

# FR*ui*TROP

English version

**CLOSE-UP:  
MANGO**

**Banana  
and environment**

**Imported  
stone fruits**

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**Printed by**

Imp'Act Imprimerie  
34980 St Gély du Fesc, France

**Separate French  
and English editions**

**ISSN**

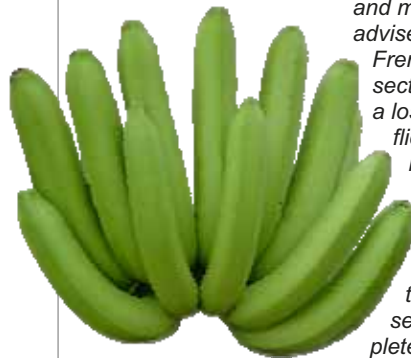
French: 1256-544X  
English: 1256-5458

**CPPAP**

French: 0711 E 88281  
English: 0711 R 88282

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**Subscription rate**  
EUR 190 euros  
11 issues per year



**Germany has joined France in forbidding**

retail loss leader selling. Let us hope that it will use more means to ensure that this is respected. Failing this, the measure will remain pure lip-service and join the large shelf of non-applied regulations and miscellaneous good intentions. German officials would be well advised to learn from the consequences of French failure here. The French food sector, and especially the fruit and vegetable sub-sector, is a kind of in vivo laboratory for attempts to forbid selling at a loss. Examples can be seen practically every week by merely flicking through the thick special offer catalogues that clog up letter boxes every day. A recent one concerns the banana sector, with a retail price that is totally out of proportion to the selling prices at the various stages of the chain. A large French supermarket chain advertised bananas at EUR 0.84 per kg including VAT from 27 February to 1 March. Apart from the fact that this price seems pretty low for fruit transported by sea, ripened and finally delivered to the shops, it is also completely disconnected from the present situation. It is true that import prices may fall very low at certain times of the year, but this is not the case here as they have been unfailingly strong for several weeks, with an average of more than EUR 0.90 per kg, not including tax, at the quay stage in Europe. Even if this supermarket chain found an operator willing not to charge ripening and transport costs, the sums still do not add up properly. It is not shocking to see an operator abandon his margin, or a little more, to gain favour with a chain. What is upsetting about this type of behaviour is the snowball effect that it can trigger throughout the sector, while there is nothing in the international banana situation to justify a drastic price cut—quite the opposite. The power of destruction in an open market like the EU is already in the hands of the large retail chains, so why provide them with gunpowder, a fuse and a detonator?

Denis Loeillet

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*Eric Imbert, Pierre Gerbaud, Thierry Paqui, Richard Bright*

### Wholesale Market Prices in Europe

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| EURO - 29 February 2008 |          |
|-------------------------|----------|
| Currency                | 1 euro = |
| US dollar               | 1.5167   |
| Japanese yen            | 158.03   |
| Swiss franc             | 1.5885   |
| Pound sterling          | 0.7652   |
| Swedish krona           | 9.3948   |
| Danish krone            | 7.4515   |
| Norwegian krone         | 7.914    |
| Canadian dollar         | 1.4895   |
| Australian dollar       | 1.6226   |
| New Zealand dollar      | 1.8854   |
| Brazilian Real          | 2.5496   |
| Czech koruna            | 25.228   |
| Polish zloty            | 3.5305   |
| Chinese yuan renminbi   | 10.786   |
| Estonian kroon          | 15.6466  |
| Slovak koruna           | 32.53    |
| Turkish lira            | 1.8183   |
| South African rand      | 11.7309  |
| South Korean won        | 1 425.07 |

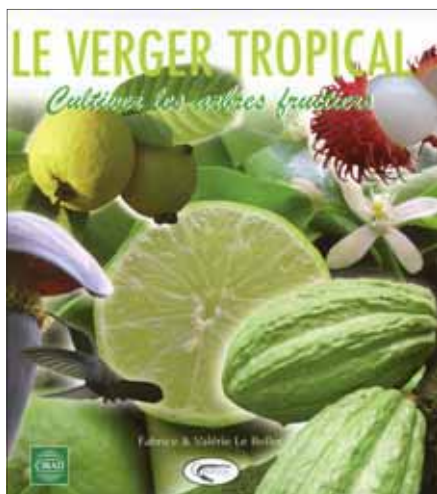
Source: Central European Bank

## ■ Le verger tropical Cultiver les arbres fruitiers

What care is needed for tropical trees? How are they pruned? What kind of grafting for what species? How can chemical inputs be limited?

Distinguishing between pests and beneficials, etc. This book addresses the main cultural techniques for tropical fruit production, always seeking a balance for growing produce without harm to the environment. However, it presents above all more than 120 fruit species that grow in tropical, subtropical or Mediterranean climates—covering plants considered as major, minor, forgotten or promising for the future.

**Le verger tropical  
Cultiver les arbres fruitiers**  
Fabrice & Valérie Le Bellec. 2007.  
Edition Orphie, [www.orphie.net](http://www.orphie.net).  
272 pages in colour.  
ISBN 978-2-87763-384-0.  
Public retail price: 30 euros



## ■ Upcoming events

- **FTIS 2008 - 3rd Fair Trade International Symposium.** 'New Dimensions in Fair Trade'. Montpellier (France), 14, 15 and 16 May 2008. [www.ftis2008.org](http://www.ftis2008.org)



- **V Foro Internacional de Banano y Frutas Frescas.** Guayaquil (Ecuador). [foro2008@aebe.com.ec](mailto:foro2008@aebe.com.ec) [www.aebe.ec](http://www.aebe.ec)



## WORLD

■ **The prices of fruit juices and pulps in Europe.** A selection of prices published at regular intervals by the Market News Service of the United Nations International Trade Centre in Geneva ([mns@intracen.org](mailto:mns@intracen.org)).

| EU — Juice and pulp prices for certain origins — December 2007 |   |                              |              |   |
|--|---|------------------------------|--------------|---|
| Type of juice  | Price (USD/t)                                 | Origin                       | Observations |   |
| Orange   | Frozen concentrate, 66° Brix                  | 1 750–1 950 fca dup EU       | Brazil       | Downward price trend against a background of increasing stocks and consumption seemingly affected by high retail prices. However, production forecasts are pessimistic.             |
|  | Single juice (NFC)                            | 560–580 fot EU               | Brazil       |   |
| Grapefruit   | Frozen concentrate, 58° Brix, pink            | 1 650–1 700 fot EU           | Florida      | Prices desperately low in spite of promotion programmes and institutional purchases in the USA. South Africa has a substantial price advantage over Florida in exports to the EU.   |
|  |   | 1 190 fca df EU              | S. Africa    |   |
|  | Frozen concentrate, 58° Brix, white           | 1 050 fca EU                 | Cuba         |   |
| Lemon  | Frozen concentrate, 400 gpl, pulp 6–8%        | 1 250–1 300 fob Buenos Aires | Argentina    | Prices rising. Low stocks and harvests smaller in Spain and Argentina. Market waiting for the Italian harvest.  |
|  | Frozen concentrate, 500 gpl, pulp 2%          | 1 600–1 700 fca dp EU        | Brazil       |   |
| Moraberry  | Frozen concentrate, 14° Brix                  | 2 800 fob Buenavista         | Colombia     | Growing demand for this pulp for its antioxidant properties.  |
| Guava  | Aseptic pulp, 9° Brix, pink                   | 600 cfr EU                   | South Africa | Demand well oriented. Prices firm. South Africa meeting part of European demand. Brazil out of the market as prices are too high.   |
|  | Concentrated pulp, 14–16° Brix, pink          | 880 cfr EU                   |              |   |
| Banana   | Aseptic pulp, 22° Brix                        | 575–600 fca dp EU            | Ecuador      | Continued strong tension. Brisk consumer demand for smoothies and small supply.   |
| Pineapple  | Frozen concentrate, 60° Brix, Smooth Cayenne  | 1 350 c&f EU                 | Thailand     | Large, sometimes ageing stocks, dull demand, competition with orange juice once again and unfavourable cost structure, especially in Asia, all weigh on the sector. Prices falling. |
|  | Aseptic concentrate, 60° Brix, Smooth Cayenne | 1 300 c&f EU                 |              |   |
|  | Frozen concentrate, 60° Brix, Queen           | 1 200 cfr EU                 | Vietnam      |   |
|  | Aseptic single juice, MD2                     | 595 fca EU                   | Costa Rica   |   |
| Passion fruit  | Frozen concentrate, 50° Brix                  | 3 800–4 500 fca df EU        | Ecuador      | Very high prices. Ecuadorian supply seems to be down for reasons of bad weather.  |
|  | Single juice, 14° Brix                        | 1 460–1 850 fca df EU        |              |   |
| Acerola  | Frozen single juice, 6–8° Brix                | 1 200 fob Brazil             | Brazil       | Very high prices because of a small crop. Demand decreasing.  |
| Mango  | Aseptic purée, 16° Brix, Alfonso              | 1 650 fca dup EU             | India        | Demand increasing in non-traditional markets. Prices rising.  |
|  | Aseptic concentrate, 28° Brix, Totapuri       | 1 400 fca dp EU              |              |   |
|  | Aseptic purée, 14° Brix, Magdalena            | 940 cfr EU                   | Colombia     |   |

Note: fot: free on truck / fca: free carrier / cfr: cost and freight / dp: duty paid / dup: duty unpaid / df: duty free / dl: delivered Europe

Source: Market News Service for bulk-packed fruit juices - Europe

# Banana and environment

## Towards cleaner production in 10 years time

**H**arvested for twelve months of the year, banana (together with plantain) is a major foodstuff for hundreds of million in the Southern countries and also a favourite fruit in the northern hemisphere. In international trade, dessert banana exports total sales of some 4.9 billion USD. The internationalisation of this fruit measured by the ratio volume

exported:volume produced is one of the largest in the agricultural world at 30% for banana against 20% for wheat. The world banana market is expanding strongly. Demand has increased rapidly for more than 30 years—from 3.9 million tonnes in 1960 to more than 16 million tonnes in 2007.

### The limits of the productivist model of past decades

The intensification of the production process has been one of the answers of the sector to increasing demand in the Northern countries under satisfactory economic conditions. As in all tropical or temperate cropping systems, this intensification led to monoculture zones—in time and space—by concentrating a single crop on areas sometimes exceeding thousands of hectares. This productivist strategy has caused biological imbalances by concentrating pathogens specific to the crop. Banana growing, like other crops, is subjected to strong pest pressure. The control of fungal diseases

such as leaf spot diseases—especially Black Sigatoka—is best known. But it is not the only concern. Control of soil parasites (nematodes), banana borer weevils, viruses and Panama disease also receives the full attention of the industry and research centres.

These imbalances were managed for a long time—and often still are—by massive spraying of pesticides. Classic phenomena of resistance to these appeared, calling certain conventional control strategies into question. The cost impact of the use of pesticides is accompanied by growing awareness of its harmful effects on plantation workers, the environment and possibly consumers. Inflamed by past food and sanitary crises, public opinion in the Northern countries demanded stricter public and private regulations. This new awareness among growers and large operators and also retail distributors and consumers means that innovation is needed. The challenge is a simple one: conserve or even improve net return per hectare while reducing pesti-

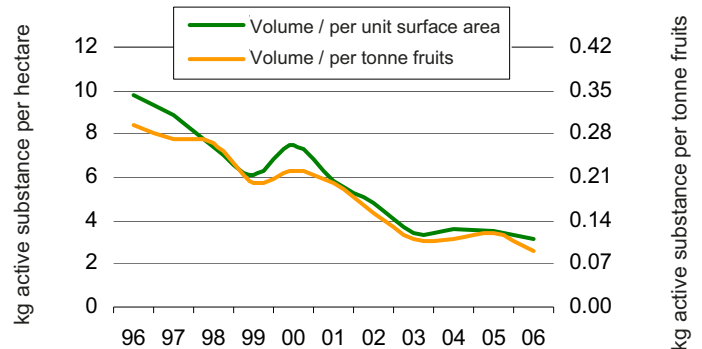
cide use—all this being in a context of strong international competition and regulations limiting the use of crop chemicals.

### The PRPB project

A feasibility study project on an international programme for a reduction in the use of pesticides in intensive banana growing ('Pesticide Reduction Plan for Banana', PRPB) has been initiated by several research institutions (University of Wageningen, Bioversity International, CIRAD, Embrapa, University of Leuven, etc.) and is funded by the CFC (Common Fund for Commodities). This has been the framework of a preliminary study of the present situation with regard to pesticide use in banana plantations (2006-2007) conducted in several producer countries and based on surveys of national banana production experts. The first results presented at the end of 2007 in Costa Rica at a conference attended by banana professionals from a great number

**A world initiative by research centres and banana producers may enable a considerable reduction in pesticide use in 10 years time. The concept has shown its validity in the French West Indies. Pressure from regulations and from society is now strong enough to encourage producers and the major players on the international market to innovate in this respect. There remains the question of convincing donors of the issues and the feasibility of the project.**

**Banana - Martinique**  
Evolution of the use of pesticides - Insecticides and nematicides



Source : Chabrier et al, Phytoma 2005, 584 (7-8)



of zones and various international research centres reveal considerable differences between regions and between countries. Differences of from 1 to more than 10 were observed with, for example, the quantities of active substance applied ranging from 7 kg per ha per year to more than 70 kg per ha per year depending on the production zone. The differences result first of all from differences in pressure from Black Sigatoka (*Mycosphaerella fijiensis*). They are also related to differences in the pressure of other pests (generally related to climate and especially rainfall and the length of the dry seasons), to the more or less virtuous cultural practices used by growers and finally the greater or less severity of national regula-



**Black Sigatoka**

tions in producer and importer countries with regard to pesticide use.

### French West Indies: precursors

In addition to the great variety of situations, the study confirms in the field that technical solutions have already made it possible to meet the challenges and produce dessert bananas while respecting the environment. Indeed, the production chain in the French West Indies has reduced pesticide use by more than 50% in the last decade (Chabrier *et al.*, Phytoma 2005, 584 (7-8)).

The West Indian banana production sector even announced on the occasion of the recent Fruit Logistica show in Berlin that it intends to continue its efforts by setting an ambitious target—a further 50% reduction in five to ten years time. Even if soil and climate conditions, pest pressure and the economic context vary from one zone to another, this experience demonstrates the feasibility of the approach. It is now the time to federate energy and ideas and assemble funding to build the future of international banana production ■

Thierry Lescot, Cirad  
Denis Loeillet, Cirad

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# Imported stone fruits

## Opportunities, but constraints galore

**Stone fruit exports have increased steadily in recent years but do not seem to have really got off the ground. The reason is the fragility of some fruits that are still unsuitable for sea transport such as peaches, nectarines and apricots. They have to travel by air or in containers and this limits development outside the Christmas and New Year period, whereas there is a late niche just before the start of the seasons in Europe. Orchards are therefore being reconverted at the moment as some operators prefer to change crops and others are becoming specialised. However, plums and cherries are less affected by these constraints. The latter should develop strongly in the coming years, with an increase in production areas and the planting of new varieties.**

**P**roduction of out-of-season stone fruits is small in comparison with that of pip fruits (apples, pears and grapes). Chile produces 350 000 tonnes of the four main stone fruits—plum, peach/nectarine, apricot and cherry—and exports 60% of this. Production totals nearly 330 000 t in Argentina, of which only 10% is exported. South Africa produces about 175 000 t and exports 20%. The main export outlets are the markets in the northern hemisphere: the United States, Europe and Asia. EU imports have now reached nearly 100 000 t with almost 40% entering via the Netherlands. A third of the volumes shipped is for the British market, 11% arrives via Belgium, 10% via Spain and 3% is shipped directly to the French market.

Plum is by far the main stone fruit imported to the EU with 71 000 t in 2007; the volumes have increased steadily in recent years from some 60 000 t at the beginning of the 2000s. The main increase in plum shipments has been in Argentina (2 800 t in 2000 and 7 900 t in 2006), with two major players being Chile (34 300 t in 2007) and South Africa (30 300 t in 2007). Peach and nectarine imports reached 22 000 t in 2007 against 16 000 t in 2003, with

| Stone fruits — EU-27 — Imports from Southern hemisphere in 2007 |              |                   |               |              |               |
|---|--------------|-------------------|---------------|--------------|---------------|
| Tonnes  | Apricot      | Peach & nectarine | Plum          | Cherry       | Total         |
| Chile   | 222          | 16 240            | 34 328        | 2 540        | <b>53 330</b> |
| South Africa  | 463          | 2 158             | 30 301        | -            | <b>32 922</b> |
| Argentina   | 2            | 3 479             | 6 512         | 500          | <b>10 493</b> |
| New Zealand   | 362          | -                 | -             | -            | <b>362</b>    |
| Brazil  | -            | -                 | 32            | -            | <b>32</b>     |
| <b>Total</b>  | <b>1 049</b> | <b>21 877</b>     | <b>71 173</b> | <b>3 040</b> | <b>97 139</b> |

Note: December 2007 provisional / Source: Eurostat

Chile being the driving force (7 000 t in 2003 and 16 000 t in 2007). In contrast, exports of these fruits from Argentina (3 400 t in 2007) and South Africa (2 100 t) are hardly

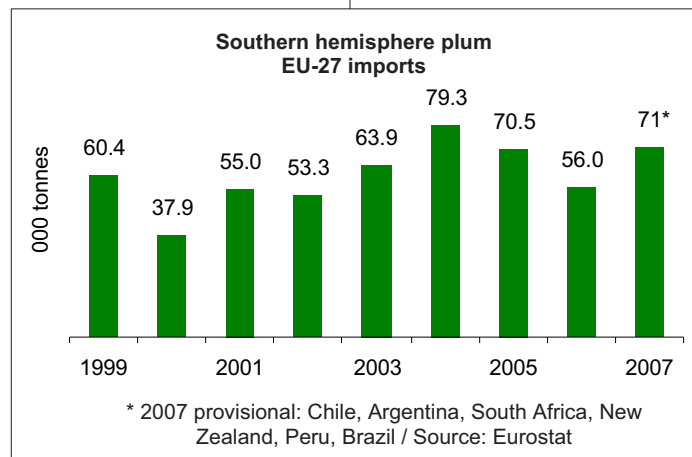
season apricot imports are still very small, whereas consumption is increasing significantly during the season. They are no more than 1 000 to 3 000 t depending on the year, with less than 500 t shipped per supplier country.



### Gradual evolution but no revolution for plum

Plum production is fairly stable in the various southern hemisphere countries, with 80 000 t in Chile, 75 000 t in South Africa and fresh production of about 10 000 t in Argentina. The changes in cultivars in progress in South Africa should be pointed out. This is to extend the marketing period and smooth the peak that occurs when

developing. Cherry imports have grown markedly in the last five years, increasing from 1 200 t in 2000 to 5 600 t in 2006. Counter-



'Laetitia' and 'Songold' come into production by planting early and late varieties. Emphasis is placed above all on the end of the season

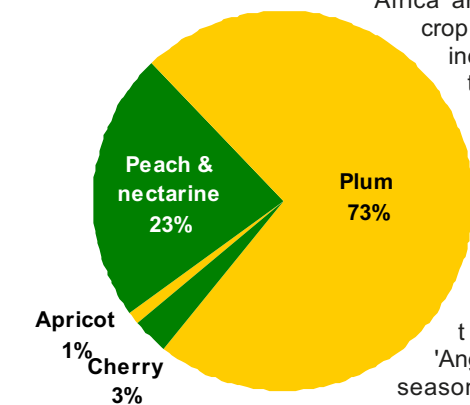


(March-April), as this is when consumption increases most markedly, stimulated by Easter and the beginning of spring in Europe. New red and yellow varieties should be grown increasingly in the coming years to complete 'Angelino'. However, demand remains focused on certain recognised varieties such as 'Black Amber', 'Larry Ann' and 'Laetitia.' But certain new varieties such as 'African Pride' from South Africa are gaining a foothold but the crop is still limited. Other varieties including 'Roysum', that finishes the Chilean season, are also well-received on the demand side but many do stimulate an increase in consumption. Argentina is also counting on new plum varieties to ensure development. Cultivars like 'Sapphire' and 'Black Diamond' now complete the traditional 'Larry Ann' and 'Angelino'. So far, the 2007-2008 season has been penalised by the uneven quality of fruits as a result of frosts in Chile and rain in South Africa. The deficit might continue with a decrease in 'Larry Ann' production in Chile.

earliness in order to show a profit. The results are more significant for nectarine as varieties like 'July Red', 'Ruby Diamond' and 'Venus' are well received while in peach little interest is displayed for anything other than 'Spring Lady' and 'Rich Lady'. Efforts are also being made in South Africa to attempt to adapt the orchards to demand by planting varieties such as 'Alpine', but most cultivars and especially fruit size are unsuitable for the southern European markets. However, some match the expectations of northern European markets, where exports are still increasing.



**Stone fruits from southern hemisphere EU-27 imports**



Year 2007 / Source: Eurostat

ingly in the coming years to complete 'Angelino'. However, demand remains focused on certain recognised varieties such as 'Black Amber', 'Larry Ann' and 'Laetitia.' But certain new varieties such as 'African Pride' from South Africa are gaining a foothold but the crop is still limited. Other varieties including 'Roysum', that finishes the Chilean season, are also well-received on the demand side but many do stimulate an increase in consumption. Argentina is also counting on new plum varieties to ensure development. Cultivars like 'Sapphire' and 'Black Diamond' now complete the traditional 'Larry Ann' and 'Angelino'. So far, the 2007-2008 season has been penalised by the uneven quality of fruits as a result of frosts in Chile and rain in South Africa. The deficit might continue with a decrease in 'Larry Ann' production in Chile.

**There will soon no longer be a cherry season!**

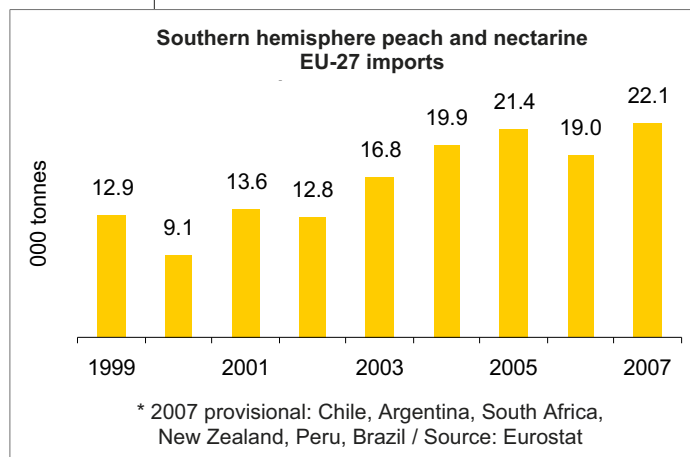
In contrast, the areas under cherry are increasing continuously as the fruit can more easily stand transport by sea in boxes containing controlled atmosphere bags. In addition, consumers have a favourable view of cherries whatever the time of year, unlike peaches and nectarines that are very difficult to sell in cold weather. All the parameters are thus nearly available for the true de-seasonalisation of cherry. This should



**Towards greater specialisation in peach and nectarine production**



The crop volume of peach and nectarine is not changing much in the southern hemisphere but production is becoming concentrated. This is the case in particular in Chile where successive seasons are remembered as returns for growers were insufficient and varieties were not suited to logistic conditions. Some growers have therefore preferred to abandon the crop, while others are becoming specialised and count on the quality of the new varieties and on





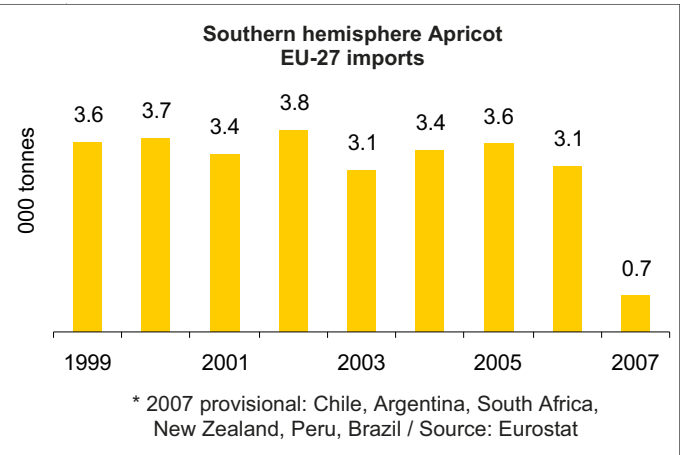
## Cherry all the year round: easy to say, more difficult to do

Increased production in many countries and the good reception of cherries throughout the year lead to envisaging substantial development potential that has already been explored by certain specialised operators. The Alara company that has grown, packed and exported cherries from Turkey since 1984 is broadening its sales calendar considerably. Its 2 550 ha of orchards distributed between the early and late zones of the country mean that it can ship Turkish cherries from the end of May to mid-August. It formed a partnership with Argentina in 2002 that resulted in 'Rio Alara', with 600 ha of orchards in the provinces of Mendoza, Neuquen, Trelew, Trevelin and Los Antiguos. This enables Alara to extend the season from the beginning of November to mid-February, that is to say cherry sales for eight months out of twelve. The group wishes to increase this to twelve months thanks to its efforts in R&D and the Univeg group. Other operators like Caposud in France are also working on this 'revolution'. Sales by the latter company already last for five months between Turkey, the United States and Chile. It wishes to continue along this line and sell cherries for eight to ten months of the year. However, these companies agree that de-seasonalisation still needs time for finding the cultivars and supply origins to cover the gaps that remain in the calendar.

accelerate in the years to come with the increase in planting in many countries. Areas have thus increased markedly in Chile to nearly 8 000 ha, of which only a third is reported to be in production so far (44 000 t), leading to forecasting a very strong increase in exports. Volumes have already increased significantly this season as cold weather stimulated flowering. The main varieties are currently 'Early Burlat' and 'Bing', but no less than 70 varieties are now grown in Chile, with the leaders being cultivars like 'Lapin', 'Van', 'Stella' and 'Summit'.

'Burlat' should be replaced in the coming years by a better suited variety called 'C14' for the moment. Exports are shipped mainly to the United States (80%), but the increase in supply will lead Chilean exporters to develop other outlets. The European market is targeted as cherries have entered duty-free since 1 January 2007, and above all Asia, and Japan in particular where an agreement plans a lowering of customs dues over a 7-year period.

While Chile has a reputation for good quality on the international market, Argentina concentrates on earliness. Thus, new varieties—and in particular 'Royal Daw', 'Brooks', 'Santina', 'Celeste', 'Chelan' and 'Stella'—have recently been planted alongside 'Bing' and 'Lapin'. Production is mainly in Mendoza province (90%), but planting has also been carried out in recent years in other zones in order to gain earliness. The Argentinian season can thus start in mid-



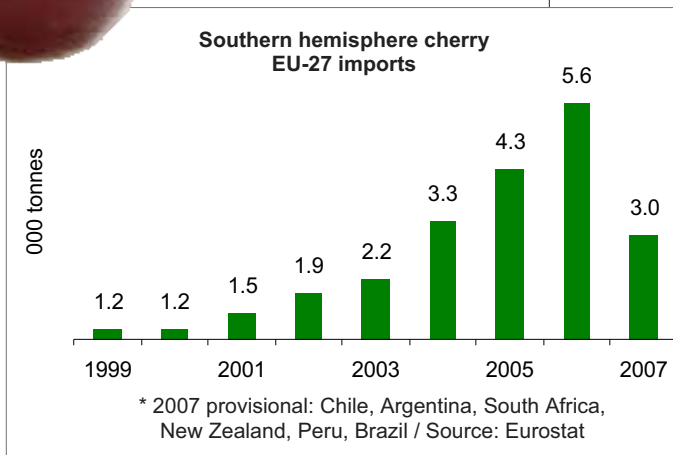
October, gaining nearly two weeks. Most exports are for the British market but Argentina is aiming above all at the countries of South-East Asia (Thailand, Singapore and Hong Kong) in order to establish a foundation for development.

## Still not much prospect for apricot

Apricot is the only stone fruit whose imports are decreasing. Nevertheless, production is stable in most countries in the southern hemisphere but the varieties grown are no longer suited to European consumption. In addition, the strong alternate bearing feature in apricot and its fragility do



not encourage exports. Indeed, shipment in containers means that the fruit picked must be too unripe. The varieties planted in Chile are more used for processing (50% of production) and the domestic market (40%). Likewise, production in too irregular in South Africa and varieties such as the traditional 'Bebeco' are not suitable for export. However, certain others like 'Dina' and 'Castelbright' in Chile and 'Imperial' in South Africa are gradually forging a position on the European market. Air freight trials have been run with varieties such as 'Orangered', much liked during the season in Europe, but unfortunately the fruits arrive overripe ■



Cécilia Celeyrette, Consultant  
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# CHERRY

The world market for southern hemisphere cherry  
International trade totalling some 20 000 t

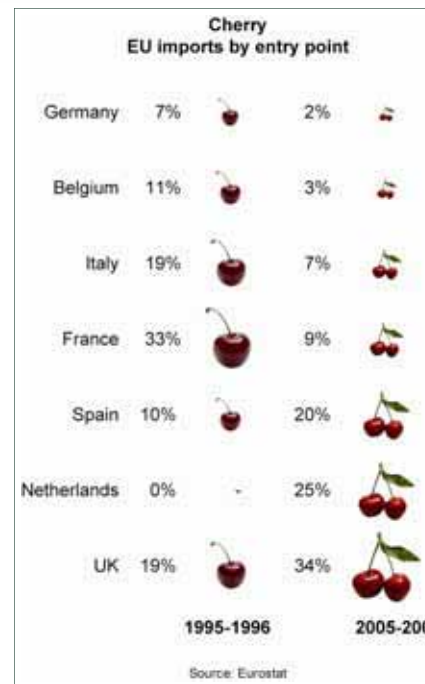


| Cherry — United States imports |       |       |       |       |       |       |       |       |        |        |
|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| tonnes                         | 1998  | 1999  | 2000  | 2001  | 2002  | 2003  | 2004  | 2005  | 2006   | 2007   |
| <b>Total</b>                   | 2 165 | 2 612 | 2 786 | 5 670 | 8 684 | 6 046 | 6 409 | 9 451 | 12 927 | 15 469 |
| <b>Total southern hemis.</b>   | 1 992 | 2 461 | 2 645 | 4 713 | 7 282 | 5 489 | 5 355 | 8 551 | 11 608 | 13 248 |
| Chile                          | 1 963 | 2 461 | 2 641 | 4 694 | 7 255 | 5 466 | 5 266 | 8 328 | 11 283 | 12 559 |
| Argentina                      | -     | -     | 2     | -     | 23    | 17    | -     | 7     | 197    | 416    |
| Australia                      | -     | -     | -     | 18    | -     | 3     | 1     | 40    | 2      | 144    |
| New Zealand                    | 29    | -     | -     | -     | -     | 1     | 88    | 167   | 117    | 114    |
| Others                         | -     | -     | 2     | -     | 5     | 3     | -     | 9     | 9      | 14     |
| <b>Total northern hemis.</b>   | 174   | 151   | 141   | 957   | 1 402 | 557   | 1 054 | 899   | 1 319  | 2 222  |
| Canada                         | 144   | 56    | 48    | 931   | 1 204 | 513   | 1 012 | 887   | 1 308  | 2 207  |
| Others                         | 30    | 95    | 93    | 26    | 198   | 44    | 42    | 12    | 11     | 14     |

Source: US customs (code 080920)

| Cherry — Japanese imports    |       |        |        |        |        |        |        |        |       |       |
|------------------------------|-------|--------|--------|--------|--------|--------|--------|--------|-------|-------|
| tonnes                       | 1997  | 1998   | 1999   | 2000   | 2001   | 2002   | 2003   | 2004   | 2005  | 2006  |
| <b>Total</b>                 | 7 253 | 15 891 | 16 716 | 17 031 | 14 162 | 14 526 | 13 941 | 12 363 | 6 947 | 9 367 |
| <b>Total southern hemis.</b> | 11    | 26     | 14     | 212    | 225    | 126    | 176    | 106    | 101   | 79    |
| Chile                        | -     | -      | -      | 208    | 220    | 124    | 176    | 105    | 76    | 45    |
| New Zealand                  | 11    | 26     | 14     | 3      | 5      | 2      | -      | 1      | 14    | 22    |
| Australia                    | -     | -      | -      | -      | -      | -      | -      | -      | 12    | 13    |
| <b>Total northern hemis.</b> | 7 241 | 15 854 | 16 702 | 16 818 | 13 937 | 14 399 | 13 765 | 12 257 | 6 846 | 9 288 |
| United States                | 7 241 | 15 854 | 16 702 | 16 818 | 13 937 | 14 399 | 13 765 | 12 257 | 6 846 | 9 288 |

Source: Japanese customs (code 080920000)





**A.M.S. EUROPEAN**  
FRESH PRODUCE SPECIALTIES

**Cherry - Main southern hemisphere producer countries**

| 2006        | tonnes |
|-------------|--------|
| Chile       | 33 000 |
| Australia   | 10 000 |
| Argentina   | 6 700  |
| New Zealand | 1 600  |

Source: FAO

**Cherry World production**

| 2006          | tonnes           |
|---------------|------------------|
| <b>World</b>  | <b>1 872 000</b> |
| Turkey        | 310 254          |
| United States | 253 286          |
| Iran          | 224 892          |
| Italy         | 110 910          |
| Romania       | 104 791          |
| Spain         | 93 900           |
| Ukraine       | 66 000           |
| France        | 64 744           |
| Uzbekistan    | 53 605           |
| Russia        | 47 000           |
| Greece        | 44 135           |
| Syria         | 39 700           |
| Poland        | 38 364           |
| Chile         | 33 000           |
| Germany       | 31 637           |

Source: FAO

**Cherry - Production of the three leading world exporters**

| 2006          | tonnes  |
|---------------|---------|
| Turkey        | 310 000 |
| United States | 253 000 |
| Chile         | 33 000  |

Source: FAO



| Southern hemisphere cherry EU supply calendar |   |   |   |   |
|---|---|---|---|---|
|   | O | N | D | J |
| <b>Argentina</b>                              |   |   |   |   |
| <b>Chile</b>                                  |   |   |   |   |
| <b>South Africa</b>                           |   |   |   |   |
| <b>New Zealand</b>                            |   |   |   |   |
| <b>Australia</b>                              |   |   |   |   |

| Cherry — EU-25 imports — Main supplier countries |                |               |               |               |               |                |               |                |
|--|----------------|---------------|---------------|---------------|---------------|----------------|---------------|----------------|
| tonnes   | 1999           | 2000          | 2001          | 2002          | 2003          | 2004           | 2005          | 2006           |
| <b>Total extra-EU, incl.</b>                     | <b>44 624</b>  | <b>29 378</b> | <b>44 727</b> | <b>33 287</b> | <b>51 519</b> | <b>54 652</b>  | <b>45 755</b> | <b>54 220</b>  |
| <b>Southern hemisphere</b>                       | <b>1 293</b>   | <b>1 351</b>  | <b>1 752</b>  | <b>2 141</b>  | <b>2 288</b>  | <b>3 462</b>   | <b>4 523</b>  | <b>5 749</b>   |
| Chile  | 999            | 708           | 789           | 854           | 1 371         | 2 101          | 2 976         | 3 964          |
| Argentina  | 199            | 508           | 746           | 1 060         | 849           | 1 218          | 1 377         | 1 687          |
| Australia  | 44             | 88            | 160           | 137           | 42            | 98             | 123           | 70             |
| Peru   | -              | -             | -             | -             | -             | -              | -             | 13             |
| New Zealand                                      | 41             | 14            | 14            | 22            | 10            | 25             | 36            | 5              |
| South Africa                                     | 5              | 34            | 40            | 62            | 12            | 2              | 9             | 4              |
| Kenya  | -              | -             | -             | -             | -             | 16             | -             | 4              |
| Brazil   | 5              | -             | 1             | 5             | 2             | -              | 2             | 2              |
| Colombia   | -              | -             | 3             | 1             | 1             | 3              | -             | 1              |
| <b>Northern hemisphere</b>                       | <b>43 331</b>  | <b>28 027</b> | <b>42 975</b> | <b>31 146</b> | <b>49 230</b> | <b>51 190</b>  | <b>41 233</b> | <b>48 472</b>  |
| Turkey   | 26 731         | 12 454        | 27 226        | 18 645        | 28 301        | 37 509         | 32 888        | 39 316         |
| Hungary  | 19 194         | 16 467        | 21 739        | 14 121        | 14 057        | 22 026         | 9 464         | 18 797         |
| United States                                    | 3 524          | 3 245         | 3 824         | 2 397         | 3 297         | 4 007          | 2 872         | 4 498          |
| Serbia   | -              | -             | -             | -             | -             | -              | 4 015         | 2 683          |
| Canada   | 174            | 189           | 733           | 655           | 1 118         | 1 346          | 690           | 1 246          |
| Bulgaria   | 515            | 880           | 304           | 253           | 322           | 362            | 244           | 202            |
| Macedonia  | -              | -             | -             | 10            | -             | 26             | 18            | 178            |
| Norway   | 57             | 133           | 31            | 75            | 20            | 141            | 101           | 132            |
| <b>Total intra-EU</b>                            | <b>100 120</b> | <b>99 381</b> | <b>86 417</b> | <b>84 061</b> | <b>91 738</b> | <b>100 058</b> | <b>93 466</b> | <b>121 671</b> |

Source: Eurostat (code 080920)



**CANADA**

**CHILE**

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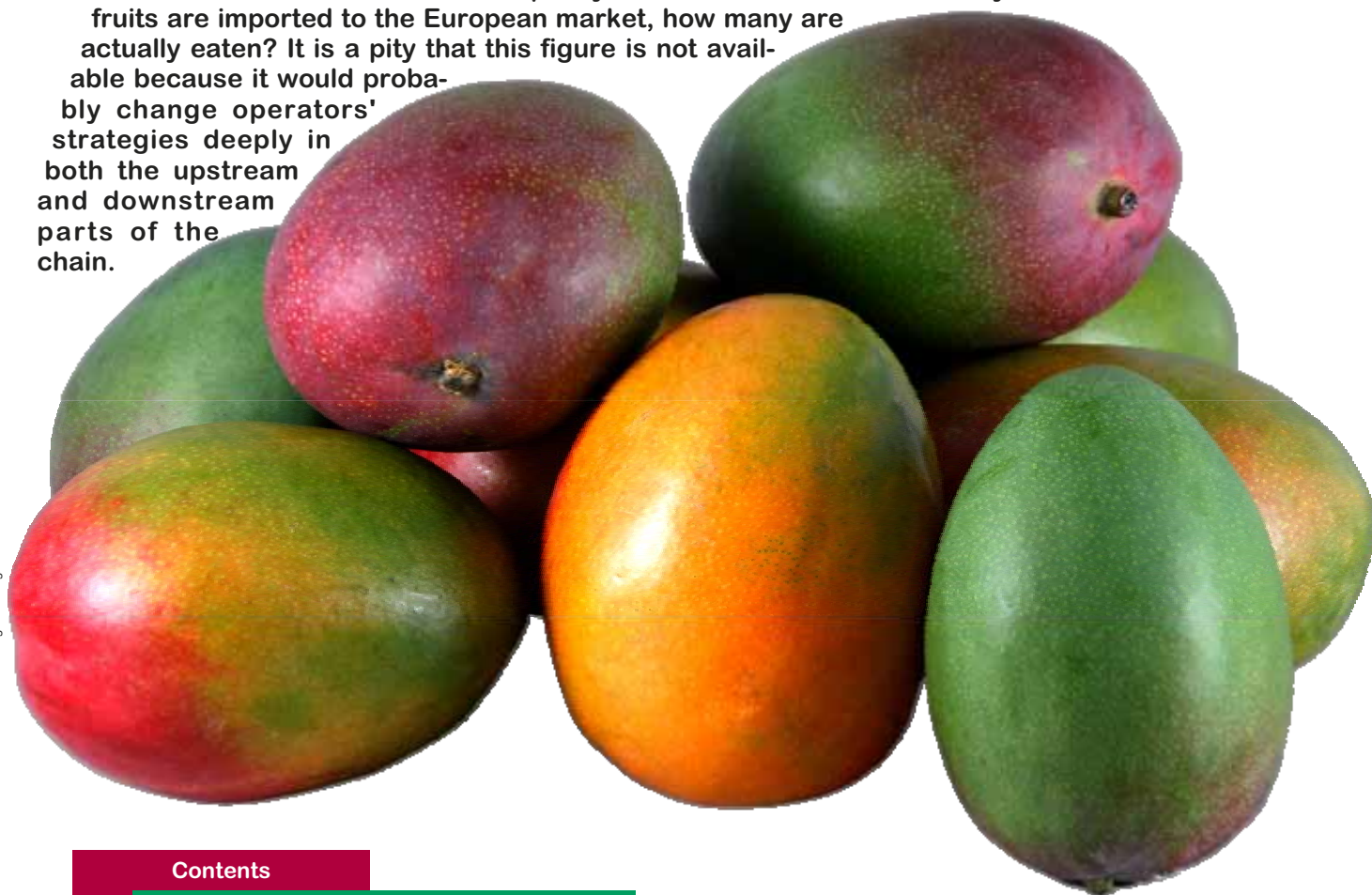
# THE SELECTION OF THE MANGO



“ We search for you the best sources, brands and varieties to ensure you the best sales all year-round ”

*Gabriel Burunat*

Less troubled than that of 2006, the 2007 European market sales season suffered once again from the ebbs and flows of supply that was difficult to master, with each producer country trying to impose its delivery rate according to ups and downs at production. The main phases of market supply were still much the same as those of preceding years, with the transition periods between suppliers still a problem. Attempts at conquering the EU market by shipping large volumes of produce generally result in economic damage to the supplier. Continued mediocre prices for long trading periods—gradually becoming part of the purchasing habits of European retail chains—is more dangerous. Making a fruit an 'ordinary' item certainly has the corollary of a downward price movement, but this should not mean the loss of the quality and taste that form its identity. When 1 000 fruits are imported to the European market, how many are actually eaten? It is a pity that this figure is not available because it would probably change operators' strategies deeply in both the upstream and downstream parts of the chain.



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# Mango



## The European mango market

### Mango in danger of becoming ordinary

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**T**he results available today show that the European mango market is not evolving much, not in terms of volume but in trade strategy. Although seasonality is tending to be smoothed throughout the year by the play of ever more numerous suppliers shipping large quantities, it is nonetheless a fact that the EU market suffers from supply crises of two different kinds. The first result mainly from plethoric shipments during periods generally dominated by one or two suppliers, such as the Brazil/Peru double act in December-January and the West African suppliers in May. The second kind of crisis occurs during the switch from one dominant supplier to another; this is clearly illustrated in the spring when the Peruvian season finishes and exports from West Africa begin.

In this case, seasonality plays a particularly important role. If the Peruvian export season finishes early and West Africa starts late, the result is a marked break on the European market accompanied by a totally irrational price increase. This was the profile of European supply in March and April 2007 when after changing hands at less than EUR 4.00 per box for weeks, Peruvian mangoes were propelled to EUR 8.00 to 10.00 per box—a level rarely attained in the past decade.

In addition to the fact that these price movements are never good for the market in the medium term as they cause a distinct lack of interest in mango among supermarket chain purchasers, they usually trigger a subsequent suction effect likely to cause the over-supply of the market again. Gains are always smaller than losses in this succession of over-supply and relative scarcity.

### Volumes often fail to match demand

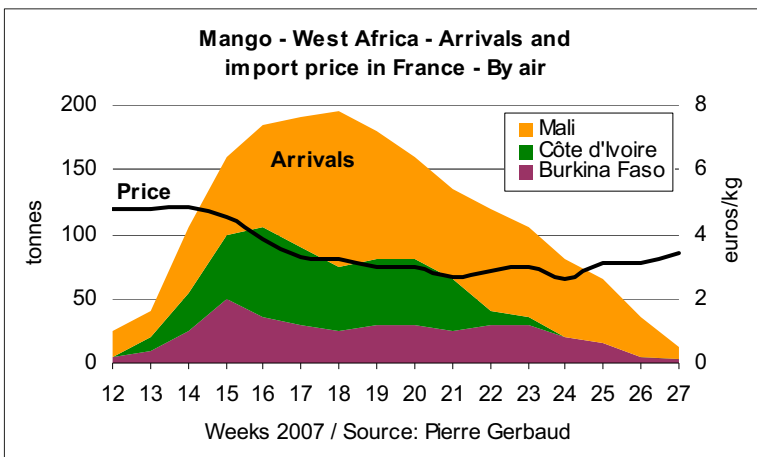
Shortage of reliable, consolidated information on the export forecasts of the largest export suppliers certainly favours a chronic mismatching of supply and demand. Although Brazilian and Peruvian exporters have recently made attempts at joint adjustments of their export capacities for the European market, this has not yet become a reality. Anyway, what scope is there for dialogue between competing suppliers in a free market context? In addition, there will always be an exporter or a group of exporters in each supplier country to refuse compromises, that is to say reductions of volume, in the name of free trade and competition. As a result, supply of the European market risks dragging on in a succession of crises, governed solely by adverse weather conditions in the production zones.

The same applies to the West African supplier countries with competition between them increasing from one season to the next. Whether the fruits are shipped by air or by sea the same patterns are repeated.

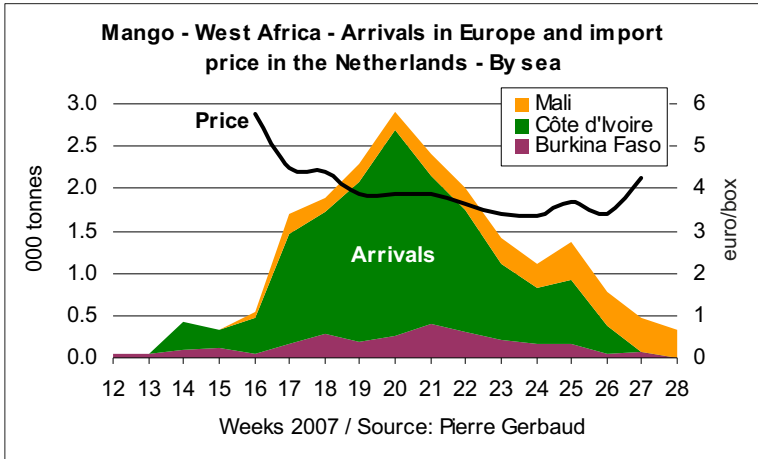
### Steadily falling prices

At more than the 100 to 120 tonnes arriving on the French market each week, prices react immediately by dipping markedly. The phenomenon is amplified of course when the rate of delivery is stepped up, as is shown in the graph for arrivals by air for weeks 16 and 17. The acceleration and intensification of deliveries affect prices more when they are lasting features. Proof lies in the fact that prices can only recover after a certain time lag (weeks 24 and 25). It is specified that the prices used are for good quality produce and therefore over-estimated in relation to real selling price averages.

Following this reasoning, roughly the same mechanisms are seen for fruits arriving by sea. The difference is that in the case of supply from West Africa, one country—Côte d'Ivoire—stands out as it has tended to centre its shipments on a shorter period for a number of years now.







At more than 80 to 100 containers per week, the price of West Africa mangoes falls. Shipments from Latin American countries arriving on the European market at the same time should also be taken into account as this aggravates the downward trend. Here again, the price curve does not include clearance sales and goods withdrawn for reasons of poor quality.

**A fruit becoming ordinary**

What is left for operators in the chain when sales are concluded at less than €3.00-4.00 per

box? In the case of Latin American mangoes, the exchange rate softens the losses but this is not the case for produce from Africa. Are shippers' margins as compressible as this? It must be so as their numbers swell each year.

Insofar as a number of fixed costs are tending to increase (packing, transport, etc.), shippers' incomes and those of producers as a result will not improve much in the coming years.

In mango shipped by sea, there are also the added problems of quality inherent to the geographic location of the supplier country. After more than two weeks of transport and the same period of storage or more, the fruits cannot logically display optimum quality. The sale of such goods is not likely to increase consumption and give the fruit a positive image.

Finally, the European mango market seems to be becoming banal and selling prices are crumbling for most of the year. The sector seems to behave like a gambler whose addiction does not stop him at all but encourages him to up the stakes ■

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# The European mango market

## The 2007 season

### A blurred situation

The year began with the cleaning up of the market after the Christmas and New Year holidays.

#### Weeks 1 to 9

Brazilian mango was dominant but the gradual ending of shipments led to a new sales regime. The market was blurred, with supply origins telescoping for a time between the end of the massive Brazilian season and the increase in shipments from Peru. Considerable price disparities were observed during this period of uncertainty with regard to quantity and quality although good quality arriving fruits recovered. In a context of shrinking demand for fruits and vegetables—as during the same period every year—mango volumes remained measured. Prices remained fairly stable on a limited but regular market but varied according to fruit quality. There was clogging by ageing batches from Brazil, Ecuador and Peru that were more difficult to shift. The dominance of large fruits hindered sales, especially to supermarket chains. Although shipments from Peru decreased slightly, they remained amply sufficient to meet demand. The decrease in arrivals did not yet affect prices as reserves were available and fruit size distribution was not balanced.

### Trend reversed, exceptional shortage and strong price increase for Easter

Arrivals from Peru decreased faster than expected and the market made a strong upward swing in Week 10. Price

#### Weeks 10 to 14

ranges remained broad as fruit quality varied considerably. Problems of size and colour became less important as the market faced a shortage of goods. Prices for high-quality fruits rocketed. Little by little, the decrease in the quantities available on the European market caused a steep rise in prices, especially for arriving produce of satisfactory quality. Mangoes that had been stored for varying lengths of time did not sell as well but benefited from the good market conditions. In Week 12, shipments from Brazil were small even though increasing a little and deliveries from Peru decreased drastically. This caused marked under-supply on a scale rarely observed in recent years. The shortage of produce just before Easter was aggravated by the

particularly late start of the West African seasons. Prices of good quality fruits therefore tended to be very high. The market was under pressure in Week 13 as a result of the shortage of goods and increased demand as Easter approached. In this context, prices reached record levels: EUR 6.50 to 12.00 per box for 'sea' mangoes according to variety and size and up to EUR 8.00 per kg for 'Kent' shipped by air.

### Increase in supplies from Brazil but demand decreasing

Increasingly large volumes were available, especially from Brazil. However, demand weakened and operators gradually lost interest in a fruit that had hitherto fetched high prices. Fine weather and the arrival of large quantities of the season's fruits at low prices did nothing to re-launch demand. Overall, the market situation was fairly special. Whereas the weeks before Easter had been marked by limited supply and very high prices, they were followed by a period during which many operators were on holiday, coinciding with large arrivals of fruits and a diversity of varieties, features that contributed to a fall in prices.

#### Weeks 15 to 16

### Formation of the traditional front between fruits from Latin America and West Africa

Week 17 was a turning-point in the evolution of mango sales in Europe. Supply increased strongly from all origins overall, with the establishment of the traditional

#### Weeks 17 to 27

'front' between fruits from Latin America and those from West Africa, with quantities increasing sharply from the latter zone. The remaining produce from Peru, together with arrivals from Brazil and from Central American countries totalled about a hundred containers. Together with the arrivals from West Africa, these substantial quantities caused a switch to a marked downward trend. The market was now over-supplied. The dominance of small fruits accentuated the imbalance in sales, with different prices according to size. The trend was intensified by two further factors—a marked lack of

interest by the large retail chains as buyers were reluctant to make purchases at the end of the period of high prices and a reorientation of demand towards the season's fruits, enhanced by warm weather in Europe. The market became complex and disparate and this resulted in a continued price fall that was not always justified and a broad price range according to supplier country, variety and size (EUR 4.00 to 6.00 per box for sea mango). Total deliveries exceeded the capacity of the European market and stocks tended to form at times. In France, export sales were also an important outlet for mangoes from Côte d'Ivoire, dominant on the French market and whose quality was satisfactory. Several large export establishments in Côte d'Ivoire obtained EUREPGAP certification and this gave them broader access to the previously reticent markets in northern Europe. The market was heavy and saturated all over Europe—for air mango as well—and this was aggravated by bad weather in part of Europe and disturbance of sales by the Ascension Day holiday. A decrease in the quantities arriving from Brazil and other supplier countries in Latin America relieved trade pressure a little and enhanced the penetration of northern European markets by African mangoes. However, the trend was not accompanied by firmer prices. The market gradually became anaemic, especially in France, and the blockage spread to the Netherlands. The situation was tense on most markets in Week 23. Demand was concentrated mainly on seasonal fruits—available in large quantities. Clearance sales of mango had not yet had an effect and the end of the season was approaching for fruits from Côte d'Ivoire. Fruit quality was increasingly variable with an increase in traces of anthracnose. Although it was less dramatic, the situation for air mango in France was nevertheless a problem. The market entered a new transition period in Week 26 under difficult trading conditions. The decrease in the quantities available resulted mainly in an increase in the price of produce of satisfactory quality.

### A summer style market

The market displayed summer features, that is to say limited demand. Arrivals were slightly short of natural market demand and prices tended to rise or at least become firmer. The increase in prices was not unrelated to the decrease in demand as supermarket chains did not want to go along with the increase and tended to limit their orders. Supply consisted mainly of small quantities of Brazilian fruits, completed by limiting shipments from Senegal and fruits from Mexico shipped by air or by sea. Other suppliers came on to the scene such as Puerto Rico and the Dominican Republic, previously known more for its shipments by air. The Israeli export season started with air quality mangoes ('Maya' and 'Haden').

#### Weeks 28 to 34

Business slowed down overall on the markets because of the start of the holidays. Business was slow overall with large quantities of small fruits on all the markets and especially on those in the north. Arrivals from Brazil increased distinctly.

### A stable but somewhat sluggish autumn market

The market stabilised in Week 35 with supplies coming mainly from Brazil and Israel and smaller quantities from Senegal. Although it was

#### Weeks 35 to 48

not dynamic, demand emerged from its summer lethargy. Retailers gradually reopened and the changes of range in supermarkets boosted transactions a little. In contrast, the quality and size of fruits was still uneven, leading to considerable price differences. The market had trouble in gaining structure. The Spanish season started in this context, with 'Tommy Atkins' and then 'Osteen'. It was possible to talk in terms of recovery at the beginning of September. Demand seemed to be a little stronger, doubtless benefiting from the smaller quantities of seasonal fruits—some of which were in short supply. In addition, shipments from Israel gradually dwindled, with changes in varieties, and ended in Week 45 after disturbing the market with end-of-season batches of uneven quality. However, regular arrivals from Brazil enhanced market fluidity, although deliveries from Spain did affect this. This resulted in uneven price decreases on the different European markets. The Spanish season finished fairly suddenly in Week 46. The first batches of 'Kent' from Ecuador and Peru arrived at the same time but the fruits were not ripe enough and did not always develop well.

### A disappointing Christmas period

The European market remained sluggish in December. Large batches from Brazil combined with increasing shipments from Peru and Ecuador kept the market amply supplied to cover demand that displayed little change with sales still moderate. The gradual decrease in arrivals from Brazil was balanced little by little by an increase in shipments from Peru. The price of 'Kent' tended to fall with the switch from the Brazilian season to Peruvian fruits (EUR 3.00 to 5.00 per box for fruits arriving by sea). Dull demand during the Christmas period did nothing to stimulate sales or make prices firmer ■

#### Weeks 49 to 52

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Italy / Argentina

**Raisingrappe**  
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South Africa / Chile / Italy

**Agrumescitrus fruits**  
Afrique du sud / Maroc / Israel /  
Etats-Unis / Italie / Argentine  
South Africa / Morocco / Israel /  
USA / Italy / Argentina

**Tomate tomato**  
Maroc / Italie / Israel  
Marocco / Italy / Israel

**Litchilychee**  
Afrique du sud /  
Madagascar / Israel  
South Africa /  
Madagascar / Israel

**Avocatavocado**  
Israel / Mexique / Pérou /  
Chili / Kenya / AFS  
Israel / Mexico / Peru  
Chile / Kenya / South Africa

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apple/pear  
Afrique du Sud / Chili / Argentine  
South Africa / Chile / Argentina

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Content published by the Market News Service of Citrus 400 Highways, Irvine





# Report on the 2007 mango season by supplier country

## A gloomy year

© Photos Régis Domergue

### Brazil strengthens its presence

Already omnipresent on the European market, Brazil seems to have shipped larger quantities

### Brazil

at a greater rate in 2007. The larger planted areas in the north-east have

affected the volumes available and increased export pressure. Indeed, a number of orchards planted a few years ago are now coming into production.

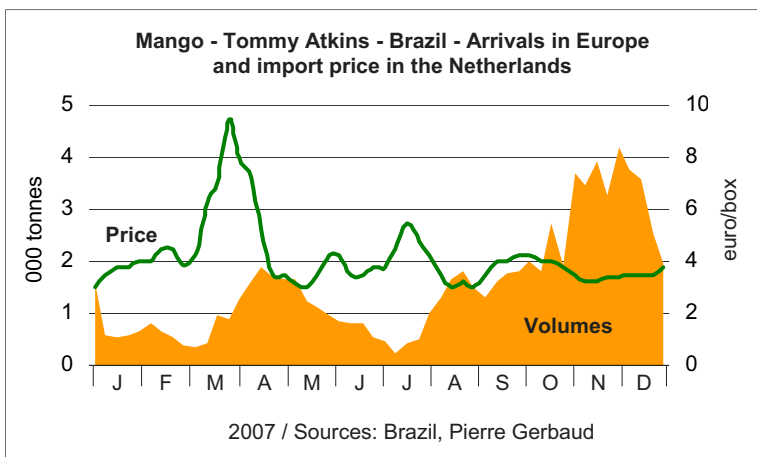
Although the domestic market forms a reserve of consumption, a large proportion of the mango crop goes for export. Brazilian exports remained fairly measured until March, avoiding face-to-face confrontation with the Peruvian fruits available in large quantities at that time of year. However, the Peruvian season finished early, creating an opportunity for the other suppliers. Prices suddenly became

attractive and soon encouraged operators to step up shipments. After a few weeks, the pressure of arrivals sent prices down again towards EUR 3.00-3.50 per box at the end of April/beginning of May. Shipments decreased gradually until mid-July, allowing a partial price recovery. They increased in August and prices fell again in contrast with 2006 when the moderately supplied summer period had resulted in more profitable prices.



In 2007, the tonnages sent increased until mid-December.

Although prices still held in September, they weakened at the beginning of October and then remained even until the end of the year. It is noted that 'Kent' exports started nearly a month earlier than in previous years. The start of the Peruvian season in November also contributed to holding prices fairly low and unchanging, affecting 'Kent' more than 'Tommy Atkins'. The trend thus changed in December, with 'Tommy Atkins' at higher prices than 'Kent'.



### Good end of season in the spring for Peru

The large, regular shipments from Peru at the beginning of the year kept prices at around EUR 4.00 per box in January and February. Deliveries decreased rapidly in the second half of February and the market gradually became seriously under-supplied. This was all the more marked as the West African export seasons started late. Prices

### Peru





# Découvreur de saveurs exotiques



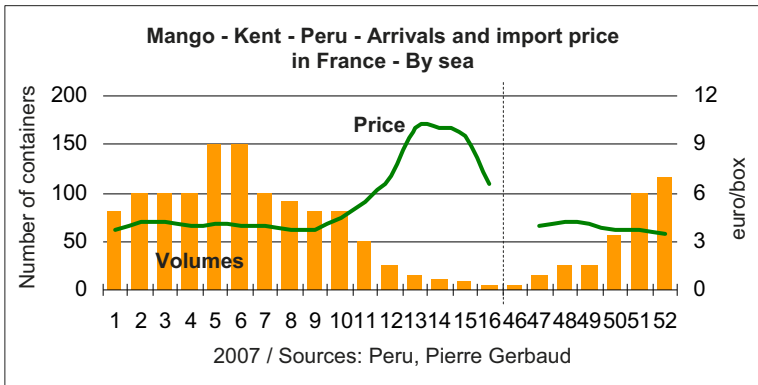
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rocketed from the second half of March onwards and reached rarely attained heights. This rise helped to improve hitherto poor accounts and to forget the poor end of the 2006 season. Prices dipped again in April after Easter because of smaller demand, increased competition from West Africa and the deterioration of the last batches of fruits received.

The Peruvian season started again in November when market conditions were not very favourable as Brazilian produce was

heavily dominant. Shipping probably began a little too early and the fruits did not match demand. Mostly small, they displayed poor colour and ripeness and had difficulty in gaining a foothold on the market. The rapid increase in deliveries in December when the market was already amply supplied by Brazil resulted in a fall in prices; these then stayed at an unsatisfactory level, giving little visibility for the beginning of 2008.



**Mali confirms the trend**

Shipping nearly 5 500 tonnes of mango in 2007, Mali consolidated the increase in its deliveries on the international

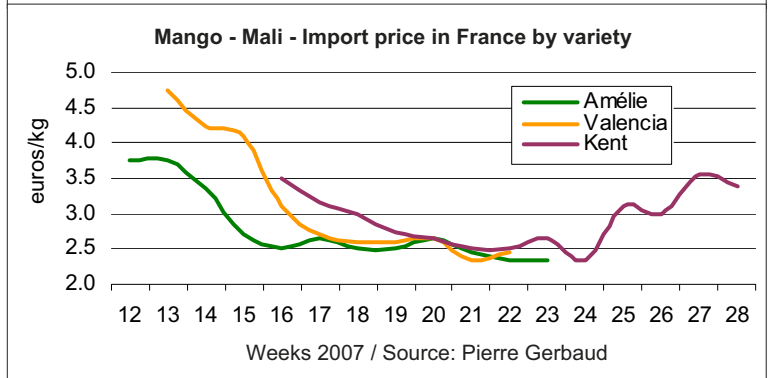
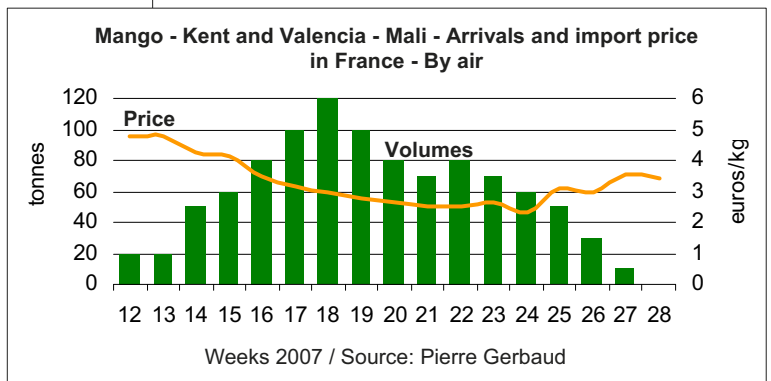
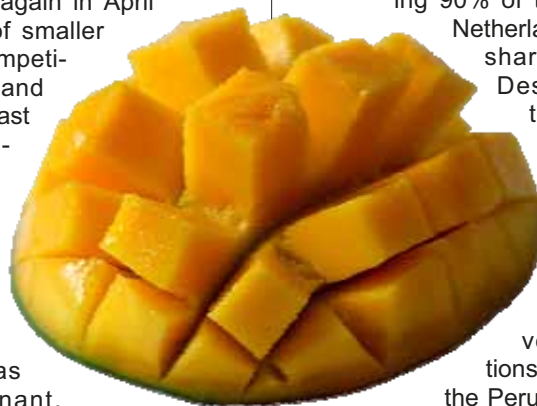
market. Of this total, only the 4 700 t sent to the European market is considered here; the rest was shipped to countries in the region. The sharp increase in Malian exports results mainly from the increase in shipments by sea, which climbed from 2 500 t in 2006 to 3 500 t in 2007. Shipments by air in 2007 were only about 100 tonnes greater than in 2006. Five of some 20 export operations accounted for 86% of the shipments leaving by air. In sea transport, three export operations shipped 95% of the sea containers leaving via the port of Abidjan.

**Mali**

France is still the main destination for Malian mangoes shipped by air, with the market taking 90% of the fruits exported. The Netherlands, Spain and Belgium share the remaining 10%.

Destinations for produce travelling by sea are very different as the Netherlands received 70% of shipments and France 30%.

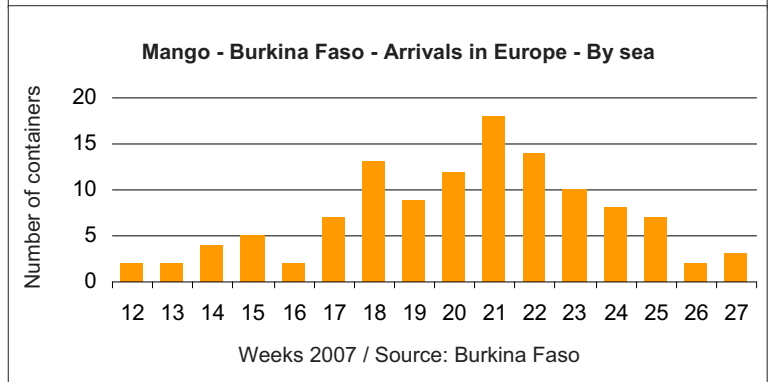
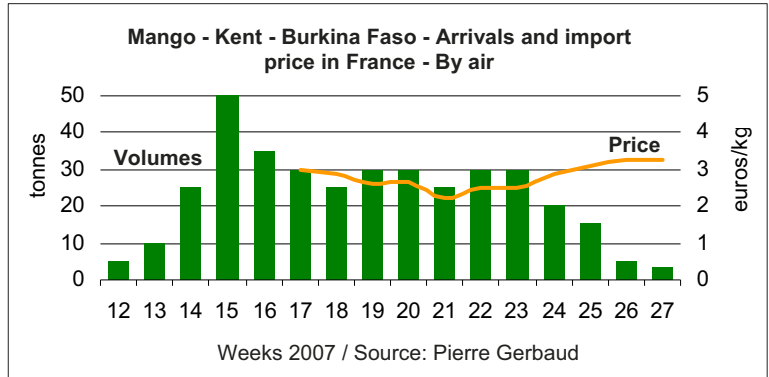
Exports by air started fairly late and with favourable market conditions as the premature end of the Peruvian season had left the market under-supplied. Unfortunately, the slow build-up of shipments meant that Mali benefited only partially from the strong price



increase before Easter. As every year, volumes were grouped over a fairly limited period (Weeks 19 to 24) that was also a peak time for shipments from other West African supplier countries. The inrush of produce then exceeded demand, which faded for mango and switched to the season's fruits, now at their lowest level. Prices recovered in mid-June with the end of imports from Côte d'Ivoire by air and as the quantities arriving decreased.

The air export season for the variety 'Amélie' lasted from Week 12 to Week 23 and that of 'Valencia' from Week 13 to Week 22. Shipments of 'Kent' ran from Week 16 to Week 28. It can be seen that the largest volumes and the lowest prices were for the period during which the three varieties coincided (Weeks 19 to 23).

The sea export season stated in Week 16 and finished in Week 28. In the first five weeks, 'Kent' and 'Keitt' mangoes were shipped to the Dutch market from Mali, thus avoiding direct confrontation with Côte d'Ivoire fruits on the French market. Deliveries to France did not gain momentum until the second half of May. The dip in arrivals from Côte d'Ivoire encouraged operators to refocus on supplies of Malian produce, especially as the quality of mangoes from Côte d'Ivoire was worsening rapidly. The satisfactory quality of the Malian fruits shipped by sea and their increase in volume on the European market mean that they are seen increasingly as an alternative source of supply from Côte d'Ivoire, whose goods have been less reliable in the last two seasons. Mali is in an interesting position at the end of the season (June) when most of the shipments from Côte d'Ivoire have arrived. In contrast, Mali's weak point is still the logistic difficulties that complicate transport and make it longer; this can affect the cost price of goods on arrival in Europe and the quality of the produce.



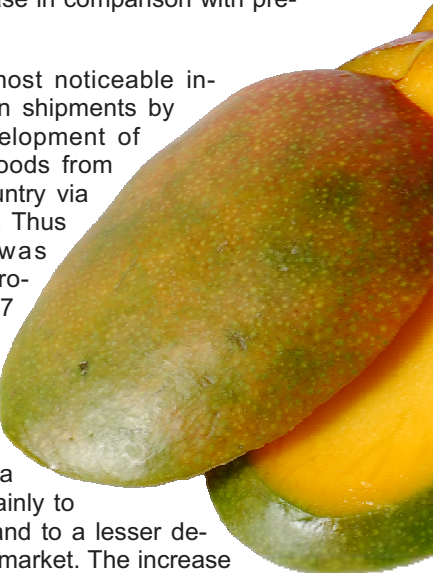
**A fresh increase for Burkina Faso?**

In the sidelines for a number of years, Burkina Faso is returning to play a stronger role on the international mango market. Shipments by air in 2007 are estimated to have totalled nearly 400 tonnes. This is a modest figure but an increase in comparison with preceding years.

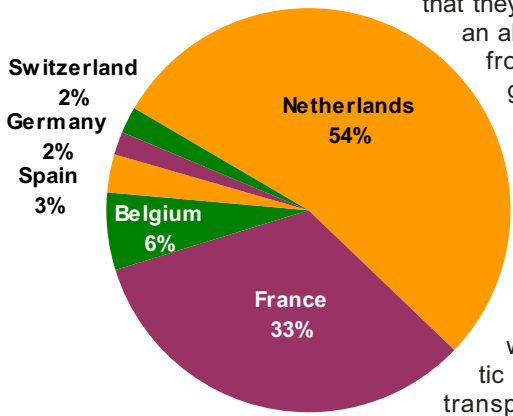


As for Mali, the most noticeable increase has been in shipments by sea, with the development of logistics to ship goods from this landlocked country via the port of Abidjan. Thus nearly 2 600 t was shipped to the European market in 2007 in comparison with 2 000 t in 2006.

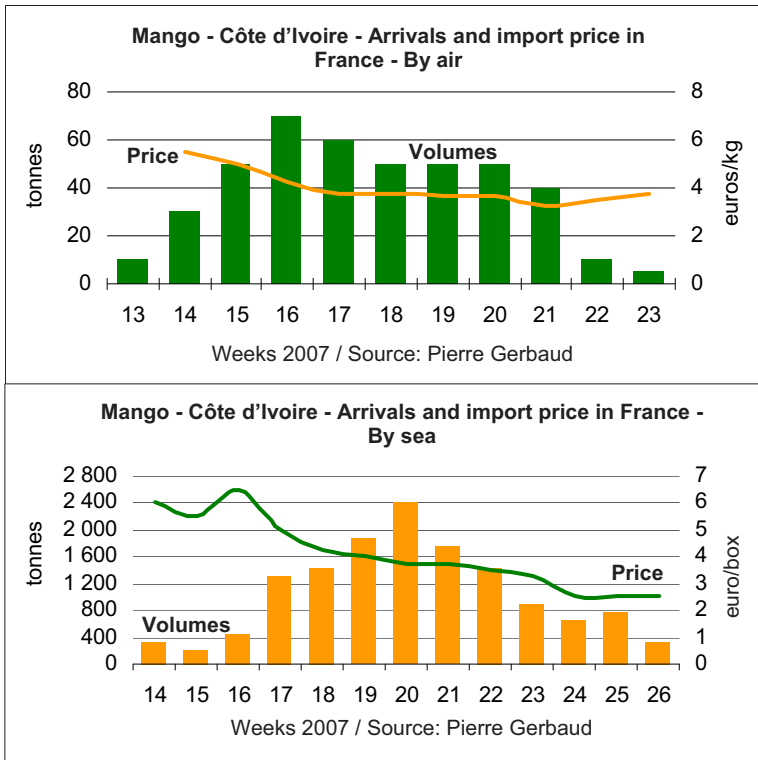
Like the goods from Mali, produce from Burkina Faso is shipped mainly to the Dutch market and to a lesser degree to the French market. The increase in shipments by sea from these two countries indicates a renewal of interest from the European import sector other than importers in France for West Africa mango and avoidance of supplies from Côte d'Ivoire, structured and targeted more for the French market.



**Mango - Burkina Faso Export markets By sea**



Source: Burkina Faso



**Côte d'Ivoire:  
second poor performance**

For the second year running, Côte d'Ivoire had a complex, difficult season with mediocre trading performance. In 2006, a plethora of mango shipped over a very short period sent prices tumbling to below cost. In 2007, although volumes were similar to those shipped during the previous year, it was more the problems of fruit quality that sent performance sliding down a slippery slope. The development and rapid spread of fungal diseases from mid-May onwards seriously compromised the sales of fruits from Côte d'Ivoire. In addition, this happened when shipments were at their peak. First limited, quality problems developed increasingly rapidly, first closing export markets and sending the domestic market down the road towards suffocation. In spite of systematic re-sorting, the fruits developed badly and a fair number of container loads were finally no put on the market. However, the season had started better than in 2006 when the lengthening of the Peruvian season had hit performance of the 'Amélie' season and the first

**Côte d'Ivoire**

enriching of the Peruvian season had hit performance of the 'Amélie' season and the first

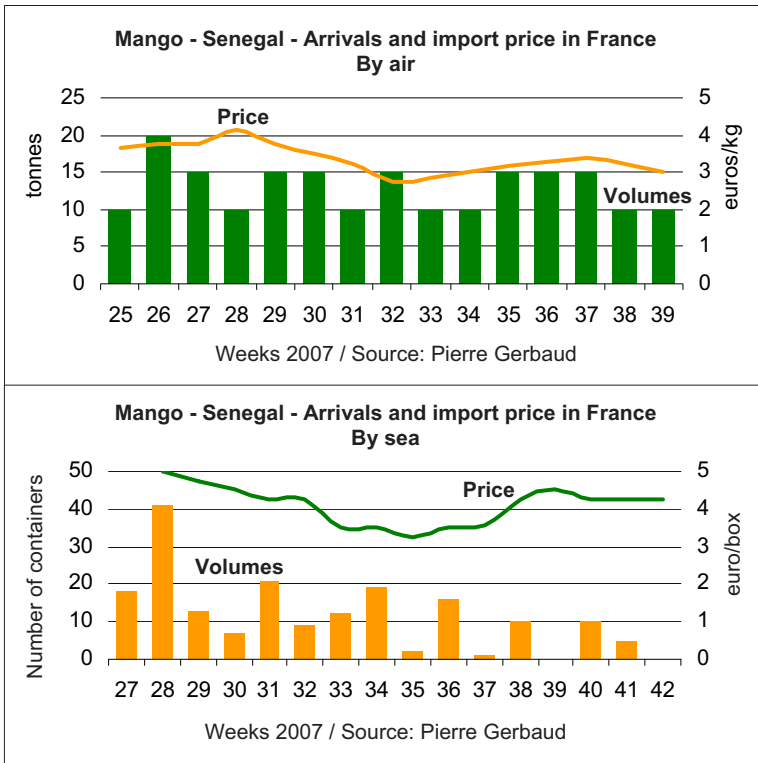
batches of 'Kent' as well. The quickly and early end to shipments from Peru in 2007 left the way clear for West African suppliers and especially Côte d'Ivoire, where the crop starts earlier. Market conditions as Easter approached were even exceptional, with a shortage of fruit. After being scorned in 2006 'Amélie' regained its position once again on an under-supplied market. In fact, it is difficult to understand the strategy of certain exporters who take care to ship 'Amélie' alone whereas 'Kent' fruits that had reached maturity at the same time could have benefited from this trade window even more. Unfortunately, the good sales achieved in April concerned only a limited proportion of total shipments from the country. In May, the enormous increase in shipments gradually sent prices down until the appearance of the first spreading spots on the fruits. The sometimes extremely rapid worsening of quality problems marked the end of previously satisfactory performance. From the end of May, stored batches and arriving fruits were increasingly difficult to sell and they were finally gradually removed from the market.

**A modest season for Senegal**

Senegal's export season was a small one in 2007 with nearly 4 000 tonnes shipped by sea







against 4 700 t in 2006 and about 200 t sent by air against 300 t. It was the first year that quantities from this supplier decreased, with the main reason being a decrease in the

## Senegal

quantities available following poor weather during fruiting. As in previous

years, the price of mangoes shipped by air dipped in August because of their uneven quality on arrival and the appearance of spreading spotting accelerated by rain in the production zones. Demand was also smaller in the summer with considerable competition from the simultaneous marketing of mangoes from Israel and Mexico. It was also the time when prices were at their lowest for sea mangoes from Senegal and some operators slowed or suspended operations. The rate of arrivals slowed in September, allowing a partial recovery of the price of 'Kent', which was less abundant on the market.

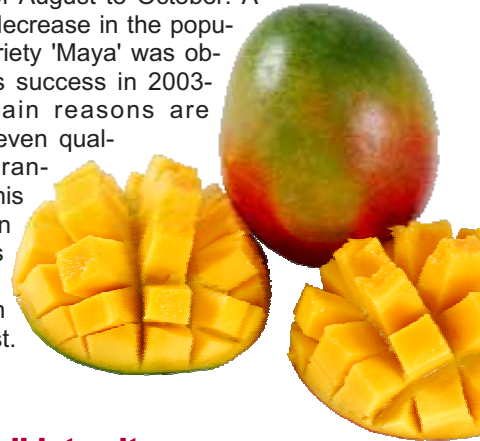
### Israel: recovery

Israel swept back into the European mango market with nearly 3 400 tonnes more than in 2006 (10 300 t in 2006 and 13 700 t in 2007). The decrease in volumes in 2006 would thus seem to have been conjunctural as Israeli mangoes were strongly present from

July to October. After the first part of the season with 'Tommy Atkins' and 'Kent' exported until August, Israeli supplies were then headed by 'Keitt' in September and October. The increase in the tonnage exported and also stronger competition from Mexico and Brazil than in 2006 kept Israeli prices at distinctly lower levels than in 2006. Arrivals were regular and similar to those of preceding years, with a rapid increase in arrivals in July followed by a decrease in volumes in the second half of August. The volumes shipped increased again until mid-September and then decreased gradually until the end of the season in late October.

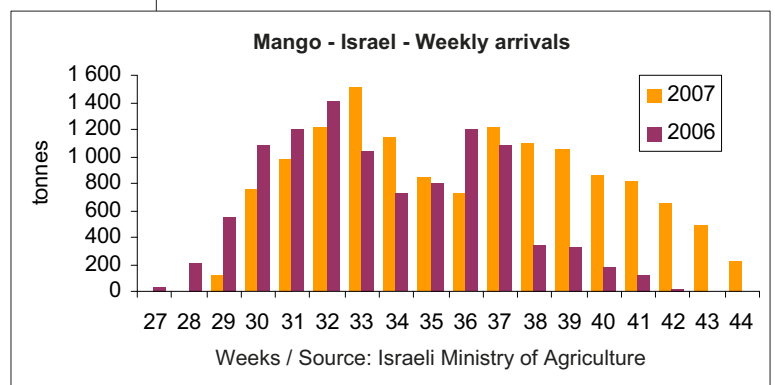
## Israel

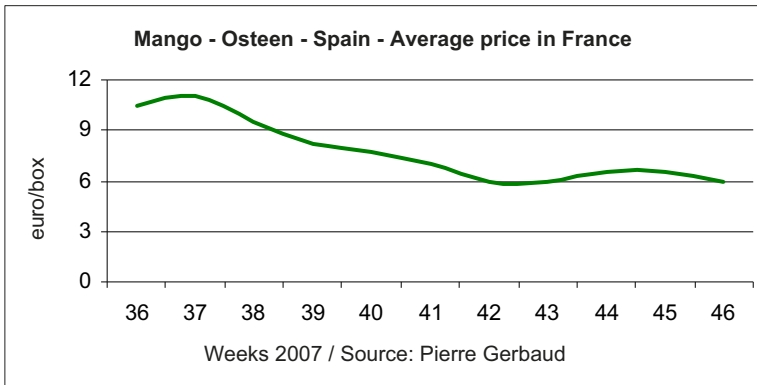
In parallel, Israel also shipped air quality mangoes, delivering a broad range of varieties starting with 'Maya' (July-August) and continuing with 'Haden', 'Shelly', 'Kasturi' and 'Kent' from the end of August to October. A more marked decrease in the popularity of the variety 'Maya' was observed after its success in 2003-2004. The main reasons are probably less even quality and more random colour. This decrease in quality was accompanied by a fall in prices in August.



### Spain consolidates its achievements

The beginning of the Spanish mango season was more tense than in 2006 because of greater competition from Israel from early September onwards. However, the regular shipping of fine quality 'Osteen' mangoes enabled Spanish shippers to hold on to this market gained several years ago. The variety is appreciated and is part of the annual varietal range on the European market. 'Osteen' from





## Spain

Spain makes up for the almost total absence of Kent at this time of year. They do this all the better as quality is close to that of fruits shipped by air but they cost much less. 'Kent' shipped from Brazil by air suffered from this as, sent a month earlier than in 2006, they ran up against the large volumes arriving from Spain. In contrast, the Spanish 'Kent' season was practically nonexistent. The last shipments in November consisted of 'Keitt' ■

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**SANOS X NATURALEZA**

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# Mango...

production: 30 500 000 tonnes  
world trade: 820 000 tonnes



| Mango (and guava) — United States imports |                |                |                |                |                |                |                |                |                |                |                |                |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| tonnes                                    | 1996           | 1997           | 1998           | 1999           | 2000           | 2001           | 2002           | 2003           | 2004           | 2005           | 2006           | 2007           |
| <b>Total</b>                              | <b>172 252</b> | <b>187 193</b> | <b>198 267</b> | <b>220 046</b> | <b>239 051</b> | <b>240 278</b> | <b>266 280</b> | <b>282 360</b> | <b>281 658</b> | <b>267 017</b> | <b>298 088</b> | <b>303 568</b> |
| Mexico                                    | 139 507        | 157 956        | 161 709        | 163 504        | 166 767        | 156 548        | 164 193        | 173 630        | 174 799        | 159 550        | 181 163        | 185 279        |
| Ecuador                                   | 3 888          | 878            | 5 260          | 10 392         | 20 428         | 19 797         | 21 602         | 27 350         | 25 036         | 24 083         | 31 070         | 31 229         |
| Peru                                      | 4 489          | 3 347          | 3 632          | 11 381         | 12 297         | 15 553         | 20 515         | 20 582         | 30 334         | 29 854         | 33 614         | 29 193         |
| Brazil                                    | 4 888          | 5 404          | 7 049          | 12 719         | 16 984         | 26 937         | 36 040         | 39 034         | 27 187         | 26 144         | 23 088         | 24 679         |
| Guatemala                                 | 6 883          | 6 768          | 10 231         | 9 549          | 8 284          | 10 314         | 9 550          | 8 259          | 8 775          | 9 317          | 9 131          | 12 881         |
| Haiti                                     | 8 225          | 10 306         | 7 143          | 9 144          | 10 159         | 5 878          | 8 376          | 6 070          | 8 065          | 9 391          | 10 266         | 8 681          |
| Philippines                               | 114            | 113            | 162            | 280            | 151            | 514            | 1 315          | 2 166          | 2 877          | 3 620          | 2 974          | 3 545          |
| Others                                    | 4 258          | 2 421          | 3 082          | 3 078          | 3 981          | 4 738          | 4 690          | 5 270          | 4 585          | 5 061          | 6 782          | 8 081          |

Source: US customs (code 080450)

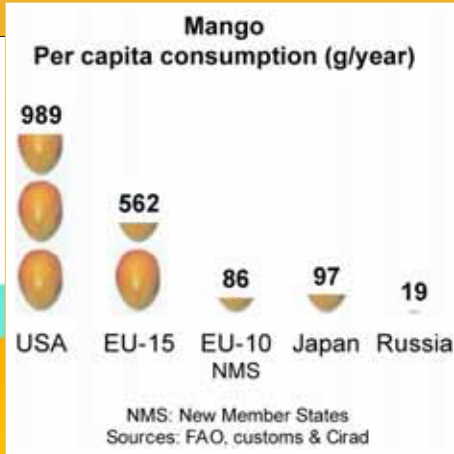
| Mango (and guava, mangosteen) — Japanese imports |              |              |              |              |              |              |              |               |               |               |               |               |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|
| tonnes   | 1996         | 1997         | 1998         | 1999         | 2000         | 2001         | 2002         | 2003          | 2004          | 2005          | 2006          | 2007          |
| <b>Total</b>                                     | <b>9 592</b> | <b>8 599</b> | <b>8 877</b> | <b>8 873</b> | <b>9 627</b> | <b>8 901</b> | <b>8 875</b> | <b>10 307</b> | <b>12 336</b> | <b>12 139</b> | <b>12 383</b> | <b>12 389</b> |
| Philippines                                      | 5 437        | 4 831        | 6 191        | 6 022        | 5 618        | 5 397        | 5 601        | 6 746         | 7 303         | 6 274         | 5 443         | 3 797         |
| Mexico   | 3 811        | 3 244        | 2 215        | 2 374        | 3 155        | 2 445        | 2 178        | 2 342         | 2 908         | 3 587         | 4 329         | 5 386         |
| Thailand   | 150          | 185          | 138          | 181          | 194          | 460          | 487          | 621           | 901           | 955           | 1 099         | 1 566         |
| Taiwan   | 19           | 12           | 9            | 35           | 101          | 109          | 123          | 75            | 505           | 476           | 444           | 781           |
| Brazil   | -            | -            | -            | -            | -            | -            | -            | -             | -             | 250           | 403           | 445           |
| Australia  | 75           | 206          | 193          | 146          | 301          | 318          | 330          | 370           | 475           | 343           | 338           | 268           |
| USA  | 98           | 121          | 125          | 115          | 258          | 153          | 153          | 149           | 244           | 253           | 317           | 57            |
| India  | -            | -            | -            | -            | -            | -            | -            | -             | -             | -             | 9             | 88            |
| Others   | 2            | -            | 8            | -            | 0            | 19           | 2            | 5             | -             | 1             | 1             | -             |

Source: Japanese customs (mango: code 080450011 / guava and mangosteen: code 080450019)



Source: Eurostat code 080450: mango, guava & ma





### Mango (and guava, mangosteen) World production

| 2006        | tonnes     |
|-------------|------------|
| World       | 30 520 840 |
| India       | 11 140 115 |
| China       | 3 550 000  |
| Pakistan    | 2 242 939  |
| Mexico      | 2 050 488  |
| Thailand    | 1 800 000  |
| Indonesia   | 1 412 884  |
| Brazil      | 1 347 744  |
| Philippines | 936 835    |
| Nigeria     | 731 500    |
| Egypt       | 380 000    |
| Vietnam     | 367 800    |
| Yemen       | 348 979    |
| Cuba        | 308 209    |
| Peru        | 239 346    |
| Haiti       | 235 980    |

### Mango (and guava, mangosteen) World exports

| 2005          | tonnes  |
|---------------|---------|
| World         | 820 000 |
| India         | 222 620 |
| Mexico        | 195 210 |
| Brazil        | 113 880 |
| Peru          | 57 620  |
| Pakistan      | 48 850  |
| Equateur      | 39 970  |
| Philippines   | 25 370  |
| Guatemala     | 14 100  |
| Yemen         | 11 640  |
| Côte d'Ivoire | 10 030  |
| Israel        | 9 810   |
| Haiti         | 9 410   |
| Costa Rica    | 9 250   |
| Egypt         | 9 200   |
| Spain         | 4 300   |

### Mango (and guava, mangosteen) World imports

| 2005            | tonnes  |
|-----------------|---------|
| World           | 820 000 |
| United States   | 267 017 |
| Netherlands     | 98 050  |
| United Arab Em. | 50 660  |
| Saudi Arabia    | 50 630  |
| United Kingdom  | 46 930  |
| Germany         | 37 150  |
| Bangladesh      | 35 960  |
| France          | 34 950  |
| China           | 19 190  |
| Malaysia        | 18 880  |
| Portugal        | 16 740  |
| Singapore       | 16 220  |
| Spain           | 13 720  |
| Japan           | 12 139  |
| Belgium         | 12 200  |

Sources: FAO, EU, USA, Japanese customs

### Mango — EU supply calendar — Main origins

|                    |              | J | F | M | A | M | J | J | A | S | O | N | D |
|--------------------|--------------|---|---|---|---|---|---|---|---|---|---|---|---|
| <b>Peru</b>        | Kent         |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>Brazil</b>      | Tommy Atkins |   |   |   |   |   |   |   |   |   |   |   |   |
|                    | Kent         |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>West Africa</b> | Kent         |   |   |   |   |   |   |   |   |   |   |   |   |
|                    | Keitt        |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>Senegal</b>     | Kent         |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>Israel</b>      | Tommy Atkins |   |   |   |   |   |   |   |   |   |   |   |   |
|                    | Kent         |   |   |   |   |   |   |   |   |   |   |   |   |
|                    | Keitt        |   |   |   |   |   |   |   |   |   |   |   |   |
| <b>Spain</b>       | Osteen       |   |   |   |   |   |   |   |   |   |   |   |   |
|                    | Kent         |   |   |   |   |   |   |   |   |   |   |   |   |

n %

averages

004-05-06

994-95-96

48%

41%

ngosteen

### Mango (and guava, mangosteen) — EU-25 imports — Main supplying countries

| tonnes                       | 1996          | 1997          | 1998          | 1999           | 2000           | 2001           | 2002           | 2003           | 2004           | 2005           | 2006           |
|------------------------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>Total extra-EU, incl.</b> | <b>68 753</b> | <b>75 924</b> | <b>84 511</b> | <b>116 293</b> | <b>119 364</b> | <b>135 593</b> | <b>134 993</b> | <b>175 544</b> | <b>162 953</b> | <b>184 525</b> | <b>212 713</b> |
| Brazil                       | 13 885        | 9 174         | 24 473        | 38 408         | 39 636         | 60 338         | 63 804         | 89 942         | 69 320         | 80 194         | 84 858         |
| Peru                         | 4 828         | 5 853         | 1 813         | 7 347          | 9 304          | 7 749          | 10 760         | 15 356         | 19 817         | 25 458         | 41 027         |
| Côte d'Ivoire                | 4 153         | 8 022         | 5 984         | 10 265         | 10 306         | 10 842         | 11 147         | 7 176          | 11 426         | 9 835          | 14 428         |
| Israel                       | 4 656         | 5 640         | 7 463         | 8 932          | 8 454          | 6 595          | 4 117          | 8 646          | 8 284          | 12 916         | 11 349         |
| Pakistan                     | 2 850         | 4 479         | 4 490         | 5 608          | 7 094          | 8 750          | 6 263          | 8 680          | 10 940         | 12 306         | 10 120         |
| Costa Rica                   | 2 926         | 3 276         | 2 104         | 3 334          | 3 092          | 1 734          | 1 852          | 2 636          | 3 983          | 6 252          | 7 545          |
| Senegal                      | 87            | 123           | 280           | 678            | 618            | 822            | 1 650          | 2 067          | 2 810          | 3 011          | 7 088          |
| United States                | 7 827         | 10 166        | 8 446         | 9 844          | 10 314         | 6 731          | 6 944          | 7 370          | 7 612          | 6 894          | 5 971          |
| Ecuador                      | 3 589         | 637           | 1 548         | 3 981          | 3 258          | 6 217          | 2 605          | 5 706          | 5 533          | 5 889          | 5 681          |
| Guatemala                    | 625           | 792           | 1 039         | 1 031          | 3 152          | 1 803          | 1 654          | 2 224          | 3 101          | 3 131          | 4 614          |
| Mali                         | 708           | 1 450         | 1 006         | 814            | 1 141          | 886            | 708            | 947            | 2 096          | 2 560          | 3 477          |
| India                        | 1 059         | 1 095         | 1 107         | 2 134          | 1 746          | 2 625          | 1 077          | 930            | 915            | 1 722          | 2 472          |
| <b>Total intra-EU, incl.</b> | <b>35 674</b> | <b>45 857</b> | <b>46 122</b> | <b>65 736</b>  | <b>65 422</b>  | <b>57 367</b>  | <b>66 515</b>  | <b>73 865</b>  | <b>81 507</b>  | <b>100 736</b> | <b>110 560</b> |
| Netherlands                  | 19 624        | 23 060        | 26 552        | 39 670         | 37 171         | 34 312         | 37 798         | 42 275         | 48 277         | 58 266         | 63 493         |
| France                       | 7 759         | 9 784         | 8 186         | 8 478          | 9 685          | 9 233          | 11 107         | 11 043         | 11 038         | 14 449         | 16 039         |
| Spain                        | 1 316         | 3 381         | 3 072         | 5 342          | 7 985          | 5 506          | 6 969          | 6 432          | 8 007          | 12 493         | 12 297         |
| Belgium                      | -             | -             | -             | 7 580          | 5 258          | 3 270          | 4 174          | 4 542          | 3 951          | 3 469          | 6 597          |
| Germany                      | 2 474         | 2 211         | 2 248         | 2 477          | 3 715          | 3 475          | 4 168          | 7 476          | 6 810          | 7 439          | 7 536          |
| United Kingdom               | 838           | 1 058         | 770           | 1 103          | 597            | 523            | 611            | 762            | 1 551          | 1 071          | 1 883          |
| Italy                        | 290           | 317           | 155           | 329            | 423            | 276            | 916            | 554            | 567            | 760            | 749            |

Source: Eurostat (code 080450)





## West African mango

### Prospects for the 2008 season

Shipping nearly 28 000 metric tonnes, West Africa accounts for about 20% of mango supplies on the European market. However, the atmosphere is somewhat morose among exporters after two disastrous seasons, especially in Côte d'Ivoire, Mali and Burkina Faso. The current trend is to respond to clients' expectations and aim at selling the produce better. Producers share this approach. The main lines of the 2008 mango season should be a decrease in exports in spite of an abundant crop and a shorter export period in order to avoid end-of-season quality problems.

#### A good harvest is forecast

The long rainy season in 2007 (May to October) allowing mango plantations to regenerate



First 'Kent' production

was followed by a period of severe Harmattan not experienced in the region for a long time. These conditions were ideal for flowering. Slightly later than last year, fruits from the first flowering of 'Kent' should be ready at the end

of March if the first rains at the end of February/beginning of March, commonly known as 'the mango rains', accompany fruiting. The plantations that did not produce fruits in 2007 are in a good position today in the light of the well known cycles followed by mango. The coming into production of new plantations will enhance the phenomenon, holding the promise of a good harvest in West Africa this year.

#### Mango — Côte d'Ivoire — Number of containers loaded at the port of Abidjan

|               | 2006       | 2007       |
|---------------|------------|------------|
| Côte d'Ivoire | 713        | 689        |
| Mali          | 84         | 159        |
| Burkina       | 84         | 122        |
| <b>Total</b>  | <b>881</b> | <b>970</b> |

1 container = 21 metric tonnes / Source: SAGA CI

'Kent' production benefits from three clearly distinct flowering periods with an interval of two or three weeks between harvests. About 40% of production is expected from the first flowering, 50% from the second and 10% from the third, the latter fruits being kept for the domestic market.

Plantations are generally well maintained. The spread of mealybug has been limited by biological control and targeted spraying by growers. The fruitfly problem remains unsolved—especially when harvesting begins and at the start of the rainy season. Growers are not yet sufficiently aware of preventive measures and treatments are practically non-existent. The trapping method is still not used much. Only Mali has been running a control programme for a few years.

#### Anthracnose, a permanent danger

The main quality problem is still anthracnose. Growers are not aware of this as the disease is not visible on fruits at harvesting and is practically undetectable during packing station treatment. It is endemic in West Africa and no effective control method has been set up, with the exception of the pre- and postharvest treatment applied by Senegalese export companies to their own produce.

Anthracnose causes trade losses in Côte d'Ivoire and was responsible for the decrease in non-managed fruit tonnage exported from Senegal in 2007. The only immediate solution is the halting of exports in case of heavy rainfall and high risk of contamination.

Chemical control at the production stage is little known and packing stations are neither equipped with nor users of postharvest treatment chemicals. Furthermore, the rational, safe use of pesticides is a priority for export operators in conformity with European requirements. These are now supported by national and local authorities. The theme of the promotion of awareness of the dangers of the application of pesticides to mangoes was the subject addressed in Korhogo on 14 February with growers of Côte d'Ivoire under the auspices of the

*Conseil général* and the Ministry of Agriculture of Côte d'Ivoire.

### Certification, an issue in maintaining exports?



Second 'Kent' flowering

Most large West African production and export companies have EUREPGAP certification and aim at GLOBALGAP. The others are also involved in the process and should receive certification in 2008.

After a horrendous period with the loss of nearly EUR 1.00 per box in 2005 and 2006 (exporters received EUR 2.50 to 2.70 per box in 2006), some people affirmed that sales had been difficult because European retail distributors requested certified produce. But half of production in Côte d'Ivoire was certified in 2007 and this did not result in the obtaining of profitable prices. Considerably more than the

average EUR 3.00 per box received would be necessary to make exports profitable as production cost exceeds EUR 3.35 per box. Certification yes but profitability too is the exporters' leitmotiv.

Production costs are still too high and will probably not fall. Transport costs (boxes and freight) are the same as in 2007, allowing for the increase in oil prices. The cost of domestic transport has not moved. The costs involved in the certification required by Europe come over and above this.

Growers, who receive firm prices either in the field or at the packing stations, are not ready to accept a decrease in their incomes either. Those whose plantations are starting production after more than eight years of investment hope to benefit from this as well.

### Controlled logistics

Transport should not cause major problems. Renovated in 2007, the SDV-SAGA container terminal at Ferkéssédougou is equipped with sufficient clip-on units and sockets. SITARAIL will provide two locomotives with four sets of eleven railway trucks equipped with generators



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and devoted entirely to transport in refrigerated containers, as it did last season to the delivering and returning containers. A stock of containers will be assembled at the terminal before the start of the season.



**Traditional planting**

As regards sea logistics, refrigerated container capacity should be sufficient, with access to all the shipping lines handling container transport to Europe (Delmas, MSC, Maersk Line, Hapag). However, the capacity reserved for containers of mangoes will probably be reduced on the AEL line because of the reduction in reefer ships (pineapple and banana).

The various services provided by SDV-SAGA CI (handling of boxes, palettes and corners), and prior transport of containers by road to the packing stations in Côte d'Ivoire and Mali for Sikasso/Bamako, should improve shipping security.

The packing stations equipped with cold storage facilities at Bobo-Dioulasso in Burkina Faso are good centre points for the development of shipments.

### **Great concern to make exports pay**

However, the great concern is that of achieving returns on shipments. With more than 1 000 containers loaded at the port of Abidjan in 2007, that is to say more than 20 000 tonnes of mango from Côte d'Ivoire, Mali and Burkina Faso, the balance of the chain is in danger as the market has difficulty in handling these quantities. Exporters plan to reduce shipments and to try to reduce production costs as much as they can.

But the fruits must meet expectations as regards colour, ripeness, size and storage performance during the periods desired and they must be sold at profitable prices—the only way of ensuring the survival of the sector.

There will probably not be any West African 'Kent' mangoes for sale at Easter. The first 'Kent' shipped by sea should be on the markets from 15 April onwards ■

**Alexis Moulin**



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**Producer country sheet**

**Mango in Côte d'Ivoire**

by Alexis Moulin

**Production zones**

Production is concentrated mainly within a radius of 50 km of Korhogo, the main town in the Savannah region 600 km north of Abidjan. Conditions are propitious for mango there, with lower relative humidity than in the rest of the country. The long Harmattan period gives better flowering and the climatic conditions are healthier for fruit development. All export packing stations are in this region. Of varying size and capacity, (500 to 2 000 t of export fruits) they are located in Korhogo, Sinématiali and Ferkessedougou. The scarcity of land in a zone with high farming density has led to the establishment of new, large plantations (from 50 to over 200 ha) in other more remote regions such as Boundiali in the east, Niakara in the south and Ouangolo in the north. Rail transport using refrigerated containers has developed since the beginning of the crisis in the Côte d'Ivoire that has cut the country in two and limited road access to the port of Abidjan; a container platform has been developed at Ferkessedougou on the railway line running from Abidjan to Ouagadougou. Direct access from the production zone to the main European ports has enabled exports to continue and has opened the sea route to Mali and Burkina Faso.

Côte d'Ivoire is by far the leading mango producing and exporting country in West Africa. Its 'Kent' mango production and logistic advantages make it the third largest supplier of the European market, with more than 14 000 t shipped in 2007. Exports have almost doubled in 10 years and planted areas have done the same. However, the decrease in selling prices on the European markets as a result of the larger quantities shipped, increased exports from Mali and Burkina Faso and the permanent presence of Brazil is causing a drastic decrease in returns for growers and is endangering the balance of the sector.



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**Production**

Mango is a recent crop, dating from the 1980s. The development of plantations was encouraged to fight deforestation and then supported by IRFA with the introduction of grafted varieties—'Kent' in particular. The crop truly got under way in the 1990s as exports increased. Existing orchards were often multi-varietal (local mangoes, 'Amélie', 'Palmer', etc.) and were soon top-grafted and the planted area increased. Mango became a profitable cash crop and a way of diversifying in a region long devoted entirely to cotton. After the bankruptcy of the cotton sector, the large cotton zones thus became centres for mango. The socio-political crisis accentuated the phenomenon. The maintaining and increase in mango exports since 2002 encouraged growers to extend their mango plantations, with these generally ranging from 5 to 50 ha. Cultural methods are still rudimentary, with tillage, weeding, grafting and fencing being the main jobs on plantations. Pruning, irrigation and pest control spraying are still limited. Yields are small. Production in Côte d'Ivoire today is estimated to be nearly 50 000 tonnes grown on more than 10 000 ha. However, there is no census of orchards and not really any reliable statistics concerning production.

**Production calendar and varieties**

Mango plantations in Côte d'Ivoire consist mainly of 'Kent'. Growers favour this variety as yields and sales outlets are better. Even 'Keitt', that used to be fairly well represented with 10 to 15% of the area under mango, is tending to disappear. 'Amélie', 'Zill', 'Palmer' and other grafted varieties have almost completely disappeared. The export markets for the other varieties are tiny and sales on the domestic market practically nonexistent. The earlier cultivars 'Amélie' and 'Zill' formed the spearhead of the start of the season in Côte d'Ivoire; cropping starts at the beginning of March and can continue until April. Fruit from the first flowering of 'Kent' can be picked from 20 March onwards, with the precise date depending on the season. Cropping continues until the end of May with the second flowering. 'Keitt' is later, with production starting at the beginning of May. Qualitative problems can be serious at the end of the season. The main handicaps for extending the harvest period are overripeness, fruitfly and fungal diseases.

| Mango — Côte d'Ivoire — Production calendar |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
|   | F | M | A | M | J | J |
| Amélie                                      |   |   |   |   |   |   |
| Zill  |   |   |   |   |   |   |
| Kent  |   |   |   |   |   |   |
| Keitt                                       |   |   |   |   |   |   |

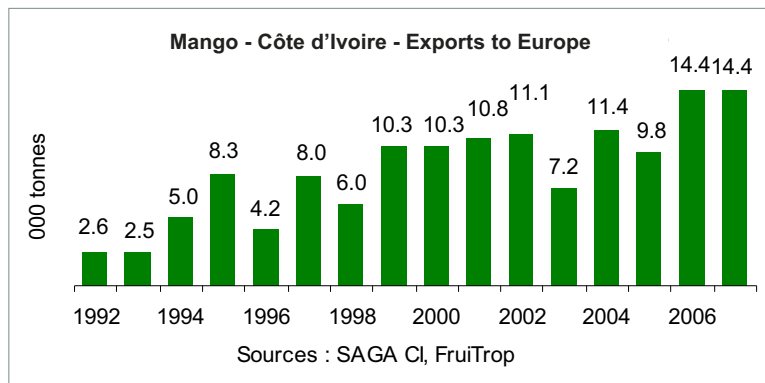


### Total exports

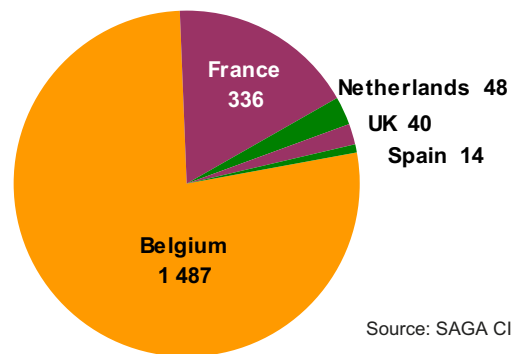
Mango exports from Côte d'Ivoire have rocketed, increasing five-fold in a decade from 2 500 t in 1992 to more than 11 000 t in 2002. They decreased strongly in 2003, with less than 8 000 t shipped as a result of the events in the country, but then recovered in 2004 with the improvement of the political situation. They peaked in 2006 with nearly 15 000 t. However, the increase in volumes resulted in substantial trade losses for the chain. The year 2007 was not one of the best. The maintaining of tonnages and increased shipments from Mali and Burkina Faso during the same period meant that recovery was not possible. The 2007 season was a turning-point, with the continuing of shipments into June, a very difficult operation because of the poor keeping quality of the fruits, longer storage periods, fungal attacks, etc. In spite of the increase in production, exports from Côte d'Ivoire should stagnate or even decrease in the face of a European market that finds it difficult to handle quantities in a relatively short period during which the seasonal fruit crops start.

### Outlets

Production in Côte d'Ivoire is mainly for export to the European markets. There is no processing factory as such. A few companies make juice for the domestic market but do not take large quantities of fruits. The domestic market is concentrated in Abidjan (population 1.5 million) and to a lesser degree in the main regional cities. Demand is for 'Kent'. All non-exportable mangoes, whether factory rejects or wastes left in the plantations are sold on this market. However, even though people do eat mangoes the domestic market is not organised, losses are substantial and retail prices are high in comparison with purchasing power. Market diversification is a priority to handle production whose quantity will not be controllable in the future.



Mango - Côte d'Ivoire - Distribution of containers in Europe in 2007 (40' equivalent)



### Mango — Côte d'Ivoire — Sea freight to the European Union

| Shipping line           | From Abidjan to... |            |          |          |           |             |              |
|-------------------------|--------------------|------------|----------|----------|-----------|-------------|--------------|
|                         | Antwerp            | Felixstowe | Le Havre | Valencia | Barcelona | Fos sur Mer | Port Vendres |
| Delmas Mol              | 12 days            | 14 days    | 15 days  |          |           |             |              |
| MSC                     | 11 days            | 14 days    | 15 days  |          |           |             |              |
| Maersk Line / Safmarine | 15 days            | 20 days    | 17 days  |          |           |             |              |
| Delmas                  |                    |            |          | 9 days   | 11 days   | 12 days     |              |
| ZIM/HAPAG               | 15 days            |            | 19 days  |          | 12 days   |             |              |
| AEL (ligne reefer)      | 10 days            |            |          |          |           |             | 9 days       |

Source: SAGA CI

### Logistics

After starting on pallets in refrigerated holds in banana boats in the 1990s, all shipments from Côte d'Ivoire are now in containers. The great majority of these are filled in the packing stations. Nearly 80% travels via Ferkessedougou by train to the port of Abidjan. The fruits are loaded by all the shipping

companies providing a refrigerated container service to Europe. The shortest voyage takes nine or ten days. Although most of the fruits are landed at the port of Antwerp, French importers still handle the supplying of the various European markets.





Producer country sheet

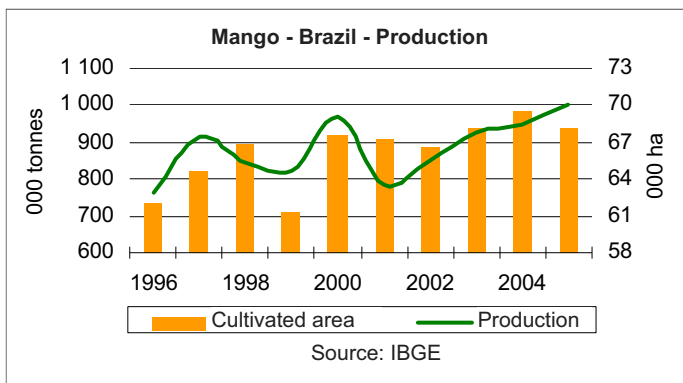
# Mango in Brazil

by Luiz Andrea Favero, Doctor of Rural Economics, Pernambuco University, Brazil  
lfavero@uol.com.br

Mango was brought to Brazil by the Portuguese in the sixteenth century, mainly in the form of varieties from the Philippines. It then spread, either by following the pioneer fronts or via native Americans. Thus many crosses and new cultivars appeared. Mango is part of Brazilian eating habits, both as fresh fruit and juice. It is found practically everywhere in the country—in orchards and also in the urban landscape and private gardens. Production was initially intended for the domestic market with the development of Indian hybrid varieties. The introduction of varieties from Florida in the 1970s enabled Brazil to gain access to the international market a few years later.

## Production zones

Most mango production was concentrated in the south-east (São Paulo and Minas Gerais states) until the mid-1990s. The crop then developed gradually, with Brazil entering the world mango market, in the north-east region, which is now dominant. These two regions accounted for 97% of production in 2005. The north-east is where 69% of the crop is grown and accounts for 95% of Brazilian exports. Production increased by 93% from 1996 and 2005—from 364 000 t to 703 000 t. Bahia and Pernambuco states are the largest production zones, with the main irrigated crops in Rio São Francisco valley where yields average 20 t per hectare. The Petrolina-Juazeiro zone in this valley groups the greater proportion of Brazilian mango production for the export market. While the areas under mango in Brazil have increased by 25.5% in the last ten years, the increase has been 337% in the Petrolina-Juazeiro centre at the expense of other states such as São Paulo and Minas Gerais, where production has decreased by about 10%.



## Production

The 1990s were decisive for production in the north-east region. There were only a few hundred hectares of mango at the beginning of the decade but the total was over 5000 ha five years later, with production jumping from 4 700 to 42 500 t. During this period, Brazil opened the door of the international market, first favouring the United States and then Europe. The profitable prices obtained on the international market and public policies have strongly encouraged large companies, and above all small farmers, to abandon irrigated food crops in Rio São Francisco valley and plant mango and grapes for export instead. This deep-seated reorientation of production has gradually transformed this region and it has become the largest fruit supply sector in Brazil and export-oriented, even if the domestic and international markets have become

less profitable. This decrease is explained by the increase in volumes and also increased competition from other Latin American countries such as Peru and Ecuador which made a strong arrival on the US and European markets. Brazil is now one of the ten leading producer countries, with a cultivated area of nearly 70 000 ha and production approaching a million tonnes. Only 12% of this is exported, almost all the rest being sold fresh on the domestic market.

## Production calendar and varieties

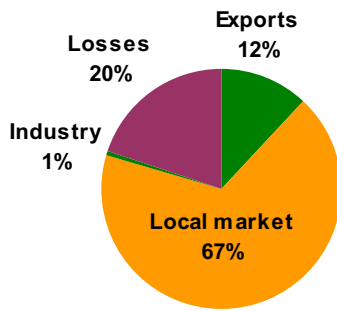
The production calendar has been export-oriented since the 1990s. Shipments go to the United States from August to November. Attention is then turned more to the European market from October to December although Brazilian fruits are shipped for the whole of the rest of the year but in smaller quantities. Brazil has a broad variety of cultivars, with Embrapa estimating the total to be 230. In spite of this diversity, 'Tommy Atkins' forms nearly 75% of production and even 87% in the Rio São Francisco. Unlike other exporting countries like India, Mexico and Israel, Brazil has profited very little from its rich range of varieties. Scientists at Embrapa have bred new varieties such as 'Lita', 'Beta' and 'Omega'. However, they have remained at the experimental stage and have not been developed by the industry, which has continued to go mainly for 'Tommy Atkins'.

| Mango — Brazil — Production calendar      |        |        |       |       |       |       |       |       |       |       |       |       | Varieties |       |  |
|---|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|-------|--|
| Production regions                        | J      | F      | M     | A     | M     | J     | J     | A     | S     | O     | N     | D     |           |       |  |
| Sao Paulo                                 | Medium | Medium | Small | Small | Small | Small | Small | Small | Small | Small | Small | Small | Small     | Small | TA, Haden, Palmer, Bourbon, Rosa       |
| Minas Gerais                              | Medium | Medium | Small | Small | Small | Small | Small | Small | Small | Small | Small | Small | Small     | Small | TA, Haden, Uba, Espada                 |
| Rio Grande do Norte                       | Medium | Medium | Small | Small | Small | Small | Small | Small | Small | Small | Small | Small | Small     | Small | TA, Haden                              |
| Pernambuco/Bahia/Rio Sao Francisco Valley | Medium | Medium | Small | Small | Small | Small | Small | Small | Small | Small | Small | Small | Small     | Small | Espada, TA, Haden, Keitt, Kent, Palmer |

Medium production    
  Small production    
  Large production



**Mango - Brazil - Outlets**



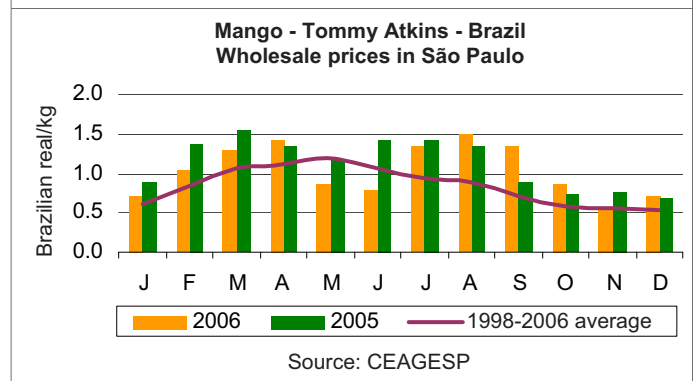
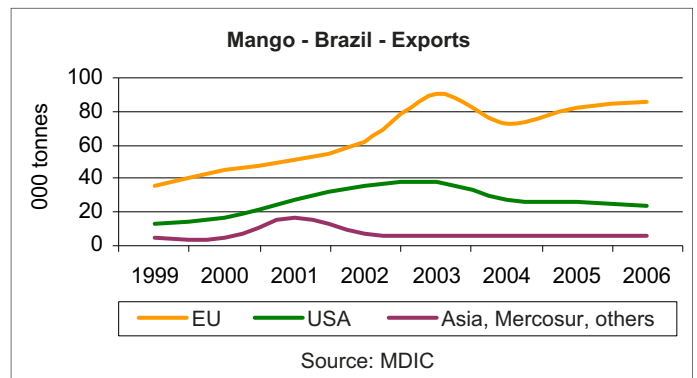
Sources: IBGE, CEASAS, IBRAF, SECEX

**Outlets**

The domestic market takes 67% of production. Fresh sales on this market are the main outlet, with per capita consumption being 890 g in Brazil. The produce is sold mainly at wholesale markets. The largest, the CEAGESP, is in São Paulo and sells nearly 15% of the national total. The large network of fruit and vegetable markets and public markets in the main towns are also major outlets. Supermarket chains purchase mangoes directly in the production region and have gained an increasingly large share of the domestic market. Most volumes are shipped to the states in the south and south-east of the country. National varieties derived from natural crosses, such as 'Bourbon', 'Rosa' and 'Espada' fetch prices that, according to the season, can reach five times those of American varieties like 'Tommy Atkins'. Production surpluses are seen between October and January and often cause strong falls in price and growers—mainly the small farmers in Rio São Francisco valley—do not pick their fruits. Exports to Europe and the United States are handled by large growing and/or export operators. Small growers rarely possess packing facilities and marketing structures and their fruits for export have to go via the large export companies and via a series of middlemen to reach the domestic market networks.

**Total exports**

As Brazilian production costs are higher than those of its main competitors (Mexico, Peru and Ecuador), Brazil has been hit hard by the world decrease in prices resulting from an increase in volumes and also by the 30% fall of the dollar against the real in the last two years. One of the ten leading mango producing countries in the world, Brazil is the third largest exporter after Mexico and India. The European Union (67% of the volumes exported) and the United States (26%) are its preferred markets. Brazil has become the leading supplier of the EU. Peru, Israel and certain African countries have gained market shares in Europe in recent years but Brazil still covers 40% of supplies; these totalled 210 000 t in 2006 against 116 000 t in 1999. Prices moved from EUR 1.20 per kg in 2000 to EUR 0.72 in 2004 and EUR 0.92 in 2005. While prices for Israeli produce are now above average, Brazilian mangoes fetch lower prices, only being ahead of Ecuador. The range of cultivars and the quality of the produce sold by Israel show that differentiation and innovation make a difference, even when prices are falling. Brazil burst into the United States market—the world's leading mango importer—towards the 1990s and became the second largest supplier of a market previously dominated by Mexico which, in addition to its geographic proximity, benefits from preferential clauses as a member of NAFTA. The worsening of prices since the second half of the 1990s affects all supplier countries but Brazil is the one that is losing most and Peru is standing up best. 'Kent' seems to sell better than 'Tommy Atkins'. However, a slight improvement has been noticed in the last two years. The creation of the 'Câmara Setorial da Manga', assembling the large Brazilian exporters shipping to the United States market, seems to have a positive effect, with deliveries scheduled and reduced when too great a volume of fruit is on the market. This approach is possible on the US market as USDA applies very strong phytosanitary restrictions on imports and only 12 companies are currently approved by APHIS. It would be difficult to apply this organisation to the companies exporting to the EU where no phytosanitary restrictions are applied.



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**Logistics**

Less than 1% of exports to Europe is shipped by air. The Netherlands, and especially Rotterdam, is the main point of entry for Brazilian mangoes that are then distributed by road to all the EU markets. However, the Netherlands has lost ground as the 80% of exports of Brazilian mangoes in the 1990s has decreased to 68%. Spain and Portugal have become important importers/transshippers of Brazilian mangoes. The logistic costs involved in transport to Europe, taking 10 to 15 days, form an average of 43% of production costs and 48% of the selling price. Shipments to the United States are by sea to the East Coast ports from September onwards and to the West Coast from October.

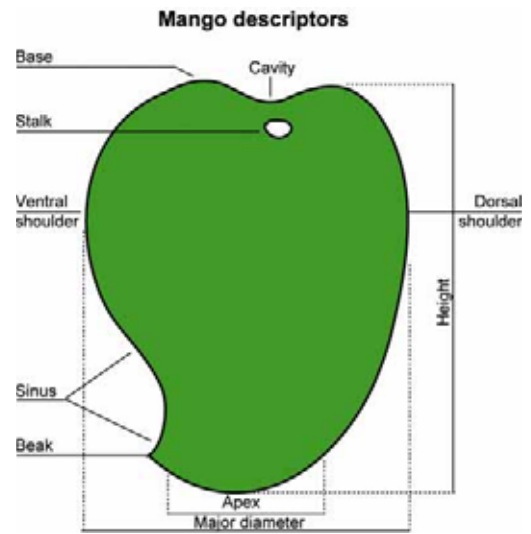
The state of road infrastructure in Brazil is a serious obstacle for exports as road transport to the ports is comparatively long.



## The main varieties of mango

| Characteristics of the two mango families |   |   |
|---|---|---|
|   | India   | Tropical Asia   |
| <b>Diversification zone</b>               | India, Pakistan                                 | Burma, Malaysia, Philippines                          |
| <b>Seed</b>                               | Mono-embryonic                                  | Polyembryonic   |
| <b>Shape</b>                              | Round to ovoid                                  | Elongated with cylindrical or flattened cross section |
| <b>Skin colour</b>                        | Yellow to orange, sometimes with purple flushes | Green to yellowish green, no purple                   |
| <b>Taste</b>                              | Marked, hint of turpentine                      | Less marked   |
| <b>Observations</b>                       | Susceptible to anthracnose                      |   |

**M**ango, *Mangifera indica*, probably originated in a region on the frontier between India and Burma. Today, there are certainly more than a thousand different varieties around the world. Mango plays an important role as a foodstuff in many countries. Distinction was originally made between two main families of mango with clearly different features that came from two diversification zones—the Indian sub-region and tropical Asia. A great many of the commercial varieties grown today were bred in Florida at the beginning of the twentieth century from multiple crosses between parents from these two families. Exported fruit are generally from budded plants.



After 'Le manguiier' by F. de Larousseilhe, Maisonneuve et Larose

### Tommy Atkins

**Shape:** ovoid, sometimes slightly oblong. Sloping dorsal shoulder. Ventral shoulder above the stalk zone. Round apex, small lateral beak.  
**Peel:** thick. Yellow orange and bright red. Dark purple bloom. Numerous large greenish-yellow lenticels.  
**Flesh:** strong orange colour. Good quality but slightly fibrous.  
**Average weight:** 450 to 710 g

Bred in Florida in 1922, it was soon chosen by growers for its productivity, robustness when handled and good resistance to anthracnose, in spite of its medium fibre content. Flesh quality deteriorates markedly if too much fertiliser or water is supplied.

This is the most widespread variety in Brazil, where it forms the greater proportion of exports. It is particularly well-liked in northern Europe for its bright colour. Most exports consist of medium-sized fruits (8 to 10 fruits per 4 kg box); this matches the requirements of super-market chains.



### Kent

**Shape:** ovoid, rounded dorsal shoulder and apex. Full ventral shoulder. No beak.  
**Peel:** thick and strong, light adherence. Main colour greenish-yellow with red or even crimson surface in the parts most exposed to light. Slight greyish bloom.  
**Flesh:** strong yellow to orange yellow, rich flavour with melting, fibreless texture.  
**Stone:** 9% of total fruit weight.

**Average weight:** 600 to 750 g

Bred in 1932 in Florida from sown 'Brooks', it bears comparatively large fruits, ranging from 440 g to more than 1 kg on young trees. Much appreciated by both the upstream and downstream ends of the sector, yields are medium but with a high proportion of export quality fruits. Fruit colour is attractive and the tasty flesh is firm and ripens very gradually.

It is grown in most of the countries supplying Europe, where it is considered to be the yardstick for mango. However, considerable variations in colour and size according to the production zone can lead to sales problems.



### Keitt

**Shape:** oval, abruptly falling dorsal shoulder. Full and rounded ventral shoulder. Rounded, obtuse apex with no beak.  
**Peel:** thick and strong, fairly high adherence. Orange yellow to crimson yellow on the side exposed to the sun, with numerous small pale yellow to russet lenticels. Fairly strong lavender-coloured bloom.  
**Flesh:** orange to deep yellow. Rich and fruity flavour. Melting texture with many fibres that are not particularly unpleasant as they are fine.  
**Stone:** 7 to 8% of total fruit weight.  
**Average weight:** 510 g to 2 kg



Bred in 1939 in Florida from sown 'Mulgoba', it has high, regular yields. The reddish colour appears very early before the fruit is ripe and can lead to problems of evaluation of maturity; the latter can be enhanced by time in a ripening chamber.

An end-of-season variety in most provenances that makes it possible to prolong the export season. Less appreciated than 'Kent', it is nevertheless of increasing importance during periods of gaps between supply origins.





## Requirements of mango

Mango is suited to a broad tropical climate range from humid to dry. It is found in regions with very different annual precipitation. In the tropics, the halting of vegetation caused by a dry or cool season lasting for a few weeks or months is a condition for good flowering intensity and hence high productivity. Production is often small and irregular in equatorial humid zones as a result of the absence of a halt to vegetation. The optimum temperature range for tree development and fruit growth is 24° to 30°C. Temperatures lower than 10°C can cause physiological damage. Water supply to the tree must be optimum throughout the fruit growth period and then during the growth of new shoots. Rainfall distribution over the year is more important than cumulated annual precipitation, especially for the production of high-quality fruits. The lower limit for precipitation for commercial mango growing seems to be 750 mm. Mango can grow in a very varied range of soil types if the underlying horizons are sufficiently loose and well-drained. However, the tree prefers deep, fairly light soils with average structure. It can suffer from shortage of water in sandy soil and produce small, insipid fruits. It is sensitive to salts in the soil and in irrigation water. Wind can cause damage of varying seriousness and cause imbalance in the water supply. Windbreaks should therefore be grown in windy areas before mango trees are planted.

## Valencia Pride

**Shape:** elliptic. Rounded apex, large apical beak.

**Peel:** comparatively thin but detaches fairly well. Basic colour greenish-yellow with a large red to purple area. Yellow lenticels.

**Flesh:** deep yellow. Aromatic and practically fibreless.

**Average weight:** 600 to 900 g

Variety bred from sown 'Haden' in Florida in 1941. Very elongated, fairly large fruits with attractive colour and shape. Good productivity.

Grown mainly in West Africa, it long enabled varietal diversification at the beginning of the season when shipments consisted mainly of 'Amélie'. Its attractive colour formed an alternative. Gradually chosen by a proportion of consumers, it is now consolidating its market share in the range of fruits shipped by air.

## Haden

**Shape:** oval to rounded cordate. The ventral shoulder is broader and slightly higher than the dorsal shoulder. Well-rounded apex.

**Peel:** mostly dark red with numerous whitish-yellow lenticels.

**Flesh:** orangey yellow, almost fibreless. Pleasant, slightly acidulated taste.

**Average weight:** 510 to 680 g

Variety bred from a sowing of 'Mulgoba' in 1902.

Shipped almost only by air, this variety completes supplies of 'Kent' when these are too small to meet demand. The fruit has a fine appearance and a reputation for fragility, requiring rapid sale.



## Mango quality defects

Photos © Pierre Gerbaud



Misshapen fruit



Wounding with wind-caused rubbing



Postharvest soiling by sap



Fungal infection



**Immaturity and spotting**



**Natural discoloration of the epidermis**



**Sun scorch**



**Misshapen fruit**



**Scarred-over insect pricking**



**Discoloration caused by scales**



**Mechanical wounds after picking**



**Mechanical wounds after picking**



**Postharvest sap burn**



**Stalk too long**



**Spotting on epidermis**



**Stalk rot**



**Anthraxnose type fungal infection**



**Fruitfly larvae**



**Overripeness**



# Indicators

| The main fruits | In shares by total volume and expenditure on fruits for the month in France |         |             |
|-----------------|---|---------|-------------|
|                 | %   | Volumes | Expenditure |
| Easy peelers    | 28  |         | 28          |
| Apple           | 21  |         | 18          |
| Orange          | 15  |         | 11          |

Pages

The trends for the main produce of the month significantly influence the overall situation of the fruit market. A column entitled 'Indicators' discussing these fruits precedes the pages devoted to a selection of exotic and citrus fruits.

|                   |    |
|-------------------|----|
| Banana.....       | 37 |
| Avocado.....      | 39 |
| Orange.....       | 40 |
| Grapefruit.....   | 41 |
| Easy peelers..... | 42 |
| Litchi.....       | 43 |
| Mango.....        | 44 |
| Pineapple.....    | 45 |
| Sea Freight.....  | 46 |

## DECEMBER 2007

**Easy peelers**  
The substantial Spanish production deficit in 'Nules' clementine and 'Clemenvilla' was felt clearly. The market was distinctly under-supplied, especially as demand became significantly brisker with the start of the St Nicholas and Christmas special offers. Prices were very firm and high.

| Dec. 2007 / Dec. 2006 |   |      |   |
|-----------------------|---|------|---|
| Price                 | ↗ | Vol. | ↘ |

**Apple**  
The market improved considerably. Stocks available were average at the beginning of the month. However, demand increased, especially on export markets. Shipments to the United Kingdom were brisk and the eastern Europe markets began to open. Prices firmed.

| Dec. 2007 / Dec. 2006 |    |      |   |
|-----------------------|----|------|---|
| Price                 | =↗ | Vol. | = |

**Orange**  
Demand was dull and sales were distinctly smaller than average in spite of the fairly cold weather that was favourable for consumption and the comparatively moderate competition from easy peelers. However, prices remained fairly high because of the Spanish production deficit in 'Naveline', which formed practically the whole of supply throughout the month.

| Dec. 2007 / Dec. 2006 |   |      |   |
|-----------------------|---|------|---|
| Price                 | ↗ | Vol. | ↘ |

**Sea freight**  
Although neither Time Charter nor lumpsum rates scaled the heights of December 2006 the charter market was more active than it had been in the previous three months as the Ecuadorian weather warmed up and banana production increased over and above liner requirements.

| Dec. 2007 / Dec. 2006 |   |               |   |
|-----------------------|---|---------------|---|
| large reefers         | ↘ | small reefers | ↘ |

### Notes concerning market appraisal methodology

The statistics on the following pages are estimates of quantities put on the market in France. They are only calculated for the main supplier countries and are drawn up using information on weekly arrivals or market release statements by representative operators. The figures in the 'Main fruits' section above are provided by the CTIFL, with SECODIP being the source. The data published in the French market pages are provided solely as a guide and CIRAD accepts no responsibility for their accuracy.





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# Banana

## DECEMBER 2007

The recovery that started in November continued. However, demand was fairly slow on most western European markets. As every year in the run-up to Christmas, retail distributors devoted more shelf-space to exotics at the expense of basic produce like banana. Retail price and special offer policies hit banana harder than in previous years in some countries like France. Finally, fairly chilly weather throughout most of the month weighed on consumption.

However, supply continued to decrease, slipping from average in November to a slight deficit in December. Arrivals from Africa recovered to a normal level thanks to an increase in shipments from Cameroon. But supplies of dollar bananas were slightly short, with average shipments from Costa Rica and Colombia but smaller volumes than usual from Ecuador. In addition, arrivals from the French West Indies were still very limited and less produce arrived from Surinam than in the preceding months. The very good export flow to the countries in the eastern part of the EU where banana has pride of place during the Christmas period also helped the market to recover.

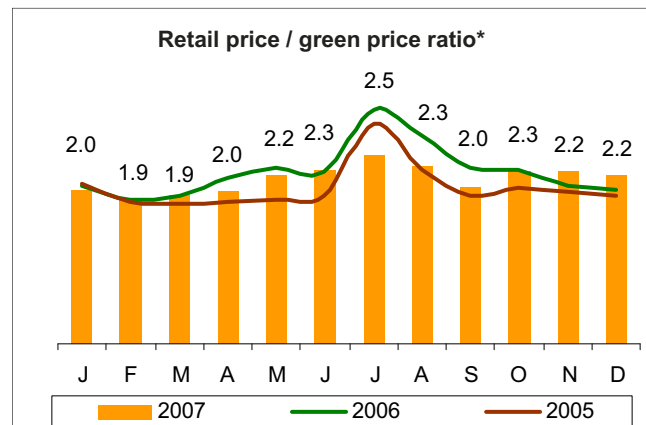
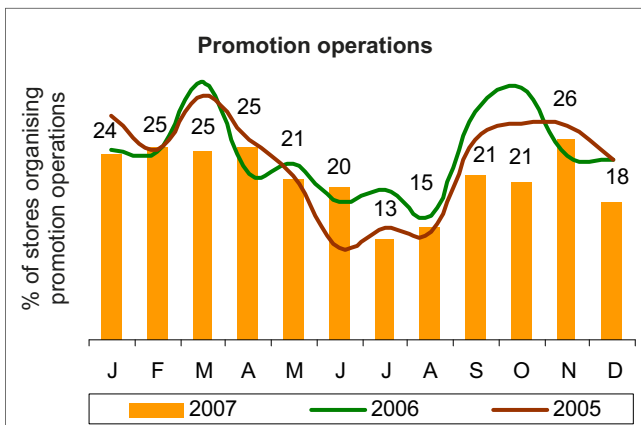
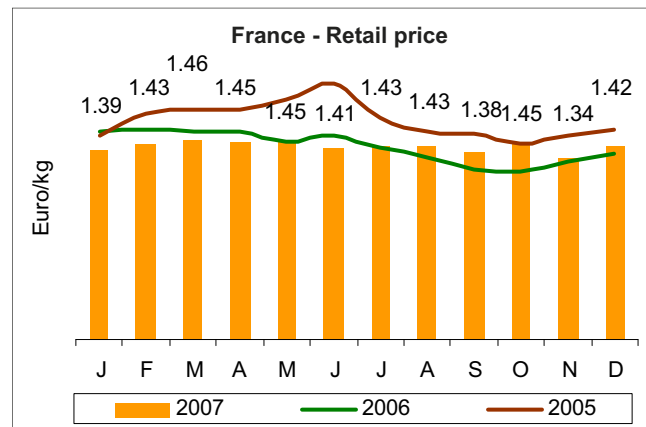
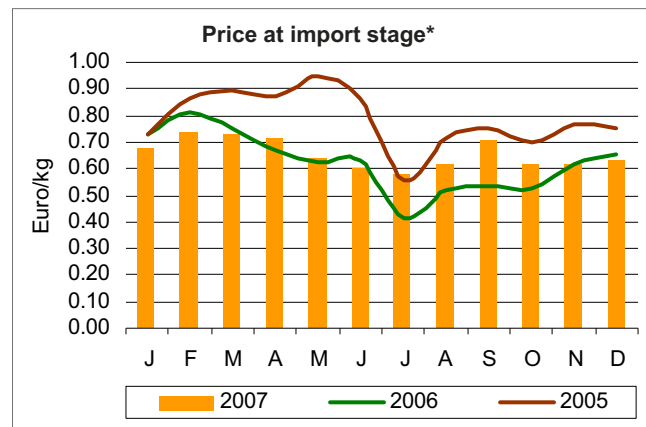
Prices increased noticeably in comparison with November levels but the monthly average was still less than that of 2006 and distinctly lower than the average.

| Monthly and annual comparisons       |                      |
|--------------------------------------|----------------------|
| Volumes*                             | EU reference price** |
| <b>December 2007 / November 2007</b> |                      |
| ↗ + 6%                               | ↗ + 3%               |
| <b>December 2007 / December 2006</b> |                      |
| ↘ - 29%                              | ↘ - 3%               |

\* Arrivals from Africa/West Indies

\*\* Aldi price

## French banana market — Indicators



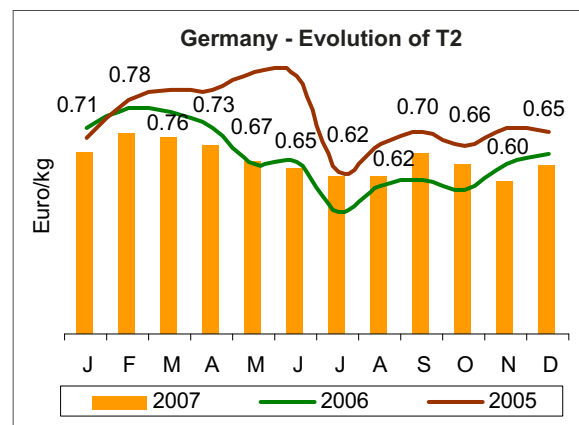
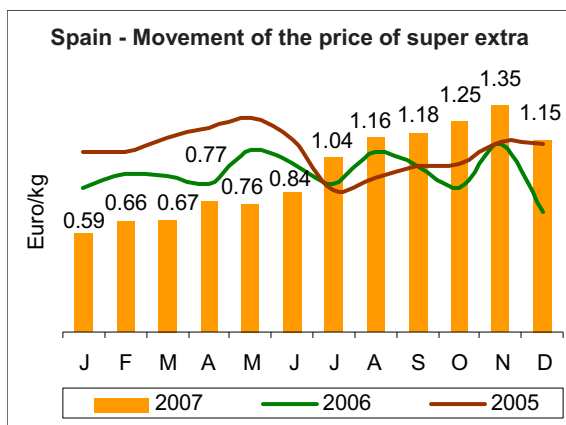
\* Africa origin

European banana market — Indicators

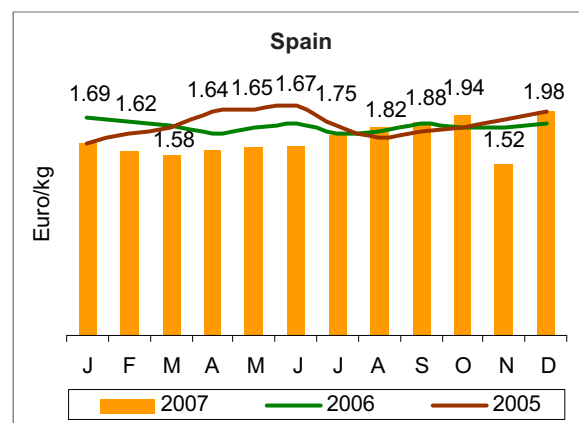
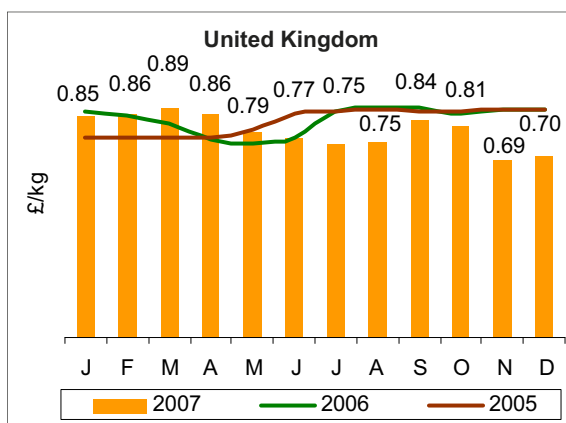
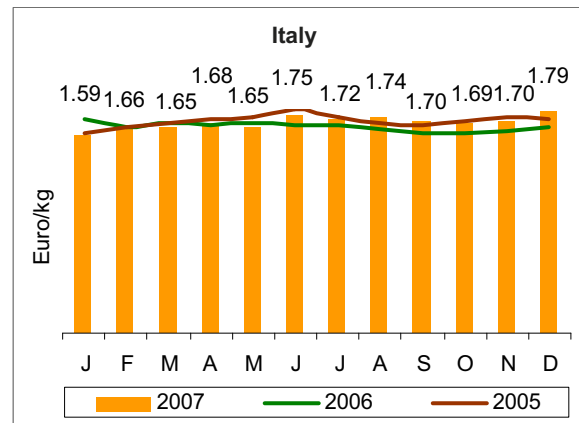
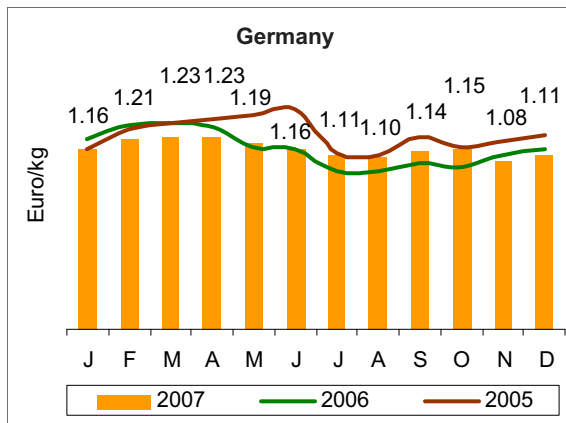
Main origins in Europe

| Tonnes        | December 2007 | Comparisons (%) |           | Total season 2007 | Season comparisons (%) |           |
|---------------|---------------|-----------------|-----------|-------------------|------------------------|-----------|
|               |               | 2007/2006       | 2007/2005 |                   | 2007/2006              | 2007/2005 |
| Martinique    | -             | - 100           | - 100     | 137 080           | - 32                   | - 39      |
| Guadeloupe    | 2 050         | - 47            | - 57      | 38 916            | - 16                   | - 27      |
| Canaries      | 23 943        | - 17            | - 10      | 327 015           | + 5                    | + 4       |
| Côte d'Ivoire | 15 493        | + 6             | - 15      | 169 066           | - 17                   | - 18      |
| Cameroon      | 22 191        | - 4             | + 2       | 219 686           | - 14                   | - 14      |
| Ghana         | 4 789         | + 32            | -         | 35 941            | + 80                   | -         |

Green price in Europe



Retail price in Europe



Sources: CIRAD, SNM, TW Marketing Consulting



# Avocado

## DECEMBER 2007

The market recovered after a fairly difficult November. Supply was distinctly smaller than in preceding months. Arrivals of 'Hass' from Chile decreased at an early date on both the EU and US markets as production had been hit by several frosts in summer 2007. As a result, shipments of 'Hass' from Mexico to the EU were limited as Mexican exporters sent much larger quantities to the US than in previous years. Furthermore, Israel shipped only moderate volumes of both 'Hass' and green varieties as the result of a production deficit. Spanish shipments increased substantially in this context but without making up for the supply deficit in the other supplier countries.

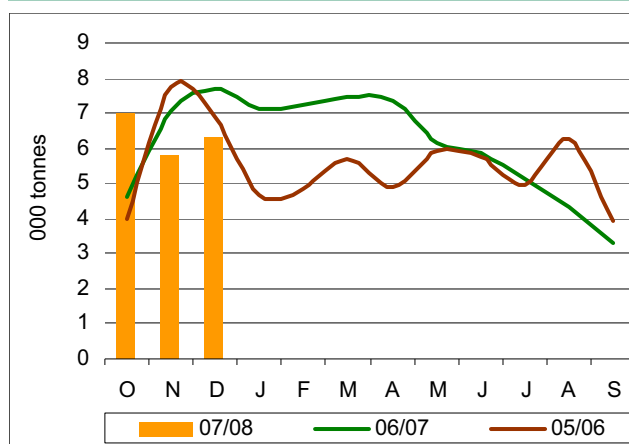
In parallel, demand increased noticeably with the organisation of Christmas special offers. Sales were fluid and the stocks still available at the beginning of the month were soon cleared. Prices moved upwards, although those of small fruits dragged a little. The average monthly price was higher than usual.

## Monthly and annual comparisons

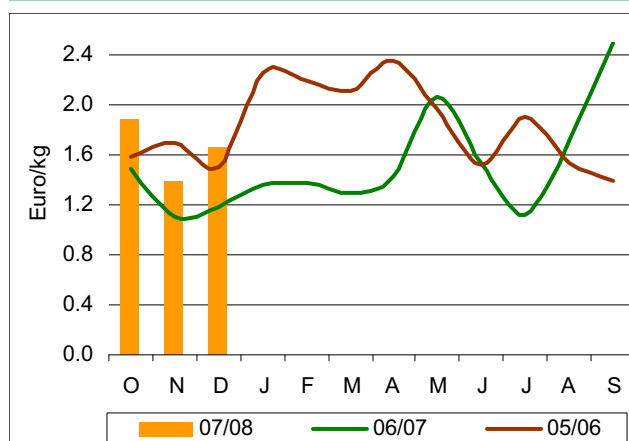
| Volumes                              | Price    |
|--------------------------------------|----------|
| <b>December 2007 / November 2007</b> |          |
| ↗ + 9%                               | ↗ + 20%  |
| <b>December 2007 / December 2006</b> |          |
| ↘ - 18%                              | ↗↗ + 41% |

## Estimated market releases in France

### Volumes



### Price at import stage



## Estimated market releases in France by origin

| Tonnes       | December 2007 | Comparisons (%) |            | Total season 2007/2008 | Season comparisons (%) |             |
|--------------|---------------|-----------------|------------|------------------------|------------------------|-------------|
|              |               | 2007/2006       | 2007/2005  |                        | 07-08/06-07            | 07-08/05-06 |
| Mexico       | 1 068         | - 21            | - 56       | 4 693                  | + 11                   | - 30        |
| Chile        | 968           | - 1             | + 60       | 5 416                  | + 4                    | + 104       |
| Israel       | 2 384         | - 39            | + 5        | 4 942                  | - 36                   | - 11        |
| Spain        | 1 929         | + 31            | + 23       | 4 065                  | + 9                    | - 10        |
| <b>Total</b> | <b>6 349</b>  | <b>- 18</b>     | <b>- 8</b> | <b>19 116</b>          | <b>- 10</b>            | <b>- 5</b>  |





# Orange

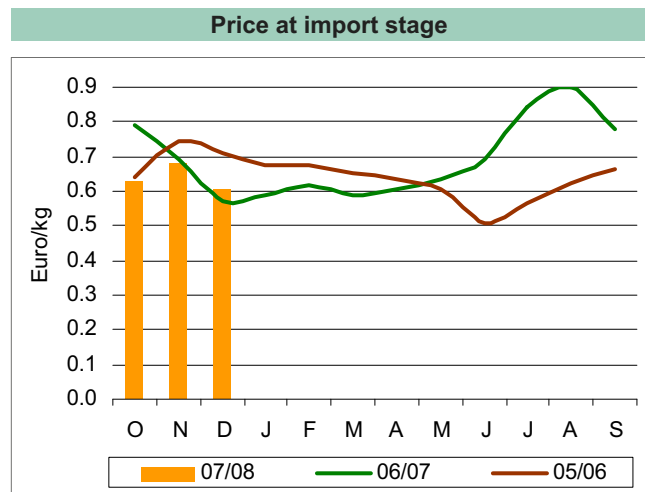
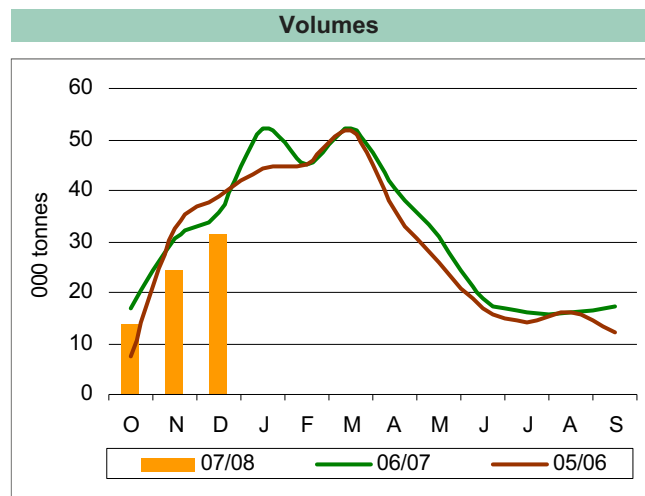
## DECEMBER 2007

**S**ales of Spanish oranges finally picked up after being slow since the start of the season. Some large super-market chains still referenced South African fruits in November but all switched to Spanish 'Naveline' at the beginning of December. Supplies in December consisted almost solely of this variety. However, the volumes sold were much smaller than average in spite of temperatures favourable for consumption and more limited competition from easy peelers than in November.

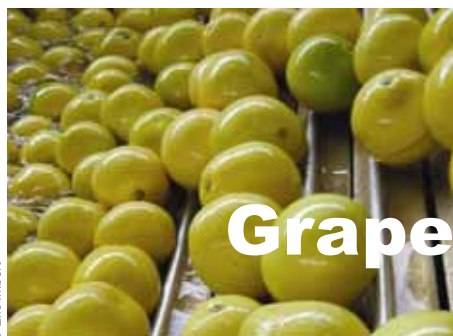
In spite of this lack of dynamism, prices held at a fairly good level, especially at the production stage as the harvest was small. Supplies were completed in mid-month by a few batches of 'Salustiana' from Spain.

| Monthly and annual comparisons       |         |
|--------------------------------------|---------|
| Volumes                              | Price   |
| <b>December 2007 / November 2007</b> |         |
| ↗ + 29%                              | ↘ - 11% |
| <b>December 2007 / December 2006</b> |         |
| ↘ - 13%                              | ↗ + 6%  |

## Estimated market releases in France



| Estimated market releases in France by origin |               |                 |             |                        |                        |             |
|---|---------------|-----------------|-------------|------------------------|------------------------|-------------|
| Tonnes  | December 2007 | Comparisons (%) |             | Total season 2007/2008 | Season comparisons (%) |             |
|   |               | 2007/2006       | 2007/2005   |                        | 07-08/06-07            | 07-08/05-06 |
|   |               |                 |             |                        |                        |             |
| Spain   | 31 227        | - 13            | - 19        | 58 212                 | - 21                   | - 21        |
| <b>Total</b>                                  | <b>31 227</b> | <b>- 13</b>     | <b>- 19</b> | <b>58 212</b>          | <b>- 21</b>            | <b>- 21</b> |



# Grapefruit

© Eric Imbert

## DECEMBER 2007

The seasonal slowing of grapefruit sales as a result of the switch to exotics was less marked than in other years for fruits from Florida and especially for the top quality brands. Thus, in spite of substantial arrivals, prices of fruits from Florida held at a good level. Often substantial in this part of the season, the stocks available at the end of December were very moderate in 2007.

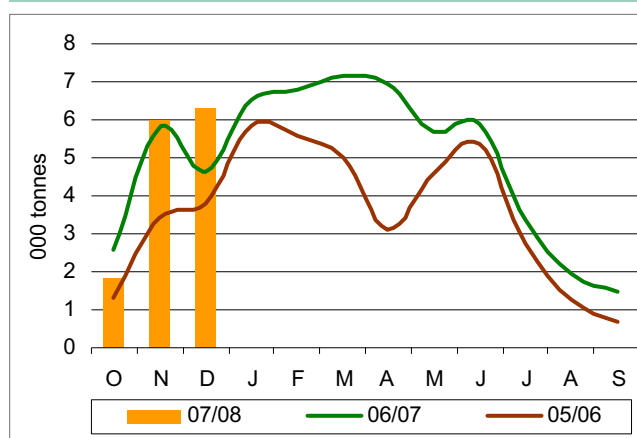
The situation was much more difficult and similar to that of other years for Mediterranean fruits, with very slow sales. However, prices held at a slightly higher than average level as limited volumes were shipped to the EU. Turkish exporters shipped more than 80% of their produce to the eastern European markets (Russia, Ukraine, etc.). Early sales at the beginning of the season enabled Israeli professionals to limit their shipments. Supplies were completed by a few batches from Cyprus.

## Monthly and annual comparisons

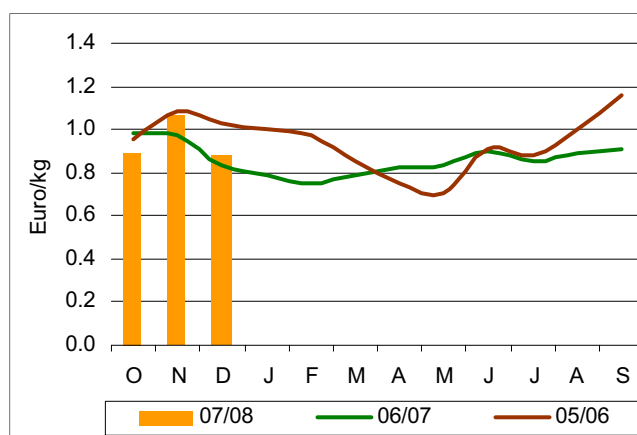
| Volumes                              | Price   |
|--------------------------------------|---------|
| <b>December 2007 / November 2007</b> |         |
| ↗ + 5%                               | ↘ - 17% |
| <b>December 2007 / December 2006</b> |         |
| ↗↗ + 36%                             | ↗ + 6%  |

## Estimated market releases in France

### Volumes



### Price at import stage



## Estimated market releases in France by origin

| Tonnes       | December 2007 | Comparisons (%) |             | Total season 2007/2008 | Season comparisons (%) |             |
|--------------|---------------|-----------------|-------------|------------------------|------------------------|-------------|
|              |               | 2007/2006       | 2007/2005   |                        | 07-08/06-07            | 07-08/05-06 |
| Florida      | 5 551         | + 52            | + 145       | 10 107                 | + 13                   | + 175       |
| Israel       | 438           | - 27            | - 12        | 2 230                  | + 13                   | + 15        |
| Turkey       | 330           | - 19            | - 68        | 1 527                  | - 15                   | - 49        |
| <b>Total</b> | <b>6 319</b>  | <b>+ 36</b>     | <b>+ 66</b> | <b>13 864</b>          | <b>+ 9</b>             | <b>+ 62</b> |



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# Easy Peelers

## DECEMBER 2007

After ample supplies since the beginning of the season, shipments decreased noticeably and even fell to below the November level, a comparatively rare occurrence. The market started to feel the effects of the serious production deficit in Spanish easy peelers. Shipments of 'Nules' were smaller than in previous years and those of 'Clemenvilla' fell even further. Prices of both varieties increased markedly at production. Likewise, arrivals of 'Fine' clementine from Morocco also displayed a deficit and exporters were involved in large export programmes for the eastern European markets. Finally, arrivals of 'Fine' clementines from Corsica were very limited. Steady rain halted picking during parts of the second half of the month, aggravating the production deficit. A few batches of 'Minneola' from Israel completed supplies.

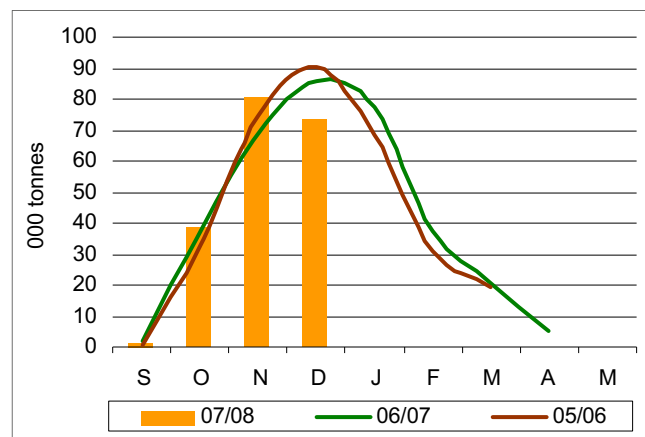
Meanwhile, demand was very brisk with numerous seasonal special offers. In addition, cold weather and excellent fruit quality enhanced consumption. Prices were at a very good level, 20 to 30% higher than average according to the supply origin.

### Monthly and annual comparisons

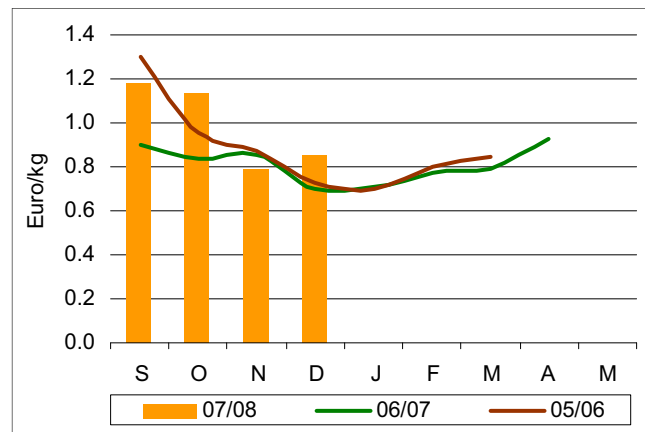
| Volumes                              | Price   |
|--------------------------------------|---------|
| <b>December 2007 / November 2007</b> |         |
| ↘ - 9%                               | ↗ + 8%  |
| <b>December 2007 / December 2006</b> |         |
| ↘ - 14%                              | ↗ + 23% |

### Estimated market releases in France

#### Volumes



#### Price at import stage



### Estimated market releases in France by origin

| Tonnes       | December 2007 | Comparisons (%) |             | Total season 2007/2008 | Season comparisons (%) |             |
|--------------|---------------|-----------------|-------------|------------------------|------------------------|-------------|
|              |               | 2007/2006       | 2007/2005   |                        | 07-08/06-07            | 07-08/05-06 |
| Corsica      | 7 185         | - 46            | - 25        | 14 654                 | - 28                   | + 1         |
| Morocco      | 5 602         | - 2             | - 50        | 10 906                 | 0                      | - 36        |
| Spain        | 60 882        | - 9             | - 13        | 169 383                | + 4                    | + 1         |
| <b>Total</b> | <b>73 669</b> | <b>- 14</b>     | <b>- 19</b> | <b>194 943</b>         | <b>0</b>               | <b>- 2</b>  |





## Litchi

| Litchi — Arrivals — Estimates in tonnes |              |        |       |       |       |
|---|--------------|--------|-------|-------|-------|
| weeks 2007                              | 49           | 50     | 51    | 52    |       |
| DECEMBER 2007                           | By air       |        |       |       |       |
|   | Mauritius    | 30     | 30    | 10    | na    |
|   | South Africa | 150    | na    | na    | na    |
|   | Madagascar   | 50     | 10-15 | na    | na    |
|   | Réunion      | 30-40  | 50-60 | 40-45 | 20-25 |
|   | By sea       |        |       |       |       |
|   | South Africa | na     | na    | na    | na    |
| Madagascar                              | -            | 14 000 | 3 000 | -     |       |

The marketing of litchis from the Indian Ocean displayed two successive phases in December. The first carried on from November with the end of the early part of the season when litchi arrives by air and the second, from Week 50 onwards, was the large programme of litchi sent in conventional ships. Madagascar remained the main supplier, with the other countries trying to set their shipments according to arrivals from Madagascar. The air freight season finished as soon as the first ship arrived from Madagascar. 'Sea' litchis gave the market a different dimension as the volumes were exceptionally large and prices falling. The market was better after the Christmas period, with an unexpected price recovery.

The sale of litchis shipped by air ended in Week 49. The link between the sale of fruits arriving by air and of those shipped by sea is always delicate as supply must be matched to increasing demand, without the accumulation of stocks that would lose value when the sea fruits arrive. Thus with the first conventional ships arriving in Week 50, operators halted supplies so as not to risk a fall in the price of fruits shipped by air. Substantial volumes were still arriving by air in Week 49, accounting for the continued fall in prices in comparison with the last week of November. The arrival of conventional ships—five this season—created considerable tension. The European market took delivery of 17 000 tonnes of fruits in a period of about 10 days. The first ship docked in Marseilles on 9 December and the second on 11 December after putting in at an Italian port to unload a third of its cargo. This stopover was initially planned to make up for the shortage of dock labour in Marseilles but was made difficult by the sudden start of an Italian road transport strike. The third ship docked at Koper in Slovenia on 11 December. The last two ships had

been planned for the northern European ports but were finally rerouted to Marseilles where they docked on 12 December, a few hours apart. The last ship unloaded a quarter of its cargo in Marseilles and then sailed for Saint Nazaire, where unloading was completed on 19 December.

The sales of fruits arriving by sea was very difficult from the first week onwards in spite of substantial demand before Christmas and the New Year. Sales of air litchi had already suffered from the context of sluggish demand that resulted in a rapid fall in prices. The first sea litchis were priced at between EUR 1.60 and 1.80 per kg. However, the price fell fast as soon as the second ship had arrived and were at around EUR 1.25 per kg at the end of Week 50. They sank below EUR 1.00 per kg at the beginning of Week 51 and continued to lose ground before stabilising at around EUR 0.80 per kg for fruits of satisfactory quality. The price dip soon resulted in a strong acceleration in sales, especially to supermarkets. Special offers organised by some chains with retail prices starting at EUR 0.95 per kg

attracted the remaining supplies available. Massive sales in Week 51 resulted in a relative scarcity that was both surprising and unexpected; it caused a reversal of the trend in Week 52. At the end of the year, the price of Madagascan litchi returned to above EUR 1.00 per kg again and continued to increase to EUR 1.40. This pattern shows that the European market is capable of taking very large quantities of fruits over a short period of time, but at low prices that are doubtless not very profitable for the sector. In fact, the price of litchis in Week 51 was lower than that of many other European or imported fruits available during the same period, whence the impact on the volumes sold. The first South African litchis imported in sea containers appeared in Week 52. These benefited from the decrease in supply and were sold at higher prices than those of competing produce. Their better size satisfied a more demanding clientele that was less governed by the price aspect. It is also noted that the quality of this season's litchis was good overall as regards both colour and taste.

| Litchi — Import price on the French market — Euro/kg |                     |           |           |           |           |                       |                       |
|--|---------------------|-----------|-----------|-----------|-----------|-----------------------|-----------------------|
| Weeks 2007   |                     | 49        | 50        | 51        | 52        | December 2007 average | December 2006 average |
| By air   |                     |           |           |           |           |                       |                       |
| South Africa   | sulphur treated     | 3.00-4.50 | -         | -         | -         | 3.00-4.50             | 4.50-5.75             |
| Mauritius  | sulphur treated     | 3.50-4.00 | -         | -         | -         | 3.50-4.00             | 4.50-5.75             |
|  | fresh/on the branch | 5.00-5.50 | -         | -         | -         | 5.00-5.50             | 5.85-7.10             |
| Madagascar   | sulphur treated     | 3.80-4.20 | -         | -         | -         | 3.80-4.20             | 4.50-5.50             |
|  | fresh/on the branch | 5.50      | 4.50      | -         | -         | 5.00                  | 4.90-5.30             |
| Réunion  | fresh/on the branch | 6.50-8.00 | 5.00-6.00 | 6.00-7.00 | 6.00-7.00 | 5.85-7.00             | 7.75-9.50             |
| By sea   |                     |           |           |           |           |                       |                       |
| South Africa   |                     | -         | -         | -         | 2.00-2.50 | 2.00-2.50             | 1.90-3.25             |
| Madagascar   |                     | -         | 1.25-1.80 | 0.80-1.00 | 1.00-1.40 | 1.00-1.40             | 1.65-1.95             |



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# Mango

| Mango — Weekly arrivals — Estimates in tonnes |            |       |       |       |       |
|---|------------|-------|-------|-------|-------|
| DECEMBER 2007                                 | weeks 2007 | 49    | 50    | 51    | 52    |
|   | By air     |       |       |       |       |
|   | Brazil     | 100   | 100   | 70-80 | 20    |
|   | By sea     |       |       |       |       |
|   | Brazil     | 3 800 | 3 600 | 2 500 | 2 000 |

**T**he market was fairly regular in December with a gradual change in suppliers. Shipments from Brazil were still substantial in the first half of the month and then decreased gradually; this was compensated by an increase in shipments from Peru. Overall supply of the market was thus regular or even slightly greater in the second half of December. Demand was somewhat sluggish and the price recovery expected before the Christmas period was not possible. On the contrary, prices tended to slip during the second half of the month.

Supplies from Brazil were still dominant on the European market in December, with arrivals of 'Tommy Atkins' and 'Kent'. The ratio of these two varieties changed gradually. Following on from November, deliveries at the beginning of December consisted mainly of 'Tommy Atkins'. 'Kent' then gained ground. 'Tommy Atkins' is sold mainly on the northern European markets. However, sales of this variety have increased in France, especially to supermarket chains. Arrivals from Brazil decreased considerably in the second half of the month but this was compensated by an increase in produce arriving from Peru. The shipments from Peru were first centred on northern European markets before covering the whole of the European Union. It was difficult for these fruits to gain a position this season because of lack of colour and marked ripeness. Many French buyers remained faithful to Brazilian mangoes while the volumes from Peru remained smaller. The switch of supplier from

Brazil to Peru took place slowly from the second half of the month onwards. Ecuador also shipped mangoes to Europe—mainly 'Kent' but their frequently inadequate quality meant that they did not gain a real trade foothold. They sold at lower prices than those of the other suppliers, starting at EUR 2.50 per box. Sales speeded up in the second half of December as demand was boosted by the Christmas period. Prices remained the same and even dipped as Christmas approached. The increase in volumes favoured an increase in the number of operators at both shipping and arrival stages, leading to uneven quality of the produce sold. In this context, the range of prices of 'Kent' broadened distinctly, with Brazilian fruits often at less than EUR 3.00 per box.

The air mango market was sluggish throughout December. Deliveries from Brazil exceeded demand overall, keeping prices within a medium price

range with levels well below those of the same period in 2006. Regular large arrivals from Brazil resulted in the accumulation of stocks. This weighed heavily on prices as the fruits ripened. Batches of advanced maturity were sold off in clearance sales at from EUR 2.50 per kg. 'Kent' mangoes from Brazil were of mediocre quality, with very uneven colouring and varied stages of maturity. The increase in the number of consignees also hindered sales, with an increase in low prices proposed as the fruits ripened. The first mangoes from Peru arrived in limited quantities in the second week of December. These fruits were soon in competition with Brazilian fruits that were already well established on the market and their selling prices were set to match the latter. A decrease in arrivals and brisker demand in the second half of the month led to greater market fluidity but had no real effect on prices. A few batches of 'R2E2' mangoes from Australia were also sold at high prices and in small quantities.

## Mango — Import prices on the French market — Euros

| Weeks 2007   |              | 49        | 50        | 51        | 52        | December 2007 average | December 2006 average |
|--------------|--------------|-----------|-----------|-----------|-----------|-----------------------|-----------------------|
| By air (kg)  |              |           |           |           |           |                       |                       |
| Brazil       | Kent         | 2.80-3.30 | 2.80-3.20 | 2.70-3.20 | 2.70-3.50 | 2.75-3.30             | 3.25-3.90             |
| Peru         | Kent         |           | 3.00-4.00 | 3.00-3.50 | 3.30-3.50 | 3.10-3.65             | 4.00-4.35             |
| By sea (box) |              |           |           |           |           |                       |                       |
| Brazil       | Tommy Atkins | 3.00-4.00 | 3.00-4.00 | 3.00-4.00 | 3.50-4.00 | 3.10-4.00             | 2.00-3.35             |
| Brazil       | Kent         | 4.50-5.50 | 4.00-6.00 | 3.50-5.50 | 3.00-5.00 | 3.75-5.50             | 3.50-5.85             |
| Peru         | Kent         | 3.60-4.50 | 3.20-4.30 | 3.20-4.30 | 3.00-4.00 | 3.25-4.25             | 3.10-4.55             |



# Pineapple

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| DECEMBER 2007  | Pineapple — Import price |       |     |
|----------------|--------------------------|-------|-----|
|                | Euros                    | Min   | Max |
|                | By air (kg)              |       |     |
| Smooth Cayenne | 1.50                     | 1.85  |     |
| Victoria       | 1.50                     | 3.60  |     |
| By sea (box)   |                          |       |     |
| Smooth Cayenne | 5.50                     | 9.00  |     |
| Sweet          | 6.00                     | 11.00 |     |

The downward trend in 'Sweet' supplies that began at the end of November continued throughout December. In contrast, supplies of 'Smooth Cayenne' continued to increase and peaked in the last two weeks of the month. Whereas the prices of 'Sweet' increased a little, those of 'Smooth Cayenne' tended to be under pressure because of the large volumes available. The air pineapple market was larger than in November? Without being exceptional, the last two weeks of the month were steadier as regards demand and prices. The 'Victoria' market improved slightly, with considerable variation according to the origin and quality of the fruits available.

December was special in several ways. In the first fortnight, the 'Sweet' market was still encumbered by stocks of fruits of uneven quality and prices were fairly low. Clearance sales continued at prices as low as EUR 4.50-5.0 per box while supplies from Latin America continued to decrease. Meanwhile, sales of 'Smooth Cayenne' remained stable and firm at prices that were satisfactory without being high, thanks to very brisk demand from the eastern countries and Russia in particular. The second half of the month, including the Christmas period, was much more difficult, especially for operators handling 'Smooth Cayenne'. Stocks of 'Sweet' had practically cleared at the beginning of the fortnight and arriving batches were available at higher prices. Supplies were small but the increase applied seemed too great (more than EUR 2.00 per box) and above all too sudden for customers. In addition, supplies of 'Sweet' were unbalanced, with the large proportion of small fruits (see the lower parts of the price ranges shown below) that were difficult to sell. On the 'Smooth Cayenne' market, several factors can explain the poor results for a fair proportion of the operators. First, strong

arrival of fruits with about 10 000 palettes in two weeks, contributing to putting the market under pressure. Then there were the logistic decisions made, with it being impossible for those supposed to load the lorries to handle the too massive arrival of fruits. As soon as it became clear that the eastern markets, and especially Russia, would not have fruits before Christmas Eve, almost all the sales to these destinations were cancelled. Prices therefore had to be eased as operators suddenly found themselves in possession of volumes of fruits that outmatched demand in western Europe. The same problem arose for New Year's Eve, with less demand and the eastern markets that could not have the fruits in time still closed. It should be added that the fruits had arrived ripe and shaken up by rough seas and so storage was difficult. The prices shown below for the second half of December are based mainly on sales completed in France, which is unfortunately no longer the main outlet for 'Smooth Cayenne', and do not yet include the impact of the cancelling of sales on the eastern markets.

On the air market, batches of pineapple of very uneven quality from Benin and Cameroon were found almost everywhere

at all prices (as low as EUR 1.50 to 12.60 per kg) and this complicated the legibility of the market. In the first half of the month, some operators thus decided to reduce their imports significantly in the hope of re-stimulating demand and obtaining better prices. This strategy was a partial success as demand for fruits imported by air was firmer and sales were more fluid in the last two weeks of the month. However, given the already low prices of some fruits from Benin and Cameroon, it was difficult to apply a clear rise in prices. The return of pineapples from Guinea was noted in this market. These were of good quality and sold mainly by an operator with good control of his distribution channels and sold much more steadily than those of the other origins.

The run-up to Christmas enabled better sales of small exotics and 'Victoria' pineapples. Fruits from Réunion continued to fetch better prices than the others. Almost all the suppliers succeeded in selling their fruits well, except for Côte d'Ivoire, which shipped pineapple in too large quantities and of uneven quality; these were often sold off as best as possible.

## Pineapple — Import prices on the French market — Main origins — Euros

| Weeks 2007     |               | 49           | 50        | 51         | 52         |
|----------------|---------------|--------------|-----------|------------|------------|
|                |               | By air (kg)  |           |            |            |
| Smooth Cayenne | Benin         | 1.70-1.80    | 1.70-1.80 | 1.70-1.85  | 1.60-1.85  |
|                | Cameroon      | 1.60-1.80    | 1.60-1.80 | 1.60-1.85  | 1.50-1.85  |
|                | Côte d'Ivoire | 1.70-1.80    | 1.70-1.80 | -          | -          |
|                | Ghana         | 1.60-1.70    | 1.60-1.70 | 1.60-1.85  | 1.60-1.75  |
|                | Guinea        | 1.75-1.85    | 1.75-1.85 | 1.75-1.85  | 1.75-1.85  |
| Victoria       | Côte d'Ivoire | 3.00         | 3.00      | 1.50-2.50  | 2.50       |
|                | Ghana         | 3.00         | 3.00      | -          | -          |
|                | Réunion       | 3.30-3.50    | 3.30-3.50 | 3.30-3.50  | 3.40-3.60  |
|                | Mauritius     | 2.80-3.00    | 2.80-3.00 | 3.00-3.30  | 2.80-3.20  |
|                | South Africa  | 3.00         | 3.00      | 3.00       | 3.00       |
|                |               | By sea (box) |           |            |            |
| Smooth Cayenne | Côte d'Ivoire | 6.00-8.50    | 7.00-9.00 | 6.00-8.50  | 5.50-8.50  |
|                | Ghana         | 6.00-8.00    | 6.00-8.00 | 7.00-9.00  | 7.00-8.00  |
| Sweet          | Côte d'Ivoire | 7.00-9.00    | 7.00-9.50 | 7.00-11.00 | 7.00-10.00 |
|                | Cameroon      | 7.00-9.00    | 7.00-9.50 | 7.00-11.00 | 7.00-10.00 |
|                | Ghana         | 7.00-9.00    | 7.00-9.50 | 7.00-11.00 | 7.00-10.00 |
|                | Costa Rica    | 6.00-9.00    | 7.50-9.50 | 7.00-10.00 | 8.00-9.00  |





# Sea freight

## DECEMBER 2007

**A**lthough neither Time Charter nor lumpsum rates scaled the heights of December 2006 the charter market was more active than it had been in the previous three months as the Ecuadorian weather warmed up and banana production increased over and above liner requirements.

The Reefer Trends 57c/cbft TCE December average gives an annual TCE average for large reefers of 70c/cbft, up US\$3c or 5% from last year's average – however this figure masks the approximate 18/25c/cbft TCE difference between old and modern tonnage because of the high cost of fuel. The average yield on older units would also be even lower given the amount of waiting time they accrued.

Several trends emerged towards the end of the year – firstly it became clear that after a difficult 12 months for banana charterers, fewer units would be taken on Time Charter or Contracts Of Affreightment in 2008. This had more to do with the Ecuadorian banana producers than reefer owners or operators – charterers complained of being held to ransom by producers who

knew that they would have to buy in fruit to ensure that their vessels would not sail light. On the positive side there should be more liquidity and therefore activity on the Spot market in 2008!

For the first time in several years there was a net reduction in the number of quality units chartered by the multi-nationals. Fyffes and Dole are sharing space on each other's service from Latin America to Europe in order to cut port calls and improve transit efficiencies. This trend is being replicated in the US with Uniban/Fyffes vessels carrying Del Monte fruit for the first time.

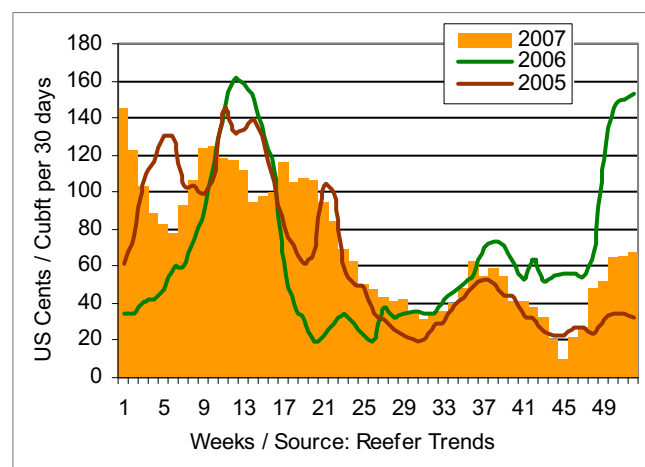
Finally there is also a reduction in the number of Time Charter vessels sailing from West Africa as competition from container lines begins to bite.

## Monthly spot average

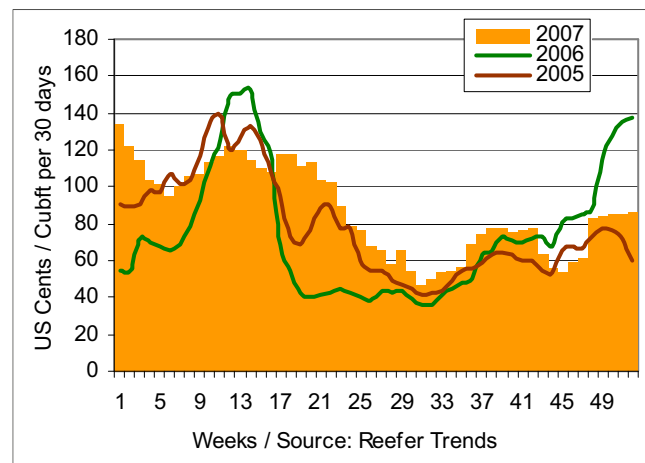
| US\$cents/cubic foot x 30 days | Large reefers | Small reefers |
|--------------------------------|---------------|---------------|
| December 2007                  | 57            | 77            |
| December 2006                  | 137           | 129           |
| December 2005                  | 28            | 32            |

## Weekly market movement

### Large reefers (450 000 cuft)



### Small reefers (330 000 cuft)



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# Wholesale market prices in Europe

December 2007

|                  |         |                |                |     | EUROPEAN UNION — IN EUROS |         |        |         |      |
|------------------|---------|----------------|----------------|-----|---------------------------|---------|--------|---------|------|
|                  |         |                |                |     | Germany                   | Belgium | France | Holland | UK   |
| <b>AVOCADO</b>   | Sea     | ETTINGER       | ISRAEL         | Box | 7.75                      |         | 7.38   | 7.75    |      |
|                  |         | FUERTE         | ISRAEL         | Box |                           |         | 7.38   | 7.50    |      |
|                  |         | HASS           | ISRAEL         | Box |                           |         | 7.75   | 8.50    |      |
|                  |         |                | MEXICO         | Box |                           |         | 7.08   |         |      |
|                  | Truck   | PINKERTON      | ISRAEL         | Box |                           |         | 7.38   |         |      |
|                  |         | HASS           | SPAIN          | Box |                           |         | 7.92   |         |      |
|                  |         | PINKERTON      | SPAIN          | Box |                           | 8.25    |        |         |      |
|                  |         |                |                |     |                           |         |        |         |      |
| <b>BANANA</b>    | Air     | RED            | ECUADOR        | kg  |                           |         |        | 6.13    |      |
|                  |         | SMALL          | COLOMBIA       | kg  |                           | 6.50    | 5.60   |         |      |
|                  |         |                | ECUADOR        | kg  |                           |         |        | 4.16    |      |
|                  | Sea     | SMALL          | ECUADOR        | kg  |                           |         | 1.55   | 2.91    |      |
| <b>CARAMBOLA</b> | Air     |                | MALAYSIA       | kg  |                           | 3.86    | 5.00   | 4.41    |      |
|                  | Sea     |                | MALAYSIA       | kg  | 3.14                      | 3.71    |        | 3.14    |      |
| <b>COCONUT</b>   | Sea     |                | COSTA RICA     | Bag |                           |         |        | 3.50    |      |
|                  |         |                | COTE D'IVOIRE  | Bag |                           | 8.90    | 7.50   | 9.00    |      |
|                  |         |                | DOMINICAN REP. | Bag |                           |         | 7.50   | 6.75    |      |
|                  |         |                | SRI LANKA      | Bag |                           | 8.50    |        | 9.00    |      |
| <b>DATE</b>      | Sea     | NOT DETERMINED | ISRAEL         | kg  |                           | 3.30    |        | 3.20    |      |
|                  |         |                | TUNISIA        | kg  |                           |         |        | 1.83    |      |
|                  | MEDJOOL |                | ISRAEL         | kg  | 7.40                      | 6.90    |        | 7.55    |      |
|                  |         |                | SOUTH AFRICA   | kg  |                           | 7.60    |        |         |      |
|                  |         |                | UNITED STATES  | kg  | 8.40                      |         |        |         |      |
| <b>DURIAN</b>    | Air     |                | THAILAND       | kg  |                           |         |        | 6.38    |      |
| <b>GINGER</b>    | Sea     |                | BRAZIL         | kg  |                           |         |        | 2.00    |      |
|                  |         |                | THAILAND       | kg  |                           |         | 2.00   |         |      |
|                  |         |                | CHINA          | kg  |                           |         |        | 1.77    |      |
| <b>GUAVA</b>     | Air     |                | BRAZIL         | kg  |                           |         | 4.20   | 4.85    |      |
|                  |         |                | THAILAND       | kg  |                           | 5.50    |        |         |      |
| <b>KUMQUAT</b>   | Air     |                | ISRAEL         | kg  |                           | 4.25    |        | 3.00    |      |
| <b>LIME</b>      | Air     |                | MEXICO         | kg  |                           |         | 3.80   |         |      |
|                  | Sea     |                | BRAZIL         | kg  | 1.11                      | 1.69    | 1.90   | 1.50    | 1.33 |
|                  |         |                | MEXICO         | kg  |                           |         | 2.00   | 1.55    | 1.33 |
| <b>LITCHI</b>    | Air     |                | MADAGASCAR     | kg  |                           |         | 5.50   |         |      |
|                  |         |                | REUNION        | kg  |                           |         | 7.50   |         |      |
|                  | Sea     |                | MADAGASCAR     | kg  |                           | 1.75    | 1.15   | 1.38    |      |
| <b>MANGO</b>     | Air     | HADEN          | BRAZIL         | kg  |                           |         |        | 3.75    |      |
|                  |         | KENT           | BRAZIL         | kg  |                           | 3.30    | 3.50   |         |      |
|                  |         | NOT DETERMINED | AUSTRALIA      | kg  |                           | 6.93    |        | 6.14    |      |
|                  |         | NAM DOK MAI    | THAILAND       | kg  |                           |         |        | 6.20    |      |
|                  | Sea     | ATKINS         | BRAZIL         | kg  | 0.91                      |         | 1.03   | 1.09    |      |
|                  |         |                | ECUADOR        | kg  |                           | 0.71    |        |         |      |
|                  |         | HADEN          | BRAZIL         | kg  |                           |         |        | 1.09    |      |
|                  |         | KENT           | BRAZIL         | kg  |                           |         |        | 1.25    |      |
|                  |         |                | ECUADOR        | kg  |                           |         |        | 1.13    |      |
|                  |         |                | PERU           | kg  |                           | 1.06    |        | 0.94    |      |
|                  |         | NOT DETERMINED | BRAZIL         | kg  |                           |         |        |         | 1.08 |
|                  |         |                | ECUADOR        | kg  |                           |         |        |         | 1.00 |
|                  | PERU    | kg             |                |     |                           |         | 0.96   |         |      |

|                      |     |                           |                |               | EUROPEAN UNION — IN EUROS |         |        |         |       |  |
|----------------------|-----|---------------------------|----------------|---------------|---------------------------|---------|--------|---------|-------|--|
|                      |     |                           |                |               | Germany                   | Belgium | France | Holland | UK    |  |
| <b>MANGOSTEEN</b>    | Air |                           | THAILAND       | kg            |                           | 6.75    | 8.00   | 7.50    |       |  |
| <b>MANIOC</b>        | Sea |                           | COSTA RICA     | kg            |                           |         | 0.90   | 0.94    |       |  |
| <b>PAPAYA</b>        | Air | NOT DETERMINED            | BRAZIL         | kg            |                           |         | 3.20   | 2.38    | 1.17  |  |
|                      |     |                           | COTE D'IVOIRE  | kg            |                           |         | 3.20   |         |       |  |
|                      |     |                           | GHANA          | kg            |                           | 2.50    |        |         |       |  |
|                      | Sea | FORMOSA<br>NOT DETERMINED | BRAZIL         | kg            |                           |         |        | 2.88    |       |  |
|                      |     |                           | BRAZIL         | kg            | 1.11                      | 1.57    |        | 1.25    |       |  |
|                      |     |                           | COTE D'IVOIRE  | kg            |                           |         |        | 1.29    |       |  |
|                      |     |                           | ECUADOR        | kg            |                           |         |        | 1.57    |       |  |
| <b>PASSION FRUIT</b> | Air | PURPLE                    | COLOMBIA       | kg            |                           | 6.00    |        |         |       |  |
|                      |     |                           | KENYA          | kg            |                           | 6.00    |        | 5.25    |       |  |
|                      |     |                           | REUNION        | kg            |                           |         | 11.50  |         |       |  |
|                      |     |                           | SOUTH AFRICA   | kg            | 5.50                      |         | 6.20   |         |       |  |
|                      |     |                           | ZIMBABWE       | kg            |                           | 6.00    | 5.80   | 5.25    |       |  |
|                      |     |                           | YELLOW         | COLOMBIA      | kg                        |         | 7.50   | 7.50    | 6.69  |  |
| <b>PERSIMMON</b>     | Air |                           | ISRAEL         | kg            |                           | 1.76    | 2.48   | 2.10    |       |  |
| <b>PHYSALIS</b>      | Air | PREPACKED                 | COLOMBIA       | kg            | 5.50                      | 6.04    | 7.50   | 5.84    |       |  |
|                      | Sea |                           | COLOMBIA       | kg            |                           | 5.25    |        | 5.10    |       |  |
| <b>PINEAPPLE</b>     | Air | SMOOTH CAYENNE            | COTE D'IVOIRE  | Box           |                           |         | 8.25   |         |       |  |
|                      |     |                           | GHANA          | kg            |                           | 1.63    | 1.80   |         |       |  |
|                      |     |                           | VICTORIA       | MAURITIUS     | Box                       |         | 12.50  |         | 12.50 |  |
|                      |     |                           |                | MAURITIUS     | kg                        |         |        | 3.70    |       |  |
|                      |     |                           |                | REUNION       | kg                        |         |        | 4.00    |       |  |
|                      | Sea | MD-2                      | SOUTH AFRICA   | Box           |                           | 11.50   |        | 10.75   |       |  |
|                      |     |                           | COSTA RICA     | Box           | 8.50                      | 12.00   | 10.00  | 9.00    | 9.50  |  |
|                      |     |                           | ECUADOR        | Box           |                           | 12.00   |        |         |       |  |
|                      |     |                           | GHANA          | Box           |                           |         | 9.00   |         |       |  |
|                      |     |                           | SMOOTH CAYENNE | COTE D'IVOIRE | Box                       |         |        | 8.63    |       |  |
| <b>PITAHAYA</b>      | Air | RED<br>YELLOW             | VIET NAM       | kg            |                           | 7.60    | 7.20   | 6.25    |       |  |
|                      |     |                           | COLOMBIA       | kg            |                           |         |        | 7.60    |       |  |
|                      |     |                           | ECUADOR        | kg            |                           |         |        |         | 7.33  |  |
| <b>PLANTAIN</b>      | Sea |                           | COLOMBIA       | kg            |                           |         | 0.95   |         |       |  |
|                      |     |                           | COSTA RICA     | kg            |                           |         |        | 0.84    | 0.48  |  |
|                      |     |                           | ECUADOR        | kg            |                           | 0.81    | 0.72   |         |       |  |
| <b>RAMBUTAN</b>      | Air |                           | MALAYSIA       | kg            |                           | 7.00    |        |         |       |  |
|                      |     |                           | THAILAND       | kg            |                           |         |        | 6.00    |       |  |
|                      |     |                           | VIET NAM       | kg            | 7.50                      | 7.50    |        |         |       |  |
| <b>SWEET POTATO</b>  | Sea |                           | ISRAEL         | kg            | 1.17                      | 1.00    |        | 1.04    |       |  |
| <b>TAMARILLO</b>     | Air |                           | COLOMBIA       | kg            |                           | 6.20    |        | 5.35    |       |  |
| <b>YAM</b>           | Air |                           | BRAZIL         | kg            |                           |         | 1.90   |         |       |  |
|                      | Sea |                           | GHANA          | kg            |                           |         | 1.10   |         |       |  |

Note: according to grade

These prices are based on monthly information from the Market News Service, International Trade Centre UNCTAD/WTO (ITC), Geneva.  
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