

April 2010 - No. 177

# FR*ui*TROP

English version

## CLOSE-UP BANANA

Counter-season melon:  
fierce competition

Citrus & exotics:  
monthly review

<http://passionfruit.cirad.fr>



Makes you feel GOOD

# Banana, from plantation to customer



- > A network of 8 ripening facilities spread throughout France,
- > Total traceability from production to delivery,
- > Segmented supply, with fruits sourced in Africa, the West Indies and Latin America and a variety of packaging.



Dole France SAS

Content published by the Market News Service of CIRAD - All rights reserved.

Cour d'Alsace - Bat. C6A - 94019 Rungis Cedex France - Tel. : +33 1 56 34 26 26 - Fax : +33 01 56 34 26 99

www.dole.fr — Dole France SAS is a Company of Compagnie Fruitière group





Environmental labelling: retailers ready to ambush

*The French 'carbon tax' did not survive the regional elections. Its abandoning—or postponing at best—has taken down with it other emblematic French political projects concerning the environment. It is the case of the environmental marking of consumer products. This was to become obligatory from 1 January 2011 but has been postponed indefinitely, causing varied reactions and not just disappointment. Some operators are delighted to see that the pressure has eased, for it must be admitted that with only months to go before implementation, the calculation and presentation procedures were very vague. The more incautious ones go as far as thinking that it is a good occasion to give up and abandon efforts to assess environmental impacts related to the production and distribution of their goods. This narrow view of these issues for the world and for future generations can be deplored. But can we ask everybody to handle all the misery in the world or even be aware of it? No, of course not. What is more serious is the lack of anticipation or vision among this small group of operators. For delighting in the failure of such regulations means giving free rein to private initiatives. The French authorities are withdrawing, leaving a broad avenue open to distributors who we know are quick to edict and finally impose their rights. Casino must be delighted as it is the only French retail chain to propose a credible concept. The others are watching closely, very closely. To how many pseudo-greens should food industries reply to? Finally, we know in advance what happens to the ostrich that buries its head in the sand—its predator gets it of course.*

Denis Loeillet



**Publisher**  
Cirad  
TA B-26/PS4  
34398 Montpellier cedex 5  
France  
Tel: 33 (0) 4 67 61 71 41  
Fax: 33 (0) 4 67 61 59 28  
Email: odm@cirad.fr  
http://passionfruit.cirad.fr

**Publishing Director**  
Hubert de Bon

**Chief Editors**  
Denis Loeillet and Eric Imbert

**Editor**  
Catherine Sanchez

**Computer graphics**  
Martine Duportal

**Iconography**  
Régis Domergue

**Website**  
Unité multimédia (Cirad)

**Advertising Manager**  
Eric Imbert

**Subscriptions**  
Christian Clouet

**Translator**  
Simon Barnard

**Printed by**  
Pure Impression  
Rue de la Mourre  
Espace Com. Fréjorgues Est  
34130 Maugeuio, France

**Separate French  
and English editions**

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

**CPPAP**  
French: 0711 E 88281  
English: 0711 R 88282

© Copyright Cirad

**Subscription rate**  
EUR 210  
11 issues per year



## Contents

### Direct from the markets

- p. 2 MARCH 2010**
- **Avocado:** Avocado from Brazil: a developing source! — 2010 summer avocado season.
  - **Banana:** After a serious slump, the US banana market has woken up again — Del Monte relaunches operations in Brazil — Honduras: less Dole and more aid from the government.
  - **Citrus** (orange, easy peelers & grapefruit): Mediterranean 'Valencia Late' season disturbed by flooding — South African citrus harvest forecast — Concentrated lemon juice: prices high and should remain so — Spanish easy peelers: the range of varieties is still increasing — Peruvian citrus: export sector forecast to grow again in 2010.
  - **Exotics:** Peruvian mango exports: another record year.
  - **Sea freight & sector news:** Venice attempting to re-launch port activities — The 2010 annual meeting of fruit and vegetable importers and shippers.

### The latest on...

- p. 12** • **Counter-season melon:** fierce competition  
*Cécilia Céleyrette*

### Close-up by Denis Loeillet

- p. 17 BANANA**
- **The banana market:** reasonably pessimistic
  - **Common market organisation of banana or how to dance on a grave**
  - **Sustainable Banana Plan for the French West Indies**
  - **Review of supply of the European banana market:** as slow as expected
  - **The United States banana market:** down and down again
  - **The French banana market:** more, more and more
  - **The Spanish banana market:** end of the Canary exception
  - **Producer country sheet:** banana in Surinam
  - **Producer country sheet:** banana in Côte d'Ivoire
  - **Statistic panorama:** world, EU, USA, Japan
  - **The genetic diversity of banana in figures**
  - **Sigatoka Leaf streak diseases:** a new threat for the banana production
  - **Banana quality defects**
  - **Post harvest diseases**

### Wholesale market prices in Europe

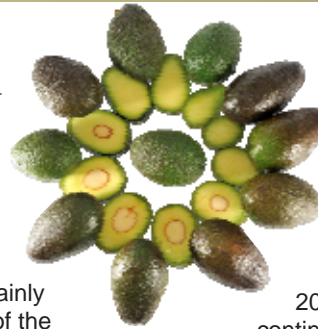
- p. 59** March 2010

Cover photo: Régis Domergue

# Avocado

March 2010

Supply was smaller than in February and the market was able to recover. Arrivals of green varieties returned to close to average with the peak season for 'Fuerte' from Peru but with a decrease in the 'large' Israeli varieties like 'Fuerte' and 'Pinkerton' and a very late start of Kenya at the end of the month. Supply of 'Hass' also decreased. The exceptional long Chilean season started to come to an end, allowing Spain and Israel to develop their market releases. A few early batches from Peru were available at the end of the month. Prices changed little in the first half of the month, especially as some batches of 'Hass' from Latin America were not up to standard as regards quality. The upwards movement then gained significant momentum as demand was brisker with the pre-Easter special offers.



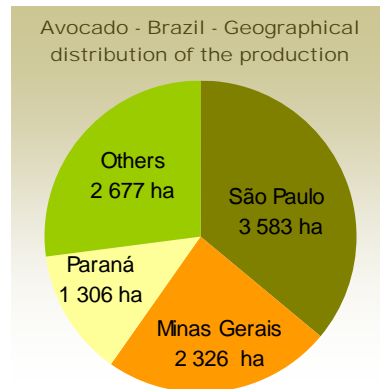
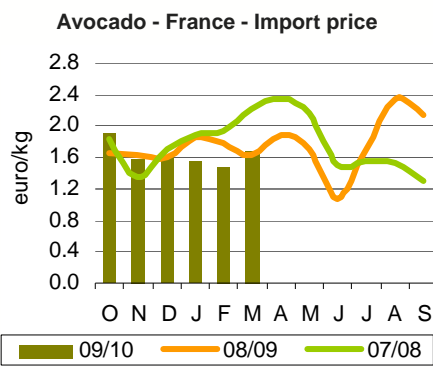
■ Avocado from Brazil: a developing source! With a harvest of some 150 000 t, Brazil is one of the five leading avocado producers in the world. The production area is mainly in the southern part of the country—more than 70% of the area is in Sao Paulo, Minas Gerais and Paraná states—and the crop consists mainly of West Indian varieties. Brazil was thus almost totally absent from the international avocado trade, where Guatemalan and Mexican avocados are preferred for their smaller size and greater robustness. However, a change in trend is noted, with a distinct increase in exports to the

EU thanks to the development of plantations of 'Fuerte' and 'Hass', especially in São Paulo state. Volumes had totalled less than 1 000 t until 2005-06 and exceeded 2 600 t in 2009. Growth should continue in the years to come.

Source: CIRAD

■ 2010 summer avocado season. Supply of the EU market should remain fairly substantial during the 2010 summer season, remaining at over 100 000 t. Preliminary estimates show that South African shipments should be a little larger than in 2009 and exceed 10 million boxes. South Africa should therefore lose to Peru for the second year running its title of historic major supplier of the community market in the summer. In spite of the opening of the US market, practically all the potential 50 000 t of Peruvian 'Hass' exports should remain earmarked for the EU. The Kenyan harvest should also be good although exports could be affected by logistic problems.

Source: CIRAD



| PRICE | Comparison |                                |                                  |
|-------|------------|--------------------------------|----------------------------------|
|       | Varieties  | Average monthly price euro/box | Comparison with the last 2 years |
|       | Green      | 5.00-5.20                      | - 24%                            |
|       | Hass       | 7.00-7.40                      | - 15%                            |

| VOLUMES | Comparison |                |                      |
|---------|------------|----------------|----------------------|
|         | Varieties  | previous month | last 2 years average |
|         | Green      | ↘              | + 5%                 |
|         | Hass       | ↗              | + 50%                |

| Tonnes              | 2000          | 2001          | 2002          | 2003          | 2004          | 2005          | 2006          | 2007          | 2008           | 2009           |
|---------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|
| <b>Total, incl.</b> | <b>49 955</b> | <b>57 926</b> | <b>52 851</b> | <b>68 213</b> | <b>61 677</b> | <b>81 440</b> | <b>81 525</b> | <b>87 247</b> | <b>114 007</b> | <b>101 750</b> |
| Peru                | 1 299         | 2 849         | 4 401         | 11 266        | 14 590        | 18 096        | 30 508        | 35 857        | 49 894         | 45 777         |
| S. Africa           | 38 205        | 38 908        | 36 266        | 36 404        | 29 872        | 46 955        | 35 934        | 37 944        | 50 578         | 38 345         |
| Kenya               | 10 294        | 15 600        | 11 523        | 19 828        | 16 236        | 15 458        | 13 641        | 11 999        | 11 868         | 15 015         |
| Brazil              | 156           | 569           | 661           | 715           | 979           | 931           | 1 442         | 1 447         | 1 667          | 2 613          |
| Argentina           | 58            | 326           | 440           | 460           | 709           | 1 224         | 1 804         | 1 709         | 739            | 1 984          |

Source: Eurostat

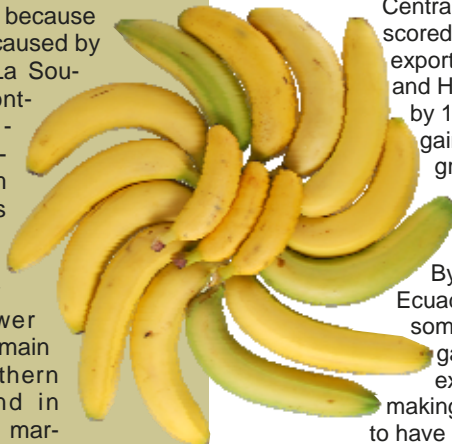
| VOLUMES | Source | Comparison     |                          | Observations  | Cumulated total / cumulated average for last 2 years |
|---------|--------|----------------|--------------------------|---|--|
|         |        | previous month | average for last 2 years |   |  |
|         | Chile  | ↘↘             | na                       | Season prolonged. Volumes decreasing but remaining significant. Some batches displayed uneven quality.  | + 141%   |
|         | Mexico | =              | - 41%                    | Moderate supply. Some batches displayed uneven quality.   | - 28%  |
|         | Spain  | ↗              | + 2%                     | Larger supply, returning to an average level.   | - 21%  |
|         | Peru   | ↗              | + 2%                     | Full season for 'Fuerte', with moderate volumes. First, limited volumes of 'Hass' at the end of the month.  | + 17%  |
|         | Israel | ↗↗             | + 166%                   | Quantities much larger than in 2008 and 2009 (early decrease). Peak season for 'Hass'. 'Fuerte' and 'Pinkerton' dwindled at the end of the month. | + 33%  |

# Banana

March 2010

In spite of steadily rising prices the performance for the month was disappointing. Demand was still fairly brisk. The lateness of competing fruits and numerous promotion operations stimulated releases, even if the return of bitterly cold weather in mid-month had a brief negative impact.

However, supply was quite large. Among dollar sources, volumes from Costa Rica were fairly moderate as shipments to the USA were larger than in other years. Arrivals from Colombia and Ecuador were markedly larger than average. Supplies from Africa were also large with a recurrent deficit in fruits from Cameroon but with continued large shipments from Côte d'Ivoire and Ghana. Finally, supplies from the French West Indies were average, with the absence of shipments from Guadeloupe from Week 10 because of production losses caused by the eruption of the La Soufrière volcano in Montserrat counter-balanced by satisfactory shipments from Martinique. Prices continued their seasonal rise but the average monthly price was 17% lower than average on the main markets in the northern part of the EU and in France. The Spanish market continued to be very difficult. Prices remained rock-bottom because of weak demand and large supplies of Canary Island bananas in spite of the application of a quota system.



■ After a serious slump, the US banana market has woken up again, at least in terms of volume. In the first two months of the year, the US imported 11% more bananas than during the same period in 2009. Unsurprisingly, Central American sources scored best. Guatemalan exports are up by 14% and Honduran shipments by 13%, but Costa Rica gained the most ground with + 29%. The latter source has fully recovered its export potential. By a ricochet effect, Ecuador had to give up some of the ground gained in 2009 and exports lost 6%, making it the only supplier to have suffered a dip as even Colombia gained 4%. Ecuador has been obliged to find markets elsewhere, especially in the EU and Russia.

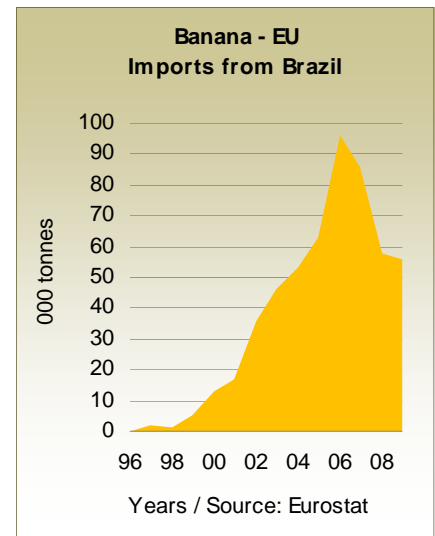
and especially European—banana market, the Del Monte group has announced that it will be able to harvest a million boxes from its new Limoeiro do Norte plantation from 2011 onwards. The project covers 500 hectares. Del Monte claims to have used a disease-resistant variety, but has not specified what it is. The group already operates in Rio Grande do Norte state in Brazil. In 2008, its banana plantations were seriously flooded by the river Acu.

■ Del Monte relaunches operations in Brazil. While Brazilian presence is decreasing from year to year on the international—

| Banana — United States — Imports from January to February |                |                |                |                |                |                |               |
|---|----------------|----------------|----------------|----------------|----------------|----------------|---------------|
| Tonnes  | 2005           | 2006           | 2007           | 2008           | 2009           | 2010           | Ecart         |
| <b>Total, incl.</b>                                       | <b>610 521</b> | <b>591 279</b> | <b>629 058</b> | <b>645 674</b> | <b>593 737</b> | <b>657 621</b> | <b>+ 11 %</b> |
| Guatemala   | 148 598        | 100 711        | 151 319        | 162 417        | 158 680        | 181 061        | + 14 %        |
| Ecuador   | 174 333        | 149 995        | 162 272        | 174 709        | 181 865        | 170 750        | - 6 %         |
| Costa Rica  | 121 794        | 180 151        | 172 492        | 142 148        | 108 451        | 139 889        | + 29 %        |
| Honduras  | 70 443         | 64 869         | 65 049         | 92 802         | 61 307         | 69 350         | + 13 %        |
| Colombia  | 79 750         | 79 876         | 63 858         | 57 571         | 62 831         | 65 309         | + 4 %         |
| Mexico  | 6 147          | 5 432          | 5 146          | 7 515          | 11 380         | 17 887         | + 57 %        |
| Panama  | 2 019          | 1 768          | 341            | 597            | 3 032          | 5 892          | + 94 %        |
| Nicaragua   | 4 515          | 3 903          | 4 270          | 5 365          | 2 796          | 4 054          | + 45 %        |
| Peru  | 2 386          | 4 103          | 3 636          | 2 548          | 3 380          | 3 425          | + 1 %         |

Source: customs

Source: Reefer Trends

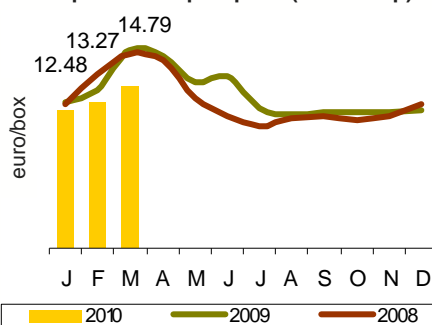


Source: CIRAD

## EUROPE — ALDI IMPORT PRICE

| March 2010<br>euro/box | Comparison     |                          |
|------------------------|----------------|--------------------------|
|                        | previous month | average for last 2 years |
| 14.79                  | + 11%          | - 17%                    |

## Europe - Aldi import price (GlobalGap)



## EUROPE — RETAIL PRICE

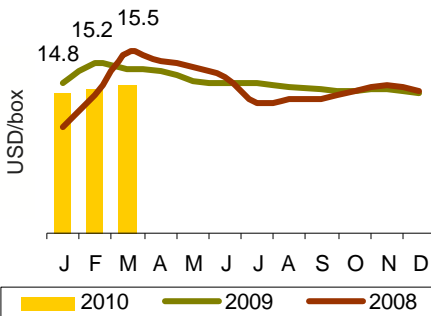
| Country   | type          | Comparison            |            |                          |
|-----------|---------------|-----------------------|------------|--------------------------|
|           |               | March 2010<br>euro/kg | March 2009 | average for last 3 years |
| France    | normal        | 1.24                  | - 20%      | - 20%                    |
|           | special offer | 1.09                  | - 18%      | - 22%                    |
| Germany   | normal        | 1.20                  | + 6%       | - 10%                    |
|           | discount      | 1.02                  | + 8%       | - 13%                    |
| UK (£/kg) | packed        | 1.26                  | 0%         | + 14%                    |
|           | loose         | 1.01                  | - 6%       | + 21%                    |
| Spain     | plátano       | 1.42                  | - 17%      | - 22%                    |
|           | banano        | 1.16                  | - 13%      | - 21%                    |

Photos © Régis Domerque

# Banana

UNITED STATES

USA - Green price (spot)

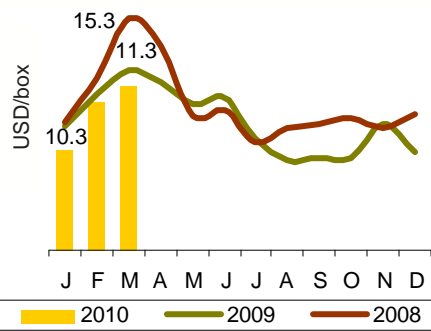


USA — IMPORT PRICE

| March 2010<br>USD/box | Comparison     |                          |
|-----------------------|----------------|--------------------------|
|                       | previous month | average for last 2 years |
| 13.51                 | - 11%          | - 26%                    |

RUSSIA

Russia - Green price

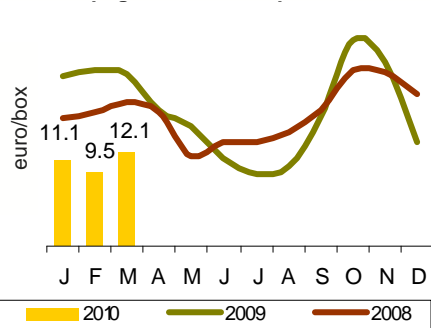


RUSSIA — IMPORT PRICE

| March 2010<br>USD/box | Comparison     |                          |
|-----------------------|----------------|--------------------------|
|                       | previous month | average for last 2 years |
| 17.00                 | + 11%          | - 20%                    |

CANARIES

Spain - Green price - Platanos\*

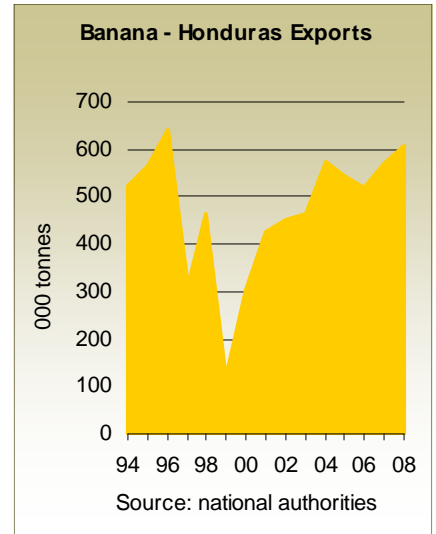


CANARIES — IMPORT PRICE\*

| March 2010<br>euro/box | Comparison     |                          |
|------------------------|----------------|--------------------------|
|                        | previous month | average for last 2 years |
| 12.11                  | + 28%          | - 40%                    |

\* 18.5 kg box equivalent

■ Honduras: less Dole and more aid from the government. Standard Fruit (Dole) is reported to be on the point of closing 13 banana plantations, that is to say 28% of its Honduran production capacity. The closures affect 2 500 of the some 10 000 people employed in Honduras by the transnational. A serious difference in competitiveness with other countries such as Guatemala is mentioned as justification of the closures. Meanwhile, independent producers (14 million boxes forecast in 2010) have announced a funding plan totalling some USD 10.9 million that should improve productivity. Thanks to this plan and good weather conditions, yields should increase from 2 000 to 3 000 boxes per hectare in 2010. According to the Honduran customs, banana exports exceeded 600 000 tonnes in 2009 and maintaining its position as the fifth largest supplier. Exports to the EU totalled less than 10 000 tonnes in 2009.



Sources: Reefer Trends, CIRAD



© Régis Domergue

EUROPE — IMPORTED VOLUMES — MARCH 2010

| Source             | Comparison    |            |                                       |
|--------------------|---------------|------------|---------------------------------------|
|                    | February 2010 | March 2009 | cumulated total 2010 compared to 2009 |
| French West Indies | ↘             | + 75%      | + 19%                                 |
| Cameroon/Ghana     | ↗             | + 6%       | + 2%                                  |
| Surinam            | ⇒↘            | + 64%      | + 51%                                 |
| Canaries           | ↗             | + 16%      | + 18%                                 |
| Dollar:            |               | na         | na                                    |
| Ecuador            | ⇒↗            | - 4%       | - 9%                                  |
| Colombia           | ↘             | + 6%       | + 2%                                  |
| Costa Rica         |               | na         | na                                    |

maerskline.com

# Creating **opportunities** in **Global** commerce

We believe that creating opportunities is the key to success  
- in your business and in ours.

With our complete range of cold chain solutions, our dedicated reefer  
specialists take care of your perishables from pick-up to delivery.

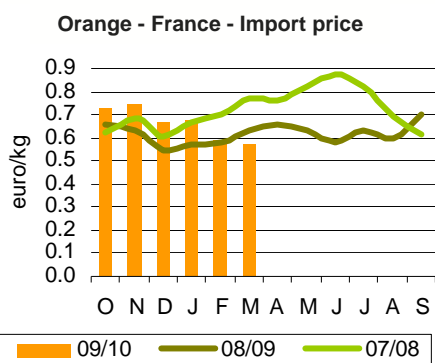
And with our truly global reach, we ensure your products arrive in the best  
possible condition – anywhere in the world.



# Orange

March 2010

The orange market remained stable. Supply held at a slightly smaller level than normal. Nevertheless, the Spanish 'Valencia Late' season started somewhat early. Supplies of 'Navelate' from Spain were short, as were those of 'Maroc Late', as the decrease in production was even more marked than forecast. Demand continued to be slow, especially as the keeping quality of some batches was not satisfactory, as a result of the difficult weather conditions this season (cold, much rain, etc.). As a result, prices did not rise but nonetheless remained slightly higher than average. The Tunisian 'Maltese' market remained difficult as fruit quality was often delicate



■ Mediterranean 'Valencia Late' season disturbed by flooding. The weather was very wet in both Morocco and Spain in the first quarter of 2010. Already hard hit by gales and intermittent rain since January, these countries suffered serious flooding at the end of February. More than 1 000 hectares of citrus was flooded in Andalusia, causing production losses of 40 to 50% according to El dia de Cordoba. The Spanish production shortfall of 'Valencia Late' resulting from the poor harvest in the Valencia Community area was worsened. However, professionals consider that the export potential should remain fairly good as fruit size is very satisfactory and substantially better than in 2009. Likewise, Morocco sustained serious losses in the Gharb and Souss regions, the main citrus growing areas. The 'Maroc Late' export potential was already very small and fell further from 120 000 to 110 000 tonnes in comparison with an average of about 80 000 tonnes in the last four years.

Sources: Reefer Trends, Valencia Fruits, ASPAM, El dia de Cordoba, CIRAD

in export intentions in comparison with 2009, making this season the second largest ever in terms of available volumes. The potential should be slightly higher than the average of the last two years for oranges and especially easy peelers. In contrast, a slight lemon and grapefruit deficit is expected. Nevertheless, exchange rates play a key role in this forecast: the euro and the yen—used by the main export markets—have lost more than 20% against the rand. The trend for diversification to other destinations should continue. In 2009, the Middle East took more than 40% of the lemons shipped and more than 20% of the oranges.

Sources: Reefer Trends, Fresh Plaza, CIRAD



© Eric Imbert

■ South African citrus harvest forecast. South Africa should have a bumper citrus crop! The export forecast drafted by the CGA and published by Reefer Trends shows a some 5% increase

| Tonnes       | 2003             | 2004             | 2005             | 2006             | 2007             | 2008             | 2009             | 2010             |
|--------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Orange       | 854 544          | 737 146          | 746 963          | 765 245          | 933 913          | 971 483          | 868 500          | 942 000          |
| Easy peelers | 139 616          | 101 390          | 85 155           | 88 165           | 101 369          | 110 135          | 102 000          | 112 500          |
| Grapefruit   | 169 035          | 184 451          | 251 345          | 157 792          | 214 620          | 186 400          | 213 000          | 189 000          |
| Lemon        | 97 963           | 115 859          | 106 635          | 112 329          | 110 308          | 143 703          | 130 500          | 135 000          |
| <b>Total</b> | <b>1 261 158</b> | <b>1 138 846</b> | <b>1 190 098</b> | <b>1 123 531</b> | <b>1 360 210</b> | <b>1 411 721</b> | <b>1 314 000</b> | <b>1 378 500</b> |

Source: CGA

| PRICE         | Type            | Average monthly price<br>euro/box 15 kg | Comparison with average for last 2 years |
|---------------|-----------------|---|--|
|               | Dessert oranges | 10.50                                   | - 1%                                     |
| Juice oranges | 11.10           | na                                      |  |

| VOLUMES         | Type | Comparison     |                          |
|-----------------|------|----------------|--------------------------|
|                 |      | previous month | average for last 2 years |
| Dessert oranges | ↘    | - 5%           |                          |
| 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      | ⇒↘             | - 8%                     | Peak season for 'Navelate'. Shipments smaller than average for reasons of deficit in export potential.                   | - 14%  |
|         | Maltese from Tunisia     | ↗              | + 5%                     | Volumes increased but remained smaller than average.   | - 12%  |
|         | Valencia late from Spain | ↗              | + 132 %                  | Early start to the season. Supply larger than average.   | + 132%   |
|         | Maroc late from Morocco  | ↗              | - 82%                    | Beginning of the season. Very limited supply resulting from weak export potential after rain in the Souss and the Gharb. | - 82%  |



## Easy peelers

March 2010

The Mediterranean easy peeler season ended under fairly good conditions. Supply was moderate but larger than average because of the increase in the areas planted with certain late varieties in a fair proportion of Mediterranean countries. Volumes of 'Ortanique' from Spain and Cyprus were moderate. In contrast, those of 'Nadorcott' from Spain and Morocco and 'Or' from Israel were fairly ample. Although demand was not particularly dynamic it matched supply. Prices remained high for quality produce but a proportion of shipments displayed poor keeping quality as a result of this year's difficult weather conditions.

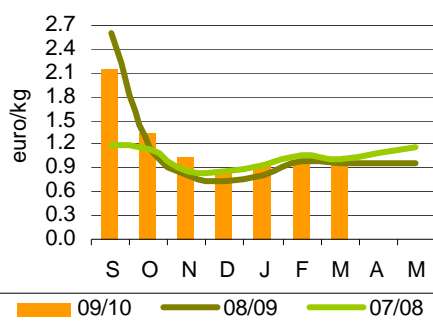
■ Concentrated lemon juice: prices high and should remain so. The combined weakness of the Spanish harvest and world stocks means that the concentrate market has remained very firm. The prices recorded at the beginning of March varied between EUR 3 000 and 3 500 per tonne according to source for 400 gpl; this is towards the top of the 2009 price range and more than double the prices observed in 2007 and 2008. The beginning of the season in Argentina, the world leader, should not affect the trend. The deficit caused by drought in the Tucuman Province, the main production region, seems to be confirmed and could be as much as 20 to 30%, depending on sources.

■ Spanish easy peelers: the range of varieties is still increasing. IVIA's varietal and rootstock plan is continuing to give results. Three new easy peeler varieties should be available at nurseries next year. 'Nero' and 'Clemenverd' are mutations of 'Nules' clementine. The first variety is slightly earlier than 'Nules' and contains very few seeds. 'Clemenverd' differs from its parent in its larger size and especially lateness that is more marked than that of 'Nules' and even 'Hernandina' (January). 'Murta' was bred by irradiating 'Murcott' and is a late variety that can be picked from March to April.

Source: Consejería de Agricultura de Valencia

Source: FoodNews

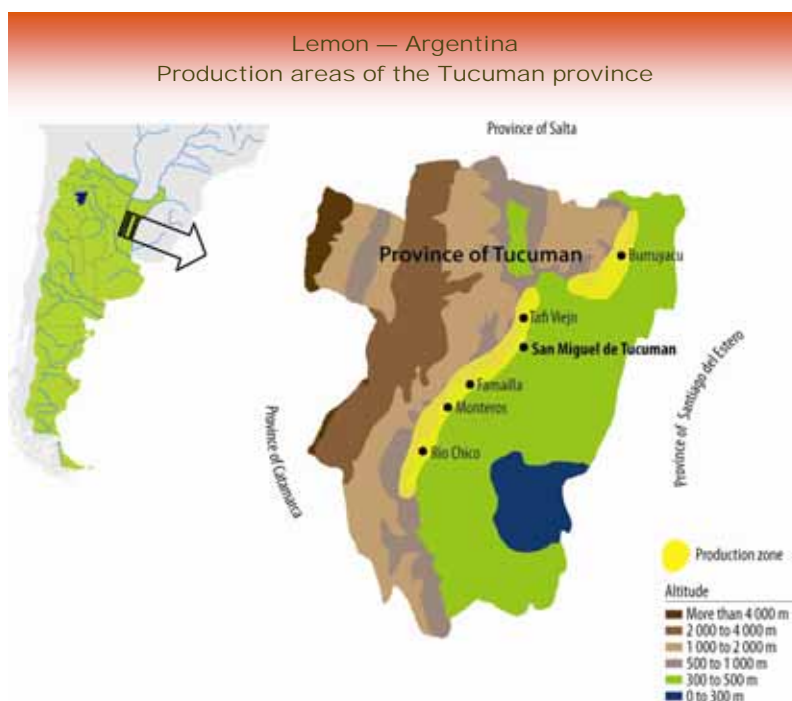
Easy peelers - France - Import price



| PRICE | Variety           | Average monthly price euro/kg | Comparison with average for last 2 years |
|-------|-------------------|-------------------------------|--|
|       | Late easy peelers |                               | 0.93                                     |

| VOLUMES           | Variety | Comparison     |                          |
|-------------------|---------|----------------|--------------------------|
|                   |         | previous month | average for last 2 years |
| Late easy peelers |         | ↘↘             | + 2%                     |

| VOLUMES | Varieties by source       | Comparison     |                          | Observations  | Cumulated total / cumulated average for last 2 years |
|---------|---------------------------|----------------|--------------------------|---|--|
|         |                           | previous month | average for last 2 years |   |  |
|         | Easy peelers from Spain   | ↘↘             | + 11%                    | Supply slightly larger than average but very moderate, based mainly on 'Nadorcott', 'Ortanique' and the last 'Fortuna'. | - 9%   |
|         | Easy peelers from Morocco | ↘↘             | + 25%                    | The last volumes of 'Nadorcott' were moderate but distinctly larger than average.                                       | + 58%  |

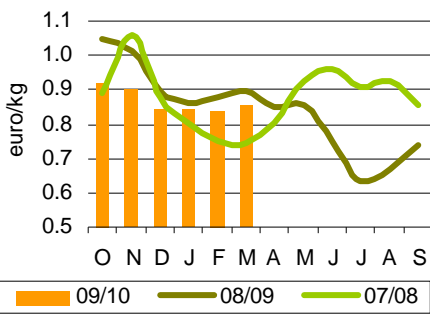


# Grapefruit

March 2010

The market for Florida grapefruit remained stable. Supply remained smaller than average, especially as a falling euro against the dollar made European importers even more cautious and Florida exporters concentrated on the Japanese market (seasonal peak of consumption). However, prices did not increase as demand remained very sluggish. Pressure eased slightly on the Mediterranean grapefruit market. Supplies from Spain were limited as a result of production losses in Andalusia and exports from the Murcia region focused on the Eastern European markets. Arrivals in the EU from Turkey were also smaller. Although volumes were larger than average, prices of Israeli size 40/45 grapefruit firmed but remained low and stable for small fruits.

Grapefruit - France - Import price



| Tonnes       | 2000         | 2001         | 2002          | 2003         | 2004          | 2005          | 2006          | 2007          | 2008          | 2009          |
|--------------|--------------|--------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Easy peel.   | 1 566        | 6 182        | 11 411        | 8 695        | 13 717        | 18 744        | 21 747        | 37 224        | 50 188        | 41 338        |
| Orange       | 145          | 278          | 272           | 91           | 232           | 300           | 882           | 7 851         | 14 571        | 3 851         |
| Grapefruit   |              |              |               | 1            | 20            | 20            | 23            | 131           | 28            | 206           |
| <b>Total</b> | <b>1 712</b> | <b>6 460</b> | <b>11 682</b> | <b>8 787</b> | <b>13 969</b> | <b>19 064</b> | <b>22 652</b> | <b>45 206</b> | <b>64 786</b> | <b>45 395</b> |

Source: Peruvian customs

■ Peruvian citrus: export sector forecast to grow again in 2010. Exports of citrus from Peru should start to increase again in 2010. The Andina press agency forecasts a harvest some 4% larger after the hot weather in 2009 that limited the early easy peeler crop. Peru arrived on the international summer citrus market only recently but growth is rapid. Exports consist mainly of easy peelers ('Satsuma', 'Minneola' and increasing volumes of 'Nules' and 'Nadorcott') and oranges. The quantities shipped increased from less than 2 000 t in the early 2000s to nearly 65 000 t in 2008. The European Union and the United States import the greater part of the fruits but exporters are working on opening up new markets and hope to ship to China and Mexico in 2010. Peru is one of the leading

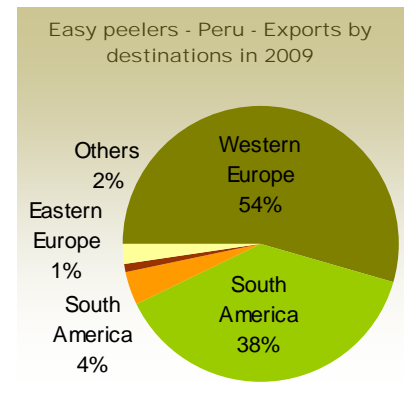
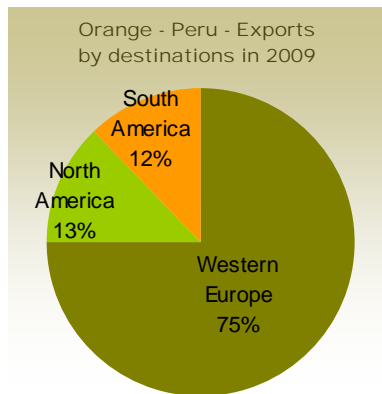


citrus producing countries in Andean America. Some 380 000 tonnes of oranges and 200 000 t of easy peelers are harvested each year, mainly on the central coast in the Lima, Ica and Junín regions, together with some 200 000 to 250 000 t of Mexican lime (*Citrus aurantifolia*, locally referred to as 'limon sutil') in the northern provinces Lambayeque and Piura.

Sources: Agence Andina, CIRAD

| PRICE              | Type          | Average monthly price euro/box 17 kg box eq. | Comparison with average for last 2 years |
|--------------------|---------------|--|--|
|                    | Tropical type | 16.00-16.50                                  | + 12%                                    |
| Mediterranean type | 10.00-10.50   | - 3%   |  |

| VOLUMES            | Type | Comparison     |                          |
|--------------------|------|----------------|--------------------------|
|                    |      | previous month | average for last 2 years |
| Tropical type      | =↘   | - 26%          |                          |
| Mediterranean type | =↗   | + 14%          |                          |



| VOLUMES | Source | Comparison     |  | Observations | Cumulated total / cumulated average for last 2 years |
|---------|--------|----------------|--|--------------|--|
|         |        | previous month | average for last 2 years   |              |  |
| Florida | =↘     | - 26%          | Volumes exported to the EU stable and still smaller than average. Peak in shipments to Japan, with larger volumes than in the two preceding years. | - 29%        |  |
| Israel  | ↗      | + 8%           | Average volumes except at the end of the month when arrivals were very substantial.  | + 7%         |  |
| Turkey  | ↘      | + 31%          | Decrease in total exports and a more moderate share shipped to the EU.   | + 39%        |  |

## Pineapple

March 2010

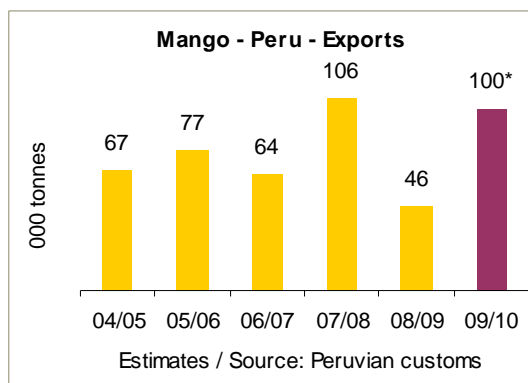
Given the promotion operations planned well in advance, the situation could have remained unchanged for the pineapple market in March. However, the late arrival of several ships resulted in occasional shortages that resulted for 'Sweet' in both increased demand and prices. However, although supply was smaller and demand fairly good, prices remained firm but not too high. Most pre-Easter sales were fluid with prices that were high but very rarely reached EUR 9.50 per box!

Supply of 'Smooth Cayenne' increased slightly before Easter. However, in contrast with the 'Sweet' market, sales were not more fluid even though prices increased a little.

The situation remained good on the air pineapple market as it was substantially under-supplied throughout the month. Indeed, very hot weather in production zones continued to affect the quantity supplied and the quality of fruits. However, prices were firmer in the last two weeks of the month. 'Sugarloaf' sales were good with prices rising gradually from EUR 1.90 to 2.05 per kg as the month went by.

'Victoria' pineapple supply remained very small—still affected by very hot weather in the Indian Ocean. The high prices thus resulted more from small supply than energetic demand or the high quality of the fruits available.

■ Peruvian mango exports: another record year. Peruvian mango exports probably reached 100 000 t in the 2009-10 season according to the press agency Andina. The figure is a strong increase in comparison with the 40 000 t shipped in 2008-09, when very bad weather reduced production considerably, and ap-



proached the historical record set in 2007-08. About 58% of volumes was shipped to the EU and 37% to the United States. The main exporters were Sunshine Export (10% of volumes), Camposol, FLP (6% each) and Empacadora de Frutos Tropicales (5%).

Sources: Andina, Peruvian customs

■ ACORBAT 2010. The 19th international meeting of ACORBAT (Association for Cooperation on Research and Comprehensive Musaceae Development) is to be held from 8 to 12 November in Medellín (Colombia). The event is held every two years in a city in Latin America or the Caribbean and is aimed at providing information about technical, scientific and economic progress in the world of Musaceae. There are lectures, workshops, poster sessions and field visits. More than a thousand researchers, scientists, growers, agriculturalists and agricultural technicians from the 40 ACORBAT member countries are expected to attend the event.



<http://www.acorbat2010.com/>

### PINEAPPLE — IMPORT PRICE

| Weeks 9 to 12     | Min  | Max   |
|-------------------|------|-------|
|                   |      |       |
| Smooth Cayenne    | 1.70 | 2.00  |
| Victoria          | 3.50 | 4.50  |
| By sea (euro/box) |      |       |
| Smooth Cayenne    | 5.50 | 8.00  |
| Sweet             | 7.00 | 10.00 |

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

| Weeks 2010        |               | 9         | 10        | 11        | 12         |
|-------------------|---------------|-----------|-----------|-----------|------------|
| By air (euro/kg)  |               |           |           |           |            |
| Smooth Cayenne    | Benin         | 1.70-1.90 | 1.80-1.90 | 1.90      | 1.90       |
|                   | Cameroon      | 1.75-1.90 | 1.80-1.90 | 1.90-2.00 | 1.90-2.00  |
|                   | Ghana         | 1.70-1.85 | 1.75-1.85 | 1.80-1.90 | 1.80-1.90  |
| Victoria          | Réunion       | 4.40-4.50 | 4.00-4.50 | 4.00-4.50 | 4.00-4.50  |
|                   | Mauritius     | 3.50-4.00 | 4.00-4.50 | 4.00-4.50 | 4.00-4.50  |
|                   | South Africa  | -         | 3.80-4.00 | -         | -          |
| By sea (euro/box) |               |           |           |           |            |
| Smooth Cayenne    | Côte d'Ivoire | 6.00-7.00 | 6.00-7.00 | 5.50-8.00 | 5.50-8.00  |
| Sweet             | Côte d'Ivoire | 7.00-9.00 | 7.00-9.00 | 7.00-9.00 | 7.00-10.00 |
|                   | Cameroon      | 7.00-9.00 | 7.00-9.00 | 7.00-9.00 | 7.00-10.00 |
|                   | Ghana         | 7.00-9.00 | 7.00-9.00 | 7.00-9.00 | 7.00-10.00 |
|                   | Costa Rica    | 7.00-8.50 | 7.50-9.00 | 7.50-9.00 | 7.50-9.00  |
|                   |               |           |           |           |            |

Photos © Régis Domergue

## Mango

March 2010

March was marked by the gradually dwindling of shipments from Peru as the season approached its end. Meanwhile, shipments from Brazil increased, making it the leading supplier of the European market in the second half of the month. Demand accelerated as Easter approached and supply became more balanced, favouring a distinct recovery of prices that rose above EUR 4.00 per box once again before rising considerably and stabilising at between EUR 5.00 and 6.00. The absence of small fruits from Peru resulted in a firming of the prices of sizes 9/10 and 12 in particular. The decrease in Peruvian deliveries was partially compensated by an increase in shipments from Brazil; these consisted of smaller fruits and benefited from the trend in demand, fetching particularly high prices. The switch from Peru to Brazil as the leading supplier of the European market generated new compartmentalisation of varieties. 'Tommy Atkins' from Brazil were sold mainly in northern Europe while 'Kent' from Peru was centred in the other countries.

The West African season began modestly at the end of the month. The first 'Amélie' from Côte d'Ivoire made the diversification of varieties possible at Easter and were sold mainly in France via preset schedules established with supermarket chains.

The air mango market remained complex, with high prices. However, it was difficult to sell Peruvian fruits at more than EUR 4.00 per kg. Although demand was healthy, price ranges remained broad because many batches were very ripe or affected by fungi. The varietal diversification contributed by West African mangoes also disturbed the market. In addition to 'Amélie', Mali shipped small volumes of Irwin, Haden, Valencia, Smith, etc. whose colour and ripeness were often inadequate. Supply was completed by a few batches of 'Ataulfo' from Mexico and of 'Namdokmai' from Thailand.

## Litchi

March 2010

The Indian Ocean litchi export seasons ended in March. The extension of the Madagascar season concerned only produce that had been stored. These batches were shifted with difficulty as fruit quality was very uneven. Systematic resorting did not succeed in obtaining satisfactory produce. As a result, prices were fixed more by buyers than by sellers. The worsening quality of Madagascar litchis resulted in large quantities of sorting rejects and this further affected average selling prices. The few batches still available on the other European markets were sold at 'open' prices depending on the quality of the fruits.

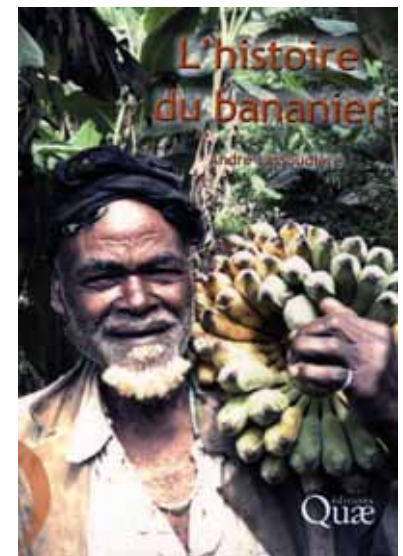
A few batches from Australia were available at the beginning of the month and sold with difficulty at around EUR 11.00 per kg. High prices and lack of interest by retailers resulted in the halting of deliveries, especially as the quality of these fruits shipped by air worsened rapidly.

Sales of the last batches of 'Red MacLean' from South Africa were uneven from one market to another in this end-of-season atmosphere. In France, where there is little enthusiasm for the variety, prices were EUR 0.65-1.25 per kg until Week 11 when the fruit disappeared from the range of produce available. Prices were better on the Belgian and Dutch markets at between EUR 2.00 and 2.25 per kg. Sales on these markets ended in mid-month.

Litchi was totally absent in the second half of the month. Deliveries from Thailand should start in April.

■ 'L'histoire du bananier'. This is the second work by André Lassoudière on 'this giant herb often considered as a tree'. The author, an agriculturalist at CIRAD from 1967 to 2008 and passionate about the plant to which he devoted his entire career, has written a synthesis of very varied historical data and the knowledge he gained in the field. The book contains hypotheses about varietal diversification and the spread of the crop from South-East Asia, a review of the various uses of the fruit and other parts of the plant, a panorama of the evolution of production for the international market with mention of the history of the large fruit companies and the technical improvements used for the conservation and transport of bananas, etc. Illustrated with numerous old drawings, photos and coloured maps, it is intended for sector professionals and everyone interested in the history and genetics of plants.

**'L'histoire du bananier' (in French), by André Lassoudière, Editions Quae, 352 pages, EUR 40, ISBN: 978-2-7592-0618-6**



MANGO — ARRIVAL ESTIMATES  
Tonnes

| Weeks 2010    | 9     | 10    | 11    | 12    | 13    |
|---------------|-------|-------|-------|-------|-------|
| By air        |       |       |       |       |       |
| Peru          | 90    | 90    | 120   | 120   | 100   |
| Brazil        | -     | -     | -     | -     | 10    |
| Mali          | 4     | 4     | 10    | 15    | 50    |
| Burkina Faso  | 5     | 12    | 15    | 20    | 20    |
| Côte d'Ivoire | -     | -     | -     | -     | 20    |
| By sea        |       |       |       |       |       |
| Peru          | 3 340 | 1 980 | 2 260 | 1 670 | 1 340 |
| Brazil        | 440   | 1 060 | 1 360 | 2 570 | 2 860 |
| Mali          | -     | -     | -     | 22    | 44    |
| Burkina Faso  | -     | -     | -     | 22    | 88    |
| Côte d'Ivoire | -     | -     | -     | 44    | 88    |

MANGO — IMPORT PRICE ON THE FRENCH MARKET — Euro

| Weeks 2010    |              | 9         | 10        | 11        | 12        | 13        | March 2010 average | March 2009 average |
|---------------|--------------|-----------|-----------|-----------|-----------|-----------|--------------------|--------------------|
| By air (kg)   |              |           |           |           |           |           |                    |                    |
| Peru          | Kent         | 3.50-4.00 | 3.80-4.20 | 3.50-4.50 | 3.50-4.50 | 3.50-4.50 | 3.55-4.35          | 4.30-4.90          |
| Mali          | Amélie       | 3.00-3.50 | 2.80-3.00 | 2.50-2.60 | 2.50-2.60 | 2.40-2.50 | 2.65-2.85          | 2.80-3.00          |
| Mali          | Valencia     | -         | -         | -         | 3.00      | 3.50-3.80 | 3.25-3.65          | 3.50               |
| Burkina Faso  | Amélie       | -         | -         | 2.40-2.50 | 2.30-2.40 | 2.40      | 2.35-2.40          | 2.85-3.00          |
| By sea (box)  |              |           |           |           |           |           |                    |                    |
| Peru          | Kent         | 4.00-5.00 | 5.00-6.00 | 6.00-6.50 | 5.50-6.50 | 5.00-6.50 | 5.10-6.10          | 4.60-5.85          |
| Brazil        | Tommy Atkins | -         | -         | -         | 5.00-6.00 | 4.00-6.00 | 4.50-6.00          | 4.85-5.50          |
| Côte d'Ivoire | Amélie       | -         | -         | -         | -         | 4.50-5.50 | 4.50-5.50          | 5.00-6.00          |

## Sea freight

March 2010

For the specialised reefer business it is sad but true to report that had it not been for the Chilean earthquake on 27 February there would have been no mini-peak to what has been a second successive desperately disappointing February and March. At 58c/cbft the average TCE return for the first three months of 2010 compares to 70c/cbft for the corresponding period in 2009, 92c/cbft in 2008 and 109c/cbft in 2007! And even the 58c/cbft is somewhat artificial: the number of vessels fixed on TCE yields of over 100c/cbft can be counted on the fingers of one hand. In this context it would come as no surprise to learn that owners are planning an extensive and prolonged lay-up for their less efficient units, especially with bunker costs likely to trend northwards. There is a precedent: the lines have had to mothball 10%-plus of the containership fleet to restrict capacity supply in an effort to underpin a rate increase. It is instructive that despite the promise of a peak season neither of the relatively modern, fuel-efficient, Restis-controlled Louis Pasteur or Pierre Doux was tempted to break lay-up in Piraeus. There is no compelling reason for either unit to trade for another 9-10 months. With an estimated cost of 10-15c/cbft to lay-up compared to an expense of 55-60c/cbft to keep a vessel operational the decision is a no-brainer if the H2 TCE yields for the past decade are taken into consideration. Only in 2006 did the average return climb above 60c/cbft between July and December, and that was largely due to a collision of unforeseeable circumstances towards the tail end of that year. While the trading environment has been difficult in the first quarter of this year there is not enough historical evidence to support a theory that demand will improve sufficiently over the course of the next three quarters to justify the commercial risk of continuing to trade. That is not to say that it will not happen: if it does, those operators obliged to continue tramping vessels will be more than thankful.

■ Venice attempting to re-launch port activities. A new, modern fruit terminal will soon be completed in Venice-Marghera port. The aim is to develop trade in fresh produce from the port of Alexandria in Egypt and Tartus in Syria, with which agreements were concluded recently. A weekly ro-ro (freight) and ro-pax (freight + passengers) service will be set up with these two destinations. The cold store with capacity for 2 000 palletes should be operational in June this year on a 13 000-m<sup>2</sup> concession.

| Tonnes     | 2007  | 2008  | 2009 |
|------------|-------|-------|------|
| Pistachio  | 326   | 139   | 481  |
| Almond     | 1 546 | 650   | 195  |
| Cherry     | 66    | 95    | 68   |
| Lemon      | 677   | 2 689 | 43   |
| Orange     | 40    | 350   | 1    |
| Grapefruit | 363   | 135   | 16   |
| Others     | 128   | 238   | 128  |

Source: Eurostat

| Tonnes          | 2007    | 2008    | 2009    |
|-----------------|---------|---------|---------|
| Orange          | 106 835 | 110 304 | 133 991 |
| Grapes          | 38 619  | 39 973  | 49 095  |
| Strawberry      | 6 728   | 6 761   | 13 251  |
| Watermelon      | 5 504   | 3 743   | 4 023   |
| Peach/nectarine | 2 626   | 1 644   | 2 211   |
| Easy peelers    | 2 241   | 1 849   | 1 429   |
| Melon           | 1 755   | 1 570   | 1 276   |
| Lemon           | 2 230   | 2 748   | 1 122   |
| Date            | 632     | 498     | 390     |
| Mango           | 259     | 364     | 322     |
| Papaya          | 705     | 342     | 198     |
| Grapefruit      | 209     | 149     | 115     |
| Apricot         | 8       | 2       | 12      |
| Others          | 26      | 12      | 6       |

Source: Eurostat

■ The 2010 annual meeting of fruit and vegetable importers and shippers will be held in Paris on 15 June. On the menu this year: what buyers look for, credit insurance, French seaports, cost and margin management. For detailed information and enrolment:



[www.scoopeven.com](http://www.scoopeven.com)



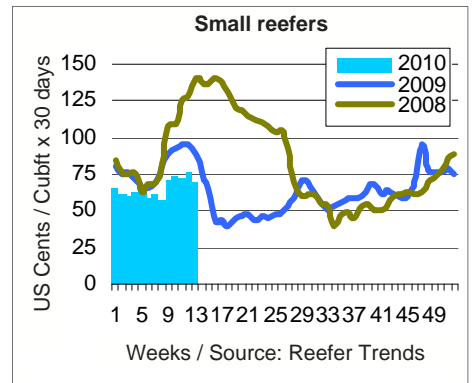
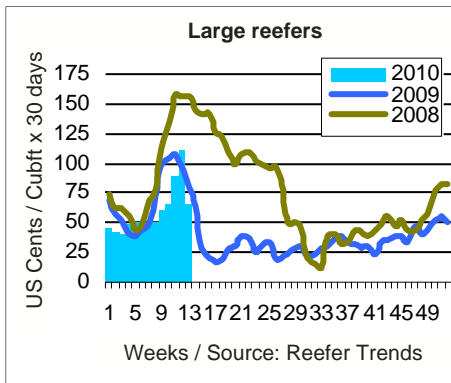
Source: GreenMed EU

| MONTHLY SPOT AVERAGE            |               |               |  |
|---------------------------------|---------------|---------------|--|
| US\$/cents/cubic foot x 30 days | Large reefers | Small reefers |  |
| March 2010                      | 81            | 69            |  |
| March 2009                      | 95            | 94            |  |
| March 2008                      | 146           | 126           |  |

Web: [www.reefer trends.com](http://www.reefer trends.com)  
 Tel: +44 (0) 1494 875550  
 Email: [info@reefer trends.com](mailto:info@reefer trends.com)

# reefer trends

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



# Counter-season melon

## Fierce competition

**The market is still changing. However, 2009 was a very difficult year for most production sources as a result of the continued effects of the economic downturn together with particularly unfavourable weather conditions. But these tensions nevertheless strengthened the main de-seasonalisation trends seen in recent years and the more restrained development of very competitive sources such as Senegal and Morocco that are achieving more significant market penetration but still have certain difficulties as regards expansion.**

Provisional figures from European customs show that extra-community melon imports fell to 324 000 t in 2009, a 10% decrease in comparison with 2008. Volumes seem to have stagnated at around 350 000 t since 2006. The decrease is caused mainly by the decrease in the volumes shipped from Latin America. Thus, although Brazil is still the leading supplier of the EU market, it seems to have suffered a 14% decrease in exports to Europe in comparison with 2008 (166 800 t). The decrease in volumes from Costa Rica was some 16%, putting it in third position among extra-European suppliers (42 800 t). Imports from Panama fell by 35% (13 100 t). Only Honduran exports continued to increase, reaching 23 100 t, that is to say 33% more than in 2008 and three times as much as five years ago. Shipments from Morocco also marked time in 2009 at 55 300 t (-2%), in particular because of poor weather, while Israeli potential stabilised (4 500 t) and imports from Senegal increased again, reaching 3 300 t (+ 29%).

Latin American production being restructured

Latin American production sources have been hard-hit by the effects of the economic downturn. The 2008-09 season was particularly disastrous in **Brazil** (economic crisis, unfavourable exchange rate), and returns for producers were very inadequate, given the increase in production

costs. Exports are reported not to have exceeded 183 912 t in the 2009 calendar year, a 13% decrease (source SECEX, processed by IBRAF), with 166 800 t shipped to the European market (63 800 t to the Netherlands, 54 266 to the United Kingdom and 46 840 t to Spain).

These economic difficulties have left traces, causing structural changes and the concentration of operators. The main unit now represents nearly 65% of Brazilian melon and watermelon production, with export potential of 100 000 t. This change has nevertheless made it possible to limit the decrease in potential. Exports in January and February are reported to have reached 42 900 t, that is to say 4.8% more than in 2009. At the beginning of the year, IBRAF was even counting on a return of exports to close to the level of 2008 (211 789 t).

These difficulties also obliged operators to adjust their strategy. Indeed, although they still focus on the British market—the destination for 50% of shipments—they work increasingly with supermarket chains. They

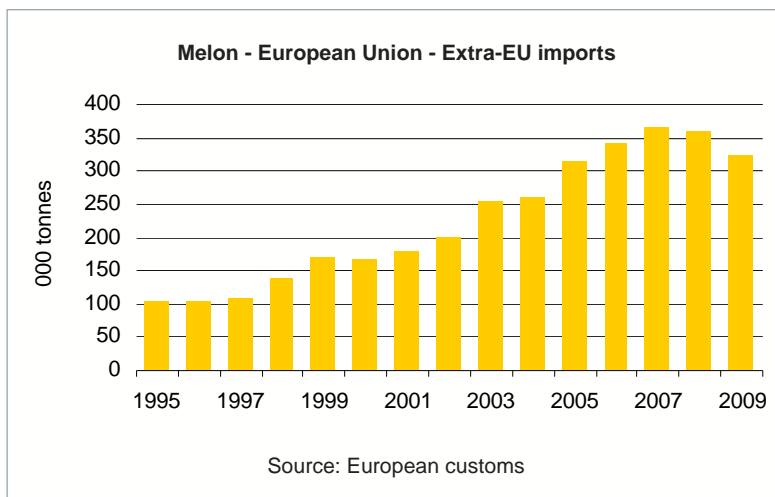


Photos © Pauline Feschet



have also chosen to diversify their customer portfolios, with closer targeting of the Spanish market, where demand is increasing. The areas planted with 'Piel de Sapo' melon have thus increased considerably (+ 30% for some operators).

Likewise, **Costa Rica** was strongly affected by the downturn in 2008, leading to a 35% decrease in areas. The total fell from 10 000 ha in 2008 to 6 500 ha in 2009, resulting in production that is now less than 200 000 t. However, producers count on the new varieties to maintain their sales, especially on markets such as Germany. Europe is still the main destination since the North American markets are less attractive for reasons of tax and a less favourable exchange rate than that of the euro. Furthermore, the opening of the American market cannot be envisaged for the moment as USDA requirements are currently too strict and too expensive.



## Morocco in search of second wind

2009 was a difficult year for Moroccan operators because of the bad weather that affected the country, except in the Dakhla zone. Rain and cold delayed the Marrakesh, Agadir and Kenitra production calendars by a fortnight, resulting in fairly substantial losses (smaller yields); this was aggravated by very hot weather (Chergui) at the end of the season. Exports thus marked time in 2009 (55 300 t). However, planted areas continued to increase steadily in the early zone of Dakhla (50 to 100 ha per year) but production of Charentais melon is structurally stable or even decreasing in the other production zones and especially near Marrakesh, with some operators withdrawing from the crop.

Likewise, production will be smaller this year even though the season started very early, with the first fruits sold in mid-February in the Dakhla region; this was two weeks earlier than usual. Bad weather (rain and cold) resulted in a conjunctural decrease on planted areas, especially in the Marrakesh zone where it was not possible to plant a full complement of melon and where production was very small, especially in tunnel greenhouses, resulting in a dip in production at the beginning of April. However, the delay at the beginning of the season seemed to be made up gradually at the beginning of April, promising a peak in production in mid-May.

Planted areas have now reached some 6 000 to 8 000 ha of 'Canari' yellow melon, 3 000 ha of 'Galia', a little less than 2 000 ha of Charentais type and only 250 ha of 'Piel de Sapo'. Most Charentais production is green, while yellow fruits are grown in 250 ha, a little more than 10% of the area. Indeed, the technical progress and improved quality recently achieved in green Charentais melons have speeded up retail penetration by these varieties in the last two years. Thus, even though the green Charentais varieties do not have the aroma and characteristics of the yellow type and although some operators still favour high produce quality, economic logic is resulting in shrinking plantations of yellow fruits, even by specialists. Likewise, the area under 'Galia' is maintained with difficulty and some growers are now opting for 'Canari'. Plantations of 'Piel de Sapo' could increase for export (Spain) and also for the domestic market as soon as technical progress is such as to allow the growing of a variety well-suited to soil and climate conditions. Nevertheless, although this production source has attractive production costs and logistic advantages, the marketing period is very short as



Photos © Pauline Freschet

consumption of melon is strongly linked to weather conditions. Thus, whereas shipments from the West Indies were very limited (because of ash falling after the eruption of the Montserrat volcano), the earliness (mid-February) of the crop this year did not favour market penetration by Moroccan melon as the weather was particularly wintry (snow and frost). Similarly, when production is too late, as was the case in 2009, the quality of produce is often affected by heat, especially at the end of the season.

#### Development of Senegalese exports tempered by logistic limits

Melon growing is still spreading in Senegal within the framework of agricultural development projects. Climatic conditions are fa-

vourable, as are logistic facilities with two maritime links. However, development now seems to concern 'Piel de Sapo' (about 200 ha). Areas are still increasing with the arrival in southern Senegal of Spanish operators who wish to start their production calendar earlier. However, it seems that the area under smooth yellow Charentais fruits is decreasing slightly (less than 200 ha). This is explained by the difficulty of growing these fruits in the northern part of the country where the weather is very changeable and where the crop can be damaged by sandstorms. Production is also limited by logistics as even though it takes only five days to reach Port Vendres, available freight capacity is still too small to handle large-scale fluctuations in the crop. Nevertheless, this production source with very low production costs should remain present on the market as high-quality produce can be supplied at attractive prices from December to April, especially as melon is part of a broader diversification policy including tomato, strawberry, etc.

#### Guadeloupe melon has a high profile

The development of these two production zones has resulted in a decrease in areas under melon in the French West Indies in the last two years as a number of operators have left. However, in less than 30 years melon has become the third-largest crop in the islands after banana and sugar cane,

#### Melon — European Union — Extra-EU Imports

| Tonnes       | 2007           | 2008           | 2009*          | Variation 2009/2008 |
|--------------|----------------|----------------|----------------|---------------------|
| Brazil       | 192 303        | 193 025        | 166 794        | -14%                |
| Morocco      | 47 101         | 56 545         | 55 314         | -2%                 |
| Costa Rica   | 68 426         | 50 969         | 42 814         | -16%                |
| Honduras     | 13 726         | 17 380         | 23 094         | 33%                 |
| Panama       | 18 225         | 20 128         | 13 131         | -35%                |
| Turkey       | 6 718          | 7 841          | 6 812          | -13%                |
| Israel       | 7 850          | 4 073          | 4 519          | 11%                 |
| Senegal      | 2 142          | 2 571          | 3 319          | 29%                 |
| <b>Total</b> | <b>366 102</b> | <b>361 920</b> | <b>324 040</b> | <b>-10%</b>         |

\* provisional / Source: Eurostat



with nearly 480 ha (360 ha in 2000, 276 ha in 1990 and only 60 ha in 1981). The sector provides jobs for nearly 500 people and annual production totals some 7 000 to 8 000 t, with nearly 5 000 t shipped—mainly to metropolitan France.

But competition is now too fierce and it is beginning impossible for West Indian melons—shipped by air—to compete in terms of price with fruits from sources with much cheaper labour and logistics. Thus, after a serious crisis in 2008 when the European market was saturated, professionals in Guadeloupe reacted by resurrecting the Association interprofessionnelle du melon de Guadeloupe (AIMG). The aim in particular was to handle the application for a 'melon de Guadeloupe' Protected Geographical Indication (PGI); this was approved by the INAO on 1 October 2009 with a view to reg-



istration by the European Commission. This PGI is for 'yellow Charentais' melon harvested from November to June only in six communes in part of Grande Terre and the whole of the island Marie Galante. The soils in this production zone are suited to the production of high-quality melons and the climatic conditions are dry for part of the year, favouring ripening and giving Guadeloupe melon a very sweet taste, much aroma and perfume and soft flesh that keeps well. Potential has been a little smaller this season (2009-10) for reasons of rain and the eruption of the Soufrière volcano in Montserrat that caused a temporary halt in shipments at the beginning of the year.

In addition, it is difficult to maintain melon exports from Israel but a slight increase was seen again in 2009 with a total of 4 500 t (+ 11% in comparison with 2008). However, the figure is well below the figures for exports to the EU market two or three years ago as the fruits are running up against competition from Morocco ■

Cécilia Céleyrette, Consultant  
c.celeyrette@infofruit.fr

# FRUITROP

Your monthly journal on the web



New Website

<http://passionfruit.cirad.fr>

3 500 articles in full text!

## Reefer logistics

Logistics professionals who understand your business



## Passion for customers



At Damco, we understand the importance of cargo care when dealing with frozen or perishable products. We ensure that cargo travels in an unbroken cold chain from point of origin to final destination in close coordination with leading reefer ocean carriers and first class service providers.

Our global team of reefer specialists offers customised solutions ranging from single corridor port-to-port to multiple corridor door-to-door solutions with full end-to-end visibility. Supported by a strong team of logistics experts around the world, we strive to keep our organisation at the forefront of market and technology developments within the reefer sector.

To find out more about Damco, visit  
[www.damco.com](http://www.damco.com)

A report by  
Denis Loeillet

# Banana

## Contents

|       |   |
|-------|---|
| p. 19 | The banana market: reasonably pessimistic                             |
| p. 20 | Common market organisation of banana or how to dance on a grave       |
| p. 23 | Sustainable Banana Plan for the French West Indies                    |
| p. 25 | Review of supply of the European banana market: as slow as expected   |
| p. 29 | The United States banana market: down and down again                  |
| p. 33 | The French banana market: more, more and more                         |
| p. 38 | The Spanish banana market: end of the Canary exception                |
| p. 40 | Producer country sheet: banana in Surinam                             |
| p. 43 | Producer country sheet: banana in Côte d'Ivoire                       |
| p. 46 | Statistic panorama: world, EU, USA, Japan                             |
| p. 48 | The genetic diversity of banana in figures                            |
| p. 53 | Sigatoka Leaf streak diseases: a new threat for the banana production |
| p. 55 | Banana quality defects  |
| p. 58 | Post harvest diseases   |

The 2009 banana year was one of transition in every way. On the market, the Central American supply deficit resulted in a fall in consumption of between 6 and 12% in the main import zones. The end of the year was marked by supply returning normal and a very distinct worsening of the situation. At the negotiating table, the Geneva agreement of 15 December 2009 and the probable agreements with the free trade zones (Andean Pact, CACM and Mercosur) mark the beginning of the final dismantling of the common market organisation of banana, with a customs tariff of EUR75 per tonne in 2020 at the latest. The most fragile producers can only beg for extra cash within the framework of support programmes. We really do seem to have returned to square one this time.

© Régis Domergue



Your tailored  
bananas.



**GLOBALG.A.P.**  
**TESCO NURTURE**



Contact : BRUNO DASSONVILLE

Tel. + 33(0)491 43 44 62

[bdassonville@kini-productions.com](mailto:bdassonville@kini-productions.com)

[www.kini-productions.com](http://www.kini-productions.com)

Content published by the author and is the property of the author. All rights reserved.



## The banana market

### Reasonably pessimistic



Physicists of all kinds are in search of the famous missing particle and theories about dark energy and black matter abound. They all attempt—unsuccessfully—to explain the origin and fate of the universe. At a more trivial scale, the banana sector also has its mystery that many people think they can solve. This is the finding of the missing link between the level of the European customs tariff and market supply.

For years, various schools of thought have competed with each other and each has put forwards a conjecture. There are those for whom the customs tariff (for lack of a quota system) should be as high as possible to restrict the volumes released and hence maintain prices. Others, waving econometric calculations, call for a very low level or even no dues at all; holding that this would conserve the balance of forces using a basic principle: market forces are wise enough to settle everything. According to Joseph Stiglitz, winner of the Nobel Prize for Economics, the market does not possess the self-regulating abilities attributed to it by neoclassical economic theory. Supply and demand never balance each other spontaneously, even with hypotheses of pure and perfect competition, and state interventions are generally much more effective than a market left to itself. In all cases, the sheep-like and irrational behaviour of operators means that, for lack of a quota, the market is governed directly by world supply and imbalances are inevitable without strong market regulation by volumes.

### The market is too stupid

2009 will remain a great source of inspiration for 'banana market physicists'. It gave an advantage to those who consider that the world supply level is the key to the functioning of markets. Indeed, the world's two main markets displayed strong decreases in volumes (the USA market was 12% down and EU-27 was 6% down) as world supply was affected by the loss of a proportion of Costa Rican production. The serious floods

that hit Central America at the end of 2008 caused market under-supply. Ecuador and Colombia only made up part of their deficits. It can be understood that when supplies are decreasing customs dues have no effect on market balances. Did prices rocket everywhere in Europe, in the United States and in related markets such as Russia and the Mediterranean basin as one might have expected? Examination of average annual prices hardly revealed a price explosion. The level seen in 2009 was similar to that of the two previous years at EUR 0.67 per kg at import stage in France (**Fruitrop 172**, January 2010). Analysis of half-years is more interesting, confirming the theory that world supply models the market. Indeed, during the first half of the year when Costa Rica and many other Central American countries were absent from the market, quay prices in Europe and elsewhere shot up to EUR 0.78 per kg. In the second half of the year, the scheduled return of the suppliers that had had problems, fairly sluggish consumption in many European countries including Germany and pressure from supermarket chains forced prices down (EUR 0.65 per kg). But the depressive effects of renewed production in Central America were observed right at the end of 2009 and at the beginning of 2010. Here, the first quarter of 2010 is very revealing as regards the relation between world supply and import prices in Europe. It can be summarised in two words: direct and depressing.

### Bananas are not goods

In 2006, the EU switched from a quota system to a tariff-only system. The level of customs dues, currently EUR 148 per tonne after a previous EUR 176 is the focus of discussion. Interpretations obviously differ. Some people consider that it does not have a regulating effect on the market; whatever the level, if world supply displays a surplus, the produce will reach the market. And horrors! Regulation by volume is essential because, like other produce, bananas are perishable, very sensitive to unfavourable weather events, are for mass consumption, are a cash crop, etc. Others think that the tariff is currently too low to dissuade the same operators and, in addition, since the application of a tariff-only system in 2006, world



Photos © Régis Domergue



supply has not been normal and the protective effect of a tariff at EUR 176 per tonne was not tested.

Finally, the most optimistic commentators think that market self-regulation is more effective. We can remind them of a recent episode in banana history—the disastrous spring of 2006. At that time, doubtless drunk on the possibility of being able to export bananas to the EU with no volume constraints, very ambitious operators on both sides of the Atlantic caused deep disturbance to the European market for several months because they thought that they could gain market shares. The customs tariff had no regulating effect. Since this painful experience, nobody can say that he has verified, for even an instant, the postulate that the market is regulated by customs dues'.

### The worst is yet to come

In short, with or without customs dues, the market is like an aeroplane with no pilot. This leads to fearing the worst for 2010. A banana apocalypse has often been prophesied—in 1993 when the common market organisation of ba-

nana was set up, during enlargement of the EU to 15 member-states and then 25 and 27, and in 2006 at the switch to the tariff-only system. As I mentioned, 2006 was a very difficult period to weather but mainly because of actions by just a few people, essentially one producer-exporter and one importer. The conditions are very difficult today because if it is considered that the supply level is decisive the peril is very great.

Indeed, Costa Rica has returned to its very high production levels and even announced (**FruiTrop 175**, February 2010, page 5) record export forecasts with 110 million boxes exported in comparison with an average of 108 million from 2006 to 2008. The trends are excellent in Colombia, which finished the year with exports of 97 million boxes. Finally, after breaking export records in 2009 with 271 million boxes (+6%), Ecuador has announced improved productivity in the weeks and months to come. Africa has not suffered from very many strong gales and the Caribbean plantations have not sustained much damage from hurricanes and tropical storms.

The economic results and above all the market profile at the beginning of 2010 make the alarmist hypothesis more credible. The French average import price is EUR 0.64 per kg, that is to say 21% lower than last

## Common market organisation of banana or how to dance on a grave

At the end of 2009 we announced the scheduled execution of the common market organisation of banana (CMOB), floored by the WTO on 15 December. A gaggle of Latin American banana exporting states helped by the European Commission decided on the programme for finishing off this 16-year-old trade organisation. The removal of the quota principle in 2006 opened the way to a tariff-only system. On 1 January 2006, supplier countries were classified as belonging to the ACP group, benefiting from exemption from dues, or the MFN (most-favoured nation) category, or dollar banana sources, that had to pay customs dues of EUR 176 per tonne. The Geneva agreement planned the lowering of the tariff to EUR 114 per tonne in 2017 or 2019. According to econometric models, this decrease will not depress markets but rebalance forces to the benefit of dollar sources against ACP sources, and especially African banana exporting countries, ideal targets pictured as bogeymen with a thirst for conquest, ready to pour masses of bananas into Europe, scaring other sources away from this juicy market.

### Spain shuts out France

The balance is markedly negative just a single quarter after the agreement. The world market is depressed after the return to normal of world supplies after the very serious damage sustained by South American banana plantations at the end of 2008. Quay prices have hit the bottom. It is difficult for producer prices to reach the minimums set. And many people

are already forecasting a disastrous year like that suffered by the market in 2004. It is obviously too early for these pessimistic forecasts to be confirmed and the factors for evaluating and understanding the market are intertwined: very slow economic recovery, freezing weather, competition from other fruits, etc. We could at least all agree about the currently delicate world situation. Nothing doing. The MFNs want to put the boot in. Whatever the consequences. The ink of the signatures on the multilateral agreement is hardly dry and Spain, holding European presidency for the first half of 2010, has put the banana question back on the table—in bilateral discussions this time. France is the last member-state to be in favour of customs dues, at least at the level of the Geneva agreement, and is totally isolated in this negotiation. Spain is playing the compromise game as hard as it can, presenting all the European states concessions in various sectors but progress in others such as the car industry for Germany, olive oil for Greece and dairy products for Ireland. Even delaying the setting up of these agreements seems out of range for opponents. At the end of March 2010, the ACP-EU Joint Parliamentary Assembly did threaten—in diplomatic terms—not to ratify last December's Geneva agreement. The chances of mobilising the European parliament against the implementation of the Geneva agreement are very small. But this could be the first question about which the new authority could give its opinion. What is the use of new prerogatives if the positions of the European Council and Commission are followed meekly in such a symbolic dossier.

### A 25-year round trip

What are bananas in all this? Just a bargaining counter so that Spain can sign the agreements with the Andean Pact countries (Colombia and Peru but not Ecuador for the mo-

year, making the first quarter of 2010 one of the worst of the decade. The German import price displayed the same trend (Aldi reference) in the first quarter, and you have to go back to the *annus horribilis* 2004 to find an import price as low as EUR 0.70 per kg. The major international operators are beginning to be frightened. For example, Chiquita issued a release in which it expressed concern about price movements in Europe during the first quarter. At least shareholders will have been warned. A new stage was reached in early April 2010 with German operators weighed down with dollar bananas and re-shipping them to the Russian market in large quantities.

### Less spot trading, more contracts

Pessimism about imports is contaminating exports and production. Whereas spot bananas from Ecuador still changed hands at USD 12 per box in January (ex-Guayaquil), the price reached USD 5.40 at the end of March—not a single cent more than the Ecuadorian *precio minimo*. Some Ecuadorian growers have also signed fixed price contracts for the coming months, thus moving from an approach con-

sisting of acceptable risk-taking in negotiating the selling price week after week to the need for a guaranteed price because market uncertainty is increasing. This had not happened for years and is doubtless a warning sign of difficult days ahead for the markets ■

Denis Loeillet, CIRAD  
denis.loeillet@cirad.fr



Photos © Régis Domergue

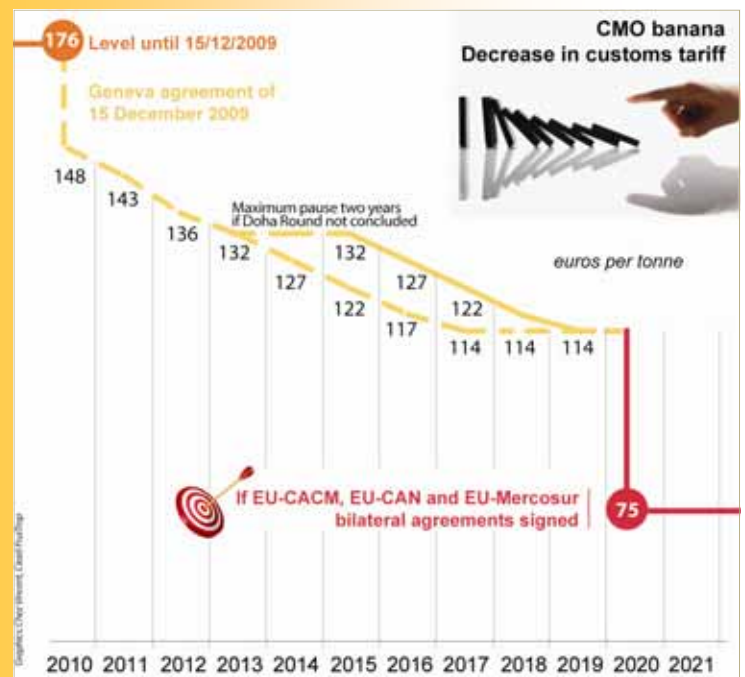
ment) and the Central American Common Market (CACM) before the summer of this year (May has been mentioned). The result of this non-negotiation will be a further decrease in customs dues to reach a highly symbolic EUR 75 per tonne in 2020. We shall have travelled a full circle as this was the tariff applied to dollar bananas in 1995, although at the time the dollar banana quota was 2 553 000 tonnes, strictly distributed about a few supplier countries. Twenty-five years to reach this result is perhaps not much at the geological scale but one might wonder whether it is still too long at the scale of globalisation handled like a forced march.

So what remains to be done? All the solutions except one differ according to production source, with the common one being increased competitiveness. Such gains can be found within farming systems (improved productivity), in segmentation or differentiation, also applied to production methods and sector governance. As regards support from the European authorities, European and ACP production require accompaniment to make such progress. This is the least that can be done when the rules are changed during the game.

ACP producers have been awarded EUR 200 million to strengthen the competitiveness of producers. This is to be awarded to the ten leading banana exports during the period 2010-2013: Belize, Cameroon, Côte d'Ivoire, Dominica, the Dominican Republic, Ghana, Jamaica, St Lucia, St Vincent and Surinam. Allocation of aid will be based on three main criteria: the volume of bananas released on the EU market, the importance of banana exports to the EU in the country's economy and the level of development measured by the United Nations human development index (HDI). The European Commission considers that for European producers the POSEI allocation (about EUR 280 million per year from 2007) was calculated taking into account the probable decrease in customs dues. It is maintaining its position for the moment,

leaving Spanish and French growers for example to turn to their national authorities.

If Europe has used bananas as a bargaining counter to conclude trade agreements that benefit the community, it should compensate the difficulties that these agreements engender for the most fragile suppliers. A modern version of 'an eye for an eye and a tooth for a tooth' would require a fair balance between crime and punishment.



Banana — EU-27 imports — 2009

|  | AT             | BELU           | BG           | CY           | CZ             | DE             | DK            | EE            | ES            | FI            | FR             | UK             | EL            | HU            | IE            | IT             | LT            | LV            | MT           | NL            | PL             | PT            | RO            | SE            | SI           | SK            | EU-27            |           |         |
|--|----------------|----------------|--------------|--------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|---------------|----------------|---------------|---------------|--------------|---------------|----------------|---------------|---------------|---------------|--------------|---------------|------------------|-----------|---------|
| <b>000 tonnes</b>                            |                |                |              |              |                |                |               |               |               |               |                |                |               |               |               |                |               |               |              |               |                |               |               |               |              |               |                  |           |         |
| Total Extra EU, including total NPF, incl.   | 1 973          | 1 278 825      | 14 817       | 32           | 2 482          | 843 363        | 14 670        | 497           | 112 933       | 297           | 275 785        | 903 846        | 27 728        | 0             | 37 761        | 532 201        | 3 439         | 0             | 116          | 98 464        | 34 371         | 113 005       | 60 022        | 87 066        | 69 872       | 41            | 4 513 605        |           |         |
| Ecuador                                      | 1 118          | 265 430        | 14 776       | 0            | 858            | 328 834        | 8 674         | 497           | 102 175       | 297           | 2 588          | 478 869        | 27 728        | 0             | 19 841        | 531 896        | 3 439         | 0             | 116          | 83 982        | 34 371         | 112 965       | 60 022        | 86 994        | 69 872       | 41            | 3 555 462        |           |         |
| Colombia                                     | 1 839          | 503 723        | 0            | 18           | 0              | 260 819        | 5 694         | 0             | 33 388        | 0             | 710            | 216 796        | 819           | 0             | 641           | 129 362        | 0             | 98            | 4 781        | 0             | 57 349         | 33 786        | 34 805        | 53 057        | 2 957        | 59 197        | 41               | 1 278 483 |         |
| Costa Rica                                   | 16             | 242 189        | 0            | 0            | 1 624          | 111 266        | 300           | 0             | 16 780        | 73            | 0              | 180 669        | 2 123         | 0             | 16 808        | 82 722         | 221           | 0             | 0            | 10 504        | 392            | 43 365        | 836           | 42 878        | 122          | 0             | 752 891          |           |         |
| Panama                                       | 0              | 4 342          | 0            | 0            | 0              | 123 715        | 0             | 0             | 0             | 0             | 0              | 2 878          | 1 119         | 0             | 7 906         | 0              | 0             | 0             | 536          | 192           | 633            | 976           | 41 158        | 0             | 0            | 0             | 183 455          |           |         |
| Brazil                                       | 0              | 15 988         | 0            | 0            | 0              | 6 305          | 0             | 0             | 1 938         | 0             | 754            | 21 579         | 0             | 0             | 8 745         | 0              | 0             | 0             | 336          | 0             | 0              | 358           | 0             | 0             | 0            | 0             | 56 002           |           |         |
| Peru   | 0              | 27 831         | 0            | 0            | 0              | 5 596          | 0             | 0             | 0             | 0             | 1 473          | 0              | 0             | 0             | 477           | 0              | 0             | 0             | 8 858        | 0             | 0              | 0             | 0             | 0             | 0            | 0             | 44 236           |           |         |
| Mexico                                       | 0              | 1 365          | 0            | 0            | 0              | 1 119          | 0             | 0             | 5 488         | 0             | 501            | 1 725          | 541           | 0             | 294           | 9 106          | 0             | 0             | 0            | 1 494         | 0              | 242           | 0             | 0             | 0            | 0             | 21 874           |           |         |
| Honduras                                     | 0              | 5 689          | 0            | 0            | 0              | 1 442          | 0             | 0             | 0             | 0             | 0              | 636            | 0             | 0             | 357           | 0              | 0             | 0             | 0            | 91            | 0              | 0             | 301           | 0             | 0            | 0             | 8 516            |           |         |
| Guatemala                                    | 0              | 137            | 0            | 0            | 0              | 0              | 0             | 0             | 0             | 0             | 0              | 1 600          | 0             | 0             | 240           | 0              | 0             | 0             | 0            | 0             | 0              | 0             | 1 696         | 0             | 0            | 0             | 3 672            |           |         |
| United States                                | 0              | 0              | 0            | 0            | 0              | 0              | 0             | 0             | 0             | 0             | 3              | 211            | 7             | 0             | 0             | 0              | 0             | 0             | 0            | 0             | 0              | 0             | 0             | 0             | 0            | 0             | 222              |           |         |
| Philippines                                  | 0              | 0              | 0            | 0            | 0              | 15             | 0             | 0             | 0             | 0             | 0              | 0              | 0             | 0             | 0             | 0              | 0             | 0             | 0            | 20            | 0              | 0             | 21            | 0             | 0            | 0             | 55               |           |         |
| <b>total ACP, incl.</b>                      | <b>0</b>       | <b>212 131</b> | <b>0</b>     | <b>0</b>     | <b>0</b>       | <b>4 241</b>   | <b>0</b>      | <b>0</b>      | <b>10 758</b> | <b>0</b>      | <b>273 228</b> | <b>424 977</b> | <b>0</b>      | <b>0</b>      | <b>17 920</b> | <b>305</b>     | <b>0</b>      | <b>0</b>      | <b>0</b>     | <b>14 472</b> | <b>0</b>       | <b>41</b>     | <b>0</b>      | <b>73</b>     | <b>0</b>     | <b>0</b>      | <b>958 144</b>   |           |         |
| Cameroon                                     | 0              | 92 180         | 0            | 0            | 0              | 1              | 0             | 0             | 3 031         | 0             | 54 593         | 99 809         | 0             | 0             | 0             | 0              | 0             | 0             | 0            | 0             | 0              | 0             | 0             | 0             | 0            | 0             | 0                | 249 614   |         |
| Cote d'Ivoire                                | 0              | 37 495         | 0            | 0            | 0              | 0              | 0             | 0             | 4 814         | 0             | 140 680        | 46 205         | 0             | 0             | 0             | 0              | 0             | 0             | 0            | 0             | 0              | 0             | 0             | 0             | 0            | 0             | 0                | 229 195   |         |
| Dom. Rep.                                    | 0              | 63 611         | 0            | 0            | 4 190          | 0              | 0             | 0             | 2 790         | 0             | 12 801         | 155 371        | 0             | 0             | 0             | 305            | 0             | 0             | 0            | 14 472        | 0              | 41            | 0             | 73            | 0            | 0             | 253 653          |           |         |
| Belize                                       | 0              | 0              | 0            | 0            | 0              | 0              | 0             | 0             | 0             | 0             | 0              | 61 879         | 0             | 0             | 17 920        | 0              | 0             | 0             | 0            | 0             | 0              | 0             | 0             | 0             | 0            | 0             | 0                | 79 799    |         |
| Surinam                                      | 0              | 0              | 0            | 0            | 0              | 0              | 0             | 0             | 0             | 0             | 57 615         | 0              | 0             | 0             | 0             | 0              | 0             | 0             | 0            | 0             | 0              | 0             | 0             | 0             | 0            | 0             | 57 615           |           |         |
| Ghana  | 0              | 18 782         | 0            | 0            | 0              | 0              | 0             | 0             | 0             | 0             | 7 538          | 10 166         | 0             | 0             | 0             | 0              | 0             | 0             | 0            | 0             | 0              | 0             | 0             | 0             | 0            | 0             | 36 486           |           |         |
| St Lucia                                     | 0              | 0              | 0            | 0            | 0              | 0              | 0             | 0             | 0             | 0             | 0              | 39 238         | 0             | 0             | 0             | 0              | 0             | 0             | 0            | 0             | 0              | 0             | 0             | 0             | 0            | 0             | 33 238           |           |         |
| Dominica                                     | 0              | 0              | 0            | 0            | 0              | 0              | 0             | 0             | 123           | 0             | 0              | 10 798         | 0             | 0             | 0             | 0              | 0             | 0             | 0            | 0             | 0              | 0             | 0             | 0             | 0            | 0             | 10 921           |           |         |
| St Vincent                                   | 0              | 0              | 0            | 0            | 0              | 0              | 0             | 0             | 0             | 0             | 0              | 7 511          | 0             | 0             | 0             | 0              | 0             | 0             | 0            | 0             | 0              | 0             | 0             | 0             | 0            | 0             | 7 511            |           |         |
| Uganda                                       | 0              | 7              | 0            | 0            | 0              | 50             | 0             | 0             | 0             | 0             | 0              | 0              | 0             | 0             | 0             | 0              | 0             | 0             | 0            | 0             | 0              | 0             | 0             | 0             | 0            | 0             | 57               |           |         |
| <b>Total Intra EU, including total EU-15</b> | <b>113 873</b> | <b>40 538</b>  | <b>6 838</b> | <b>4 189</b> | <b>153 814</b> | <b>514 984</b> | <b>88 168</b> | <b>10 270</b> | <b>72 101</b> | <b>52 992</b> | <b>254 124</b> | <b>38 432</b>  | <b>54 495</b> | <b>85 720</b> | <b>17 135</b> | <b>151 903</b> | <b>23 780</b> | <b>11 012</b> | <b>4 652</b> | <b>85 436</b> | <b>182 008</b> | <b>44 720</b> | <b>13 063</b> | <b>93 551</b> | <b>1 175</b> | <b>61 212</b> | <b>2 180 181</b> |           |         |
| Belgium                                      | 170 715        | 39 535         | 4 755        | 4 189        | 146 373        | 509 903        | 88 147        | 6 542         | 72 101        | 52 826        | 253 911        | 38 390         | 54 447        | 67 047        | 17 135        | 134 211        | 22 458        | 6 736         | 4 398        | 85 243        | 173 572        | 44 720        | 5 916         | 93 551        | 1 175        | 38 396        | 2 076 386        |           |         |
| Germany                                      | 60 816         | 9 886          | 38           | 0            | 35 240         | 0              | 0             | 0             | 2 561         | 8 464         | 87 142         | 14 661         | 74            | 28 347        | 56            | 40 778         | 6 894         | 1 362         | 0            | 54 274        | 79 130         | 0             | 648           | 6 138         | 0            | 0             | 17 889           | 770 375   |         |
| France                                       | 8 351          | 16 222         | 1 211        | 0            | 54 573         | 31 837         | 321           | 0             | 42 384        | 0             | 524            | 21 559         | 17 343        | 733           | 800           | 15 749         | 1 913         | 13 152        | 12 703       | 1 316         | 0              | 26 198        | 76 813        | 29            | 647          | 53 652        | 8                | 12 830    | 421 583 |
| Netherlands                                  | 24 136         | 8 914          | 42           | 18           | 21 300         | 50 402         | 9 167         | 233           | 11 186        | 309           | 44 144         | 8 574          | 59            | 2 483         | 1 297         | 14 087         | 615           | 457           | 523          | 0             | 2 291          | 12 360        | 1 079         | 259           | 20           | 4 725         | 244 057          |           |         |
| Italy  | 228            | 931            | 40           | 389          | 440            | 15 947         | 3             | 0             | 5 909         | 24            | 26 819         | 44             | 53 183        | 1 072         | 0             | 106            | 0             | 3 848         | 44           | 128           | 170            | 1 369         | 1 426         | 19 416        | 99           | 121           | 229 985          |           |         |
| Spain  | 0              | 0              | 22           | 0            | 0              | 381            | 312           | 0             | 0             | 0             | 41 408         | 257            | 244           | 1 576         | 0             | 1 362          | 0             | 0             | 575          | 111           | 31 577         | 19            | 0             | 0             | 0            | 0             | 77 844           |           |         |
| UK   | 8              | 102            | 0            | 0            | 55             | 637            | 174           | 3             | 2 240         | 0             | 36 527         | 0              | 43            | 0             | 13 844        | 300            | 0             | 0             | 1 786        | 238           | 183            | 142           | 3 507         | 0             | 0            | 0             | 59 789           |           |         |
| Ireland                                      | 0              | 0              | 0            | 0            | 0              | 41 265         | 0             | 0             | 0             | 0             | 6 021          | 0              | 0             | 0             | 0             | 0              | 0             | 0             | 0            | 0             | 85             | 0             | 0             | 0             | 0            | 0             | 47 371           |           |         |
| Portugal                                     | 0              | 42             | 0            | 0            | 0              | 0              | 0             | 0             | 7 298         | 0             | 1              | 9              | 0             | 0             | 0             | 25 482         | 0             | 0             | 0            | 0             | 0              | 0             | 0             | 0             | 0            | 0             | 32 831           |           |         |
| Sweden                                       | 0              | 26             | 0            | 0            | 0              | 1 630          | 4 982         | 0             | 0             | 22 470        | 145            | 0              | 0             | 0             | 0             | 0              | 0             | 0             | 74           | 0             | 0              | 0             | 0             | 0             | 0            | 0             | 29 327           |           |         |
| Finland                                      | 0              | 0              | 0            | 0            | 0              | 8              | 14 496        | 1 195         | 0             | 0             | 95             | 0              | 0             | 0             | 0             | 0              | 0             | 0             | 0            | 0             | 0              | 0             | 0             | 0             | 0            | 0             | 15 794           |           |         |
| Austria                                      | 0              | 0              | 0            | 0            | 0              | 356            | 3 484         | 0             | 0             | 0             | 215            | 0              | 0             | 8 509         | 0             | 188            | 0             | 0             | 0            | 39            | 0              | 195           | 0             | 559           | 38           | 13 582        |                  |           |         |
| Denmark                                      | 0              | 22             | 0            | 0            | 0              | 1 555          | 0             | 0             | 0             | 0             | 0              | 0              | 0             | 0             | 0             | 0              | 0             | 0             | 0            | 0             | 0              | 0             | 10 579        | 0             | 0            | 0             | 12 157           |           |         |
| Greece                                       | 0              | 0              | 3 243        | 3 727        | 0              | 0              | 0             | 0             | 0             | 0             | 0              | 0              | 0             | 0             | 84            | 21             | 0             | 0             | 0            | 1             | 0              | 0             | 392           | 0             | 0            | 0             | 7 469            |           |         |
| Luxembourg                                   | 58             | 42             | 0            | 0            | 0              | 0              | 0             | 0             | 0             | 0             | 74             | 0              | 21            | 0             | 0             | 0              | 0             | 0             | 0            | 0             | 0              | 0             | 0             | 0             | 0            | 0             | 195              |           |         |
| <b>total NMS, incl.</b>                      | <b>3 162</b>   | <b>1 004</b>   | <b>2 083</b> | <b>0</b>     | <b>7 441</b>   | <b>5 080</b>   | <b>21</b>     | <b>3 727</b>  | <b>0</b>      | <b>165</b>    | <b>213</b>     | <b>42</b>      | <b>48</b>     | <b>18 673</b> | <b>0</b>      | <b>17 692</b>  | <b>1 322</b>  | <b>4 276</b>  | <b>254</b>   | <b>194</b>    | <b>8 437</b>   | <b>0</b>      | <b>7 147</b>  | <b>0</b>      | <b>0</b>     | <b>22 816</b> | <b>103 796</b>   |           |         |
| Czech Rep.                                   | 127            | 985            | 1 513        | 0            | 0              | 19             | 0             | 944           | 0             | 0             | 169            | 0              | 0             | 12 999        | 0             | 0              | 0             | 328           | 0            | 0             | 5 155          | 0             | 281           | 0             | 0            | 0             | 21 286           | 43 807    |         |
| Slovenia                                     | 1 118          | 0              | 402          | 0            | 542            | 686            | 0             | 0             | 0             | 0             | 0              | 0              | 0             | 3 577         | 0             | 11 106         | 21            | 0             | 0            | 0             | 1 769          | 0             | 1 413         | 0             | 0            | 0             | 908              | 12 543    |         |
| Slovakia                                     | 668            | 19             | 0            | 0            | 6 607          | 0              | 0             | 0             | 0             | 0             | 1              | 0              | 0             | 2 078         | 0             | 2 533          | 0             | 0             | 0            | 0             | 207            | 0             | 418           | 0             | 0            | 0             | 12 531           |           |         |
| Poland                                       | 417            | 0              | 0            | 0            | 291            | 4 134          | 0             | 0             | 0             | 0             | 0              | 42             | 0             | 20            | 2 024         | 477            | 439           | 0             | 153          | 0             | 0              | 1 049         | 0             | 0             | 0            | 385           | 9 431            |           |         |
| Lithuania                                    | 0              | 0              | 0            | 0            | 0              | 0              | 0             | 2 484         | 0             | 0             | 2              | 0              | 0             | 0             | 0             | 0              | 3 505         | 0             | 21           | 940           | 0              | 0             | 0             | 0             | 0            | 0             | 6 973            |           |         |
| Hungary                                      | 833            | 0              | 0            | 0            | 0              | 181            | 0             | 0             | 0             | 0             | 41             | 0              | 0             | 0             | 2 030         | 0              | 0             | 0             | 0            | 0             | 0              | 0             | 3 620         | 0             | 0            | 0             | 96               | 6 800     |         |
| Latvia                                       | 0              | 0              | 0            | 0            | 0              | 0              | 0             | 21            | 299           | 0             | 0              | 0              | 0             | 0             | 809           | 0              | 0             | 0             | 0            | 126           | 0              | 0             | 0             | 0             | 0            | 0             | 1 254            |           |         |
| Bulgaria                                     | 0              | 0              | 0            | 0            | 0              | 0              | 0             | 0             | 0             | 0             | 0              | 0              | 22            | 0             | 0             | 0              | 0             | 0             | 0            | 0             | 0              | 0             | 364           | 0             | 0            | 0             | 423              |           |         |
| Romania                                      | 0              | 0              | 168          | 0            | 1              | 40             | 0             | 0             | 0             | 0             | 0              | 0              | 25            | 0             | 0             | 0              | 0             | 0             | 0            | 19            | 0              | 0             | 0             | 0             | 0            | 0             | 383              |           |         |
| Estonia                                      | 0              | 0              | 0            | 0            | 0              | 0              | 0             | 0             | 0             | 165           | 0              | 0              | 0             | 0             | 0             | 15             | 4             | 0             | 0            | 0             | 203            | 0             | 0             | 0             | 0            | 0             | 140              | 387       |         |
| Cyprus                                       | 0              | 0              | 0            | 0            | 0              | 0              | 0             | 0             | 0             | 0             | 0              | 0              | 1             | 0             | 0             | 0              | 0             | 254           | 0            | 0             | 0              | 0             | 0             | 0             | 0            | 0             | 255              |           |         |

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



## Sustainable Banana Plan for the French West Indies

Mobilised in favour of the environment for more than ten years, the Guadeloupe and Martinique banana sector continuously improves its practice for better conservation of air, water and soil, for energy-saving, waste management and the enhancement of biodiversity in the plantations. Likewise, on a day-to-day basis, the adoption of new cultural practices and the introduction of technical innovations are aimed at 'green' or sustainable farming. These efforts have already given results, with a 70% reduction of pesticide spraying achieved for more than ten years now, making the Guadeloupe and Martinique industry among the smallest users of pesticides in the world, applying 5 to 10 times less than its main competitors on the European market.

This undertaking to ensure the sustainability of the FWI banana sector was very naturally officialised by the signing of the Plan Banane Durable (2008-2013) with the French authorities. In this sustainability plan, the sector has made undertakings related to economic, social and, of course, environmental aspects:

- economic sustainability objective: ensuring the economic sustainability of the sector in the difficult economic context of the French West Indies;
- social development objective: defending the working conditions of planters and workers in the sector;
- environmental objective: assessing and reducing all the impacts of banana growing on the remarkable, fragile environment in Guadeloupe and Martinique.

In short, these are concrete initiatives for sustainable development in line with the French 'Grenelle de l'environnement' meetings and the objectives of the authorities. But the Guadeloupe and Martinique banana sector will try to do better and faster than the objectives set. It aims to fulfil its undertakings in 2013, that is to say five years earlier than specified at the 'Grenelle de l'environnement'. The aim is to

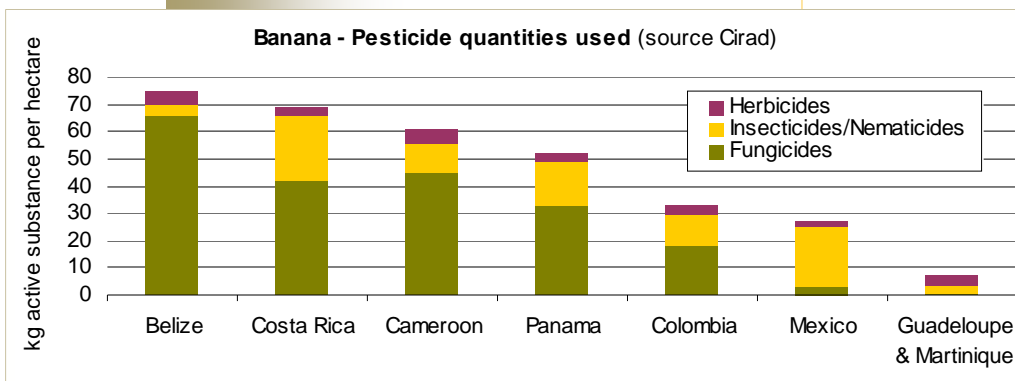
make this project an exemplary approach for all other production zones. The Institut Technique de la Banane (ITBAN) was set up at the end of 2008 to steer the plan. The ITBAN is an accelerator linking research centres (CIRAD, INRA, CEMAGREF) and growers. It is now also a model for other banana production (Institut Technique Européen de la Banane: MUSAE) in the world and other crops in Guadeloupe and Martinique. On 7 April 2010, ITBAN became open officially to the other agricultural production sectors that so requested (pineapple, market garden crops, melon, orchard crops, etc.) and is now called Institut Technique Tropical or IT<sup>2</sup>. ITBAN is thus switching from a sector approach to a territorial approach that will in particular enable island populations to gain more food independence.

Good practice rules and the setting up of rational farming principles (i.e. spraying only when necessary) are essential in order to reduce pesticide application. However, the sector is fully aware that this is only a stage and that margins for future progress in questions of the environment depend on a deep-seated change in the way farming systems are designed. Chemical inputs should be replaced by ecological regulation processes as much as possible. This is referred to as 'integrated production' and 'ecologically intensive farming'. Talking about it is good but designing and testing these practices is better and also essential. And this is what the sector, ITBAN and researchers wish to do. The initiative is included in the Plan Banane Durable and has resulted in the setting up of two innovation platforms:

- an 'innovative farming system platform' for the development and maintaining of biodiversity in West Indian banana plantations;
- a breeding platform for the development of new varieties that are resistant to Black Sigatoka and other diseases.

In line with the initiative taken with the other European banana producers in the field of scientific and technical cooperation, a Plan Durable Caraïbes has been set up to enhance the development of Caribbean islands. The programme is financed by the European INTERREG fund and the aim is to make a contribution to the protection of the environment

and sustainable development in the West Indies. It is the first time that there has been regional collaboration on this scale. WINFA (Windward Islands Farmers Association), representing banana growers in Dominica, St Lucia, St Vincent and Grenada, the main partner outside European territory. The Dominican Republic has also joined the project.



# Always fresh, Always



• Tel.: 593 4 2208670 / Ext.1198

Fax: 593 4 2208660 - 2208661

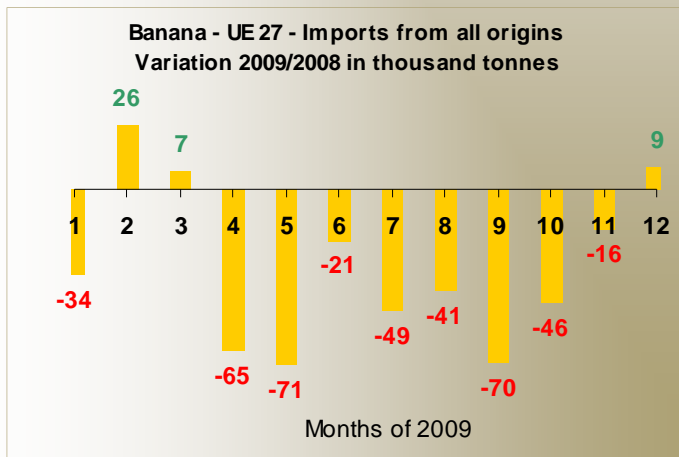
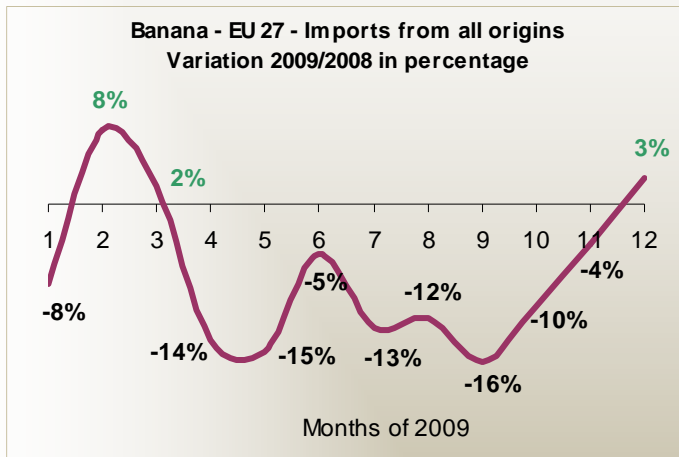
Content published by the Market News Service of CIRAD - All rights reserved  
comercial@favoritafruitcompany.com

www.favoritafruitcompany.com



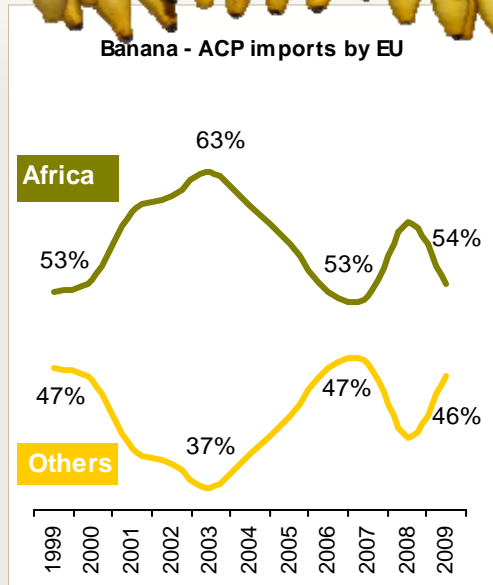
## Review of supply of the European banana market

As slow as expected



For those impressed by symbols, EU banana consumption in 2009 remained above 10 kg per person in 2009. But after three years of steady growth, the figure dipped by 700 g. After perusing these lines, an inattentive or suspicious reader will blame the level of EU customs dues levied on imports from Latin America, accused of affecting flows of banana imports. However, I suspect that the decrease is related less to politics than to weather. For if you had to choose a single reason for this sudden decrease in consumption and hence in imports it would be the very marked fall in supply from Costa Rica. The world's third largest exporter reduced its presence on the world market by a fifth. And that is the average for the year. The decrease was as much as 50% in some weeks! This obviously had a impact on import figures of the world's two main markets—the European Union and the United States, with Costa Rica's share decreasing by 16% and 38% respectively. The export shortfall from Costa Rica alone was nearly half a million tonnes, that is to say the equivalent of 11 months of French consumption!

Panama, Honduras, Guatemala and Nicaragua were also affected by the bad weather that swept Central America. Colombian exports were also smaller. Finally, world supply to the two large import regions (North America and Europe/Russia/Mediterranean) shrank by nearly a million tonnes in 2009! In the EU alone, net imports (after the deduction of re-exports) fell by 8% to 4.5 million tonnes. When European production is added (608 000 t), net supply to EU-27 was 5.1 million tonnes in 2009, 6% less than in 2008. Non-ACP third country sources (MFNs) supplied 69% of European consumption against 19% from ACP sources and 12% accounted for by European production.



Costa Rica has chosen its side

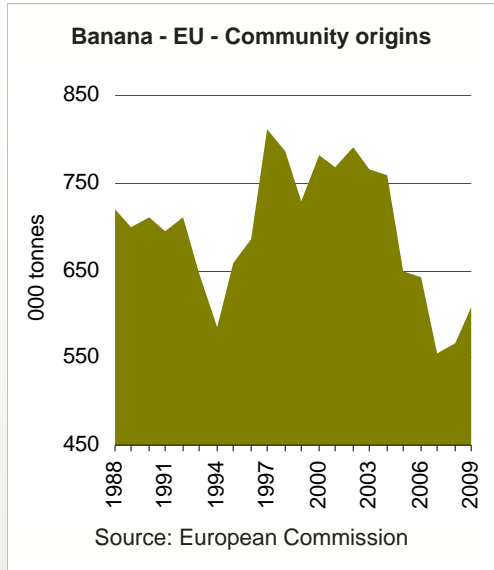
It is interesting to see how supply sources spread exports among the various markets. Colombia reduced shipments to both the United States and Europe by 6%. Costa Rica chose its side by favouring exports to the EU. Ecuador used its production reserves for operations on the spot market as when world supplies are short, it becomes a very attractive alternative source since it handles very few medium-term contracts and has strong production potential. The good prices obtained by Ecuadorian growers were mentioned in the January 2010 issue of **Fruitrop** (No.174, January 2010, pages 19 ff), especially in the first half of 2009: USD 7.20 per box, that is to say USD 1.80 higher than the minimum price.

The presence of Honduran (- 65%) and Guatemalan (- 74%) fruits dwindled markedly in the EU as both sources favoured the American market. There was less of a dilemma for Panama as it has favoured exports to the EU since the end of the 1990s. Although it was a delicate year,

THE BEST FRUIT AT THE RIGHT MOMENT



[www.rimafrance.com](http://www.rimafrance.com) - [contact@rimafrance.com](mailto:contact@rimafrance.com) - +33 1 41 73 03 03



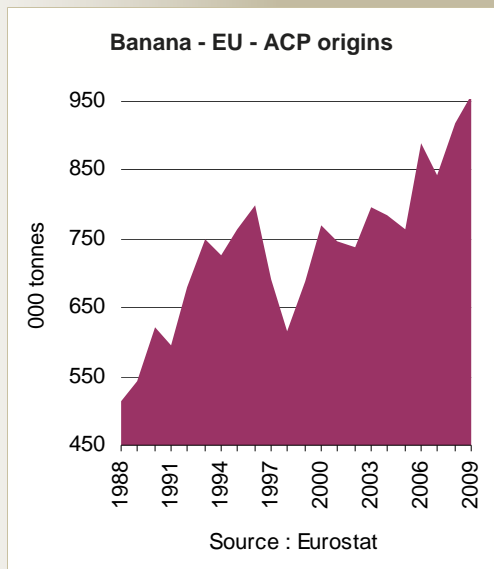
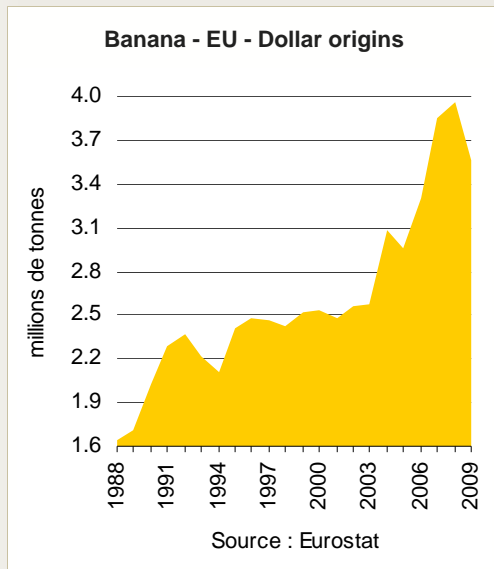
Guatemala remained the leading supplier of the United States with a 31% market share. It hardly appears at all in European statistics.

Brazilian presence on the European market decreased steadily to 56 000 tonnes after a peak at practically double this quantity in 2006. This is a major trend that could become reversed. Indeed, the serious flooding that hit the Del Monte plantation in Rio Grande do Norte state was a handicap for the presence of this source on the international market. However, Del Monte has just announced 2011 production of 1 million boxes (500 hectares) from its plantations in Limoeiro do Norte (Ceara).

Apart from Ecuador, few sources weathered 2009 unscathed. They include Peru, which breaks records year after year. Like the Dominican Republic, it has invested in organic and fair trade banana (see below). The rate of extension of plantations remains high—not only for banana but also for other fruits crops such as avocado and mango.

**ACP sources hold 19% of the market**

In contrast with dollar sources, the ACP countries performed well in 2009, gaining 4% to reach 958 000 tonnes and setting a new record. Their market share gained 19% (+ 2 points). Closer analysis shows that the dynamics of the ACP group is not homogeneous. In the 1990s and the early 2000s, Africa dominated the rest of the group. Three very different types of dynamics can now be observed. In the category of stable suppliers over the last ten years (with a few inter-annual variations), Côte d'Ivoire ships 200 000 to 230 000 t, Cameroon 220 000 to 300 000 t, Belize between 40 000 and 80 000 t and St Lucia between 30 000 and 40 000 t. The group whose exports are decreasing or even stopping consists of St Vincent, with slow but sure slowing, and Jamaica, which has disappeared completely from the market after being repeatedly hit by hurricanes (see accompanying sheet). Of the sources shipping more, two have recently launched or re-launched their banana sector (Ghana and Surinam) and, above all, the Domini-



Photos © Guy Bréhinier et Régis Domergue



can Republic has increased shipments to Europe fourfold in less than a decade, now exceeding 250 000 tonnes, consisting mainly of organic and fair trade produce.

### European production recovering

After a five-year decrease from 2003 to 2007 and two years of stagnation in 2008 and 2009, European production is now getting under way again. It is difficult to sort out the downward trend common to all sources, weather problems and earthquakes and even political features that have all affected West Indian production in recent years and the determination to limit production in the Canary Islands. With 236 000 tonnes shipped in 2009, the

| Banana consumption per capita in 2009 |         |
|---------------------------------------|---------|
|                                       | kg/year |
| EU-27                                 | 10.2    |
| EU-15                                 | 11.3    |
| NMS-12                                | 6.2     |

Source: Cirad



## Serving the fruit in Côte d'Ivoire

Fourty-five Gensets

Over two hundreds road tractors

A major multimodal hub serving : Mali - Niger - Burkina - Faso

Three dealings per week to the European main ports

A dedicated staff of twenty reefer specialists

A quality service recognised by ISO 9001 certification



**Contact us:**

01 BP 1727

Tel: +(225) 21 22 03 09 / 17 - Cel: +(225) 08 08 41 89

Email: abder.malle@bollore.com - brou-emmanuel.kie@bollore.com

bolloreaficalogistics-ci.reefer@bollore.com

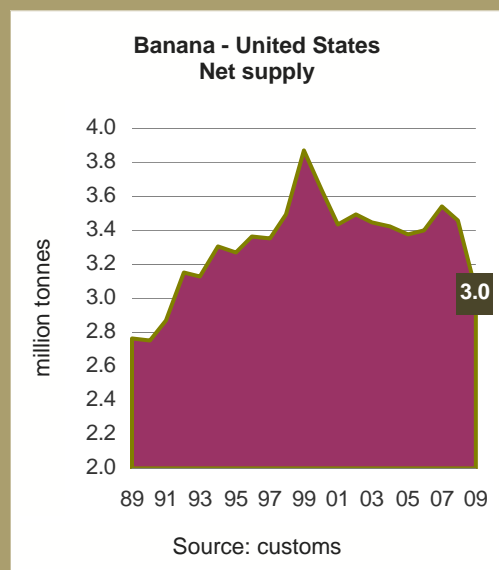
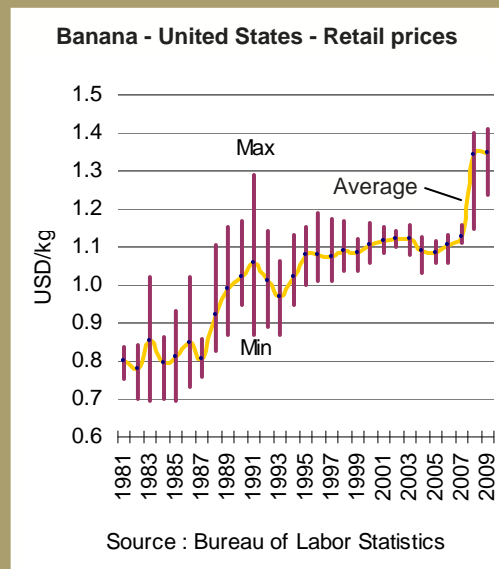
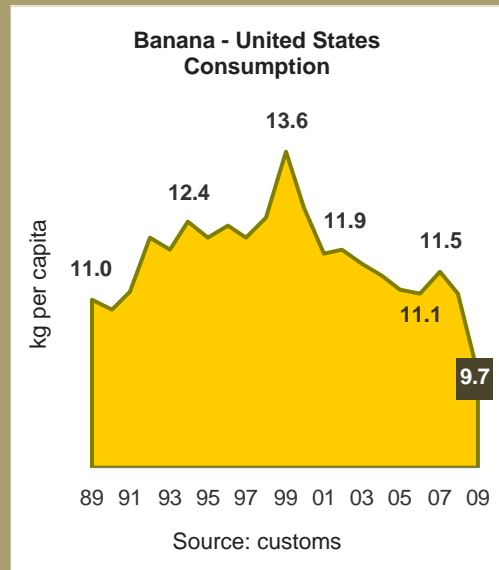
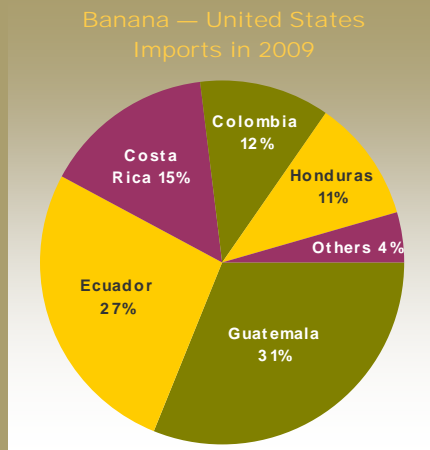
www.bollore-africa-logistics.com - www.saga.fr



## The United States banana market: down and down again

The American market ran into trouble again in 2009 in no uncertain way! Net supply was the lowest since 1991 at only 3 041 594 tonnes, that is to say 12% less than in 2008. This is far from the nearly 3.9 million tonnes imported in 1999. In contrast, re-exports broke records at 538 000 tonnes. Canada was the destination for 98% of this. The increase in population means that annual per capita consumption fell to a hitherto unknown 9.7 kg. The figure has decreased by 4 kg in a decade.

Ecuador benefited from the difficulties experienced by Central American suppliers such as Guatemala, whose shipments decreased by 6% although this source was still the leading supplier of the American market, and Costa Rica and Honduras with dips of 38% and 23% respectively. The presence of Colombia was also reduced in the same proportions as on the European market (- 6%). Ecuador thus made a choice, selling on the spot market and doing 15% better than in 2008 but still less than a million tonnes. It is true that the prices proposed by the American market were very attractive. The average annual spot market price rose to nearly USD16 per box, a 4% increase in comparison with 2008 and 47% more than in 2007! The retail price did not shift at all in 2009, remaining at the USD1.35 peak. A reversal of the 2009 trend was confirmed in the early months of 2010, following the marked decrease in import prices. In terms of volume, the market started a timid recovery with a 2% increase in imports in January 2010. Guatemala and Costa Rica returned to the market (+14% and + 3% respectively) and Ecuador shipped 10% less.



# Nouvelle avancée du Plan Banane Durable : la lutte biologique

**D**epuis plus de 10 ans, la Banane de Guadeloupe & Martinique œuvre à la valorisation et à la protection de la Terre des Antilles. Au cœur de ses actions, la mise en place de nouvelles pratiques culturales qui ont d'ores et déjà permis de diminuer l'utilisation des pesticides de 70%. Un pas de géant. Mais la filière ne s'arrête pas là.

## La lutte biologique, le choix du naturel

■ Les bananiers doivent régulièrement lutter contre des attaques de champignons, d'insectes ou de mauvaises herbes. Il existe dans la nature des adversaires à chacun de ces parasites. La lutte biologique consiste à utiliser ces agents naturels pour protéger la plante. Dans une logique d'agriculture durable, l'objectif de la filière de production de Banane de Guadeloupe & Martinique est d'utiliser ces substances naturelles en substitution progressive aux pesticides de synthèse.

Un objectif ambitieux compte tenu des étapes à franchir et du temps nécessaire à l'obtention des autorisations européennes.

Travail en collaboration avec les Centres Techniques de la Canne et du Sucre de Guadeloupe et de Martinique



« Pas moins de 27 essais sont prévus en 2010 en Martinique, 8 concernent la culture de la banane » confie Isabelle Jean-Baptiste, responsable des expérimentations au CTCS de Martinique.

## QUELQUES EXEMPLES DE SUBSTANCES NATURELLES LUTTANT CONTRE LES PARASITES.

- L'extrait d'arbre à thé contre la cercosporiose (champignon attaquant les feuilles des bananiers)
- L'essence d'orange contre les thrips ou les cochenilles (insectes parasites causant des dommages aux fruits)
- L'huile de citronnelle pour le désherbage
- L'huile de clou de girofle contre les nématodes (vers qui attaquent les racines du bananier)

## UN PROJET EN 3 ÉTAPES

### LA SÉLECTION

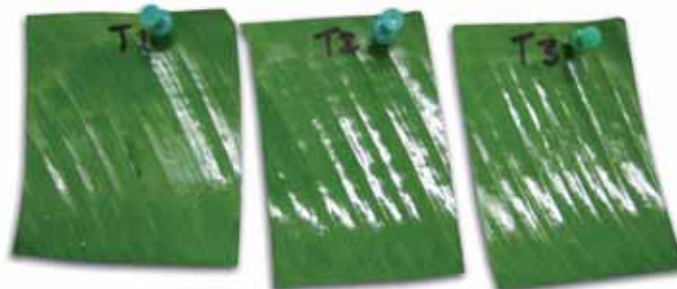
■ Il s'agit dans un premier temps d'identifier les agents naturels utilisés sur d'autres cultures, en Europe et dans le monde et qui ont démontré leur efficacité dans ces zones d'utilisation. L'extrait d'arbre à thé pour lutter contre la cercosporiose est, par exemple, actuellement testé dans des bananeraies d'Afrique et d'Amérique centrale.

### LES TESTS

■ Une première phase de tests est réalisée en laboratoire puis sur les bananiers. Les critères des tests sont : l'innocuité pour l'homme et pour l'environnement, et l'efficacité. Ces expérimentations sont conduites par l'Institut Technique de la Banane (ITBAN) en collaboration avec les Centres Techniques de la Canne et du Sucre (CTCS).

### L'HOMOLOGATION

■ Soumis à la même réglementation que les produits phytosanitaires de synthèse, les pesticides d'origine naturelle doivent être autorisés par la Commission européenne sur la base des tests réalisés. Ces démarches nécessitent beaucoup de temps et d'argent, ce qui constitue un frein important au développement de ces méthodes naturelles dans l'Union européenne.



Test d'efficacité de l'extrait d'arbre à thé contre la cercosporiose sur les feuilles de bananier. Résultat : Pas d'évolution de la maladie à T1=7 jours, T2=14 jours et T3=21 jours.

**Pour en savoir plus**  
[bananeguadeloupemartinique.com](http://bananeguadeloupemartinique.com)

## UNION DES GROUPEMENTS DE PRODUCTEURS DE BANANES DE GUADELOUPE ET MARTINIQUE

Ces logos attestent de l'origine et de la qualité d'une production agricole cultivée dans des régions éloignées de l'Union européenne, appelées régions ultrapériphériques. Ils garantissent le respect des réglementations sociales et environnementales en vigueur dans l'Union européenne.





© Régis Domingue



French West Indies have regained some of the ground lost during hurricane Dean in 2007 and should reach their historic 280 000-tonne level. The volcanic ash that fell on the banana plantations in Guadeloupe at the beginning of this year will fortunately only affect part of this fine recovery. Growers have announced the loss of 20 000 tonnes, that is to say 36% of the total shipped in 2009. The Canaries (352 000 t in 2009) are not far from their 1994 low point at 322 000 tonnes. Measures to bridle supply and voluntary withdrawal of fruits when the market is encumbered (in the spring and especially the summer) have kept Canary shipments at between 350 000 and 370 000 tonnes since 2005. The smaller harvests in Madeira, Greece and Cyprus decreased in 2009, confirming the general trend. Madeiran exports still totalled 43 000 tonnes in 1992 before the single European market. This was three times as much as the 14 500 tonnes shipped in 2009 ■

Denis Loeillet, CIRAD  
denis.loeillet@cirad.fr

### Banana — European Union — Evaluation of supply — Tonnes

| Year | Banana type or origin |         |             | Sub-total | Exports | 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 | 8 392   | 4 828 881 |
| 2007 | 554 734               | 842 959 | 3 848 266   | 5 245 959 | 9 270   | 5 236 689 |
| 2008 | 567 560               | 918 923 | 3 964 866   | 5 451 349 | 10 002  | 5 441 347 |
| 2009 | 608 048               | 958 144 | 3 555 462   | 5 121 654 | 7 884   | 5 113 770 |

(1)

(2)

(2)

(3)

(1) 1988 to 1993 inclusive: Eurostat + European Commission data for Madeira and Greece. From 1994 onwards: supplementary aid data.

(2) Eurostat data: all imports from non-community and non-ACP countries.

(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





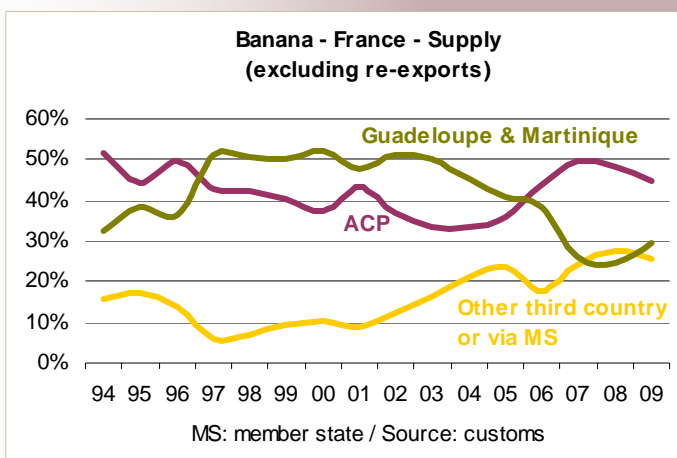
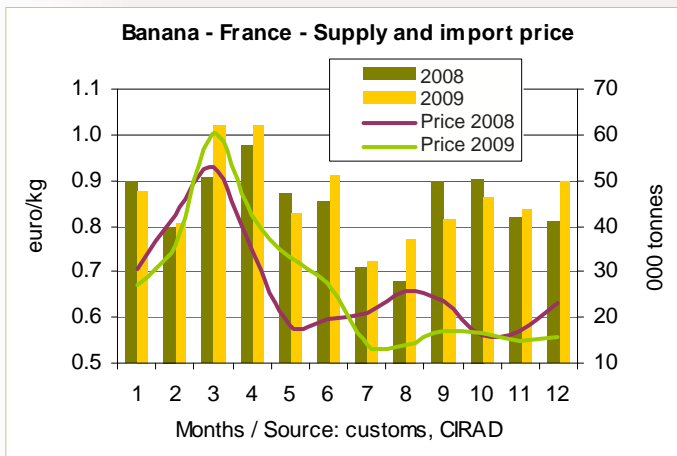
*Content published by the Market News Service of CIRAD – All rights reserved*

Simba France · 1, rue de la Tour · Centra 119 · 94566 Rungis Cedex  
Tél: 01 56 70 26 31 · Fax: 01 56 70 26 30 · Courriel: [commercial@simba.fr](mailto:commercial@simba.fr)



## The French banana market

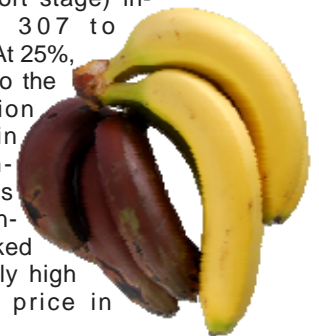
More, more and more



Even the most sceptical observers will have to agree. The volumes of the French market have been increasing since 2007. Three years of continuous growth is obviously not a major trend but it is no coincidence either, especially in 2009. The good orientation of the French market runs counter to that of the world market. While net supply of EU-27 is down by 6% and that of the United States by 12%, France took an extra 24 000 tonnes in 2009, that is to say 5% growth. Consumption is thus 8.9 kg per person and approaching the 9.0 kg reached in 2002, the highest level ever. It is true that the 2009 figure can give satisfaction when compared to the 7.9 kg of 2006. But the performance should be viewed in relative terms as the EU average was 10.2 kg (provisional figure) in 2009 and had even reached 10.9 kg in 2008.

### Smile if you dare!

So no regrets and let's be happy about the resurrection of the banana market while the world market is shrinking. For observation of turnover rather than volumes shows that the French market has made progress here too. The increase in volume has created value rather than destroyed it. Sector sales from 2006 to 2009 (evaluated from average monthly prices at the import stage) increased from 307 to 383 million euros. At 25%, this is very close to the record 394 million euros attained in 2005, a very unusual year in terms of quay prices. Indeed, it was marked by an exceptionally high annual average price in



Photos © Régis Domergue

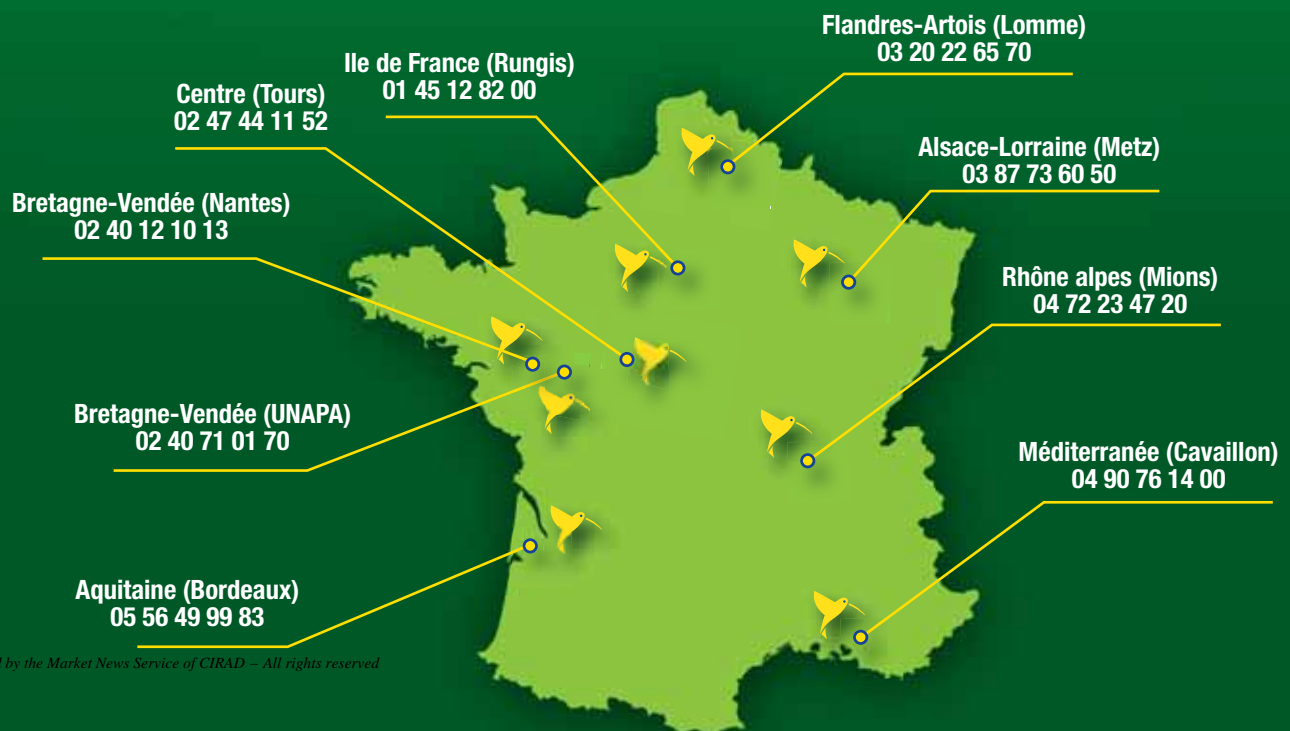


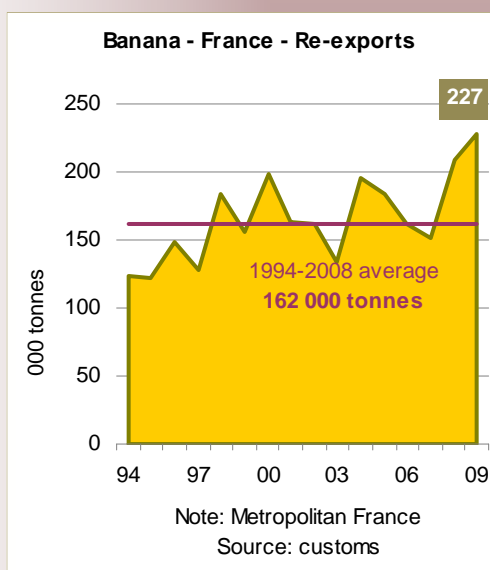
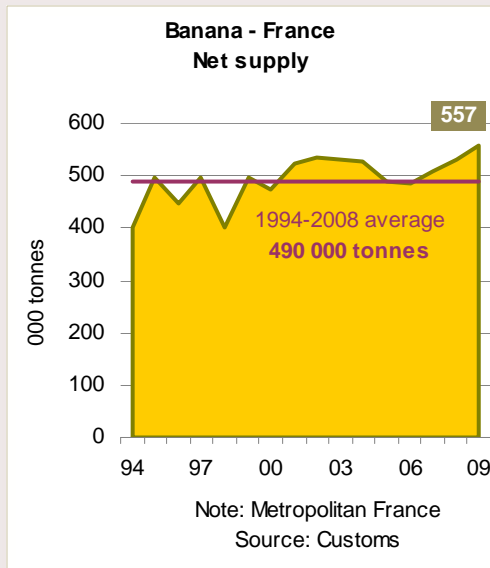
# Fruidor, la culture de la différence

**1<sup>er</sup> réseau de mûrisserie de France** avec **9 sites** répartis sur tout le territoire (tous certifiés ISO 9001:2008 et/ou IFS), Fruidor est le **leader sur le marché français** de la banane avec près de **160 000 tonnes mûries en 2009** (origine Guadeloupe & Martinique, Afrique, Amérique latine, caraïbes, République Dominicaine).



Notre savoir faire dans l'approvisionnement en bananes vertes et notre expertise dans le mûrisage et le conditionnement nous permettent de vous proposer une large gamme de bananes (Banane de Guadeloupe & Martinique, banane bio, banane rose, petite banane, banane plantain, Freyssinette, Banane Planteur et Montagne de G&M) ainsi qu'un accompagnement marketing ciblé tout au long de l'année (jeux concours, opérations promotionnelles, animations magasins).





France of EUR 0.78 per kg, more than 17% better than the average for four preceding years.

There are many reasons for the present success. No single parameter can fully account for the trend. However, what seems to have been the determinant feature in 2009 is related to the structure of the French market. It is a redistribution market (227 000 tonnes re-shipped in 2009) but also strongly structured by traditional supply. Bananas are grown in the French overseas departments in the West Indies (Martinique and Guadeloupe) and has always had very strong links with exporting countries in Africa, especially Cameroon and Côte d'Ivoire. In a way, this gives it an assurance with regard to supply. During periods of strong decrease of world supply, estimated at a million tonnes in 2009, France benefits from stable supplies, completed by new sources such as Ghana and Surinam whose flows are mastered by French operators. The other side of the coin is its extreme fragility when world supply returns to the highest levels because it receives dollar bananas from third countries in addition to the traditional volumes. Proof of this was seen in 2008 when Martinique could not handle its market share because of the hurricane in 2007. Dollar sources then grabbed a 28% market share directly or via another EU member. This was an all-time record.

### Banana has escaped the downturn

The practically record rate or intensity of promotion operations in 2009 is another positive factor. It reached 31%, the best level since 2000 (32%). The promotion of bananas, by far the most competitive fruit in fruits and vegetable and even all fresh food departments of shops, was a deliberate act by supermarket chains that wished to show that during a crisis period they could offer low prices every day. French retail prices fell by 4% whereas every where else in Europe they held at close or identical to those of 2008 (**Fruitrop 174**, January 2010).



Photos © Régis Domergue





Zellschip 16  
3991 CT Houten (NL)  
T. +31 (0)30 2548130  
F +31 (0)30 2548131  
info@bgdoor.com

## Perfection in Ripening Room Doors



**Doors of superior quality, custom design and installation: a worldwide guarantee**

BG Door International is the world's leading supplier of ripening room doors for a wide range of fruits, including tropical fruits and especially bananas.

Because quality equipment is a precondition for optimum results in fruit cooling and ripening, perfectly insulated fruit ripening rooms ensure satisfactory performance.

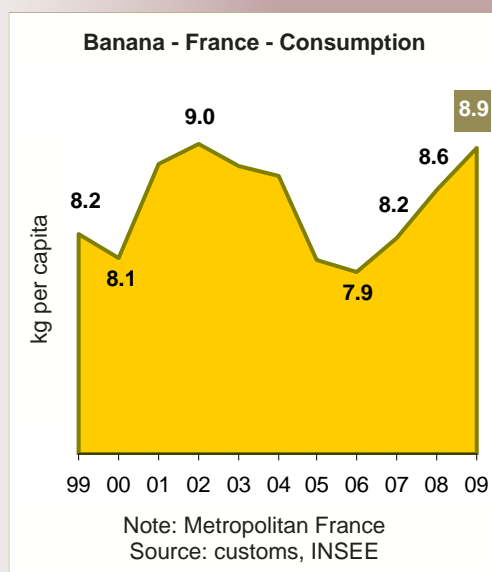
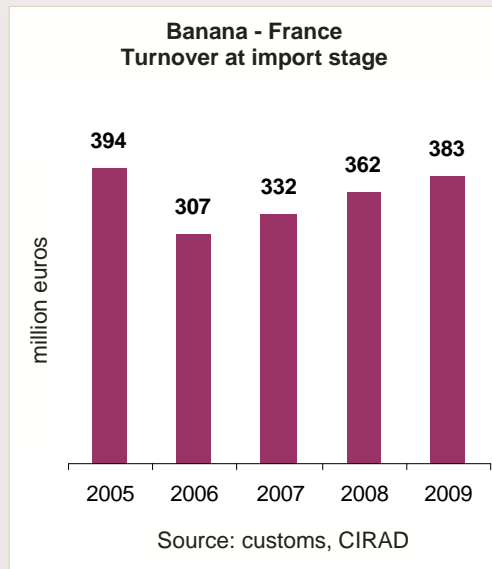
BG Door has developed a superior range of gas-tight doors using high-grade insulation materials and seals. Our quality doors provide the guarantee for profitable cooling and ripening.



A thorough assessment of the client's requirements enables BG Door to prepare an exclusive tailor-made design for your facility.



[www.bgdoor.com](http://www.bgdoor.com)



Similarly, it can be considered that the communication policy of French growers made a contribution to the increase in volumes. The restructuring of the market also doubtless played a role. Since the end of 2008, most of supply has been centred on several large ripening networks that are in turn closely linked to both African and West Indian production.

### Waiting for the sacred union

What lies ahead for the French market? Either it is experiencing structural growth and there is nothing to prevent action to enhance this by working on both added-value and volumes or it will be hit head-on by the dark prospects of 2010, with world supply returning to its highest level. The first quarter of 2010 confirms this strong degradation in both value and volume. The average first quarter import price in France was disastrous and, at EUR 0.64 per kg, close to the lowest historical level of 2004 (EUR 0.63 per kg). Net supply for the first two months of the year is 4% down—a return to levels not seen since 2007. Even if at least where prices are concerned these levels differ very little from the European trend, French operators should react. The merits of an interprofessional organisation able to work on demand to develop the market and improve added-value for the benefit of all stakeholders has often been discussed in **FruiTrop**. The initiative seems to be stuck for the moment even though the cause is just and urgent. It is a pity that this pooling of energy and ideas for improving the value of the sector has not started during a good period for the market. But sacred unions can rarely be ordered during a period of optimism. 2010 might turn out to be a wonderful year for agreement ■

Denis Loeillet, CIRAD  
denis.loeillet@cirad.fr



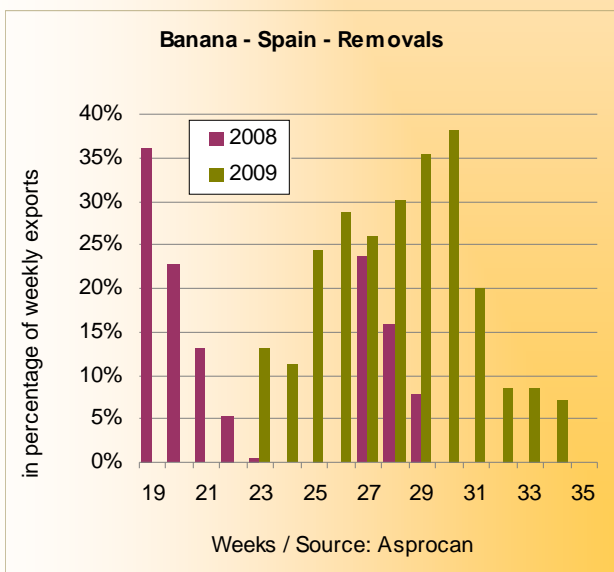
Photos © Régis Domergue

© Thierry Lascot



## The Spanish banana market

### End of the Canary exception



Only diamonds are forever. James Bond could have told Spanish banana growers this as examination of net supply of the Spanish market shows that the Canaries have lost their dominance on the domestic market. Indeed, the share held by the Canary Islands decreased by more than 30% between the beginning of the 2000s and 2009. It is now 67% and has lost ground continuously since 2001. This is all the more critical as the Spanish market has grown throughout the period, even peaking in 2008 with apparent consumption of 490 000 tonnes.

### Welcome to the club

Canary growers are experiencing what French growers were often criticised for a few years ago, that is to say failure to master the domestic market. However, the initial situation was very different. Before the single banana market was set up in 1993, Spanish consumers had never had the opportunity or the right to buy anything other than Canary Island bananas. French growers have never been in this position as the French market has always taken delivery of bananas from Africa and also from Latin America when bad weather hit traditional supply zones. However, Spanish production has been unable to live on its enormous capital of domestic esteem. It has had to maintain this national fibre and make it last. Marketing policies have always had the same focus, even going as far as making the peel defects of Canary Island bananas gauges of produce origin and quality: 'El sabor de lo nuestro', 'Las apariencias engañan. El sabor no', etc. Growers' efforts were successful and the market held up for more than 15 years.

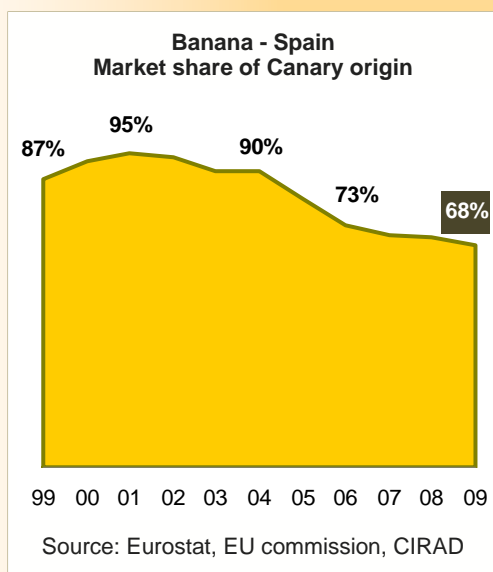
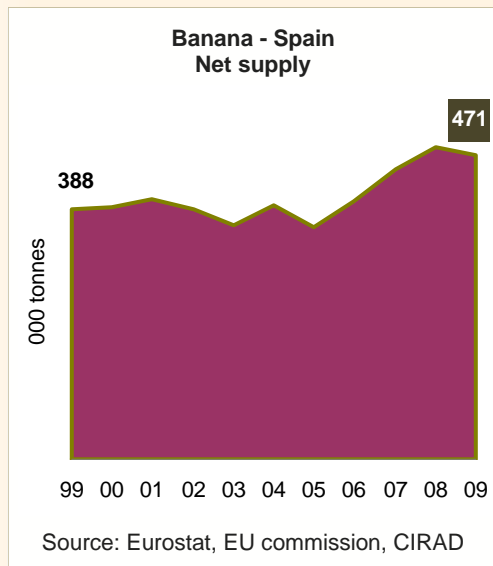
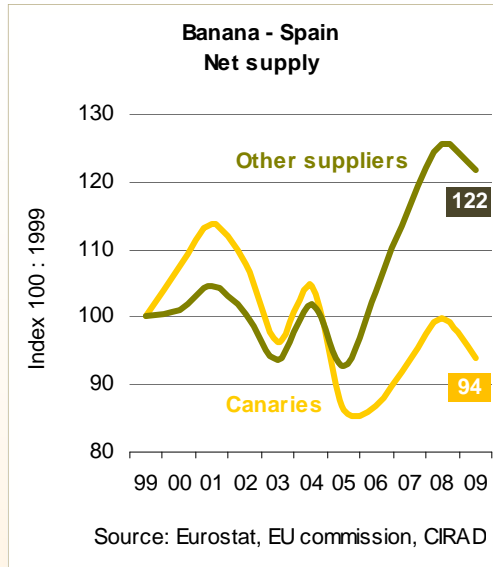
However, the honeymoon between consumers and growers seems to be over. The economic downturn hit hard. Growers were unable to keep the retail prices of their bananas down. In 2009 the price of Canary bananas exceeded the psychological threshold of EUR 2.00 per kg for months. This was all the







more disturbing as fruits from Central America or other EU member-states changed hands at between EUR 1.30 and 1.50 per kg. The difference in price is becoming increasingly difficult to explain to consumers as resulting from a difference in source alone. The same feature has been observed at the import stage, with two kg of dollar bananas costing the same as one kg of Canary bananas in autumn 2009.



### Double sentence

Political difficulties have now been added to market problems. In its race to sign a trade agreement with various economic zones in South America (the Andean Pact, the Central American Common Market (CACM), Mercosur), the Spanish central government has abandoned its growers by very quickly abandoning defence of customs dues on imports of South American bananas. European growers (both Spanish and French) were expecting strong support from the current European presidency. And this support will not be found at the European Commission which does not seem to wish to compensate this practically complete opening of the European market by increasing POSEI aid.

It is difficult to be optimistic under these conditions. The future of the Canary Island banana plantations seems to be in a dead-end. The national market is escaping—fortunately only partially—and the only alternatives are to find markets outside Spain or to reduce releases by retaining fruits at the source. The latter solution was much used in summer 2009. From weeks 23 to 35, 12 400 tonnes of bananas was destroyed before loading, representing 7 to 38% of the weekly shipments to Spain. This withdrawal policy is costly and cannot become standard practice. Growers are currently examining the better matching of supply and demand and in 2010 are still using a quota policy. Market diversification is the second pathway. In February 2010, Asprocan, the Canary growers' defence body, attacked the German market, wishing to propose 'strongly differentiated produce'. Northern European consumers must be convinced of the intrinsic qualities of Canary Island bananas in spite of the stains and scratches that have nonetheless formed the image of these bananas. It will be a hard job to prevent the Garden of Hesperides, as the ancient Greeks referred to the archipelago, from becoming Paradise Lost ■

Denis Loeillet, CIRAD  
denis.loeillet@cirad.fr

Photos © Charles de Wulf





Producer country sheet

## Banana in Surinam



*The Surinam banana sector has been completely restructured since 2002 with the help of the European Union's ATF programme. This plan made it possible to restart production in June 2003 after the closure of the state company Surland NV in April 2002. Exports to Europe were resumed in March 2004. Sales were conducted with the Agrisol/Katope group under the 'Switie' brand from March 2004 to December 2009. In 2010, half of production will be sold via Compagnie Fruitière under the 'Bouba' and 'Savanna' brands and the other half via Agrisol/Katope as 'Switie'. Exports should reach 80 000 tonnes in 2010, that is to say 2.5 times the pre-2002 production of Surland NV.*

### History

In 1957, the government of Surinam decided to develop banana production and a Ministry of Agriculture department was entrusted with the task of running the programme and aiding the development of several plantations. In August 1971, existing plantations were grouped in a single state company, Surland NV. The entire production was sold via Fyffes from 1971 to April 2002. Production totalled 40 000 tonnes at the beginning of the 1980s, and gradually decreased to less than 30 000 tonnes at the end of the 1990s/early 2000s, with productivity at less than 1 100 boxes per hectare. Production, financial and social problems resulted in the government closing Surland NV in April 2002. From October 2002, using a strategic plan for the

re-launching and restructuring of the banana sector, the company SBBS (Stichting BehoudBananen Sector) was founded by the Surinam government to manage the restructuring of the sector and to prepare for privatisation. Following the failure of 2005 privatisation resulting from uncertainty with regard to changes in the European banana regime, a management contract for production, marketing and the funding of SBBS was signed by the Agrisol/Katope group and Surinam in October 2006. This contract terminated in December 2009. A new commercial partnership has been set up for 2010 with Compagnie Fruitière ('Bouba' and 'Savanna' brands) for production at Nickerie and with Agrisol for that of Jarikaba ('Switie' brand).



### Production zones

Bananas are grown in two zones: at Jarikaba 25 km from the port of Paramaribo on 1 353 hectares of cultivable land (830 ha currently in production) and at Nickerie, 250 km west of Paramaribo, on 1 012 hectares of cultivable land (930 ha in production). These zones benefit from good insolation and an average temperature of 27°C, optimal for banana production. Good quality water is available in sufficient quantities. The land is flat, facilitating the use of cableways for carrying fruits and for irrigation. Polders allow short fallows by flooding the plantations for effective cleansing of the land. The soil is clayey and rich and little subject to pest pressure—especially from nematodes. In addition, Surinam is not exposed to hurricanes and gales are rare. Finally, only Yellow Sigatoka is present, a less virulent disease than Black Sigatoka.



## Production

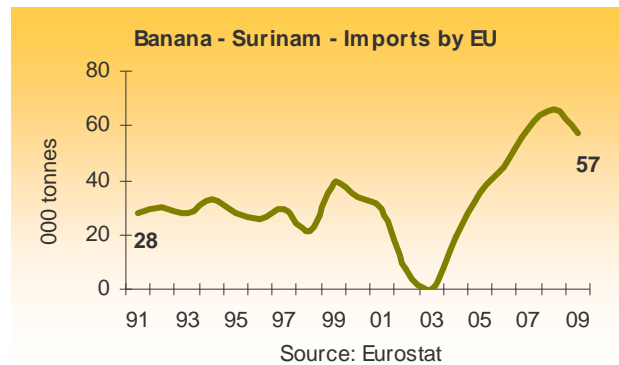
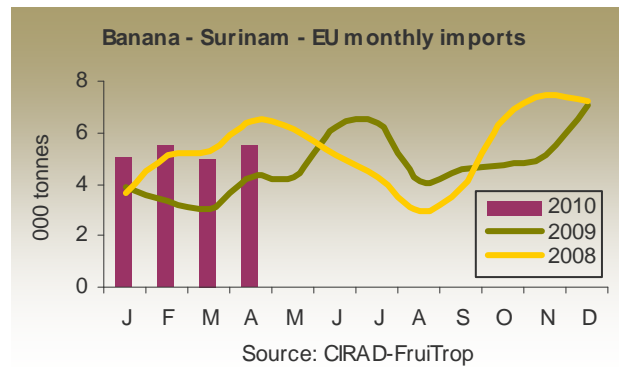
A large 30-million dollar investment programme was run from 2003 to 2010 at the two operating sites. This has received 90% funding from the European Union within the framework of the 1999-2008 ATF programme set up for ACP countries. Nickerie and Jarikaba were able to acquire packing stations, new irrigation and drainage infrastructure and new, modern cableways. Buildings for storing inputs and installations for plantation workers (canteen, toilet installations and field camps) were also built, enabling SBBS to obtain GLOBALGAP certification in June 2009.

The restructuring plan resulted in a significant increase in banana sector productivity from 15 to 40 tonnes per hectare. Production volume has increased steadily with the increase in the cultivated area, with a 2.5-fold increase in comparison with Surland NV. It should be 80 000 tonnes in 2010 and reach 100 000 tonnes when all the cultivable area has been planted.



## Logistics

The banana sector has also made it possible to set up a weekly shipping service between Paramaribo and Europe. The voyage with the CMA-CGM company takes 13 days. It uses a feeder between Paramaribo and Pointe-à-Pitre (Guadeloupe) and CMA-CGM's PCRf ships from the French West Indies to Europe.



## Exports

The banana sector has a major impact on the economy of Surinam. SBBS is the largest employer with 2 400 workers and a payroll of 13 million dollars. Activity in the banana sector accounts for 60% of the containers exported by Surinam and is the main source of income for the port of Paramaribo (20%), the fourth source of income in the country (7%) and brings nearly USD 2 million into the state coffers. Indirect effects on the economy are estimated to total USD 4 million per year.



**A COMOÉ a day  
keeps the doctor away**



Content published by the Market News Service of CIRAD – All rights reserved

**www.sipef.be - +32(0)36419737 - fruits@sipef.be**



Producer country sheet

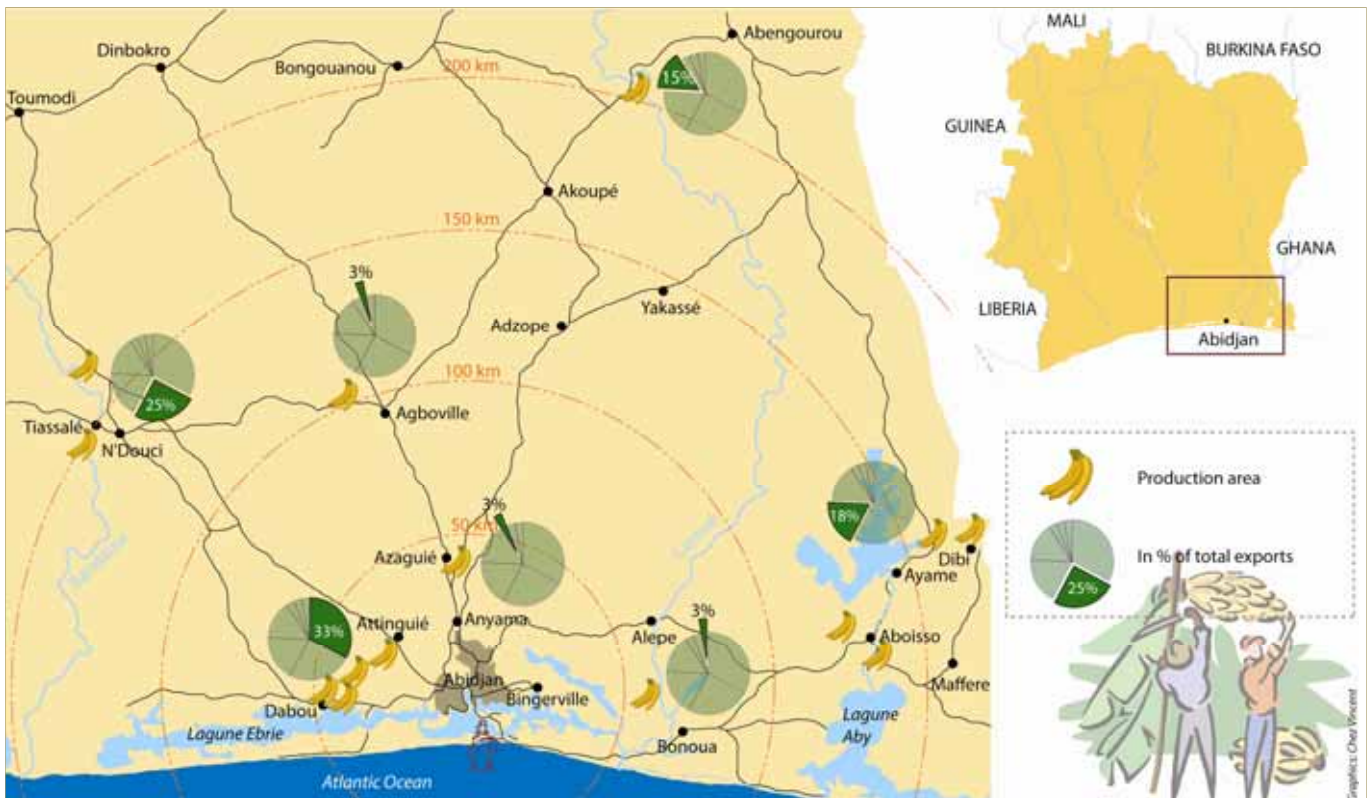
## Banana in Côte d'Ivoire

The first bananas were exported from Côte d'Ivoire in 1930 but shipments did not really develop until after 1958, in particular thanks to growers who had suddenly left Guinea Conakry and came to settle in the Agnéby valley, in the peaty, floodable plains of the Niéké. Production increased very strongly from 1963 to 1980, with the first record set in 1972 with 160 000 tonnes. However, the spread of Yellow Sigatoka disease caused growers to abandon the 'Petite Naine' variety that had come from the Canary Islands via Guinea in 1902 and switch to 'Poyo'. Exports stagnated at between 120 000 and 140 000 tonnes in the 1970s and then decreased to between 80 000 and 100 000 tonnes in the 1980s. Practically all the small plantations disappeared, although there has been as many as 750. Various planters' groups, cooperatives and agricultural companies were set up and these sell their fruits to the importers of their choice. They are grouped in OCAB (Organisation Centrale des producteurs exportateurs d'Ananas et de Bananes) which represents them in contacts with national and international authorities and manages common interests. Côte d'Ivoire banana exports currently total an average of about 240 000 tonnes.

### Production zone

The banana plantations are within a maximum of 200 km around Abidjan, the port where they are loaded for shipment. The banana growing area in Côte d'Ivoire has a tropical forest climate with two rainy seasons. The longest and most intense is centred on June and the shortest one peaks in October. They are separated by a short dry season with little sunshine (this totals 1 600 to 1 800 hours per year). The land is flat or has a very slight slope and so cableways can be installed in many places. Rainfall—very uneven in recent years—totals 1 400 mm per year in the northernmost zones and 1 900

mm further south and south-east. Nevertheless, irrigation is essential for at least 8 months of the year and all the plantations are equipped with irrigation systems. Average temperature is 26°C, with small daily amplitude. Winds can be strong during inter-season periods and especially at the end of the long dry season. It is estimated that tornadoes cause crop losses of 5 to 10% per year. Some more exposed plantations have invested in guying. Soils vary, being clayey, gravelly or peaty. About 30% of production land is in a polder situation and continuous pumping is required.





## **BANANA FROM CÔTE D'IVOIRE**

**PRODUCER - EXPORTER  
20 000 TONNES FOR EUROPEAN AND  
AFRICAN MARKETS**

**Global Gap / Tesco Nurture**

**SPD cie / BATIA**

**01 BP 93 ABIDJAN 01 - CÔTE D'IVOIRE**

Content published by the Market News Service of CIRAD – All rights reserved

**T : + 225 21 21 35 92    ●    F : + 225 21 21 35 90    ●    e-mail : [spdcie@aviso.ci](mailto:spdcie@aviso.ci)**

## Production

The area used totals 7 000 hectares, of which 5 500 ha is planted. The investments made by growers since the 1990s, subsequently aided by the setting up of financial and technical assistance from Europe, have resulted in improvement to joint and individual production facilities. Particular attention has also been paid to improving workers' living conditions and to conservation of the natural environment. The upgrading of production facilities is practically complete overall. The average yield has risen from 30 tonnes per ha in 1994 to 50 t/ha today, with variations from 25 to 70 t/ha according to location and the investments made.

Yellow Sigatoka disease—widespread from the 1950s onwards—has been gradually replaced by Black Sigatoka which has spread from the eastern part of the country. An average of 12 to 17 aerial sprayings are performed annually. Pests consist mainly of nematodes (1 to 2 control treatments per year) and banana borer weevils (0.8 to 1.5 treatments per year). The gradual introduction of tissue culture plants since the 1990s has resulted in healthy new replantings; these are nonetheless essential every 4 to 5 years.

The banana industry in Côte d'Ivoire provides about 8 000 direct jobs, that is to say an average of 1.45 workers per ha and nearly 20 000 indirect jobs. Four production groups remain today, spread over about 30 plantations ranging in size from 25 to 900 ha in single blocks:

- SPD & Cie, independent company (7% of volumes);
- the EGLIN & SBM planting companies, subsidiaries of the Belgian group SIPEF (8%);
- the plantations of the SCAB group, subsidiaries of the French importer/riper Canavèse (17%);
- the SCB group, part of the Compagnie Fruitière group. SCB has its own plantations and manages production for several independent growers. It includes from this year the plantations of the CDBCI company, formerly a subsidiary of CHIQUITA (total: 68% of volumes).

Plantations and packing stations are increasingly in conformity with the various standards and certifications introduced this decade, that is to say GlobalGap, ISO 14001 and Tesco Nature Choice.

## Total exports

Since the beginning of the 2000s, Côte d'Ivoire has exported 210 000 to 250 000 tonnes of bananas annually. More than 90% of this is shipped to the EU, where it accounts for 24% of ACP supply, that is to say 4.5% (2008) of total European imports. EU entry points in 2008 were Belgium (46%), France (38%) and the United Kingdom (16%). Its ACP status currently enables Côte d'Ivoire to export unlimited volumes duty free to the EU. At the initiative in particular of SPD & Cie for Mali and Burkina Faso, Côte d'Ivoire supplies the sub-region and the Mediterranean region with some 24 000 tonnes a year (2006 figures). Bananas represent about 10% of the country's exports in terms of value.

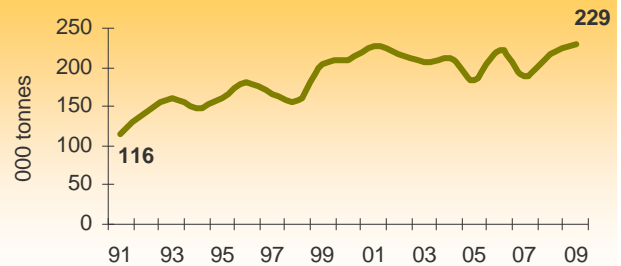
## Logistics

Most of the access roads to the plantations are surfaced and in decent condition, with the exception of a few places in the extreme south-eastern part of the country where there are still laterite tracks. Transport of palettes to the port is thus handled with no major difficulty as a whole.

It is not possible to discuss bananas without mentioning the prime role played by pineapple in the synergy of export logistics in Côte d'Ivoire at a time when all producers loaded their produce on reefer ships managed first by the now defunct national company SITRAM, then by SITROCAB and, from 2003 to 2006, with the volumes shared with the AEL company. Now that the tonnages have been reduced (mainly in pineapple), producers still have two options:

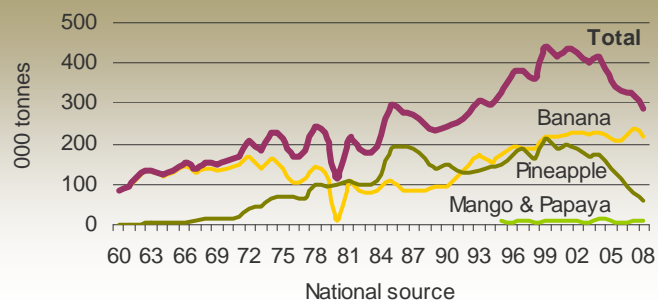
- AEL (Africa Express Line), a subsidiary of the Compagnie Fruitière group, is a shipping company founded in January 2002. It operates a fleet of reefer ships running weekly services from the port of Abidjan; depending on the year and the various rotations according to the volumes to be loaded, they can put in at the African ports of Douala, Tema, Dakar (5 days) and Agadir and the European ports of Portsmouth, Dover, Antwerp (12 days) and Port-Vendres (11 days). Palettes are loaded on the fruit quay in Abidjan, which should soon be equipped with cold storage facilities, equipped with cold rooms with capacity for 2 400 palettes.
- Other shipping companies have provided weekly container services since 2007; the main ones are CMA-DELMAS, MSC and MAERSK. Here, the palettes are packed in refrigerated containers at the production site and hauled to the Abidjan container terminal on lorries equipped with generators to supply the container refrigeration units. Power supply connection is possible in the port until loading on the container ships than serve southern and northern European ports.

Banana - Côte d'Ivoire - Imports by EU



Source: Eurostat

Fruits from Côte d'Ivoire - Exports



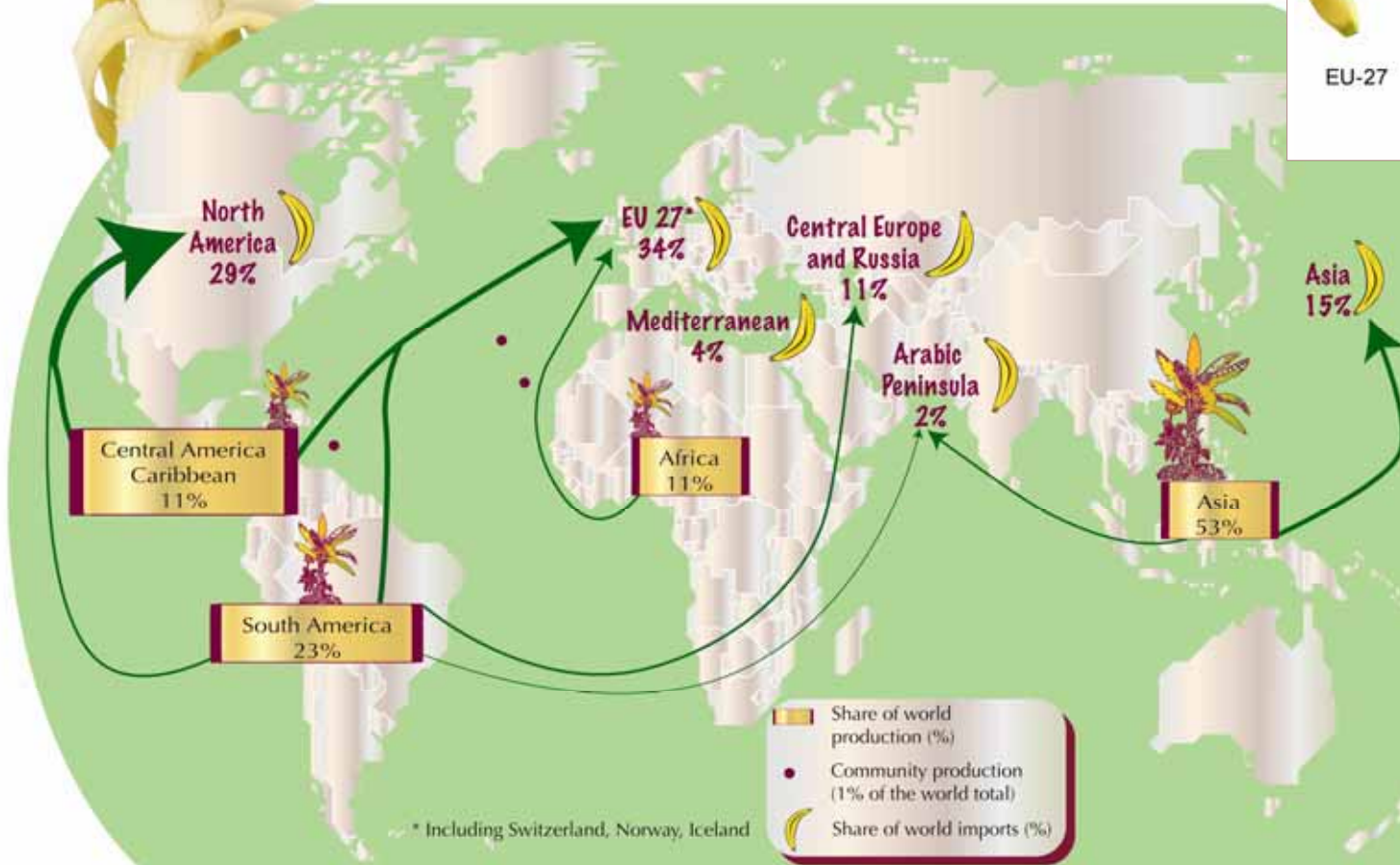
National source

# Dessert banana...

production: 69 200 000 t

world trade: 13 850 000 t

Per  
11.3  
EU-27



Banana — United States Imports

| tonnes              | 2000             | 2001             | 2002             | 2003             | 2004             | 2005             | 2006             | 2007             | 2008             | 2009             |
|---------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| <b>Total, incl.</b> | <b>4 030 618</b> | <b>3 840 624</b> | <b>3 906 920</b> | <b>3 879 151</b> | <b>3 872 826</b> | <b>3 824 409</b> | <b>3 839 467</b> | <b>4 003 800</b> | <b>3 977 914</b> | <b>3 579 968</b> |
| Guatemala           | 688 448          | 832 106          | 925 216          | 934 136          | 1 020 765        | 1 029 280        | 912 902          | 1 093 391        | 1 188 724        | 1 111 812        |
| Ecuador             | 975 960          | 946 584          | 1 021 830        | 972 475          | 918 926          | 904 306          | 994 335          | 929 175          | 830 268          | 955 677          |
| Costa Rica          | 1 361 405        | 1 082 088        | 901 485          | 976 078          | 865 298          | 822 731          | 927 361          | 1 036 897        | 874 424          | 544 435          |
| Colombia            | 602 836          | 473 784          | 506 441          | 469 306          | 464 592          | 513 748          | 473 826          | 377 232          | 450 757          | 421 466          |
| Honduras            | 275 603          | 381 540          | 449 171          | 432 145          | 507 914          | 453 011          | 422 905          | 482 732          | 505 578          | 390 456          |
| Mexico              | 85 123           | 63 809           | 42 339           | 35 197           | 33 586           | 33 796           | 38 573           | 31 508           | 66 330           | 105 086          |
| Nicaragua           | 1 906            | 28 198           | 29 702           | 41 620           | 41 502           | 38 067           | 30 465           | 32 788           | 31 142           | 24 911           |
| Peru                | 302              | 5 656            | 23 196           | 13 756           | 12 384           | 22 345           | 25 056           | 17 848           | 22 511           | 19 677           |
| Panama              | 28 707           | 16 187           | 259              | 215              | 612              | 2 019            | 7 516            | 502              | 8 046            | 5 380            |
| Dom. Rep.           | 6 437            | 7 355            | 3 573            | 2 136            | 5 201            | 4 437            | 6 213            | 1 720            | 112              | 1 048            |
| Venezuela           | 3 852            | 3 283            | 3 684            | 1 930            | 2 008            | 670              | 317              | 0                | 0                | 0                |

Source: US customs, code 08030020 (excl. plantain)

Banana — Japanese imports

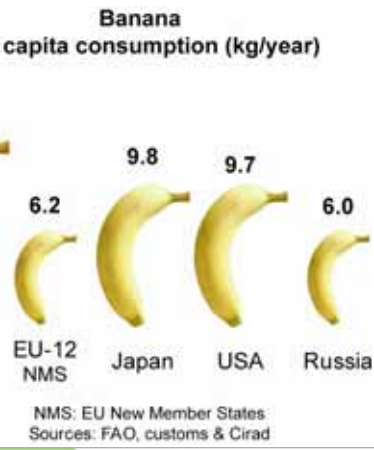
| tonnes              | 2000             | 2001           | 2002           | 2003           | 2004             | 2005             | 2006             | 2007           | 2008             | 2009             |
|---------------------|------------------|----------------|----------------|----------------|------------------|------------------|------------------|----------------|------------------|------------------|
| <b>Total, incl.</b> | <b>1 078 655</b> | <b>990 554</b> | <b>936 272</b> | <b>986 643</b> | <b>1 026 014</b> | <b>1 066 873</b> | <b>1 043 634</b> | <b>970 594</b> | <b>1 092 738</b> | <b>1 252 606</b> |
| Philippines         | 811 000          | 781 413        | 743 549        | 795 561        | 869 641          | 944 467          | 910 600          | 878 962        | 1 019 344        | 1 159 128        |
| Ecuador             | 210 820          | 170 643        | 157 013        | 145 578        | 122 718          | 91 099           | 101 343          | 52 067         | 46 153           | 61 677           |
| Peru                | 0                | 0              | 0              | 110            | 3 216            | 4 027            | 4 272            | 7 560          | 7 119            | 10 683           |
| Taiwan              | 42 274           | 25 178         | 25 074         | 33 518         | 18 226           | 15 100           | 15 862           | 18 868         | 9 018            | 8 751            |
| Mexico              | 1 394            | 2 044          | 2 562          | 3 057          | 3 303            | 3 739            | 3 948            | 4 611          | 5 411            | 4 810            |
| Colombia            | 439              | 166            | 1 483          | 2 194          | 1 926            | 2 328            | 1 964            | 2 892          | 2 382            | 4 010            |
| Thailand            | 1 332            | 1 513          | 1 252          | 1 793          | 2 204            | 1 794            | 2 373            | 2 089          | 2 279            | 2 317            |
| China               | 3 428            | 5 740          | 3 814          | 2 736          | 3 609            | 2 844            | 1 580            | 2 249          | 810              | 699              |
| Dominico            | 1 986            | 1 409          | 1 461          | 2 093          | 1 171            | 1 476            | 1 633            | 1 128          | 222              | 512              |

Source: Japanese customs, code 080300100

Banana - EU-27  
Extra-UE import by entry point







**Banana**  
World production — Tonnes

|              | 2008              | Cavendish         | Other dessert     | Total |
|--------------|-------------------|-------------------|-------------------|-------|
| <b>World</b> | <b>56 643 171</b> | <b>12 562 332</b> | <b>69 205 503</b> |       |
| India        | 14 581 900        | 4 000 500         | 18 582 400        |       |
| China        | 7 237 432         | 137 995           | 7 375 427         |       |
| Brazil       | 3 733 458         | 2 900 000         | 6 633 458         |       |
| Ecuador      | 5 200 000         | 120 000           | 5 320 000         |       |
| Philippines  | 3 300 000         | 993 000           | 4 293 000         |       |
| Indonesia    | 2 000 000         | 1 221 352         | 3 221 352         |       |
| Colombia     | 2 200 000         | 300 000           | 2 500 000         |       |
| Costa Rica   | 1 940 000         | 22 000            | 1 962 000         |       |
| Mexico       | 1 739 545         | 30 000            | 1 769 545         |       |
| Guatemala    | 1 500 000         | 10 000            | 1 510 000         |       |
| Egypt        | 1 056 999         | 2 453             | 1 059 452         |       |
| Thailand     | 736 000           | 224 000           | 960 000           |       |
| Cameroon     | 600 000           | 260 000           | 860 000           |       |
| Vietnam      | 555 000           | 202 400           | 757 400           |       |

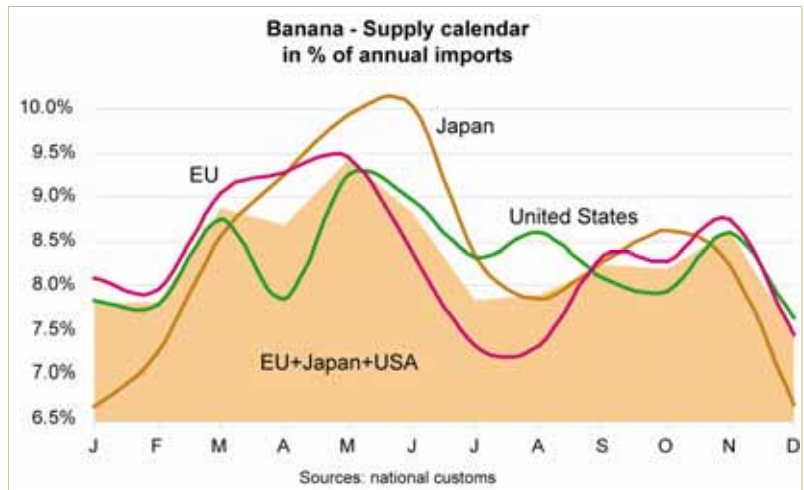
**Banana**  
World exports

|               | 2008-09           | tonnes |
|---------------|-------------------|--------|
| <b>World</b>  | <b>13 850 000</b> |        |
| Ecuador       | 5 473 094         |        |
| Costa Rica    | 1 714 333         |        |
| Philippines   | 2 024 000         |        |
| Colombia      | 1 737 000         |        |
| Guatemala     | 1 686 705         |        |
| Honduras      | 518 487           |        |
| Panama        | 188 000           |        |
| Canaries      | 361 500           |        |
| Cameroon      | 250 000           |        |
| Côte d'Ivoire | 229 000           |        |
| Martinique    | 152 500           |        |
| Brazil        | 130 887           |        |
| Dom. Rep.     | 230 000           |        |
| Belize        | 73 200            |        |

**Banana**  
World imports

|                     | 2008-09           | tonnes |
|---------------------|-------------------|--------|
| <b>World</b>        | <b>13 850 000</b> |        |
| <b>EU-27, incl.</b> | <b>4 513 077</b>  |        |
| Belgium             | 1 278 823         |        |
| UK                  | 903 846           |        |
| Germany             | 843 363           |        |
| Italy               | 532 201           |        |
| France              | 275 785           |        |
| United States       | 3 579 968         |        |
| Japan               | 1 252 606         |        |
| Russia              | 990 000           |        |
| Canada              | 471 330           |        |
| China               | 331 948           |        |
| Argentina           | 318 878           |        |
| South Korea         | 308 252           |        |
| Saudi Arabia        | 248 093           |        |

Sources : Thierry Lescot, FAO, douanes UE, US et Japon



**Banana — European Union imports**

| 000 tonnes                 | 1994         | 1995         | 1996         | 1997         | 1998         | 1999         | 2000         | 2001         | 2002         | 2003         | 2004         | 2005         | 2006         | 2007         | 2008         | 2009         |
|----------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>Total</b>               | <b>3 414</b> | <b>3 810</b> | <b>3 954</b> | <b>3 902</b> | <b>3 796</b> | <b>3 931</b> | <b>4 070</b> | <b>3 973</b> | <b>4 073</b> | <b>4 121</b> | <b>4 609</b> | <b>4 371</b> | <b>4 838</b> | <b>5 238</b> | <b>5 452</b> | <b>5 120</b> |
| <b>Total EU, incl.</b>     | <b>585</b>   | <b>657</b>   | <b>685</b>   | <b>811</b>   | <b>785</b>   | <b>730</b>   | <b>782</b>   | <b>768</b>   | <b>791</b>   | <b>755</b>   | <b>750</b>   | <b>648</b>   | <b>642</b>   | <b>554</b>   | <b>568</b>   | <b>608</b>   |
| Canaries                   | 322          | 369          | 346          | 404          | 437          | 362          | 398          | 421          | 407          | 401          | 418          | 345          | 348          | 361          | 371          | 352          |
| Martinique                 | 152          | 188          | 250          | 277          | 240          | 259          | 271          | 234          | 264          | 244          | 246          | 226          | 221          | 129          | 125          | 180          |
| Guadeloupe                 | 82           | 63           | 61           | 98           | 74           | 84           | 88           | 89           | 95           | 86           | 59           | 54           | 48           | 38           | 47           | 56           |
| Madeira                    | 26           | 34           | 24           | 28           | 30           | 22           | 22           | 21           | 22           | 21           | 21           | 14           | 15           | 17           | 18           | 14           |
| Greece                     | 3            | 3            | 4            | 4            | 4            | 3            | 3            | 3            | 3            | 3            | 3            | 3            | 3            | 3            | 3            | 3            |
| Cyprus                     | -            | -            | -            | -            | -            | -            | -            | -            | -            | -            | 3            | 6            | 7            | 6            | 4            | 3            |
| <b>Total dollar, incl.</b> | <b>2 102</b> | <b>2 387</b> | <b>2 466</b> | <b>2 395</b> | <b>2 393</b> | <b>2 520</b> | <b>2 528</b> | <b>2 475</b> | <b>2 555</b> | <b>2 579</b> | <b>3 074</b> | <b>2 959</b> | <b>3 290</b> | <b>3 847</b> | <b>3 964</b> | <b>3 555</b> |
| Ecuador                    | 549          | 632          | 686          | 738          | 568          | 695          | 674          | 705          | 829          | 800          | 993          | 1 059        | 1 026        | 1 186        | 1 349        | 1 278        |
| Colombia                   | 461          | 557          | 653          | 569          | 541          | 554          | 617          | 645          | 665          | 673          | 763          | 878          | 948          | 1 156        | 1 281        | 1 206        |
| Costa Rica                 | 622          | 564          | 604          | 603          | 640          | 663          | 657          | 634          | 686          | 725          | 840          | 623          | 825          | 971          | 902          | 753          |
| Panama                     | 299          | 416          | 311          | 358          | 417          | 422          | 389          | 348          | 307          | 303          | 368          | 281          | 311          | 354          | 295          | 183          |
| Brazil                     | 0            | 0            | 0            | 2            | 1            | 5            | 13           | 17           | 36           | 50           | 52           | 63           | 96           | 86           | 58           | 56           |
| Peru                       | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 1            | 7            | 6            | 10           | 12           | 23           | 34           | 39           | 44           |
| Mexico                     | 0            | 0            | 2            | 3            | 7            | 12           | 1            | 0            | 0            | 0            | 7            | 3            | 1            | 0            | 2            | 22           |
| Honduras                   | 27           | 56           | 114          | 70           | 151          | 68           | 108          | 106          | 20           | 11           | 18           | 19           | 18           | 32           | 24           | 9            |
| Guatemala                  | 20           | 58           | 62           | 58           | 61           | 42           | 30           | 3            | 0            | 2            | 2            | 3            | 27           | 19           | 14           | 4            |
| <b>Total ACP, incl.</b>    | <b>727</b>   | <b>766</b>   | <b>803</b>   | <b>696</b>   | <b>618</b>   | <b>681</b>   | <b>760</b>   | <b>730</b>   | <b>727</b>   | <b>787</b>   | <b>785</b>   | <b>764</b>   | <b>906</b>   | <b>837</b>   | <b>920</b>   | <b>957</b>   |
| Dominican Rep.             | 86           | 75           | 61           | 49           | 56           | 42           | 60           | 86           | 97           | 109          | 101          | 145          | 177          | 206          | 171          | 254          |
| Cameroon                   | 158          | 165          | 167          | 157          | 116          | 161          | 206          | 216          | 230          | 293          | 262          | 253          | 259          | 222          | 280          | 250          |
| Côte d'Ivoire              | 149          | 160          | 181          | 166          | 158          | 192          | 200          | 218          | 211          | 202          | 211          | 184          | 228          | 189          | 217          | 229          |
| Belize                     | 47           | 41           | 54           | 53           | 53           | 56           | 68           | 52           | 38           | 74           | 80           | 74           | 73           | 62           | 82           | 80           |
| Surinam                    | 33           | 28           | 26           | 29           | 21           | 39           | 34           | 29           | 7            | 0            | 19           | 35           | 45           | 59           | 66           | 57           |
| Dominica                   | 43           | 33           | 39           | 35           | 27           | 28           | 28           | 18           | 17           | 10           | 12           | 12           | 13           | 7            | 10           | 11           |
| Ghana                      | 0            | 2            | 3            | 3            | 4            | 3            | 3            | 3            | 3            | 1            | 2            | 4            | 24           | 34           | 46           | 36           |
| St Lucia                   | 92           | 101          | 107          | 71           | 70           | 66           | 73           | 35           | 49           | 33           | 43           | 28           | 36           | 30           | 39           | 33           |
| St Vincent                 | 32           | 48           | 44           | 30           | 39           | 38           | 43           | 31           | 33           | 21           | 24           | 15           | 17           | 14           | 9            | 8            |
| Jamaica                    | 76           | 84           | 89           | 77           | 62           | 52           | 41           | 43           | 41           | 42           | 29           | 12           | 32           | 18           | 0            | 0            |

Note: May to December only for Cyprus in 2004 / From 1995, EU-15 / From 2004 to 2006, EU-25 / Since 2007, EU-2007 / Source: Eurostat



## The genetic diversity of banana in figures

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 sub-groups 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 ■



Thierry Lescot, CIRAD  
thierry.lescot@cirad.fr

Photos © Régis Domergue

| Banana — Estimated world production in 2008 |                    |                                       |                   |                      |                    |
|---|--------------------|---------------------------------------|-------------------|----------------------|--------------------|
| Tonnes                                      | Cooking bananas    |                                       | Dessert bananas   |                      | Total              |
|   | Plantain AAB group | Highland bananas + ABB group + others | Cavendish         | Gros Michel + others |                    |
| North America                               | 0                  | 4 000                                 | 7 890             | 100                  | 11 990             |
| South America                               | 5 314 743          | 513 913                               | 12 235 024        | 3 710 437            | 21 774 117         |
| Central America                             | 972 800            | 106 876                               | 6 523 545         | 100 000              | 7 703 221          |
| Caribbean                                   | 956 216            | 508 246                               | 931 491           | 239 242              | 2 635 195          |
| West and Central Africa                     | 8 198 008          | 912 396                               | 2 337 310         | 491 242              | 11 938 956         |
| East Africa                                 | 1 137 036          | 14 670 783                            | 2 467 884         | 680 703              | 18 956 406         |
| North Africa and Middle East                | 31                 | 9 667                                 | 1 913 543         | 9 316                | 1 932 557          |
| Asia  | 1 299 184          | 12 058 539                            | 29 486 825        | 7 260 348            | 50 104 896         |
| Oceania                                     | 1 431              | 543 210                               | 304 423           | 69 924               | 918 988            |
| Europe                                      | 101                | 1 010                                 | 435 236           | 1 020                | 437 367            |
| <b>World total</b>                          | <b>17 879 550</b>  | <b>29 328 640</b>                     | <b>56 643 171</b> | <b>12 562 332</b>    | <b>116 413 693</b> |

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

| Estimates in tonnes<br>Production and commerce<br>2008 data<br>(or 2007 data in italics) | Production       |                                    |                   |                      |                   | Exports          |                | Imports          |                |
|--|------------------|------------------------------------|-------------------|----------------------|-------------------|------------------|----------------|------------------|----------------|
|  | Cooking bananas  |                                    | Dessert bananas   |                      | Total             | Cavendish        | Plantain       | Dessert banana   | Plantain       |
|  | Plantains AAB    | Highland bananas + ABB + other AAB | Cavendish         | Gros Michel & others |                   |                  |                |                  |                |
| <b>North America</b>   |                  |                                    |                   |                      |                   |                  |                |                  |                |
| Canada   |                  |                                    |                   |                      | 0                 | 17               | 17             | 517 038          | 150            |
| United States  |                  | 4 000                              | 7 890             | 100                  | 11 990            | 524 526          |                | 4 252 525        | 262 604        |
| Greenland  |                  |                                    |                   |                      | 0                 |                  |                | 250              |                |
| Saint Pierre & Miquelon  |                  |                                    |                   |                      |                   |                  |                | 65               |                |
| <b>Total</b>   | <b>0</b>         | <b>4 000</b>                       | <b>7 890</b>      | <b>100</b>           | <b>11 990</b>     | <b>524 543</b>   | <b>17</b>      | <b>4 769 878</b> | <b>262 754</b> |
|  | 0.0%             | 33.4%                              | 65.8%             | 0.8%                 | 100.0%            | 11.0%            | 0.0%           |                  |                |
| <b>Central America</b>   |                  |                                    |                   |                      |                   |                  |                |                  |                |
| Belize   | 2 800            | 207                                | 87 000            | 1 000                | 91 007            | 82 146           | 100            | 20               |                |
| Costa Rica   | 80 000           | 5 176                              | 1 940 000         | 22 000               | 2 047 176         | 1 869 218        | 30 000         | 24 122           | 195            |
| Guatemala  | 320 000          | 25 000                             | 1 500 000         | 10 000               | 1 855 000         | 1 215 380        | 116 870        | 12 253           | 64             |
| Honduras   | 110 000          | 20 000                             | 710 000           | 20 000               | 860 000           | 562 340          | 1 539          | 501              | 8 857          |
| Mexico   | 195 000          | 10 000                             | 1 739 545         | 30 000               | 1 974 545         | 72 162           | 299            | 59               |                |
| Nicaragua  | 90 000           | 30 000                             | 95 000            | 5 000                | 220 000           | 31 142           | 23 553         | 2 553            | 195            |
| Panama   | 85 000           | 10 000                             | 390 000           | 9 000                | 494 000           | 344 660          | 1 533          |                  |                |
| Salvador   | 90 000           | 6 493                              | 62 000            | 3 000                | 161 493           | 5                |                | 53 807           | 65 501         |
| <b>Total</b>   | <b>972 800</b>   | <b>106 876</b>                     | <b>6 523 545</b>  | <b>100 000</b>       | <b>7 703 221</b>  | <b>4 177 053</b> | <b>173 894</b> | <b>93 315</b>    | <b>74 812</b>  |
|  | 12.6%            | 1.4%                               | 84.7%             | 1.3%                 | 100.0%            | 64.0%            | 17.9%          |                  |                |
| <b>South America</b>   |                  |                                    |                   |                      |                   |                  |                |                  |                |
| Argentina  |                  |                                    | 181 950           | 50                   | 182 000           | 11               |                | 318 878          |                |
| Bolivia  | 160 000          | 11 000                             | 122 000           | 60 000               | 353 000           | 79 466           | 50             |                  |                |
| Brazil   | 453 350          | 30 000                             | 3 733 458         | 2 900 000            | 7 116 808         | 212 210          | 25             | 8                |                |
| Chile  |                  |                                    |                   |                      | 0                 | 27               |                | 178 268          |                |
| Colombia   | 3 057 000        | 322 742                            | 2 200 000         | 300 000              | 5 879 742         | 1 762 466        | 120 000        | 6 188            | 82 981         |
| Ecuador  | 480 000          | 26 168                             | 5 200 000         | 120 000              | 5 826 168         | 4 726 878        | 190 000        | 1 550            |                |
| Guiana   | 4 193            | 1 000                              | 5 892             | 1 000                | 12 085            |                  | 1 194          |                  | 22             |
| French Guiana  | 2 200            | 1 000                              | 3 000             | 1 500                | 7 700             |                  |                |                  |                |
| Falkland Isl.  |                  |                                    |                   |                      |                   |                  |                | 20               |                |
| Paraguay   |                  | 300                                | 36 000            | 9 700                | 46 000            | 12 173           |                | 1 780            |                |
| Peru   | 800 000          | 80 000                             | 270 000           | 200 000              | 1 350 000         | 78 000           | 15 000         | 41               |                |
| Surinam  | 8 000            | 1 384                              | 82 724            | 6 000                | 98 108            | 65 812           | 10             |                  | 200            |
| Uruguay  |                  |                                    |                   |                      | 0                 | 1                |                | 42 238           |                |
| Venezuela  | 350 000          | 40 319                             | 400 000           | 112 187              | 902 506           | 150              | 2 000          |                  |                |
| <b>Total</b>   | <b>5 314 743</b> | <b>513 913</b>                     | <b>12 235 024</b> | <b>3 710 437</b>     | <b>21 774 117</b> | <b>6 937 194</b> | <b>328 279</b> | <b>548 971</b>   | <b>83 203</b>  |
|  | 24.4%            | 2.4%                               | 56.2%             | 17.0%                | 100.0%            | 56.7%            | 6.2%           |                  |                |
| <b>Caribbean</b>   |                  |                                    |                   |                      |                   |                  |                |                  |                |
| Anguilla   |                  |                                    | 1                 |                      |                   |                  |                | 70               | 12             |
| Antigua & Barbuda  | 1                | 3                                  | 212               | 4                    | 220               |                  |                | 752              | 323            |
| Netherlands Antilles   |                  |                                    | 10                |                      | 10                | 10               |                | 1 734            | 1 121          |
| Aruba  |                  |                                    |                   |                      | 0                 |                  |                | 1 400            | 580            |
| Bahamas  | 5                | 20                                 | 3 690             | 35                   | 3 750             |                  |                | 3 116            | 1 782          |
| Barbados   | 5                | 25                                 | 675               | 15                   | 720               |                  |                | 2 384            | 1 374          |
| Bermudas   | 400              | 30                                 | 363               | 50                   | 843               | 160              | 179            | 869              |                |
| Cuba   | 190 000          | 287 400                            | 88 000            | 192 800              | 758 200           | 30               |                | 25               |                |
| Dominica   | 3 600            | 600                                | 13 500            | 500                  | 18 200            | 11 000           | 1 129          |                  |                |
| Grenada  | 740              | 200                                | 1 300             | 36                   | 2 276             | 191              | 4              |                  |                |
| Guadeloupe   | 8 450            | 550                                | 57 000            | 2 000                | 68 000            | 47 000           |                |                  | 400            |
| Haiti  | 305 000          | 72 000                             | 100 000           | 18 000               | 495 000           | 2                | 300            |                  | 1 000          |
| Cayman Isl.  | 20               | 1                                  | 200               | 10                   | 231               |                  |                | 270              |                |
| Turks & Caicos Isl.  |                  |                                    |                   |                      |                   |                  |                | 487              | 100            |
| Virgin Isl. (USA)  | 250              | 50                                 | 1 300             | 100                  | 1 700             |                  |                |                  | 1              |
| Virgin Isl. (UK)   | 70               | 10                                 | 260               | 20                   | 360               | 73               |                | 40               | 27             |
| Jamaica  | 14 000           | 1 035                              | 30 000            | 4 000                | 49 035            | 24               | 10             |                  |                |
| Martinique   | 15 000           | 3 000                              | 135 000           | 3 000                | 156 000           | 125 000          |                |                  | 3              |
| Montserrat   | 75               | 3                                  | 80                | 2                    | 160               |                  |                | 60               | 50             |
| Puerto Rico  | 109 000          | 2 000                              | 100 000           | 2 200                | 213 200           |                  |                |                  | 600            |
| Dominican Republic   | 300 000          | 139 569                            | 330 000           | 10 370               | 779 939           | 180 000          | 3 649          |                  |                |
| St Kitts et Nevis  |                  |                                    |                   |                      | 0                 |                  |                | 420              | 500            |
| St Vincent & Grenadines  | 2 800            | 800                                | 15 000            | 2 000                | 20 600            | 11 000           | 1 150          | 20               |                |
| St Lucia   | 2 300            | 450                                | 48 000            | 4 000                | 54 750            | 42 500           | 200            |                  |                |
| Trinidad & Tobago  | 4 500            | 500                                | 6 900             | 100                  | 12 000            | 25               |                | 3 053            | 580            |
| <b>Total</b>   | <b>956 216</b>   | <b>508 246</b>                     | <b>931 491</b>    | <b>239 242</b>       | <b>2 635 195</b>  | <b>417 015</b>   | <b>6 621</b>   | <b>14 630</b>    | <b>8 453</b>   |
|  | 36.3%            | 19.3%                              | 35.3%             | 9.1%                 | 100.0%            | 44.8%            | 0.7%           |                  |                |



| Estimates in tonnes<br>Production and commerce<br>2008 data<br>(or 2007 data in italics) | Production       |                                    |                  |                      |                   | Exports        |               | Imports        |               |
|--|------------------|------------------------------------|------------------|----------------------|-------------------|----------------|---------------|----------------|---------------|
|  | Cooking bananas  |                                    | Dessert bananas  |                      | Total             | Cavendish      | Plantain      | Dessert banana | Plantain      |
|  | Plantains AAB    | Highland bananas + ABB + other AAB | Cavendish        | Gros Michel & others |                   |                |               |                |               |
| <b>East Africa</b>   |                  |                                    |                  |                      |                   |                |               |                |               |
| South Africa   | 20               | 120                                | 344 982          | 2 500                | <b>347 622</b>    | 159            |               | 22 076         |               |
| Botswana   |                  |                                    |                  |                      | <b>0</b>          | 15             |               | 5 589          |               |
| Burundi  | 70 000           | 1 368 679                          | 131 321          | 280 000              | <b>1 850 000</b>  |                |               |                | 10            |
| Comoros  | 3 000            | 11 000                             | 40 000           | 2 000                | <b>56 000</b>     |                |               | 19             |               |
| Djibouti   |                  |                                    | 1                |                      | <b>1</b>          |                |               | 2 859          |               |
| Eritrea  |                  |                                    | 10               | 1                    | <b>11</b>         | 20             |               | 15 000         |               |
| Ethiopia   | 100              | 1 000                              | 259 000          | 959                  | <b>261 059</b>    | 2 574          |               |                |               |
| Réunion Isl.   | 10               | 500                                | 7 200            | 4 790                | <b>12 500</b>     |                |               |                |               |
| Kenya  | 305 000          | 200 000                            | 290 000          | 80 000               | <b>875 000</b>    | 53             |               | 8              | 10            |
| Lesotho  |                  |                                    |                  |                      | <b>0</b>          |                |               | 2 500          |               |
| Madagascar   | 15 000           | 12 000                             | 210 000          | 15 000               | <b>252 000</b>    | 59             |               |                |               |
| Malawi   | 130 000          | 40 000                             | 140 000          | 10 000               | <b>320 000</b>    |                |               |                |               |
| Mauritius  | 10               | 700                                | 9 200            | 553                  | <b>10 463</b>     |                |               | 1              |               |
| Mayotte  | 640              | 6 400                              | 6 000            | 1 000                | <b>14 040</b>     |                |               |                |               |
| Mozambique   | 5 000            | 5 300                              | 76 700           | 3 000                | <b>90 000</b>     | 18 081         |               |                |               |
| Uganda   | 220 000          | 9 371 000                          | 241 000          | 164 000              | <b>9 996 000</b>  | 1 151          | 1 505         |                | 20            |
| Rwanda   | 80 000           | 2 450 000                          | 120 000          | 100 000              | <b>2 750 000</b>  | 31             | 1             | 30             | 10            |
| Seychelles   | 100              | 530                                | 1 120            | 250                  | <b>2 000</b>      |                |               | 1              |               |
| Somalia  | 8 000            | 2 000                              | 26 000           | 2 000                | <b>38 000</b>     | 26             | 1             |                |               |
| Sudan  |                  | 1 000                              | 71 000           | 2 000                | <b>74 000</b>     | 100            |               |                |               |
| Swaziland  | 5                | 4                                  | 10 000           | 1                    | <b>10 010</b>     | 8 075          |               | 3 110          |               |
| Tanzania   | 300 000          | 1 200 000                          | 400 000          | 12 000               | <b>1 912 000</b>  | 111            | 1             | 2              |               |
| Zambia   | 1                | 50                                 | 600              | 49                   | <b>700</b>        | 70             |               | 1              |               |
| Zimbabwe   | 150              | 500                                | 83 750           | 600                  | <b>85 000</b>     | 4 030          |               |                |               |
| <b>Total</b>   | <b>1 137 036</b> | <b>14 670 783</b>                  | <b>2 467 884</b> | <b>680 703</b>       | <b>18 956 406</b> | <b>34 555</b>  | <b>1 508</b>  | <b>51 196</b>  | <b>50</b>     |
|  | 6.0%             | 77.4%                              | 13.0%            | 3.6%                 | 100.0%            | 1.4%           | 0.1%          |                |               |
| <b>West and Centra Africa</b>  |                  |                                    |                  |                      |                   |                |               |                |               |
| Angola   | 120 000          | 10 000                             | 156 000          | 14 000               | <b>300 000</b>    |                |               | 20             | 100           |
| Benin  | 45 000           | 100                                | 14 500           | 9 000                | <b>68 600</b>     |                | 200           | 267            | 2 100         |
| Burkina Faso   | 100              | 10                                 | 15 000           | 10                   | <b>15 120</b>     | 372            |               | 1 155          | 5 600         |
| Cameroon   | 1 200 000        | 200 000                            | 600 000          | 260 000              | <b>2 260 000</b>  | 281 000        | 30 000        | 36             |               |
| Cape Verde   | 10               | 30                                 | 6 730            | 30                   | <b>6 800</b>      |                |               | 6              |               |
| Congo  | 61 000           | 4 000                              | 35 000           | 8 000                | <b>108 000</b>    |                |               | 11             | 2 000         |
| Congo (Dem. Rep.)  | 1 001 690        | 205 000                            | 291 470          | 24 000               | <b>1 522 160</b>  | 430            | 3 000         |                |               |
| Côte d'Ivoire  | 1 350 000        | 205 454                            | 360 000          | 6 000                | <b>1 921 454</b>  | 245 000        | 35 000        | 150            |               |
| Gabon  | 80 000           | 15 000                             | 12 000           | 500                  | <b>107 500</b>    |                |               | 2              | 11 000        |
| Gambia   | 8                | 1                                  | 180              | 1                    | <b>190</b>        |                |               | 380            |               |
| Ghana  | 1 400 000        | 150 000                            | 160 000          | 20 000               | <b>1 730 000</b>  | 50 000         | 10 000        |                | 200           |
| Guinea   | 420 000          | 16 000                             | 142 000          | 20 000               | <b>598 000</b>    | 19             | 20            |                |               |
| Guinea Bissau  | 36 000           | 4 000                              | 4 800            | 400                  | <b>45 200</b>     | 1              |               |                |               |
| Equatorial Guinea  | 28 000           | 3 000                              | 8 000            | 1 000                | <b>40 000</b>     | 4              |               |                | 9 000         |
| Liberia  | 43 000           | 5 000                              | 40 000           | 10 000               | <b>98 000</b>     |                |               | 1              | 14            |
| Mali   | 6 500            | 500                                | 80 000           | 500                  | <b>87 500</b>     |                |               | 10 690         | 5 500         |
| Mauritania   |                  | 1                                  | 70               | 1                    | <b>72</b>         | 2              |               | 1 526          |               |
| Namibia  |                  |                                    |                  |                      | <b>0</b>          | 2              |               | 2 563          |               |
| Niger  |                  |                                    | 350              |                      | <b>350</b>        |                |               | 1 349          | 2 500         |
| Nigeria  | 2 296 000        | 83 000                             | 263 000          | 85 000               | <b>2 727 000</b>  |                | 1             |                | 1 000         |
| Centra African Rep.  | 75 000           | 7 000                              | 90 000           | 30 000               | <b>202 000</b>    |                |               |                | 2 000         |
| St Helena  |                  |                                    |                  |                      |                   |                |               | 50             |               |
| Sao Tomé & Principe  | 3 000            | 1 000                              | 1 500            | 1 000                | <b>6 500</b>      |                |               |                | 10            |
| Senegal  | 200              | 100                                | 39 600           | 100                  | <b>40 000</b>     | 18             |               | 16 598         | 2 300         |
| Sierra Leone   | 23 000           | 2 000                              | 9 000            | 1 000                | <b>35 000</b>     |                | 1             | 10             |               |
| Chad   |                  |                                    | 10               |                      | <b>10</b>         |                |               | 15 000         | 1 500         |
| Togo   | 9 500            | 1 200                              | 8 100            | 700                  | <b>19 500</b>     | 15             | 2             | 2              | 100           |
| <b>Total</b>   | <b>8 198 008</b> | <b>912 396</b>                     | <b>2 337 310</b> | <b>491 242</b>       | <b>11 938 956</b> | <b>576 863</b> | <b>78 224</b> | <b>49 816</b>  | <b>44 924</b> |
|  | 68.7%            | 7.6%                               | 19.6%            | 4.1%                 | 100.0%            | 24.7%          | 1.0%          |                |               |
| <b>North Africa &amp; Middle East</b>  |                  |                                    |                  |                      |                   |                |               |                |               |
| Algeria  |                  | 1                                  | 198              | 1                    | <b>200</b>        |                |               | 10 811         |               |
| Saudi Arabia   |                  |                                    | 1                |                      | <b>1</b>          | 4 379          |               | 248 093        |               |
| Bahrain  |                  |                                    | 700              | 50                   | <b>750</b>        | 132            |               | 10 264         |               |
| West Bank  |                  | 5                                  | 6 150            | 5                    | <b>6 160</b>      |                |               | 10 000         |               |
| Egypt  | 1                | 3 000                              | 1 056 999        | 2 453                | <b>1 062 453</b>  | 8 851          |               | 4 661          |               |
| United Arab Emirates   |                  |                                    | 200              |                      | <b>200</b>        | 5 571          |               | 45 000         |               |
| Iraq   |                  |                                    | 10               |                      | <b>10</b>         |                |               | 244            |               |
| Iran   |                  | 3 000                              | 69 000           | 3 000                | <b>75 000</b>     | 26             |               | 20 727         |               |
| Israel   |                  | 1 000                              | 80 100           | 1 009                | <b>82 109</b>     | 3 771          |               | 328            |               |
| Jordan   |                  | 800                                | 40 000           | 740                  | <b>41 540</b>     | 208            |               | 20 380         |               |
| Koweit   |                  |                                    |                  |                      | <b>0</b>          | 186            |               | 23 000         |               |
| Lebanon  | 10               | 600                                | 88 500           | 590                  | <b>89 700</b>     | 43 965         |               | 478            |               |
| Libya  |                  | 1                                  | 2                | 1                    | <b>4</b>          |                |               | 9 094          |               |
| <b>sub-total</b> (contd. p. 51)  | <b>11</b>        | <b>8 407</b>                       | <b>1 341 860</b> | <b>7 849</b>         | <b>1 358 127</b>  | <b>67 089</b>  | <b>0</b>      | <b>403 080</b> | <b>0</b>      |

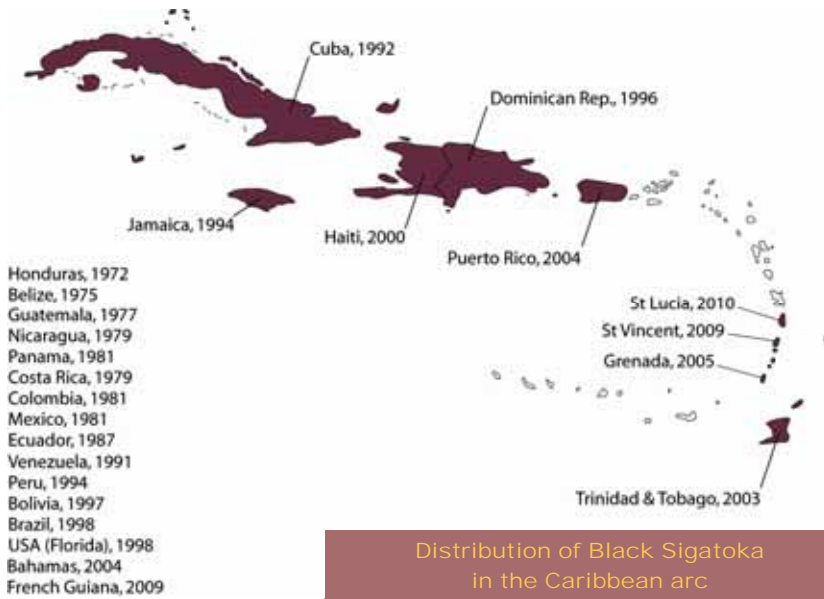
| Estimates in tonnes<br>Production and commerce<br>2008 data<br>(or 2007 data in italics) | Production       |                                    |                   |                      |                   | Exports          |            | Imports          |              |
|--|------------------|------------------------------------|-------------------|----------------------|-------------------|------------------|------------|------------------|--------------|
|  | Cooking bananas  |                                    | Dessert bananas   |                      | Total             | Cavendish        | Plantain   | Dessert banana   | Plantain     |
|  | Plantains AAB    | Highland bananas + ABB + other AAB | Cavendish         | Gros Michel & others |                   |                  |            |                  |              |
| <b>North Africa &amp; Middle East</b> (concluding)                                       |                  |                                    |                   |                      |                   |                  |            |                  |              |
| Morocco  |                  | 500                                | 213 712           | 500                  | <b>214 712</b>    | 79               |            | 17 239           |              |
| Oman   |                  | 500                                | 27 900            | 492                  | <b>28 892</b>     | 390              |            | 8 956            |              |
| Qatar  |                  |                                    |                   |                      | <b>0</b>          | 141              |            | 16 936           |              |
| Western Sahara   |                  |                                    |                   |                      | <b>0</b>          |                  |            | 2 500            |              |
| Syria  |                  |                                    | 790               | 10                   | <b>800</b>        |                  |            | 192 704          |              |
| Tunisia  |                  | 10                                 | 55                | 50                   | <b>115</b>        | 20               |            | 60 000           |              |
| Turkey   |                  | 50                                 | 200 950           | 115                  | <b>201 115</b>    | 97               |            | 224 262          |              |
| Yemen  | 20               | 200                                | 128 276           | 300                  | <b>128 796</b>    | 76 200           |            |                  |              |
| <b>Total</b>   | <b>31</b>        | <b>9 667</b>                       | <b>1 913 543</b>  | <b>9 316</b>         | <b>1 932 557</b>  | <b>144 016</b>   | <b>0</b>   | <b>925 677</b>   | <b>0</b>     |
|  | 0.0%             | 0.5%                               | 99.0%             | 0.5%                 | <b>100.0%</b>     | 7.5%             | 0.0%       |                  |              |
| <b>Asia</b>  |                  |                                    |                   |                      |                   |                  |            |                  |              |
| Afghanistan  |                  |                                    |                   |                      | <b>0</b>          |                  |            | 7 933            |              |
| Azerbaijan   |                  |                                    |                   |                      | <b>0</b>          |                  |            | 13 875           | 18           |
| Bangladesh   | 13 000           | 120 000                            | 527 603           | 216 520              | <b>877 123</b>    | 260              |            | 150              |              |
| Bhutan   | 74               | 500                                | 3 000             | 400                  | <b>3 974</b>      |                  |            | 9                |              |
| Brunei   |                  | 40                                 | 690               | 70                   | <b>800</b>        |                  |            | 213              |              |
| Cambodia   | 10 000           | 45 000                             | 50 000            | 25 000               | <b>130 000</b>    |                  |            |                  |              |
| China  | 60               | 667 215                            | 7 237 432         | 137 995              | <b>8 042 702</b>  | 40 044           |            | 331 948          |              |
| South Korea  |                  |                                    |                   |                      | <b>0</b>          | 564              |            | 308 252          |              |
| North Korea  |                  |                                    |                   |                      | <b>0</b>          |                  |            | 20               |              |
| Hong Kong  |                  |                                    |                   |                      | <b>0</b>          | 14 712           |            | 68 104           |              |
| India  | 898 000          | 3 724 400                          | 14 581 900        | 4 000 500            | <b>23 204 800</b> | 30 401           | 1          |                  |              |
| Indonesia  | 70 000           | 2 450 000                          | 2 000 000         | 1 221 352            | <b>5 741 352</b>  | 2 378            | 1          | 25               |              |
| Japan  |                  |                                    | 205               |                      | <b>205</b>        | 513              |            | 1 092 738        | 6 380        |
| Kazakhstan   |                  |                                    |                   |                      | <b>0</b>          |                  |            | 34 464           |              |
| Kirghizia  |                  |                                    |                   |                      | <b>0</b>          |                  |            | 3 090            |              |
| Laos   | 1 000            | 7 000                              | 22 000            | 18 000               | <b>48 000</b>     |                  |            | 669              |              |
| Macau  |                  |                                    |                   |                      | <b>0</b>          |                  |            | 1 175            |              |
| Malaysia   | 40 000           | 210 000                            | 160 000           | 120 000              | <b>530 000</b>    | 27 121           |            | 129              |              |
| Maldives   | 40               | 80                                 | 480               | 221                  | <b>821</b>        |                  |            | 1 162            | 31           |
| Mongolia   |                  |                                    |                   |                      | <b>0</b>          |                  |            | 567              |              |
| Myanmar  | 40 000           | 400 000                            | 130 000           | 60 000               | <b>630 000</b>    |                  |            |                  |              |
| Nepal  |                  | 20 000                             | 20 617            | 12 640               | <b>53 257</b>     |                  |            | 4 867            |              |
| Uzbekistan   |                  |                                    |                   |                      | <b>0</b>          |                  |            | 1 165            |              |
| Pakistan   | 2 000            | 26 000                             | 113 378           | 18 000               | <b>159 378</b>    | 7 933            |            |                  |              |
| Philippines  | 1 000            | 2 500 564                          | 3 300 000         | 993 000              | <b>6 794 564</b>  | 1 908 328        |            | 34               |              |
| Singapore  |                  |                                    |                   |                      | <b>0</b>          | 142              |            | 37 087           |              |
| Sri Lanka  | 162 000          | 312 000                            | 45 920            | 10 000               | <b>529 920</b>    | 230              | 25         | 3                |              |
| Tajikistan   |                  |                                    |                   |                      | <b>0</b>          |                  |            | 120              |              |
| Taiwan   |                  | 100                                | 700               | 200                  | <b>1 000</b>      | 10 000           |            | 150 000          |              |
| Thailand   | 60 000           | 980 000                            | 736 000           | 224 000              | <b>2 000 000</b>  | 22 226           | 100        | 6 882            |              |
| East Timor   | 10               | 40                                 | 1 900             | 50                   | <b>2 000</b>      |                  |            | 20               |              |
| Turkmenistan   |                  |                                    |                   |                      | <b>0</b>          |                  |            | 100              |              |
| Vietnam  | 2 000            | 595 600                            | 555 000           | 202 400              | <b>1 355 000</b>  | 10 574           | 11         |                  |              |
| <b>Total</b>   | <b>1 299 184</b> | <b>12 058 539</b>                  | <b>29 486 825</b> | <b>7 260 348</b>     | <b>50 104 896</b> | <b>2 075 426</b> | <b>138</b> | <b>2 064 801</b> | <b>6 429</b> |
|  | 2.6%             | 24.1%                              | 58.9%             | 14.5%                | <b>100.0%</b>     | 7.0%             | 0.0%       |                  |              |
| <b>Oceania</b>   |                  |                                    |                   |                      |                   |                  |            |                  |              |
| Australia  | 50               | 500                                | 190 643           | 22 000               | <b>213 193</b>    | 3                |            | 505              |              |
| Fiji   | 100              | 2 300                              | 4 000             | 100                  | <b>6 500</b>      | 130              |            |                  |              |
| Guam   |                  | 145                                | 205               |                      | <b>350</b>        |                  |            | 1 000            |              |
| Cook Isl.  |                  | 100                                | 60                |                      | <b>160</b>        | 22               |            |                  |              |
| Marshall Isl.  |                  |                                    |                   |                      | <b>0</b>          |                  |            | 50               |              |
| Solomon Isl.   |                  | 90                                 | 330               |                      | <b>420</b>        |                  |            |                  |              |
| Kiribati   |                  | 3 800                              | 1 600             | 400                  | <b>5 800</b>      |                  |            |                  |              |
| Micronesia   | 350              | 840                                | 1 250             | 10                   | <b>2 450</b>      |                  |            |                  |              |
| Niue   |                  | 20                                 | 140               |                      | <b>160</b>        | 120              |            |                  |              |
| New Caledonia  | 130              | 1 800                              | 2 000             | 600                  | <b>4 530</b>      |                  |            | 2                |              |
| New Zealand  |                  |                                    |                   |                      | <b>0</b>          |                  |            | 80 458           |              |
| Palau  |                  |                                    |                   |                      | <b>0</b>          |                  |            | 50               |              |
| Papua-New Guinea   | 500              | 500 000                            | 90 000            | 42 000               | <b>632 500</b>    | 1 000            |            |                  |              |
| French Polynesia   |                  | 2 300                              | 3 100             | 500                  | <b>5 900</b>      |                  |            | 3                |              |
| Samoa  | 100              | 13 900                             | 6 000             | 3 000                | <b>23 000</b>     | 1                |            |                  |              |
| Samoa (USA)  |                  | 230                                | 500               | 60                   | <b>790</b>        |                  |            | 1                |              |
| Tokelau  |                  | 10                                 | 5                 |                      | <b>15</b>         |                  |            |                  |              |
| Tonga  | 100              | 3 200                              | 740               | 100                  | <b>4 140</b>      |                  |            |                  |              |
| Tuvalu   | 1                | 165                                | 110               | 4                    | <b>280</b>        |                  |            |                  |              |
| Vanuatu  | 100              | 9 900                              | 3 500             | 1 000                | <b>14 500</b>     | 4                |            |                  |              |
| Wallis & Futuna  |                  | 3 910                              | 240               | 150                  | <b>4 300</b>      |                  |            |                  |              |
| <b>Total</b>   | <b>1 431</b>     | <b>543 210</b>                     | <b>304 423</b>    | <b>69 924</b>        | <b>918 988</b>    | <b>1 280</b>     | <b>0</b>   | <b>82 069</b>    | <b>0</b>     |
|  | 0.2%             | 59.1%                              | 33.1%             | 7.6%                 | <b>100.0%</b>     | 0.4%             | 0.0%       |                  |              |

| Estimates in tonnes<br>Production and commerce<br>2008 data<br>(or 2007 data in italics) | Production        |                                    |                   |                      |                    | Exports           |                | Imports           |                |
|--|-------------------|------------------------------------|-------------------|----------------------|--------------------|-------------------|----------------|-------------------|----------------|
|  | Cooking bananas   |                                    | Dessert bananas   |                      |                    | Cavendish         | Plantain       | Dessert banana    | Plantain       |
|  | Plantains AAB     | Highland bananas + ABB + other AAB | Cavendish         | Gros Michel & others | Total              |                   |                |                   |                |
| <b>Europe</b>  |                   |                                    |                   |                      |                    |                   |                |                   |                |
| Azores   |                   |                                    | 1 000             |                      | 1 000              |                   |                |                   |                |
| Albania  |                   |                                    |                   |                      | 0                  | 100               |                | 20 112            |                |
| Germany  |                   |                                    |                   |                      | 0                  | 463 847           | 8 284          | 1 388 028         | 10 000         |
| Andorra  |                   |                                    |                   |                      | 0                  |                   |                | 600               |                |
| Armenia  |                   |                                    |                   |                      | 0                  | 2 304             |                | 17 164            |                |
| Austria  |                   |                                    |                   |                      | 0                  | 18 683            |                | 120 706           | 43             |
| Belarus  |                   |                                    |                   |                      | 0                  | 463 847           | 8 284          | 1 388 028         | 10 000         |
| Belgium - Luxembourg   |                   |                                    |                   |                      | 0                  |                   |                | 600               |                |
| Bosnia Herzegovina   |                   |                                    |                   |                      | 0                  | 2 304             |                | 17 164            |                |
| Bulgaria   |                   |                                    |                   |                      | 0                  | 18 683            |                | 120 706           | 43             |
| Canaries   | 1                 | 5                                  | 398 000           | 5                    | 398 011            | 371 000           |                |                   |                |
| Cyprus   |                   |                                    | 7 145             | 5                    | 7 150              | 1 086             |                | 3 772             | 191            |
| Croatia  |                   |                                    |                   |                      | 0                  | 20                |                | 54 737            | 280            |
| Denmark  |                   |                                    |                   |                      | 0                  | 14 629            | 3              | 98 992            | 784            |
| Spain  |                   |                                    | 250               | 5                    | 255                | 56 444            | 969            | 550 000           | 29 738         |
| Estonia  |                   |                                    |                   |                      | 0                  | 161               |                | 13 297            |                |
| Finland  |                   |                                    |                   |                      | 0                  | 16 363            |                | 56 762            | 821            |
| France   |                   |                                    |                   |                      | 0                  | 197 329           | 12 222         | 742 022           | 13 193         |
| Georgia  |                   |                                    |                   |                      | 0                  | 1 239             |                | 11 402            |                |
| Gibraltar  |                   |                                    |                   |                      | 0                  |                   |                | 150               |                |
| Greece   |                   | 5                                  | 2 990             | 5                    | 3 000              | 9 306             | 5              | 81 683            | 355            |
| Hungary  |                   |                                    |                   |                      | 0                  | 7 233             |                | 105 246           | 957            |
| Faroe Isl.   |                   |                                    |                   |                      | 0                  |                   |                | 186               |                |
| Ireland  |                   |                                    |                   |                      | 0                  | 8 305             | 174            | 53 593            | 2 302          |
| Iceland  |                   |                                    | 1                 |                      | 1                  | 11                |                | 5 516             |                |
| Italy  |                   |                                    | 350               |                      | 350                | 120 685           | 514            | 703 897           | 3 705          |
| Latvia   |                   |                                    |                   |                      | 0                  | 527               |                | 15 453            | 2 631          |
| Lithuania  |                   |                                    |                   |                      | 0                  | 6 185             | 724            | 25 429            | 5 831          |
| Macedonia  |                   |                                    |                   |                      | 0                  | 42                | 6              | 14 756            | 106            |
| Madeira  | 100               | 1 000                              | 22 000            | 1 000                | 24 100             | 18 000            |                |                   |                |
| Malta  |                   |                                    |                   |                      | 0                  |                   |                | 4 941             | 188            |
| Moldavia   |                   |                                    |                   |                      | 0                  |                   |                | 11 064            | 154            |
| Norway   |                   |                                    |                   |                      | 0                  |                   |                | 73 200            |                |
| Netherlands  |                   |                                    |                   |                      | 0                  |                   | 22 204         | 159 198           | 44 321         |
| Poland   |                   |                                    |                   |                      | 0                  | 9 093             |                | 242 681           | 5 436          |
| Portugal   |                   |                                    | 3 500             |                      | 3 500              | 29 841            | 79             | 163 318           | 1 041          |
| Czech Rep.   |                   |                                    |                   |                      | 0                  | 56 919            | 47             | 147 396           | 1 450          |
| Romania  |                   |                                    |                   |                      | 0                  | 361               |                | 117 714           | 9 362          |
| United Kingdom   |                   |                                    |                   |                      | 0                  | 67 595            | 1 760          | 951 209           | 38 403         |
| Russia   |                   |                                    |                   |                      | 0                  | 19 008            |                | 978 504           |                |
| St Marin   |                   |                                    |                   |                      | 0                  |                   |                | 120               |                |
| Serbia & Montenegro  |                   |                                    |                   |                      | 0                  |                   |                | 65 701            | 20             |
| Slovakia   |                   |                                    |                   |                      | 0                  | 20 053            | 13             | 70 614            | 2 720          |
| Slovenia   |                   |                                    |                   |                      | 0                  | 17 475            |                | 60 589            | 2              |
| Sweden   |                   |                                    |                   |                      | 0                  | 30 904            |                | 190 344           | 465            |
| Switzerland  |                   |                                    |                   |                      | 0                  | 8                 |                | 78 219            |                |
| Ukraine  |                   |                                    |                   |                      | 0                  | 75                |                | 240 800           |                |
| <b>Total</b>   | <b>101</b>        | <b>1 010</b>                       | <b>435 236</b>    | <b>1 020</b>         | <b>437 367</b>     | <b>2 395 192</b>  | <b>99 379</b>  | <b>8 701 081</b>  | <b>234 752</b> |
|  | 0.0%              | 0.2%                               | 99.5%             | 0.2%                 | 100.0%             | 27.5%             | 1.1%           |                   |                |
| <b>World total</b>   | <b>17 879 550</b> | <b>29 328 640</b>                  | <b>56 643 171</b> | <b>12 562 332</b>    | <b>116 413 693</b> | <b>17 283 137</b> | <b>688 060</b> | <b>17 301 434</b> | <b>715 377</b> |
|  | 15.4%             | 25.2%                              | 48.7%             | 10.8%                | 100.0%             | 30.5%             | 3.8%           |                   |                |

Note 1: for EU member countries, imports excluding supplies from European production.

Note 2: differences between import and export totals result from re-exports between non-producer countries (intra-EU trade for example), the taking into account of two years (2008 and 2007) and the experimental nature of this work.

Source: Thierry Lescot of CIRAD, who used bibliographical research, surveys, professional sources, FAO, etc.



## Sigatoka Leaf streak diseases a new threat for the banana production

Two main types of leaf streak disease endanger the banana industry: Black Sigatoka and Yellow Sigatoka. A new species called *Mycosphaerella eumus* is even more aggressive than Black Sigatoka and seems to be spreading in Asia and the Indian Ocean. Black Sigatoka (also called black leaf streak disease or BLS) is caused by the fungal leaf parasite *Mycosphaerella fijiensis*.

Spread is from plant to plant in continental zones. The sea is a natural obstacle. Although the risk of natural dissemination of the spores of the fungus by wind cannot be ruled out, the spread of the disease from one zone to another is generally the result of uncontrolled movement of plant material. The disease is present in all the producer countries in Latin America, Africa and Asia. The Caribbean countries were long protected by their island geography. The new feature that strongly increases the risk for the Lesser Antilles is the spread of the disease in the Greater Antilles in Cuba, Jamaica, the Dominican Republic, Haiti, Puerto Rico, Grenada and Trinidad & Tobago. Its presence was confirmed officially in St Vincent in 2009 and in St Lucia in 2010.

The fungus destroys the foliage of banana plants. The disease appears in the form of small black streaks that soon develop into necrotic patches. The spread of lesions causes the total destruction of banana leaves before the bunch is harvested, with the fruits being at an advanced stage of ripeness making them unsaleable.

The process is exactly the same as that of Yellow Sigatoka, another fungal disease observed for about 60 years in all the continents. This is caused by the fungus *Mycosphaerella musicola* and led to rational chemical control set up by professionals in Martinique and Guadeloupe. Spraying is performed in relation to surveillance of the disease. Today, Yellow Sigatoka is controlled with a small number of sprays (five to seven per year). There are fundamental differences between the two leaf streak diseases. Unlike Yellow Sigatoka, Black Sigatoka can infect both export banana and plantain. As it spreads rapidly, it is also more difficult to control. Depending on the country and control facilities and techniques, control requires from 12 to more than 50 sprays per year.

### Two control strategies

The export banana plantations in the major Latin American producer countries form vast agro-industrial complexes in alluvial plains. Given the size of plantations (several hundred or even several thousand hectares), contamination from outside is weak. There are no nearby centres of infection. The agroclimatic homogeneity makes it possible to organise and rationalise crop spraying for large complexes. The low cost of labour facilitates essential control work (regular deleafing).

In this context, the impact of spraying as a nuisance is not always taken into account by the large companies that do not hesitate to use systematic control strategies leading to more than 50 sprays per year. Application is at regular intervals and generally consists of contact fungicides (chlorothalonil, dithiocarbamate, etc.) that by definition are of low efficacy—treatment every 10 to 15 days—requiring a large number of sprays to control the disease. Systemic fungicides are sometimes used but always as a water-based emulsion.

CIRAD has developed a rational strategy using warning methods based either on disease monitoring in the plantation or on



Yellow Sigatoka

the observation of climatic descriptors (evaporation, temperature, etc.). It has been applied in particular in Guadeloupe, Martinique, Cameroon and Côte d'Ivoire. It consists of performing spraying only at the appropriate moment. The main objectives are:

- improving control efficacy while decreasing the number of sprays per year;
- limiting the risks of the selection of fungicide-resistant races;
- reducing pollution and increasing respect for 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, etc.) that are effective for a long time. Mixing them with a low volume (13 to 15 litres per ha) of petroleum oil (also fungistatic) extends the efficacy of each spray and therefore helps to reduce the number of sprays per year. These two types of leaf streak control strategy have similar efficacy. However, the consequences are totally different with regard to the

appearance of resistance in the fungus.

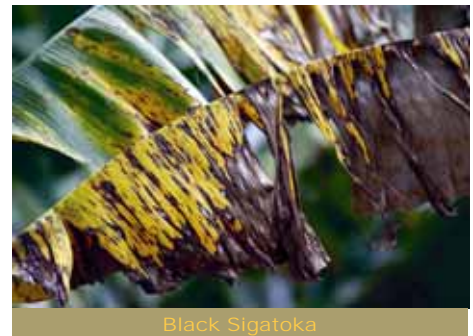
The systemic fungicides available on the market have a single-site effect on the pathogen, enhancing the inducing of resistant fungal strains when these substances are used in excess. In Central America, resistance to benzimidazoles was observed only two years after their first utilisation. This led to greater use of contact products, with 15 to 40 kg active substance per hectare per year. Warning techniques and a reduced number of sprays resulted in the appearance of resistance phenomena in Guadeloupe, Martinique, Cameroon and Côte d'Ivoire only after 10 or even 15 years of use.

**New control methods are essential**

Present control strategies cannot be used indefinitely. Thought should soon be focused on the adopting of an overall approach combining new hybrids resistant to the leaf streak diseases and cropping systems that make it possible to conserve this resistance.



© Thierry Lescaot



© Régis Domergue

Black Sigatoka



**Tissue culture production of tropical fruit plants**

**Your banana tissue culture plant specialist**

**What we promise you:**

- The most productive selected elite varieties
- Prime bunch quality
- Optimum homogeneity in the field
- The best sanitary guarantees of the market
- Unequaled responsiveness



Please send requests to:  
 Tél : +33 (0)4 67 55 34 58  
 Fax : +33 (0)4 67 55 23 05  
[vitropic@vitropic.fr](mailto:vitropic@vitropic.fr)

ZAE des Avants  
 34270 Saint Mathieu de Trèvièrs  
 FRANCE  
[www.vitropic.fr](http://www.vitropic.fr)

**Other species available and customised propagation**



# Banana quality defects in the field

Photos © Luc de Lapeyre, Marc Chillet, Marie-José Rives, Fruidor



Flower thrips

Red rust thrips



Pests

Silver rust thrips

Snail damage

Damage by



Physiological defects and other imperfections

Double fruit and deformed fruits

Scarring by a fruit tip

Scarring by a leaf

Scarring by guying cord

Sunscald

Chemical burns

Diseases



Speckle



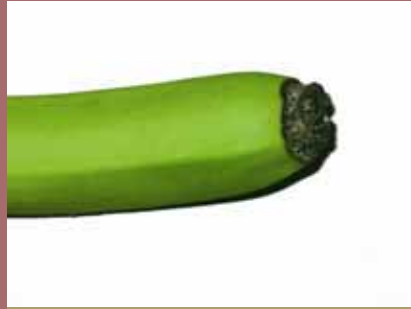
Red speckling at ripening



*Deightonia* speckle



Sooty mould on fruit stalk



Cigar-end rot

## Banana quality defects at packing

Photos © Luc de Lapeyre, Marc Chillet, Marie-José Rives, Fruidor

Selection problems and miscellaneous defects



Fruit too thin



Fruit too short



Latex stains



Incomplete flower removal

Dehanding problems



Crown cut too short



Detached crown

Bruising



Bruising caused by impact during packing

# Banana quality defects after transport

Photos © Luc de Lapeyre, Marc Chillet, Marie-José Rives, Fruidor

## 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



Pointed crown



Knife wound



Flexed fruit stalks

## Post harvest diseases

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.



**Au service  
de l'agriculture  
ultramarine  
depuis 25 ans**

**Soutient** la modernisation, la diversification  
et le développement de la production agricole  
et agro-alimentaire des régions françaises d'outre-mer,

**Favorise** l'organisation de la production,  
de la commercialisation et de la transformation  
des produits issus de l'agriculture au plan local et national,

**Gère** et paie les aides européennes et nationales  
attribuées aux filières agricoles d'outre-mer,

**Contribue**, par son expertise,  
à la prise de décisions stratégiques  
sur l'avenir de ces filières,

**Constitue** un lieu de concertation indispensable  
entre les professionnels et l'administration.



**Un Monde de Savoir-Faire**

**Office de développement  
de l'économie agricole d'outre-mer  
12, rue Henri Rol-Tanguy**

**TSA 60006**

**93555 Montreuil-Sous-Bois Cedex**

**France**

**T : 33 (0) 1 41 63 19 70**

**F : 33 (0) 1 41 63 19 45**

**odeadom@odeadom.fr**

**www.odeadom.fr**

# Wholesale market prices in Europe

## March 2010

|            |       |                |                |                | EUROPEAN UNION — IN EUROS |         |        |         |      |      |
|------------|-------|----------------|----------------|----------------|---------------------------|---------|--------|---------|------|------|
|            |       |                |                |                | Germany                   | Belgium | France | Holland | UK   |      |
| AVOCADO    | Air   | TROPICAL       | BRAZIL         | Box            |                           |         | 12.00  |         |      |      |
|            |       |                | ISRAEL         | Box            | 5.50                      |         |        | 5.75    |      |      |
|            |       |                | KENYA          | Box            |                           |         | 4.80   |         | 5.59 |      |
|            | Sea   | FUERTE         | PERU           | Box            |                           | 6.00    | 5.67   |         | 5.59 |      |
|            |       |                | ISRAEL         | Box            |                           | 8.75    | 8.40   | 8.25    |      |      |
|            |       |                | MEXICO         | Box            |                           |         | 7.75   |         |      |      |
|            |       |                | PERU           | Box            |                           | 8.75    | 7.81   |         |      |      |
|            | Truck | HASS           | CHILE          | Box            |                           | 8.75    |        | 6.88    |      |      |
|            |       |                | NOT DETERMINED | ISRAEL         | Box                       |         |        | 6.37    |      |      |
|            |       |                | PINKERTON      | ISRAEL         | Box                       |         | 5.75   |         | 6.50 |      |
|            |       |                | ARDIT          | ISRAEL         | Box                       | 6.00    |        |         | 6.13 |      |
| WURTZ      |       |                | ISRAEL         | Box            |                           |         |        | 7.50    |      |      |
|            |       | HASS           | SPAIN          | Box            | 9.00                      |         | 8.25   |         |      |      |
| BANANA     | Air   | RED            | ECUADOR        | kg             |                           |         |        | 4.88    |      |      |
|            |       |                | SMALL          | COLOMBIA       | kg                        |         | 6.15   | 6.00    |      |      |
|            |       |                | SMALL          | ECUADOR        | kg                        |         |        | 5.30    | 4.17 |      |
|            | Sea   | SMALL          | ECUADOR        | kg             |                           |         | 2.05   |         |      |      |
| CARAMBOLA  | Air   |                | MALAYSIA       | kg             |                           | 4.59    | 4.50   | 4.14    |      |      |
|            | Sea   |                | MALAYSIA       | kg             |                           | 2.85    |        |         |      |      |
| CHAYOTE    | Air   |                | COSTA RICA     | kg             |                           | 1.76    |        | 1.25    |      |      |
| COCONUT    | Sea   |                | COSTA RICA     | Bag            |                           | 18.00   |        | 15.50   |      |      |
|            |       |                | COTE D'IVOIRE  | Bag            |                           | 12.50   | 10.40  | 7.31    |      |      |
|            |       |                | SRI LANKA      | Bag            |                           | 9.00    |        | 15.00   |      |      |
| DATE       | Sea   | NOT DETERMINED | TUNISIA        | kg             |                           |         |        | 1.77    |      |      |
|            |       |                | MEDJOOOL       | ISRAEL         | kg                        | 6.60    | 6.60   | 7.75    | 7.35 |      |
| GINGER     | Sea   |                | THAILAND       | kg             | 2.23                      | 1.85    | 2.00   | 1.77    |      |      |
|            |       |                | CHINA          | kg             | 1.65                      | 1.87    | 1.50   | 1.99    |      |      |
| GUAVA      | Air   |                | BRAZIL         | kg             |                           |         | 4.20   | 5.83    |      |      |
|            |       |                | THAILAND       | kg             |                           | 6.25    |        |         |      |      |
| KUMQUAT    | Air   |                | ISRAEL         | kg             |                           | 4.44    |        |         |      |      |
| LIME       | Air   |                | MEXICO         | kg             |                           |         | 3.70   |         |      |      |
|            | Sea   |                | BRAZIL         | kg             | 1.22                      | 1.50    | 1.85   | 1.50    | 1.62 |      |
|            |       |                | MEXICO         | kg             |                           | 1.78    | 2.22   | 1.94    | 1.87 |      |
| LONGAN     | Air   |                | THAILAND       | kg             |                           |         |        | 7.75    |      |      |
| MANGO      | Air   | KENT           | PERU           | kg             |                           | 4.55    | 4.65   | 3.83    |      |      |
|            |       |                | AMELIE         | MALI           | kg                        |         |        | 2.80    | 2.92 |      |
|            |       |                |                | BURKINA FASO   | kg                        |         |        | 2.50    |      |      |
|            |       |                |                | THAILAND       | kg                        |         |        |         | 6.50 |      |
|            | Sea   | NAM DOK MAI    | HEIDI          | SOUTH AFRICA   | kg                        | 3.50    |        |         |      |      |
|            |       |                | ATKINS         | BRAZIL         | kg                        | 1.38    | 1.25   |         | 1.41 | 1.47 |
|            |       |                | KEITT          | BRAZIL         | kg                        |         |        |         | 1.50 |      |
|            |       |                | KENT           | PERU           | kg                        |         | 1.75   | 2.00    | 1.57 | 2.10 |
|            |       |                |                | MALI           | kg                        |         |        | 1.30    |      |      |
|            |       |                |                | NOT DETERMINED | COSTA RICA                | kg      | 1.50   |         |      |      |
|            |       | PERU           | kg             | 1.25           |                           |         |        |         |      |      |
| MANGOSTEEN | Air   |                | INDONESIA      | kg             |                           | 5.50    | 8.40   | 6.25    |      |      |
|            |       |                | THAILAND       | kg             |                           |         |        | 6.63    |      |      |

|                      |     |                |              |     | EUROPEAN UNION — IN EUROS |         |        |         |       |
|----------------------|-----|----------------|--------------|-----|---------------------------|---------|--------|---------|-------|
|                      |     |                |              |     | Germany                   | Belgium | France | Holland | UK    |
| <b>MANIOC</b>        | Sea |                | COSTA RICA   | kg  |                           | 1.32    | 1.20   | 0.97    |       |
| <b>PAPAYA</b>        | Air | NOT DETERMINED | BRAZIL       | kg  |                           |         | 3.10   | 2.88    |       |
|                      |     |                | ECUADOR      | kg  |                           | 3.14    |        |         |       |
|                      |     |                | MALAYSIA     | kg  |                           |         |        |         | 1.99  |
|                      | Sea | FORMOSA        | BRAZIL       | kg  |                           | 3.22    |        | 3.05    |       |
|                      |     | NOT DETERMINED | BRAZIL       | kg  |                           |         |        | 1.78    |       |
|                      |     |                | ECUADOR      | kg  |                           | 2.00    |        | 1.63    |       |
|                      |     | FORMOSA        | BRAZIL       | kg  |                           |         | 2.50   |         |       |
| <b>PASSION FRUIT</b> | Air | NOT DETERMINED | COLOMBIA     | kg  | 5.00                      |         | 5.25   | 4.75    |       |
|                      |     | PURPLE         | ISRAEL       | kg  |                           |         | 5.50   |         |       |
|                      |     |                | KENYA        | kg  |                           |         |        | 4.25    |       |
|                      |     |                | SOUTH AFRICA | kg  | 5.50                      |         | 5.50   | 4.44    |       |
|                      |     |                | ZIMBABWE     | kg  |                           | 4.25    |        | 4.19    |       |
|                      |     | YELLOW         | COLOMBIA     | kg  | 7.00                      | 7.59    | 8.00   | 6.94    |       |
| <b>PERSIMMON</b>     | Air |                | BRAZIL       | kg  |                           |         |        | 3.57    |       |
|                      | Sea |                | BRAZIL       | kg  |                           | 3.86    | 3.50   |         |       |
| <b>PHYSALIS</b>      | Air | PREPACKED      | COLOMBIA     | kg  | 5.63                      |         | 7.75   | 6.38    |       |
|                      | Sea |                | COLOMBIA     | kg  | 4.58                      | 5.41    |        | 5.42    |       |
| <b>PINEAPPLE</b>     | Air | SMOOTH CAYENNE | CAMEROON     | kg  |                           |         | 2.05   |         |       |
|                      |     |                | GHANA        | kg  |                           | 1.50    |        |         |       |
|                      |     | VICTORIA       | GHANA        | Box |                           | 9.00    |        |         |       |
|                      |     |                | MAURITIUS    | Box |                           | 10.50   |        | 11.50   |       |
|                      |     |                | REUNION      | kg  |                           |         | 4.55   |         |       |
|                      |     |                | SOUTH AFRICA | Box | 10.00                     |         |        | 10.00   |       |
|                      | Sea | MD-2           | COSTA RICA   | Box | 9.69                      | 9.00    |        | 9.00    | 10.08 |
|                      |     |                | COSTA RICA   | kg  |                           |         | 0.95   |         |       |
| <b>PITAHAYA</b>      | Air | RED            | ISRAEL       | kg  |                           |         | 7.50   |         |       |
|                      |     |                | THAILAND     | kg  | 5.67                      | 6.67    |        |         |       |
|                      |     |                | VIET NAM     | kg  |                           | 5.50    |        | 6.17    |       |
|                      |     | YELLOW         | COLOMBIA     | kg  |                           |         | 9.00   | 8.80    |       |
|                      |     |                | ECUADOR      | kg  |                           | 6.40    |        | 7.80    |       |
| <b>PLANTAIN</b>      | Sea |                | COLOMBIA     | kg  |                           |         | 0.90   | 0.75    |       |
|                      |     |                | ECUADOR      | kg  |                           |         | 0.80   |         |       |
| <b>RAMBUTAN</b>      | Air |                | ECUADOR      | kg  |                           | 6.25    |        |         |       |
|                      |     |                | INDONESIA    | kg  |                           | 6.75    | 8.40   |         |       |
|                      |     |                | VIET NAM     | kg  |                           | 6.25    |        | 6.38    |       |
| <b>SWEET POTATO</b>  | Sea |                | EGYPT        | kg  |                           |         | 0.75   |         |       |
|                      |     |                | HONDURAS     | kg  |                           | 1.08    |        |         | 1.01  |
|                      |     |                | ISRAEL       | kg  | 1.33                      |         | 1.20   |         | 1.50  |
|                      |     |                | SOUTH AFRICA | kg  |                           |         |        | 1.25    |       |
| <b>TAMARILLO</b>     | Air |                | COLOMBIA     | kg  |                           | 5.95    | 8.40   | 5.40    |       |
| <b>YAM</b>           | Air |                | BRAZIL       | kg  |                           |         | 2.00   |         |       |
|                      | Sea |                | BRAZIL       | kg  |                           |         | 1.64   |         |       |
|                      |     |                | GHANA        | kg  |                           |         | 1.20   | 1.00    |       |

Note: according to grade

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

# Charles De Wulf

*Agronomist  
Independent consultant*

**Consultancy  
Surveys  
Audit**

Fresh and  
Processed  
Foodstuff

Fruit and Vegetables  
Banana and Pineapple  
Specialist

**EVALUATION MISSIONS  
DEVELOPMENT PROGRAMS  
TECHNICAL ASSISTANCE**

Targeting Producers,  
Insurers, Sea and Road Carriers,  
Importers and Institutions

**Based in Brussels**

**Mob. +32 495 55 28 55**

**e-mail charles.dewulf@skynet.be**

**SKYPE charles.dewulf**

Français - English - Spanish  
20 years experience

Management in Tropical Production  
Quality Control and Surveys on food products

# Pierre Gerbaud Consultant



Tel : 33 1 46 87 47 41

Mobile : 33 6 77 76 11 56

[pierre.gerbaud@hotmail.com](mailto:pierre.gerbaud@hotmail.com)



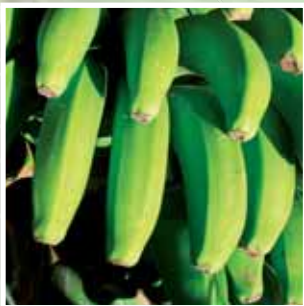
Market information for tropical fruit  
and vegetable professionals

Independent economic analysis

Specialised weekly newsletters  
on litchi, mango, etc.

Quality control

## Growing and delivering fresh produce



Katopé's diversified production base allows to produce and to ship a huge variety of fresh produce throughout the year, including tropical fruits like lychees, mangoes, pineapples and bananas.

All Katopé growers and supply partners are committed to advanced safety, ethical and environmental standards.

**katopé**



*The personal touch*