Conventional genetic improvement remains an important and as yet little-explored pathway.

International awareness of the importance of respecting rules for the movement of germplasm and the wide adoption of tissue culture plants by the banana industry should limit the present risks. The dispersion of race T4 is under surveillance. However, with strict control of germplasm movement and the surveillance and eradication of infected plants, the prospect of rapid spread of the disease is very improbable.

Panama disease on Petite Naine

Yellow Sigatoka

Black Sigatoka

Sigatoka leaf streak diseases

Banana production is confronted with two main types of leaf streak disease: Yellow Sigatoka and Black Sigatoka. They are caused by parasitic leaf fungi. The pathogen of Yellow Sigatoka is *Mycosphaerella musicola* and that of Black Sigatoka is *Mycosphaerella fijiensis*.

A new fungal species, *Mycosphaerella eumusa*, that may be responsible for a new, even more aggressive form of Black Sigatoka, seems to be spreading in Asia and the Indian Ocean, but this remains to be confirmed (it has also been detected in Nigeria in West Africa).

Propagation is from banana plant to banana plant in continental zones. Maritime zones form a natural obstacle. Although the risk of natural spread of spores by wind does exist, the spread of the disease from one zone to another is usually the result of uncontrolled transfers of germplasm. Black Sigatoka is present in all the producer countries in Latin America, Africa and Asia. The countries of the Caribbean arc were long protected by their island status. Presence of the diseases in St Vincent and Guiana was confirmed in 2009. It was reported officially in St Lucia in early 2010, in Martinique in September 2010 and in Guadeloupe in early 2012.

Black Sigatoka has not yet been detected in Dominica it is certain to reach the island, probably fairly soon.

The fungus that causes the disease destroys the foliage. The disease takes the form of small elongated black streaks that soon become necrotic. Necrosis spreads and may destroy all the leaves of the plant before the bunch is cut. This results in smaller yields and very ripe fruits that are unsalable.

Distribution of Black Sigatoka in the Caribbean arc

The sequence is precisely the same as that caused by Yellow Sigatoka, a fungal disease present on all the continents for about 60 years. With support from CIRAD, rational chemical control of the disease was established by professionals in Martinique and Guadeloupe. Warning methods (biological and meteorological) based on the weekly observation of biological and meteorological descriptors in plantations make it possible to monitor the dynamics of the disease and to apply appropriate treatments. Yellow Sigatoka has been controlled in recent years with a small number of sprayings: an average of five to seven a year in West Indian plantations. These rational control methods can now be applied in the management of Black Sigatoka.

There are fundamental differences between the two leaf streak diseases. Unlike Yellow Sigatoka, Black Sigatoka can develop on export bananas and also on plantains and other cultivated varieties that are also very susceptible to the disease. It spreads rapidly and is very difficult to control. Depending on the country, the strategies used and production conditions (climate, crop management sequences, etc.), management requires from just a few interventions to more than 50 sprayings per year.

Different control strategies

In the main Latin American producer countries, export banana plantations form vast agro-industrial units in alluvial plains. Given the areas of the estates (several hundred or even several thousand hectares), contamination from outside is weak. There are no outbreaks of the disease in the immediate neighbourhood of agroindustrial plantations. Agroclimatic homogeneity makes it possible to organise and rationalise the spraying of large units. Low labour costs facilitate the cleansing work required in the form of regular deleafing. In

Black Sigatoka

Black Sigatoka

this context, the impact of spraying in terms of nuisance is not always taken into account by the large companies, who do not hesitate to use systematic control strategies leading to more than 50 sprayings per year. In this case, sprayings are often performed at less than weekly intervals, and generally involve contact fungicides (chlorothalonil, dithiocarbamates, etc.) that by definition or not very effective and so have a small curative effect. Systemic fungicides are sometimes used but usually in 'cocktails' that are mixes of systemic, penetrating and contact substances prepared as emulsions in oil.

CIRAD has developed rational control strategies that, for the control of Yellow and Black Sigatoka, are based on warning systems involving either scouting in the plantation or the observation of meteorological descriptors (precipitation, evaporation, temperature, etc.). This strategy has been applied in different countries to control Yellow Sigatoka and also Black Sigatoka. This is the case in particular in Guadeloupe, Martinique, Cameroon and Côte d'Ivoire. The main objectives are as follows:

- improving the effectiveness of control while reducing the number of sprayings per year;
- limiting the risks of the selection of fungal strains that are resistant to the systemic fungicides used;
- reducing pollution and thus achieving greater respect of human health and the environment (urban centres, rivers, water bodies, reservoirs, etc.).

The strategy is also based on the rational, alternate use of systemic fungicides (benzimidazoles, triazoles, strobilurins) and penetrating fungicides (morpholines, etc.) which are mixed with refinery oils that are also fungistatic and applied at a low volume (13 to 15 litres per hectare), prolonging the effectiveness of each spraying and hence reducing the number of sprayings required each year.

The systemic fungicides on the market have a single-site mode of action on the pathogen and the risk of the appearance of resistant strains is high if they are used irrationally or abusively. In Central America, benzimidazoles were used massively when they came on to the market and resistance was observed only two years after they began to be used to control Black Sigatoka. This made it necessary to use more contact fungicides (15 to 40 kg active substance per hectare per year). The same phenomenon was then observed in these production zones with Black Sigatoka when triazoles and them strobilurins were used.

Thanks to the warning methods and hence the reduced number of sprayings, the phenomenon did not appear in Cameroon and Côte d'Ivoire for 10 or even 15 years of use of the fungicides to control Black Sigatoka.

In Guadeloupe and Martinique, the problems started to appear with control of Yellow Sigatoka after 20 or even 30 years of rational use of these fungicides using warning methods.

New essential control methods

Present control strategies cannot be used indefinitely. The European legislation in force in the French West Indies makes it technically impossible to use rational control strategies based on the alternating of several active substances with different modes of action. Only two fungicides in the triazole family can currently be used for aerial spraying.

A strobilurin fungicide and another in the morpholin group received marketing authorisations at the end of 2008, but they are not used to control Sigatoka diseases as the authorisation is accompanied by a 100-metre unsprayed buffer zone and this is incompatible with aerial spraying.

Actions can be envisaged to address this problem of regulations, such as reducing the buffer zone to 50 metres, using land-based sprayers and technical developments to reduce the drift of fungicide sprays, the registration of new systemic fungicides, requests for derogations, etc. — but the legislation may well become increasingly restrictive in the future.

The feasibility of the implementation of rational control is based on the status of the fungal strains with regard to curative fungicides. If the strains are (see status of invasive strains) or become resistant to these fungicides (see risks of the rapid mutation of *M. fijiensis*), this will irremediably compromise the implementation of such strategies.

Other methods must therefore be sought to control or regulate Black Sigatoka. Breeding new hybrid varieties with lasting resistance and good agricultural and organoleptic potential is a component of integrated management to be favoured for the control of Black Sigatoka.

These varieties must be incorporated in innovative, sustainable cropping systems that also include cultural control methods (optimum plant management, rational management of inoculum using mechanical cleansing techniques, etc.) that will thus make it possible to reduce the negative environmental impacts of commercial plantations and in particular reduce the application of pesticides.

Think of adopting an overall approach combining new hybrids resistant to Black Sigatoka and cropping systems that enable durable conservation of resistance.

Moko disease

Bacterial diseases

Bacterial diseases are an increasing concern for growers because of the way in which they spread and the lack of resistant varieties.

Moko disease

caused by *Ralstonia solanacearum* (biovar 1 race 2)
formerly *Pseudomonas solanecearum*

Two types of symptoms are observed depending on whether the bacterium is spread via the soil or by the planting tools used (machetes, etc.) or by insects that visit male flowers or their scars after abscission. Upward bacterial colonisation results first in chlorosis and the wilting of the three youngest leaves and then the death of the plant. A cross section of the pseudostem (or corm) reveals reddish-brown colouring of the vascular vessels. The presence of abundant bacterial exudate is a further sign of bacterial infection. If the contaminated plant bears a fruit bunch, the bacterium colonises all the vascular bundles of the fruits via the rachis. Accumulation of ethylene may cause the premature yellowing of the fruits and cross sections display serious browning. When the bacterium is spread by a machete for example after the cutting of the pseudostem, the contaminated suckers blacken and

become stunted in 2 to 4 weeks. The disease was described for the first time in Trinidad in 1910 and is still absent from the Lesser Antilles, except in Trinidad and Grenada. In contrast, it spread rapidly in the Amazon basin in Brazil and in eastern Peru, going as far as northern Guatemala and southern Mexico. It covers a large geographic area. Moko disease spread to the Philippines in 1968 via plant material. There are no resistant varieties or chemical control methods. Only eradication and quarantine give results.

Bacterial wilt

Banana Xanthomonas Wilt (BXW), Banana Bacterial Wilt Disease (BBW), caused by *Xanthomonas campestris* pv. *musacearum*

The symptoms are observed above all on the emergence of spear leaves, especially at flowering. Flower bracts become discoloured and the male bud blackens and shrivels. The leaves yellow, wilt, blacken, dry and crumble (including the pseudostem). Yellow or brown vascular streaks are observed throughout the plant together with pale bacterial secretion on a section at the base of the pseudostem or at the corm. This causes bunches to wilt, with premature maturation and a reddish brown colour inside the fruit. The plant dies within a month of the appearance of any of these symptoms (one month after infection). The disease is spread by foraging insects, infected plant material (suckers, bunches and leaves), tools and man, and also by animals, run-off, rainwater splashes and wind. There are no resistant varieties. Control is by a quarantine period lasting for several months and the destruction of infected plants and those nearby. Free movement of animals is forbidden. This wilt was observed and described in Enset in Ethiopia in about 1968 (this affected the staple foodstuff of 12 million people), and then in Uganda where it has spread since 2001 (75 km per year). Uganda is the second largest banana producer with 10.5 million tonnes (250 to 450 kg per person) and this had decreased by nearly 40% in 2006. Spread has been rapid, with the disease reaching the Democratic Republic of the Congo in 2004, Rwanda in 2005 and Burundi, Tanzania and Kenya in 2006.

Banana streak disease

Virus diseases

Virus diseases of banana (dessert and cooking fruits) have spread increasingly in recent years as a result mainly of the ease of plant movement and demand for diversification. They consist of banana bunchy top disease and mosaic diseases including banana mosaic, banana streak disease and bract mosaic. The economic damage varies, affecting all cultivated bananas and both large estates and village plantations. Banana bunchy top disease (caused by the banana bunchy top babuvirus, BBTV) can cause losses of 90 or even 100 percent of production. Banana streak disease (caused by the banana streak badnavirus, BSV) causes losses of 40 to 60 percent, and banana bract mosaic (caused by the banana bract mosaic potyvirus, BBrMV) results in losses of more than 40%. Spread is either by vector from outbreaks or by the use of infected germplasm—suckers or tissue culture plants—or, in the special case of BSV, from so-called 'silent' bananas with a virus sequence incorporated in the genome of the species *Musa balbisiana* and capable of producing viral particles in particular as a result of stress (abiotic phenomena, weather conditions, intensive in vitro or in vivo propagation of plant material, etc.).

Banana bunchy top disease (BBTV)

The plants are markedly stunted and rosetted at the top. The narrow, erect, brittle leaves display strongly chlorotic borders. The characteristic symptom is the appearance of discontinuous dark green streaks along the pseudostem, the main leaf vein and the secondary veins. When the mother plant is infected, so are all the suckers. The most effective vector is the banana aphid *Pentalonia nigronervosa*.

Mosaic diseases

Banana mosaic caused by the Cucumber mosaic cucumovirus (CMV)

Infected plants display leaf chlorosis and mottling of the main vein and the pseudostem. Secondary infections may appear in the form of bacterial rots in the sheaths forming the pseudostem. The virus can be spread by a broad range of aphids. The disease can also be spread by pruning tools.

Banana streak disease (BSV)

The leaf lamina displays discontinuous yellow streaks that rapidly become necrotic. The main vein is unaffected. In severe forms of the disease, the cigar tip becomes necrotic and the plant dies. If the mother-plant is infected so are all the suckers.

The disease is transmitted by various mealybug species—*Planococcus citri*, *Saccharicoccus sacchari* and *Dysmicoccus brevipes*. In recent years, BSV infections unrelated to external contamination have been described in various parts of the world. There are two different causes: 1) tissue culture plants derived from micropropagated healthy interspecific hybrid varieties of banana and 2) the hybrid progeny of crosses between healthy *Musa acuminata* (genome A) and *Musa balbisiana* (genome B) parents. Various abiotic stresses cause the appearance of the disease in these hybrids, correlated with the presence in the genome of the *M. balbisiana* parent of endogenous viral sequences of BSV (e-BSV) containing all the information required to synthesise the infectious virus.

Banana bract mosaic (BBrMV)

The first stages of infection consist of greenish yellow streaks turning into brownish red necrosis on the leaf lamina and veins. Yellow mottling or whitish streaks are seen on the pseudostem according to the variety infected. Bract mosaic is the final symptom. The disease is transmitted to all the suckers by aphids (*Ropalosiphum madiis*, *Myzus persicae*).

Prevention and control

The only control method available today to fight these banana virus diseases is control of the vector and the use of healthy plant material. Indeed, there are no bananas with natural resistance to these diseases and no cure other than eradication after a virus attack.

The procedure to be followed is based mainly on the use of disease-free germplasm—suckers or tissue culture material screened for viruses—and the cutting back of weed growth where aphids multiply.

Banana borer on a corm

Banana borers

Originating in South-East Asia, the banana borer has spread to all subtropical and tropical banana and plantain production regions. The insect (*Cosmopolites sordidus*) is 9 to 16 mm long and 4 mm wide. It moves freely in the soil at the feet of banana plants or in plant debris. It is nocturnal and very sensitive to drying. The pest is spread mainly via infested plant material. The adults do no damage. The females lay eggs in the banana rhizome and the larvae feed on this, driving tunnels. These tunnels disturb water and mineral supply of plants, lengthen the production cycle, cause serious decreases in yield and weaken the anchorage of the plants, making them more sensitive to wind. Strong attacks can lead to the death of the plant. In addition to classic chemical treatment, the use of healthy planting material (tissue culture plants) used in clean soil (after fallows) is a method of borer control. New borer trapping methods using pheromones (sordidin) are available. A control system combining entomophagous nematodes and sordidin traps is being developed.

Nematode

However, the banana borer remains a major pest constraint for banana crops—whether on industrial plantations or smallholdings (plantains are very susceptible to the banana borer). It seems fairly unlikely that improved varieties can be bred rapidly. Control at the farm scale based on the use of traps and the maintaining of low levels of infestation are being studied and may in time form an alternative to chemical control.

Nematodes

Numerous nematode species parasitise banana roots and corms. Root knot nematodes (*Meloidogyne* spp.) and spiral nematodes (*Helicotylenchus* spp.) are found all over the world in all kinds of crop. However, the most damage is caused by the migrating nematodes *Pratylenchus* spp. and *Radopholus similis*. The latter species is found everywhere in the hottest banana growing zones and especially in intensive plantations where it arrived via germplasm movements during the spread of the crop during the past two centuries. *Pratylenchus coffeae* is also present in the hottest zones but is generally indigenous and found mainly on plantain crops. *Pratylenchus goodeyi* prefers cooler areas and originated on the Africa plateaux. It is observed in certain subtropical zones such as the Canary Islands, for example.

Underground enemies

Pratylenchus spp. and *Radopholus similis* are migratory endoparasites whose full biological cycle lasts for 20□25 days in root and corm tissues. Juvenile forms and females are always mobile and can leave the roots when conditions are no longer favourable. These migratory forms can then colonise other roots. As they move within and between cells, these nematodes feed on parenchyma cell cortical cytoplasm, destroying cell walls and creating tunnels that become necrotic and can extend to the whole of the cortex. Root and corm necrosis may be aggravated by other pathogens (fungi and bacteria). In particular, fungi of the genus *Cylindrocladium* are pathogenic and can cause lesions similar to those made by nematodes. The combination of the two pests may cause very serious damage under certain conditions. The destruction of underground tissue leads to a decrease in water and mineral nutrition resulting in slowed plant growth and development. This can lead to severe decrease in bunch weight and lengthen the period between harvests. Furthermore, destruction of the roots weakens the anchorage of the plants in the ground and increases the risk of toppling, especially during hurricane periods, with a strong economic impact.

Prevention and control

Control methods involving the application of chemicals (mainly organophosphorus compounds and carbamates) that carry substantial sanitary and environmental risks are still used in intensive plantations. For this reason, in spite of their efficacy and very easy application, their use will be increasingly limited in favour of alternative control measures. These include cultural practices improving soil fertility (tillage, irrigation, organic ameliorators, etc.) that indirectly improve plant tolerance to pest pressure. More direct methods such as the use of fallow and the planting of micropropagated bananas are now in common use and lead to a strong decrease in nematode populations (cf. Phytoma No. 584, July-August 2005).

These methods are widely used by growers in Martinique and Guadeloupe, where they have contributed to a 50-percent reduction in pesticide spraying in the past ten years.

Operations involving biological antagonists, root symbiots (mycorrhizal fungi) and especially genetic resistance may allow the setting up of increasingly effective integrated control strategies in the fairly near future. However, it is necessary to be aware that the great complexity of nematode populations makes delicate the development of these more closely targeted techniques. To be effective, they must be able to handle the diversity of cultural and ecological situations.

Post harvest diseases

Ripe-fruit anthracnose

Wound anthracnose

Crown rot

Storage diseases (wound anthracnose, ripe-fruit (quiescent) anthracnose and crown rots) strongly limit the sale of exported bananas. *Colletotrichum musae* causes both forms of anthracnose, while crown rots result from a larger parasite complex consisting of *C. musae* but also other organisms: *Fusarium, Verticillium, Botryodiplodia*, etc.

Distinction is made between two forms of anthracnose:

Ripe-fruit (quiescent) anthracnose: brown lesions develop on fruits after ripening and subsequently in the sales channel. This disease rarely has serious commercial consequences.

Wound (non-quiescent) anthracnose: broad brown lesions occur on fingers wounded during harvesting or packing. The symptoms are observed when fruits are unpacked after sea transport and have serious commercial consequences.

Crown rots are fungi that spread from cut surfaces when fruits are prepared at the packing stage. This damage is also visible after sea transport and has serious commercial consequences.

The fungi that cause post-harvest diseases are widespread in banana plantations and hence on bunches if these are not protected. In other words, control of infection begins when the inflorescence shoots at the top of the leaf cluster. Anthracnose results mainly from contamination by Colletotrichum musae in the field. It is not possible to detect infected fruit with the naked eye at harvesting but a test can be performed more than three weeks before cutting. Fruits are infected mainly during the first month of flowering. Spores are spread by water and develop on the organs when they start to decompose (old leaves, bracts and above all flowers). Control of the disease must begin in the field and then continue in the packing shed.

Hands can be contaminated by crown rot at various stages in the chain. This greatly complicates the implementation of control measures, but hand contamination by washing water is probably the main cause.

Chemical control of these diseases does not always give satisfactory results. Indeed, it is sometimes ineffective according to the production zone and the time of the year and resistance to fungicide has developed in the various fungal species involved. Finally, interest in developing methods other than chemical control is increasing. Indeed, these post-harvest treatments raise two crucial problems—the risks of residues in fruits and the processing of the fungicide preparations discharge near packing stations.

Banana quality defects in the field

Pests

Flower thrips

Red rust thrips

Snail damage

Damage by *Diaprepes* root weevil

Silver rust thrips

Banana quality defects in the field

Physiological defects and other imperfections

Double fruit and deformed fruit

Scarring by a fruit tip

Scarring by a leaf

Scarring by guying cord

Sunscald

Chemical burns

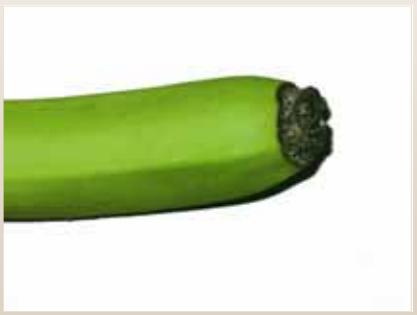
Diseases

Speckle

Red speckling at ripening

Deightoniella

Sooty mould on fruit stalk



Cigar-end rot

Banana quality defects at packing

Selection problems and miscellaneous defects

Fruit too thin

Fruit too short

Incomplete flower removal

Latex stains

Dehanding problems

Crown cut too short

Pointed crown

Detached crown

Knife wound

Bruising

Flexed fruit stalks

Bruising caused by impact during packing

Banana quality defects after transport

Ripening problems

'Ship ripe' fruits

Unevenness after ripening

Storage problems

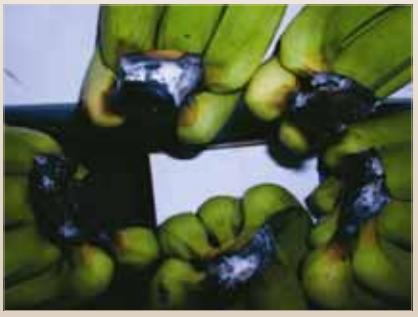
Chilling injury

'Green ripe' fruits

Storage diseases

Latent anthracnose infection

Wound anthracnose



Crown rot

Crown rot

The genetic diversity of banana

Over a period of thousands of years, population migrations and movement of plant material have placed banana in very different ecological contexts in the various continents. Farmers have succeeded in profiting from the natural mutations resulting from vegetative multiplication. This combination of natural reproduction and selection by man since ancient times results in the present genetic diversity.

Bananas originated in South-East Asia as wild seminiferous plants. Natural crosses built up a large base of genetic diversity that still exists today. These crosses were the origin of the seedless varieties. These bananas have food qualities that soon interested man, who incorporated them in agriculture using their vegetative multiplication potential.

From the botanical point of view, the genus Musa is divided into seminiferous species with inedible fruits and parthenocarpic varieties with fleshy seedless fruits. The Eumusa section includes *Musa acuminata* (genome symbol: A) and *Musa balbisiana* (genome symbol: B). These are wild species at the origin of the cultivated varieties.

The latter are classified according to their ploidy level and their genetic make-up. Some 1 200 varieties have been counted and classified around the world.

The inedible wild species with seed-containing fruits can be used for purposes other than human foodstuff (fibre, livestock feedingstuff, etc.). They are all diploid (AA and BB). About 180 have been counted to date, all from South-East Asia, but the census is not definitive (especially for the BBs). These fertile varieties are nonetheless important since they possess different levels of resistance to pests and diseases. They therefore form base material for the various present and future conventional genetic improvement and varietal creation programmes. Numerous cultivars have been bred by man. They are classified in groups according to their genetic make-up and then in subgroups assembling the various cultivars derived from each other by natural mutation starting from a common genetic ancestor. Distinction is made between the following groups:

- diploid groups: AA (such as Figue sucrée or Frayssinette) and AB. These total about 290 cultivars grown mainly in South-East Asia where they originated;
- three triploid groups (650 cultivars): AAA, AAB and ABB. The subgroups of each of these distinguish between the dessert varieties richer in sugar at maturity, cooking varieties with fruits that are firm and not sweet even when ripe, and sometimes bananas for beer-making by fermentation of the pulp (East Africa).

Even if the plants within the same subgroup display only weak genetic diversity, they do have a great range of phenotypes, resulting essentially from mutations and many centuries of selection by man. This is the case of the Cavendish (more than 20 cultivars), East African highland bananas (more than 50) and central and West African plantain (more than 150) subgroups.

Although the intensive cultivation system used for approximately 25 percent of world production favours monovarietal production, it is important to remember that most production is based on less intensive family farming with stress on varietal mixing. This contributes to the continuing of selection and hence ensures the diversity of banana ■

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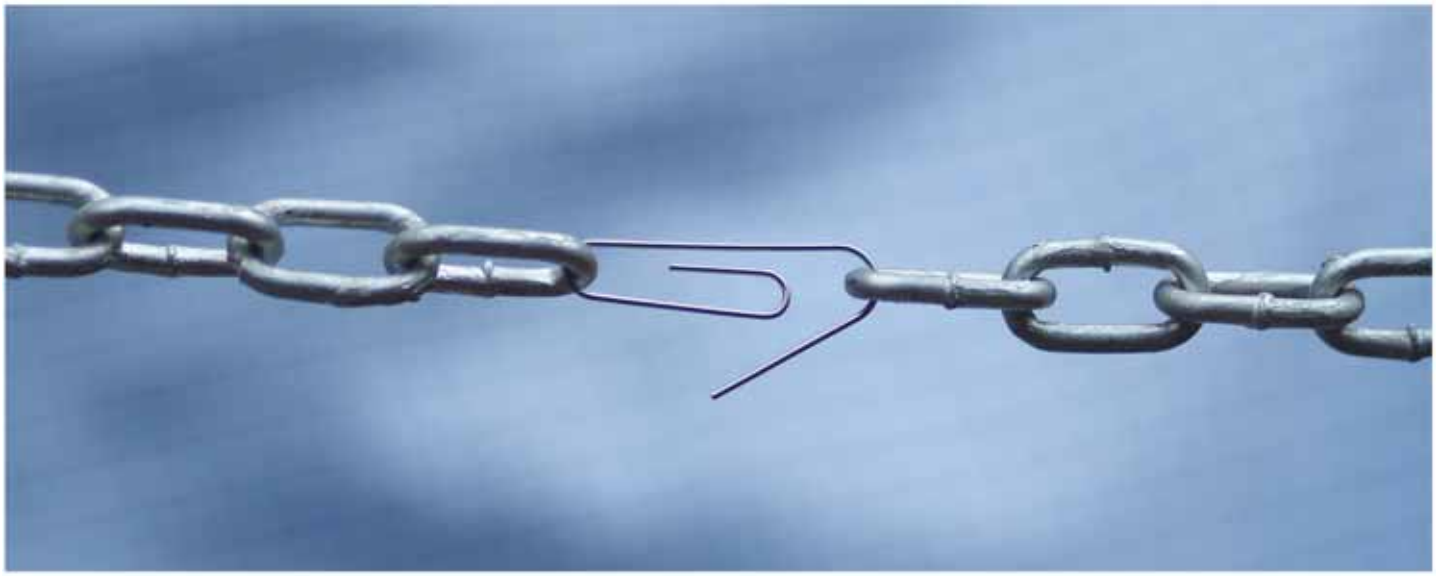
Banana — Estimated world production in 2011

Tonnes	Cooking bananas		Dessert bananas		Total
	Plantain AAB group	Highland bananas + ABB group + others	Cavendish	Gros Michel + others	
North America	0	1 000	7 890	100	8 990
South America	5 260 974	401 941	12 565 155	3 927 950	22 156 020
Central America	777 139	76 700	7 249 505	80 242	8 183 586
Caribbean	1 010 963	414 651	1 231 239	212 374	2 869 227
West and Central Africa	8 959 791	1 044 396	2 372 867	499 242	12 876 296
East Africa	1 350 962	16 907 510	2 151 862	1 139 441	21 549 775
North Africa and Middle East	31	9 667	1 995 682	72 071	2 077 451
Asia	2 191 234	10 632 185	37 981 402	13 724 096	64 528 917
Oceania	1 270	527 483	467 886	257 494	1 254 133
Europe	101	1 010	435 324	1 020	437 455
World total	19 552 465	30 016 543	66 458 812	19 914 030	135 941 850

Source: Thierry Lescot - CIRAD after references, surveys, professional sources, FAO, etc.

Information... your weak link?



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