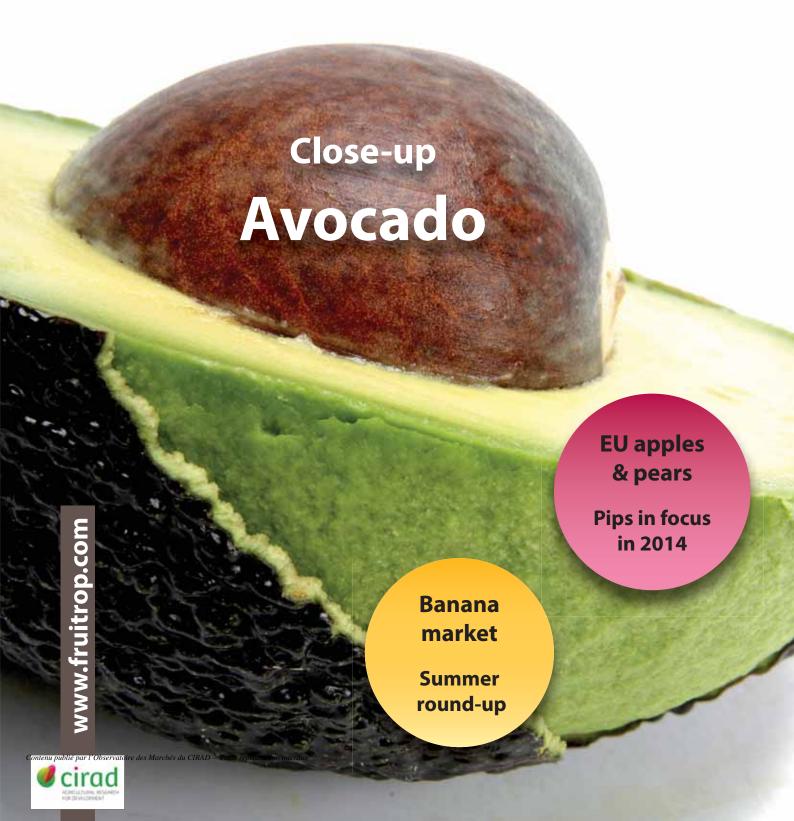
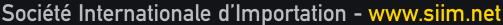
September 2014 - No.225

English edition









THE WORLD GOES BANANAS

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Crises of any kind always prove revealing – exposing bizarre, or even shocking behaviour. The Russian embargo on Community fruits and vegetables might have triggered a massive crisis for the European sector. The figures speak for themselves: Russia absorbs more than 40 % of the EU's total annual exports of agricultural products. Across all fruits and vegetables, the European Commission estimates the lost value from this export market at approximately 2 billion euros (annual rate). Worse luck, the EU's harvest forecasts have announced a near-record season for the apple. For this product alone, if we add the volumes which will no longer be exported, and the production surplus, we get between 1.8 and 2 million tonnes that the market will need to swallow. The stage is set! Now we just need the actors, and in particular the lead role: the Polish production sector. Since if the embargo does have an impact, it will take its heaviest toll on them. Poland actually exports the vast majority of European apples. Good Lord! So what is the European Commission doing to come to the aid of its troubled producers? Well, it did not hesitate in setting up a support programme for Poland and the other European producers set to be directly affected by the Russian embargo, or indirectly affected by the deterioration of the market. Except that... the Polish production sector has decided to play the obsolete, archaic and passé role of the bounty hunter. The declarations of potential losses have been massively over-evaluated, exceeding the budget by such a margin as to ultimately leave the European Commission with no other choice than to suspend the programme for everyone. What has the Common Agricultural Policy come to?

Denis Loeillet

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No. 225 September 2014

Banana

July-August 2014

The dollar banana supply, restricted in early July thanks to the summer programmes of North European importers, remained moderate before reaching shortfall towards the end of the period. Indeed while Costa Rica and Ecuador shipped above-average volumes in July, Colombia saw its shortfall, ongoing since the spring, consolidated from the second half of July, and widen until late August, due to weather problems. Similarly, the seasonal fall in imports from Africa and the French West Indies continued, gathering pace from late July with the wane in volumes from Côte d'Ivoire (losses in the production zones because of bad weather). Temporary logistical problems aggravated the scarcity of the supply during the summer. On the demand side, sales rapidly adopted a slow summer tempo in Southern Europe due to the strong competition from seasonal fruits (certain harvests coming early) and to the summer holidays. Export sales to Eastern Europe also proved difficult and competitive. Hence the markets swelled in July. However, they held up better in Northern Europe, thanks to a restricted supply. In this context green banana prices were stable, and started to strengthen from mid-August, when the fall in imports became more perceptible. In Russia, the smaller supply enabled the market to remain balanced in July. However, the big downturn in demand in August (heat waves) rocked the market. In Spain, the market recovered some degree of balance thanks to the smaller Canaries platano imports during the summer, with volumes reaching shortfall from August (- 14 %).

NORTHERN EUROPE — IMPORT PRICE					
August	Comparison				
2014	previous	average for			
euro/box	month	last 2 years			
13.01	- 1 %	+ 2 %			



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■ Banana: purée price in Europe for July 2014.

Туре	Price (USD/t)	Source	Comments
ss aseptic, 22°Brix	600-750 fca Holland df	Ecuador	Balanced market.

Note: fca: free carrier / df: duty free / Source: MNS-ITC Geneva

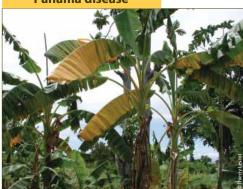
■ Banana: concern about Panama race 4 disease. At a recent workshop on Panama FOC tropical race 4 disease (TR4), held in Brisbane (Australia) during the IHC-ProMusa symposium on 20 August, various experts debated the magnitude of the threat of the disease spreading into the world's various banana zones, and the precautionary measures to be taken with the sanitary authorities of the countries concerned, as well as the scale of the resources to allocate to research, in order to limit, or even cut back and eliminate this spread. Furthermore, the African and Latin American banana sectors are concerned at the appearance of the disease in Mozambique, where it was officially detected in early 2013 in the country's recently established sole export plantation (approximately 1 600 ha near Namialo, a dry zone free from "rural" banana trees in the vicinity). Indeed, it seems that despite the transparency and control & eradication measures on the contaminated sites taken by the private Mozambican company (Matanuska), the situation is tough to control, and there are several disease sources growing within the plantation. In this particular context, it seems to be difficult to uphold strict application of control measures, aimed in particular at local personnel (contaminated soil).

Source: CIRAD

■ European customs duty unchanged for the Ecuadorian banana in 2014, and doubtless in 2015 too. Contrary to fantasies and rumours, the Ecuador-EU agreement sealed in July will not take effect before the entire ratification process is finished. The Ecuadorian banana will continue to be subject to a customs duty of 132 euros/tonne in 2014, while the agreement stipulates 118 euros/t. Although the uncertainty regarding 2015 persists, most observers are leaning towards a full and comprehensive entry into force of the text in 2016; when the specified rate will be 104 euros/t. Meanwhile, the major competing dollar sources will be subject to a duty of 117 euros in 2014, followed by 110 in 2015 and then 103 in 2016.

Source: CIRAD

Panama disease



EUROPE - RETAIL PRICE						
	Augus	st 2014	Comparison			
Country	type	euro/kg	July 2014	average for last 3 years		
France	normal	1.56	- 1 %	- 2 %		
	special offer	1.31	- 9 %	- 10 %		
Germany	normal	1.29	- 2 %	+8%		
	discount	1.16	- 2 %	+9%		
UK (£/kg)	packed	1.15	0%	- 4 %		
	loose	0.75	- 1 %	+ 5 %		
Spain	platano	1.87	+ 2 %	- 5 %		
	banano	1.24	+1%	- 7 %		

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Training & Development

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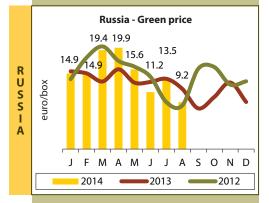




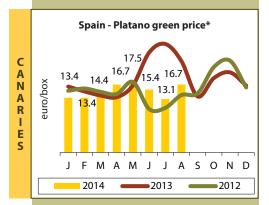
Banana

United Stated - Green price (spot) N 16.6 16.6 16.9 I T E D 16.3 16.7 16.7 euro/box STATES F M A M J J A S O N D 2014 2013 2012

UNITED STATES - IMPORT PRICE					
August 2014 USD/box	Comparison				
	previous month	average for last 2 years			
16.60	0 %	+ 4 %			



RUSSIA - IMPORT PRICE				
August 2014 USD/box	Comparison			
	previous month	average for last 2 years		
9.20	- 32 %	- 10 %		



CANARIES - IMPORT PRICE*				
A 2014	Comparison			
August 2014 euro/box	previous month	average for last 2 years		
16.70	+ 27 %	- 9 %		

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■ Banana consumption set

fair. European banana imports rose in July 2014 (+ 4 %). Since the beginning of the year, they took a downturn only in May, and then by just 1 %. Over the first seven months, imports were up 5 %. On the dollar side, Ecuador, Costa Rica and Panama were well up, while Colombia has been in freefall since April. As for the ACP, Cameroon is balanced, while Côte d'Ivoire was up (+ 19 %), though with the initial effects of the floods in Niéky expressed in the July figures. The Dominican Republic was up 6 % for the year. The European banana supply increased as rapidly as imports: + 5 %. Guadeloupe is leading the pack (+ 17 %), ahead of the Canaries (+ 4 %), while Martinique is stable. If we add European banana production to imports, we can evaluate the net consumption of the EU-28. Over the first twelve months (August 2013-July 2014), it appears to have climbed 270 000 t to achieve a record figure of 5.5 million tonnes.

In France, the situation is completely different. The downturn in the net supply was confirmed in July 2014, for the fourth consecutive

month. Over the first seven months, consumption amounted to 332 000 t, i.e. 4 % below the level observed over the same period in 2013, yet still 3 % above the average for the past three years. Over the first seven months of the year compared to the same period of 2013. French production was down slightly. while the dollar sources ebbed considerably, as did incoming flows (from unspecified sources) via other Member States. Conversely, the African ACP sources saw a very considerable rise. Furthermore, we saw a strong surge in re-exports (to the EU or to third countries).

So over the last twelve months (August 2013-July 2014), the net supply ebbed back below 560 000 t (to 557 735 t to be precise), i.e. exactly the same level as for the previous twelve months (2012-13).

The trend in the United States is for stability. Consumption was up 1 % over the first seven months of the year, to 2.4 million tonnes. All the sources rose, except for Honduras (-3%), Colombia (-17%) and Mexico (-3%), going against the general trend.

Source: CIRAD

Banana - January to July 2014 (provisional)					
000 tonnes	2012	2013	2014	Difference 2014/2013	
EU-27 — Supply	3 081	3 196	3 359	+ 5 %	
Total import, of which	2 712	2 839	2 986	+ 5 %	
MFN	2 136	2 239	2 354	+ 5 %	
ACP Africa	282	309	338	+9%	
ACP others	295	291	294	+1%	
Total EU, of which	368	357	373	+ 5 %	
Martinique	107	112	112	0 %	
Guadeloupe	35	35	41	+ 17 %	
Canaries	214	201	209	+4%	
USA — Import	2 554	2 681	2 727	+2%	
Re-exports	298	315	327	+4%	
Net supply	2 256	2 366	2 400	+1%	

Sources EU: CIRAD, EUROSTAT (excl. EU domestic production) / Source USA: US Customs

EUROPE - IMPORTED VOLUMES — AUGUST 2014					
	Comparison				
Source	July 2014	August 2013	2014 cumulative total compared to 2013		
French West Indies	7	+ 29 %	+4%		
Cameroon/Ghana/Côte d'Ivoire	7	- 18 %	+ 5 %		
Surinam	4	- 20 %	- 5 %		
Canaries	7	- 2 %	+ 3 %		
Dollar:					
Ecuador	7	+ 34 %	+ 38 %		
Colombia*	7	- 36 %	- 15 %		
Costa Rica	7	+ 49 %	+ 73 %		

Estimated thanks to professional sources / * total all destinations

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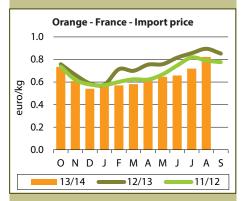
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Orange

July-August 2014

The orange market maintained a good balance this summer. Indeed, while sales adopted a slow summer tempo because of intense competition from seasonal fruits, they matched the scarcity of the supply. As for the table orange, the transition between the Spanish Navelate (historically long season) and South African Navel came late, toward mid-July. However, South African volumes remained in shortfall (- 24 % in July), and stocks were limited due to smaller shipments from the start of the season. For the juice orange, Valencia late imports from Spain subsided until mid-August, with the switchover to the South African source in France not occurring until then, with limited volumes. Hence prices strengthened during the summer, before returning to an average level in August.



PRIC	Source	Average monthly price euro/15-kg box	Comparison with average for last 2 years	
Ē	Spain	12.45	- 24 %	
	South Africa	12.30	+1%	

V		Comparison		
O L U	Source	previous month	average for last 2 years	
M E	Spain	7	+ 61 %	
S	South Africa	7	- 13 %	

■ Orange: juice prices in Europe for July 2014.

Туре		Price (USD/t)	Source	Comments	
	FCOJ, Pera, 66°Brix, in bulk, ratio 14-16	2 050-2 100 fca Holland		The drought in Brazil and the low availa-	
	FCOJ, low pulp, 66°Brix, ratio 22<	2 350-2 450 fca Benelux	Brazil	bility of high-ratio juice are causing fears of under-supply for this category. Hence	
Orange	NFC	2 250-2 300 ddp Tilbury		Mexico, a big purveyor of high-ratio juice, has	
	FCOJ, Valencia, 66°Brix, ratio 22<	2 350-2 450 fca Benelux	Mexico	practically sold out its stock. Demand is flat, espe-	
	FCOJ, blood, 55°Brix	2 700-2 900 EUR/t exw Italy	Italy	cially in the USA, where it is even declining.	

Note: fca: free carrier / ddp: delivered duty paid / exw: ex-works / Source: MNS-ITC Geneva

■ Orange juice facing production on the slide. The combined production of the world's two main orange processors, namely Brazil and Florida, should be even smaller than in 2013-14, and reach a basement level never previously seen. Despite surface areas still falling (- 3 % from last season), the abundance of the flowering period at the end of 2013 appears to have helped Brazilian production register a slightly higher level, though it is nevertheless among the lowest ever recorded. Unsurprisingly, Florida, faced with an increasingly severe greening problem, has registered another falling harvest forecast. Pending the official

USDA figures in early October, the estimates by Elizabeth Steger and Louis-Dreyfus Citrus are even predicting the smallest harvest for 50 years, with figures ranging from 89 to 97 million boxes; though we should be aware that the discrepancies between the initial and final forecasts have been in excess of 20 million boxes in recent seasons, because of the extent of physiological dropping. Despite these prospects, concentrated juice rates fell again in late August to reach 2 000 USD/ tonne into Rotterdam, with the cumulative fall since the beginning of the year reaching 400 USD.

Sources: IEA, Louis-Dreyfus, Elizabeth Steger

Orange — Production in Florida and Brazil						
40.8-kg million boxes	n 2014-15	2013-14	Average for last 4 years	Comparison 2014-15 with		
boxes				2013-14	average	
Florida	93	104	131	-11%	-29%	
Brazil	295	290	345	2%	-14%	
Cumulative total	388	394	476	-2%	-19%	

Sources: IEA, USDA, E. Steger, Louis-Dreyfus

V O L	Varieties	Comparison			Cumulative total /
	by source	previous month	average for last 2 years	Observations	cumulative average for last 2 years
U M E S	Spanish Valencia late	4	+ 61 %	End of the season. Some batches still in place with certain operators toward late August.	- 32 %
	South African Valencia late and Navel	7	- 13 %	Growth in Valencia late imports, though levels still below average. Navel season subsiding.	- 20 %



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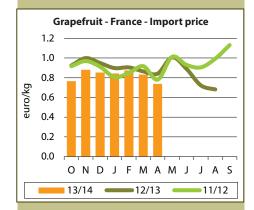




Grapefruit

July-August 2014

The summer was very sluggish for the grapefruit. Indeed sales remained at a standstill because of the intense competition from summer fruits and a widespread lack of interest for the product. Although the South African supply started to fall from early July, with levels 13 % below average in July and 18 % below average in August, large stocks accumulated early in the season were available because of poor sales. Hence rates fell in July (prices 24 % lower than in previous years). A semblance of improvement was noted toward mid-August because of the early approach of the end of the South African season, the distinct reduction of stocks and less competition from summer fruits. Finally, prices were able to strengthen, returning to a level 5 % below average for the season.



P R I C	Source	Average monthly price euro/ 17-kg box equivalent	Comparison with average for last 2 years
E	South Africa	12.41	- 5 %

۷		Com	parison
LUM	Source	previous month	average for last 2 years
E	South Africa	u	- 18 %

■ Grapefruit and lemon: juice prices in Europe for July 2014.

	Туре	Price (USD/t)	Source	Comments	
	Frozen concentrate, 58°Brix, red, ratio 9.5<	1 250-1 350 cfr Holland		Limited supply level of white grapefruit juice due to a reduction in planted surface areas. Prices have dropped for red and pink grapefruit juices. Demand is subsid-	
Grape- fruit	Frozen concentrate, 58°Brix, pink, ratio 9.5<	1 250-1 350 cfr Rotterdam	Florida		
	Frozen concentrate, 58°Brix, white, ratio 9.5<	1 650-1 750 cfr Rotterdam		ing quicker than quan- tities available, though they are on the slide.	
	Frozen concentrate, cloudy, 400 gpl	6 000 cfr main European ports		Supply very limited due to the big decrease in the harvest (50 %). The	
Lemon	Frozen concentrate, cloudy, 500 gpl	3 500-4 000 cfr Rotterdam	Argentina	prices quoted are for the spot market.	
	Frozen concentrate, clear, 500 gpl	9 000 cfr Rotterdam			
	Frozen concentrate, cloudy, 400 gpl	2 570-2 600 EUR/t cip Europe	Greece	Last quantities.	

Note: cfr: cost and freight / cip: carriage and insurance paid / Source: MNS-ITC Geneva

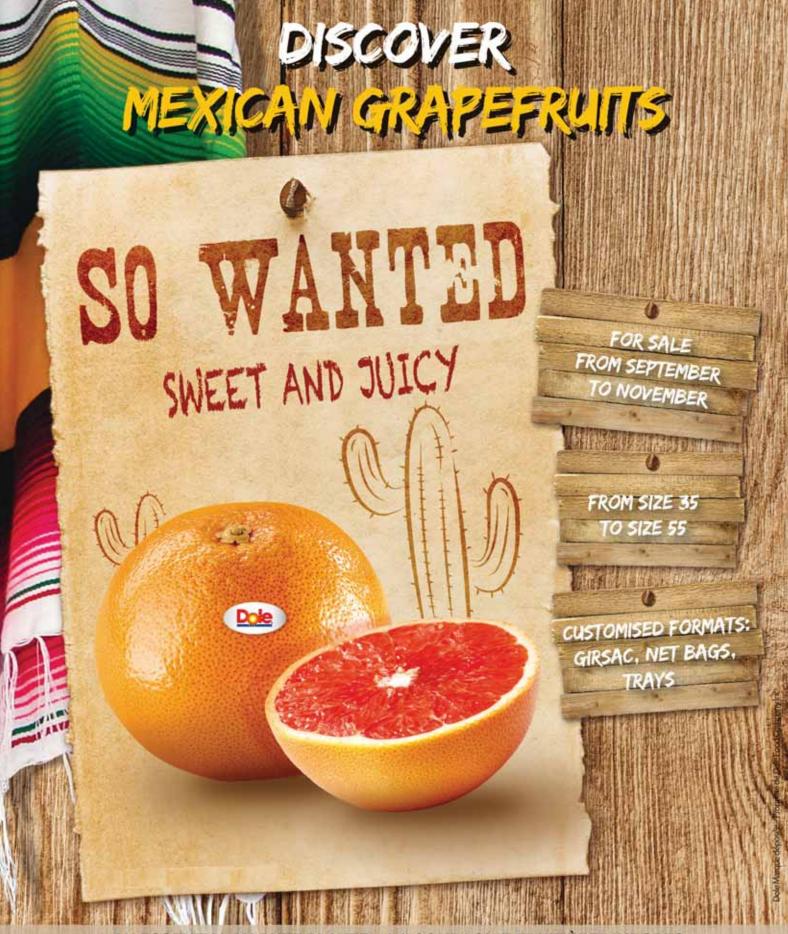
■ Spanish citruses: initial info on the 2014-15 season.

According to the AVA-ASAJA union, Spanish citrus production is to register a very slight fall of 2 % in 2014-15 from the previous season. This near-stability conceals a considerable fall of 11 % in small citruses (due to a drop in the yield of early and mid-season varieties) and a 6 % rise in the orange harvest, already more than abundant in 2013-14. As for the lemon, the interprofessional association AILIMPO predicts a practically stable production level, at approximately 970 000 tonnes (4 % below the fouryear average).





		Comparison			Cumulative total /
V O L U	O L month		average for last 2 years	Observations	cumulative average for last 2 years
M E S	South Africa	22	- 18 %	Season continuing to subside. Volumes lower than in previous years, though stocks still available.	+6%



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Pineapple

July-August 2014

The situation on the pineapple market was tight throughout July and August. On the back of June, demand was completely absorbed by the seasonal fruit supply available in large quantities and offered at very low prices. While in early July the disappearance of the stored batches hinted at an improvement in the market conditions, the spark of hope did not last long. Indeed, although limited, the supply of Sweet remained well above demand. The poor sales phenomenon observed in July was aggravated by the abundance of small sizes (9 and 10), which nobody wanted. In August, the fall in the supply continued, though without demand managing to absorb what volumes were on the market. Still unbalanced by too many small-size fruits, the Sweet supply had great difficulty selling. However, the operators managed to sell off a good part of the fruits to the East European markets (particularly Russia), though at derisory prices. These sales were almost compromised when Russia placed an embargo on European agricultural products. Ultimately, it had no effect on the pineapple market, since the exports to Russia were re-exports of non-European production. At the end of the month, demand for large-size fruits grew stronger. This situation benefited the established brands most of all, with their prices managing to rise for these large fruits.

The still restricted Cayenne supply sold more or less well depending on the quality of the batches on offer.

The air-freight pineapple market was sedate during the summer, with demand more focused on seasonal fruits. In July the supply, affected by rains in the production zones, especially in Cameroon, was very small. Those batches on sale were of fairly irregular quality, which did not facilitate their marketing. The restricted supply from Côte d'Ivoire could not unfortunately capitalise on the market conditions to achieve better valuation, since it mainly comprised small fruits which did not interest purchasers. During August demand, though still lacking conviction, did absorb the fruits on the market more readily, since the airfreight supply was well below demand. The fall in volumes did not result in a rate increase, but rather in some degree of stability. The Sugarloaf supply sold more

or less well, depending on the volumes on the market, greater in July and more limited in August. These fruits sold for between 1.70 and 2.00 euros/kg.

The Victoria supply was very low throughout the summer. Sales were quiet, since the fruit was only of interest to a few die-hards. Purchasers' preference was for the more prized fruits from Reunion. The price level remained stable throughout the summer despite the struggling sales.

■ Mango: juice and purée prices in Europe for July 2014.

Туре	Price (USD/t)	Source	Comments		
Aseptic purée, 17°Brix, Alphonso variety	1 300-1 450 cfr Rotterdam		Prices have fallen significantly for Indian		
Aseptic concentrate, 28°Brix, Totapuri variety	1 100-1 150 cfr Rotterdam	India	produce. Demand is flat, and the ban on importing fresh Indian mangoes into Europe has contributed to		
Aseptic purée, 14-16°Brix, Totapuri variety	750-800 ddp London				
Aseptic concentrate, 28°Brix, Tommy Atkins variety	1 200-1 300 fca Holland	Mexico	increasing availability of Alphonso.		

Note: cfr: cost and freight / ddp: delivered duty paid / fca: free carrier / Source: MNS-ITC Geneva

■ Pineapple: juice prices in Europe for July 2014.

Туре	Price (USD/t)	Source	Comments	
Frozen concentrate, 60°Brix, Smooth Cayenne	1 700-1 800 fca Holland	Thailand	Price on the rise in light of the announcement of	
Aseptic concentrate, 60°Brix, Smooth Cayenne variety	1 650-1 750 cfr Rotterdam	THAIIAHU	falling production in the Philippines and Thailand. Demand still flat	
NFC, aseptic ss, 60°Brix, MD-2 variety	1 580 ddp London	Costa Rica	on the East European markets.	

Note: fca: free carrier / cfr: cost and freight / ddp: delivered duty paid / Source: MNS-ITC Geneva

		PINEAPPLE — IMPORT PRICE IN FRANCE — MAIN SOURCES											
	Weeks 2014		27	28	29	30	31	32	33	34	35		
	Air-freight (euro/kg)												
	Smooth Cayenne	Benin	1.70-1.90	1.70-1.90	1.70-1.95	1.70-1.90	1.70-1.90	1.70-1.90	1.70-1.90	1.70-1.90	1.70-1.90		
F		Cameroon	1.70-1.90	1.70-1.90	-	1.70-1.90	1.70-1.90	1.70-1.90	1.70-1.90	1.70-1.90	1.70-1.90		
R		Ghana	1.80-1.95	1.75-1.90	1.80-1.90	1.80-1.90	1.80-1.90	1.80-1.90	1.80-1.90	1.80-1.90	1.80-1.90		
A N	Victoria	Réunion	3.50-4.00	3.50	3.50-3.60	3.50-3.60	3.50-3.60	3.00-3.50	3.30-3.50	3.30-3.50	3.30-3.50		
C		Mauritius	3.00-3.20	3.00	3.00	3.00	3.00	3.00-3.30	3.00-3.30	3.00-3.30	3.00-3.30		
E	Sea-freight (euro/box)												
	Smooth Cayenne	Côte d'Ivoire	6.00-7.00	5.50-7.50	-	-	-	4.00-6.00	5.00-7.00	-	-		
	Sweet	Côte d'Ivoire	6.50-8.00	6.50-8.00	6.50-8.00	6.50-7.00	6.50-7.00	6.50-7.00	6.50-7.00	6.00-7.50	6.00-7.50		
		Ghana	6.50-8.00	6.50-8.00	6.50-8.00	6.50-7.00	6.50-7.00	6.50-7.00	6.50-7.00	6.00-7.50	6.00-7.50		
		Costa Rica	5.00-6.00	5.00-6.00	4.00-5.00	4.00-5.00	4.00-5.00	4.00-5.00	5.00-6.00	5.00-6.00	5.00-6.00		



Mango

July-August 2014

In July and August, the European market received a steady sea-freight mango supply from Brazil, Puerto Rico, the Dominican Republic and Senegal. The final batches from Mali, received in early July, marked the end of this source's season. Curiously, there was an observed lack of Mexican produce, traditionally present at this time of year, apart from a few containers sold on the North European markets. In August, the supply was boosted with the Israeli season opening. This multiple and substantial supply very easily satisfied demand, which ebbed as the summer went on. The extended range of varieties on offer (Tommy Atkins, Keitt, Palmer, Kent) and the uneven quality of fruit on the market caused a more marked price drop in August, when demand reached its lowest level. Export restrictions by Russia, as well as the political events in the Middle East, also contributed more or less directly to poor sales, with the products restricted on the European markets already oversupplied with seasonal fruits. In late August, the decrease in incoming shipments from the Dominican Republic and Senegal was partially compensated for by the first Spanish Osteen shipments (by road).

The deterioration in the market conditions proved quicker for air-freight mangoes from the third week of July, with a large supply from Mexico, Senegal and then Israel. Prices quickly crumbled, leading to an early end to Mexican shipments, with the fruits exhibiting disparate quality. Some batches from the Dominican Republic and Egypt swelled the supply in August, while demand remained very limited. Competition from seasonal products also burdened transactions, as did rejection of Israeli products by certain purchasers. Incoming Israeli mangoes, of air-freight quality though shipped by sea, added to the already great confusion of the sales conditions.

	MANGO — INCOMING SHIPMENTS (estimates in tonnes)									
E	Weeks 2014	32	33	34	35					
R	Air-freight Air-freight									
O P E	Senegal	10 10		10	5					
E	Sea-freight									
	Brazil	1 230	1 170	790	530					
	Senegal	880	440	220	180					

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■ Mango: rising number of seizures due to the fruit fly.

The release of the European Union statistics on the number of interceptions of mango batches due to the fruit fly is a reminder, if needed, of the importance of the subject for the mango trade sector. Comparison between 2013 and 2014 of the number of interceptions from January to July is edifying. While we can welcome the substantial fall in the overall number of seizures, from 300 in 2013 to 218 in 2014, more in-depth study of the figures hardly lends itself to optimism. The fall in the number of seizures between 2013 and 2014 is primarily attributable to produce originating from Pakistan, which on its own apparently represented more than one third of interceptions in 2013. May, June and July packed in the highest number of interceptions for the first half-year, i.e. 76 % to 86 %. During this period, the European market is primarily supplied by West African sources, and to a lesser degree by

the Dominican Republic (see table below). While interceptions have decreased for Burkina Faso and stabilised for the Dominican Republic, we have seen a big increase for Mali, and in particular for Côte d'Ivoire, with equivalent quantities. The case of Côte d'Ivoire seems particularly worrying insofar as this source makes a big contribution to the market supply over the period in question. It is difficult to identify the reasons for this rise. Is it down to a cyclical increase in the parasite pressure on the production zones, a lack of means of managing fly infestations, a lack of rigour during fruit packing (a problem still difficult to detect) or a renewed surge in inspections on European Union borders? Doubtless these various factors can contribute to explaining this development, which highlights the lack of coordination and difficulty in implementing regional fruit fly management programmes.

Source: Pierre Gerbaud

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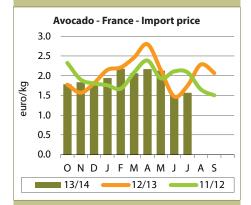
Mango — European Union Number of seizures due to the fruit fly									
	Years May June July Total								
Develore Free	2013	2	2	4	8				
Burkina Faso	2014		2	1	3				
C^+	2013	5	10	8	23				
Côte d'Ivoire	2014	19	42		61				
Mali	2013	6	4	7	17				
IVIaII	2014	1	16	5	22				
Dom Popublic	2013	5	2	7	14				
Dom. Republic	2014	4	5	4	13				

	MANG	O — IMPO	ORT PRICE	ON THE I	RENCH M	IARKET				
Weeks 2014		32	33	34	35	Average August 2014	Average August 2013			
	Air-freight (euro/kg)									
Mexico	Kent	2.00-3.00	-	-	-	2.00-3.00	3.60-3.80			
Senegal	Kent	3.00-3.50	3.00-4.00	3.50-4.00	4.00	3.35-3.85	3.30-3.75			
Israel	Aya/Maya	1.60-3.00	2.00-2.50	-	-	1.80-2.75	3.20-3.50			
Israel	Others	1.50-2.00	1.50-2.00	2.20-2.80	2.00-2.50	1.80-2.30	-			
Israel	Kent	-	-	-	3.00-4.00	3.00-4.00	3.60-4.25			
		S	ea-freight	t (euro/bo	x)					
Brazil	T. Atkins	4.00-4.50	-	-	-	4.00-4.50	4.60-5.10			
Senegal	Kent	2.50-4.50	2.00-4.00	2.00-4.00	4.00-5.00	2.60-4.35	4.00-5.35			
Puerto Rico	Keitt	3.00-4.50	4.50-5.00	5.00-6.00	5.00-6.00	4.35-5.35	5.25-6.00			
Dom. Rep.	Keitt	3.00-4.50	4.50-6.00	5.00-6.00	-	4.15-5.50	-			
Israel	Kent	-	-	-	5.00-6.00	5.00-6.00	6.00-7.00			
	By truck (euro/box)									
Spain	Osteen	-	-	8.00	7.00-9.00	7.50-8.00	nd			

Avocado

July-August 2014

There was a summer crisis for the avocado market, which succumbed to a historic oversupply of Hass. Peruvian production reached its peak, with volumes above one million boxes throughout July. In addition, incoming shipments from South Africa and Kenya were also very large. A second wave of very big incoming shipments came in mid-August. Hence the average monthly rate was 24 % below average in July, and 28 % below average in August, and there were stocks available. Despite the supply becoming more moderate in late August, the rates did not rise. For the green varieties, the South African supply level was also historically high. The Northern markets managed to absorb the volumes in July, but in August they were swollen despite the seasonal fall in supply. The average rate remained below average throughout the period.



P R I	Varieties	Average monthly price euro/box	Comparison with the last 2 years	
E	Green	5.00 - 6.50	- 17 %	
	Hass	5.50 - 6.00	- 28 %	

V O L U M E S		Comparison		
	Varieties	previous month	average for last 2 years	
	Green	7	+ 49 %	
	Hass	7	+ 17 %	

■ Avocado variety of the month: Ettinger. This variety was bred from 'Fuerte' in Kefar Malal in Israel, where it is mainly grown. The tree is very fertile and vigorous with an erect habit. The fruits are similar to those of 'Fuerte'. The skin is susceptible to problems of corky areas and tends to adhere to the pulp. The pulp is buttery and fibreless and has good organoleptic qualities.

Source: CIRAD

■ Pressure in the Antipodes for the avocado. The market conditions for the coming antipodean

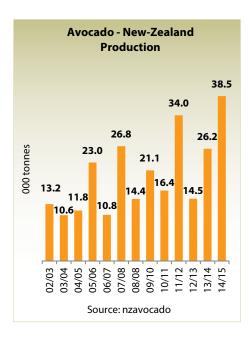
winter season promises to be as diametrically opposed as Oceania is from the Old Continent. While tension could well prevail in Europe, it is pressure which will predominate on the other side of the world. The New Zealand harvest has registered a record level, approaching 40 000 tonnes for the first time. The export potential is estimated at more than 27 000 tonnes, also unprecedented. The problem is that the Australian market, essential for New Zealand, is set to become heavily burdened. Western Australia State, whose market window is similar to New Zealand's, should also see its production reach a historic high point. In this context New Zealand exporters should have a much bigger presence than usual on the Asian markets, and perhaps in the United States too.

> Sources: Government of Western Australia, NZ avocado growers

■ Ratification of the EPAs.

Although final ratification of the EPAs (Economic Partnership Agreements) for Cameroon, Ghana and Côte d'Ivoire will come only after the 1 October 2014 deadline — when the EU said that non-signatory countries would no longer enjoy preferential treatment — the threat will not be implemented. That is the least of the matter, so badly has the European crisis of authority been perceived by the ACP countries. Conversely, Kenya, a big exporter of horticultural products (green beans, flowers, etc.), is part of an economic zone (East Africa) which has not even opened negotiations with the EU. So its exports will, unsurprisingly, be hit by a very considerable rise in customs duty.

Source: CIRAD



<i>/</i>	Source	Comp previous month	average for last 2 years	Observations	Cumulative total / cumulative average for last 2 years
_ J /\	South Africa	ä	+ 14 %	Growth in Hass imports similar to last year. Fuerte volumes much greater than in previous years.	+ 27 %
•	Peru	u	+ 18 %	Hass volumes very high, greater than last season. Fall after mid-August, though levels still above average.	+ 31 %
	Kenya	7	+ 24 %	Hass imports stable in August from July, and much greater than in the previous year.	+ 3 %

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OLUMES

Sea freight

July-August 2014

Although the charter market spent much of July and August deep in the summer doldrums, the majority of the reefer fleet remained occupied as vessel operators have switched their attention away from Spot trading and towards optimizing capacity utilization to counter the threat of containerization. With the lines able to provide so many more slots and so much more equipment than ever previously, in a year when less cargo was shipped, it is not a surprise that operators of large vessels have adapted their strategy. Operators were not helped by a 45% fall in Argentinean lemon exports and a persistently high price for Spot-traded bananas in Ecuador. Argentina's citrus crops were hit by a combination of severe frost last winter and an intense, long-lasting drought; Ecuador benefited from unusually strong demand from China after typhoons damaged its domestic crop and the shortfall could not be made up by traditional supply from the Philippines, as its industry too is recovering from prior storm damage. For the small segment the picture was very different: following a record-equaling squid catch in the South Atlantic between March and mid June, there was strong demand from fish charterers trading into West Africa. So short was the supply of tonnage that several larger units were able to take advantage at unit rates similar to those achieved by the smaller ships, yielding TCE returns well above the historical mid-summer average. There were two significant developments elsewhere in the reefer business, both of which should benefit reefer operators in the short to medium term. Firstly, Russian owner/operator Baltic Reefer Lines acquired NYKCool for a reported US\$90m-100m, consolidating the sector into just three major players while securing its own future. The removal of a major player from the competitive environment should both remove some of the pricing volatility from the market and give operators greater control of supply side variables. Meanwhile there is every reason to believe that the Russian ban on imports of perishable

goods from the EU, US, Japan, Norway and Australia will have a positive impact on the deepsea reefer trades. Worst hit by the ban will be the EU - the European Commission estimates Russia purchased 28% of the EU's fruit exports and more than 21% of its vegetable exports in 2011, equivalent to a total of 1.8m MT of fresh produce. Of this, 790K MT were apples, 230K MT tomatoes, 201K MT pears and 165K MT peaches and nectarines. From the US, Russia is estimated to have imported about €1bn (US\$1.3bn) of fresh food in 2013. While fresh exports from Japan and Australia into Russia are not especially significant, Norway is heavily dependent on the Baltic market for its fish exports. All of this will need to be replaced from further afield. Producers and shippers from those countries not included on the Russian black list such as Morocco, Egypt, Turkey and China as well as South Africa, Latin America and New Zealand, can expect a surge in interest from Russian fruit importers keen to supplement what they have lost. With the cost of deepsea transportation much greater than that of continental trucking services and the Russian Ruble depreciating against the US\$, there is likely to be significant cost inflation on the Russian market for the duration of the ban, currently set at 12 months.

■ Fruits: juice and pulp prices in Europe for July 2014.

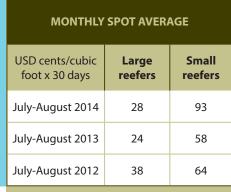
	Туре	Price (USD/t)	Source	Comments
Acerola	Frozen ss, 6-8°Brix	1 150-1 200 cfr Rotterdam	Brazil	Market well supplied, with prices falling.
	Frozen concentrate, 20-22°Brix, clear	3 000-3 100 fob Santos	DIdZII	
	Frozen concentrate, 52°Brix	8 000-8 950 cfr Holland	Ecuador	Supply still very limited, from both Ecuador and Peru. Prices
Passion fruit	NFC, 11°Brix	2 500-2 850 cfr exw Ecuador	ECUACOI	falling and demand hard to estimate because of the
	Frozen concentrate, 50°Brix	9 500-10 000 fca Holland	Peru	extended under-supply.
	ss aseptic pulp, 9°Brix, pink	700-725 cfr Holland	South	Prices have fallen for South Africa, which by comparison
Guava	Concentrate, frozen pulp, 29-30°Brix, pink	1 600-1 750 cfr Holland	Africa	makes Brazilian produce particularly expensive.
	ss aseptic pulp, 8.5-9°Brix, pink	1 200-1 300 fob Santos	Brazil	
Pome- granate	Aseptic clarified concentrate, 65°Brix	1 750-1 800 fca Rotterdam	Turkey/ Iran	Abundance of volumes continuing to drive prices downward.

Note: cfr: cost and freight / fob: free on board / exw: ex-works / fca: free carrier / Source: MNS-ITC Geneva

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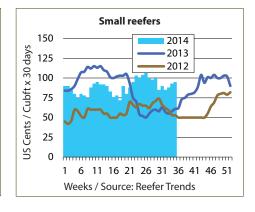
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EUROPE

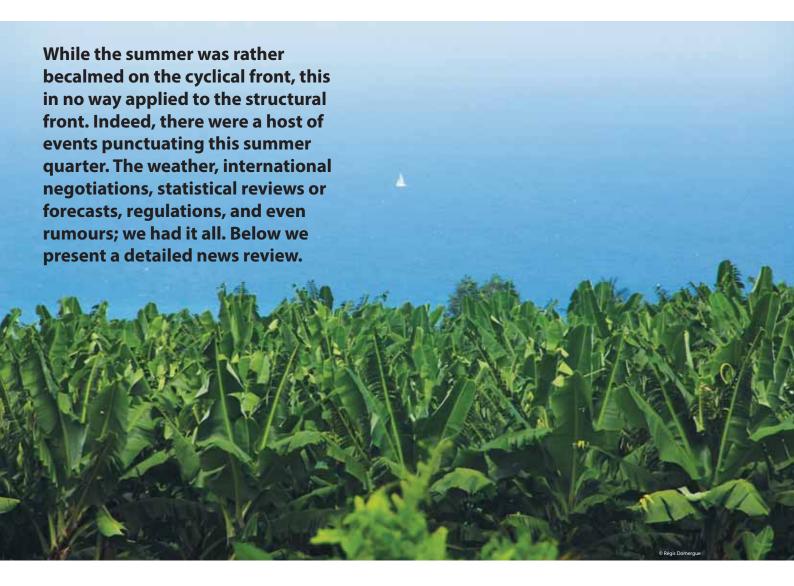
		Large reefers
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US Cents / Cubft x 30 days	100	2013
oft x 3	75	
/ Cuk	50	My my
Cents	25	M, A A A
US (0	
		1 6 11 16 21 26 31 36 41 46 51
		Weeks / Source: Reefer Trends





Banana market

Summer round-up





Importer Distributor

Sipef, Belgique

Contact: fruits@sipef.com

+ 32.3.641.97.37

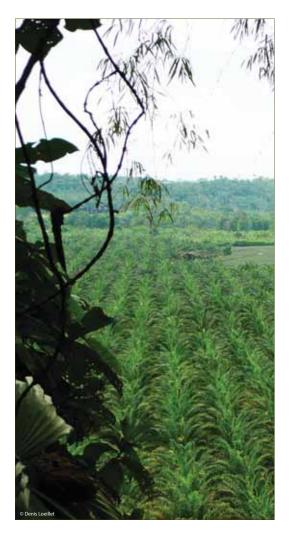
www.sipef.com/bananas.html

Producer Exporter

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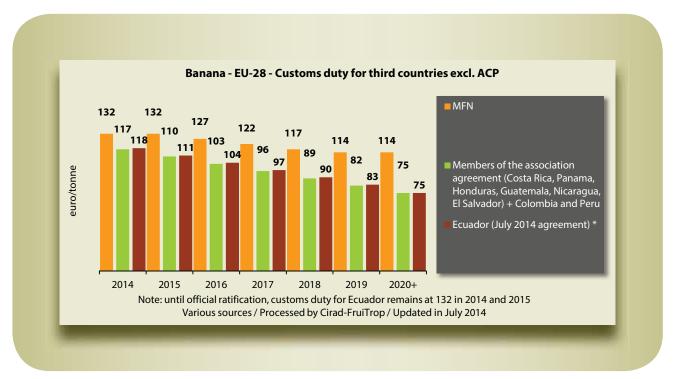


Let's start this round-up with the item on international negotiations. Ecuador and the European Union — finally! — reached agreement, in July 2014, on the level of customs fees to be applied to Ecuadorian banana imports into Europe. So after the official ratification, the Ecuadorian banana will be treated more or less like the bananas from eight other sources in the zone (Costa Rica, Colombia, Peru, etc.).

We say more or less, since while these types of discussion are generally pretty serious affairs, the negotiator's calculators actually rounded up the preferential duty levied on the Ecuadorian banana upon entering the EU; and this duty will apply only from 2016. Until then, the world's leading exporter remains subject to the common regime of 132 euros/tonne. From 2016, the duty will fall steeply down to 104 euros/t (as opposed to 103 euros for the earliest signatories), and then 97 euros in 2017. The reduction process will end in 2020 with a floor of 75 euros/t. But there is plenty of time for things to change by then. Many hope, and others also fear, that this threshold will not remain inviolate for long.

Ecuador coming to its senses

For Ecuador, it was high time to shake things up. Operators were seeing the gap with their Colombian or Costa Rican competitors widen. In 2014, it is 15 euros/t (0.27 euro/box), and will be 22 euros/t in 2015 (0.40 euro/box). Based on 1.3 million tonnes shipped to the EU, the profit loss for Ecuadorian exporters would have amounted to more than 200 million euros between 2013 and 2019. The Ecuadorian lobby did its job by persuading President Correa to stop holding up the agreement. Not to do so would have once more been very poorly received by the exporters, who seem to be the Government's bête noire. There are stacks of regulations to make the banana sector a haven for fair remuneration of the labour of workers and small producers.



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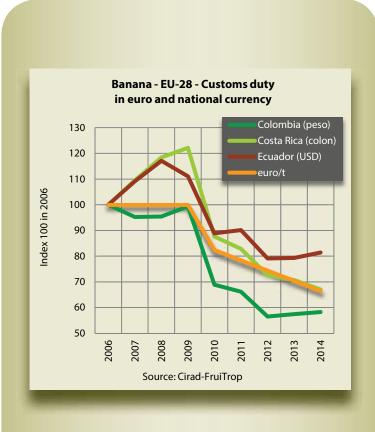
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In this context, the Government's gesture has lifted exporters' spirits. Especially since simply converting the European customs duty into the local currency shows how far Ecuador is behind its competitors. Taking 100 as the reference point in 2006, i.e. 176 euros/tonne, converted into the local currency, Ecuador is now at a mark of 81 in 2014 (mean exchange rate as at 1 September 2014), Costa Rica has fallen to 67 and Colombia to 58. Furthermore, for Ecuador, customs duty is falling slower in the local currency than in euros. The exact opposite is happening for Colombia. Unless the exchange rates take a radically different trajectory, without the July agreement, the chasm would have gone on widening.

A few cents here for salaries or for customs duty, a few cents there for Panama Canal transit, and then a few more cents handed over to the government... that is how operators were depicting the threat of a radical loss of Ecuador's market appeal. But let's leave aside the posturing and arguments more suited to lobbyists, and get back to the nitty gritty: the export figures. Since, while not being the alpha and omega of any economic analysis, the evolution of export volumes provides a rough idea of a country's appeal on the international market.



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And in this case, we cannot help but see that Ecuador is holding up rather well, to the point that it is tough to see the deterioration in its competitiveness, except through labour and environmental measures. As proof of this, according to the figures of the Interprofessional Association of Ecuadorian Exporters (AEBE): shipments to the EU over the first 7 months of 2014 literally shot up from 2013, in a leap of 39 %! If we take into account the 2011-2012-2013 three-year average, to smooth out the depressive effect of 2013, we still have a gain for 2014 amounting to 17 %.

If we extend the trend, 2014 could be the year to break all the records. If we look at exports to all destinations, the performance of 2011 will be easy to beat. At the end of August, we already had 198 million boxes, as opposed to 193 million in 2011. Ecuador will end the year at between 280 and 290 million boxes, which would be an absolute record. And El Niño will be in no condition to cut down world production to size. Each new reading says that the phenomenon is losing speed, or even completely out of action. This is good news for the populations who pay a very heavy toll every time it comes around, but it is cause for concern for the future of the worldwide market.

For the moment, everything going ok!

For the moment optimism is prevailing, since although the trend has been confirmed to the end of the year, or even for the first months of 2015, Ecuador is apparently only making up for the shortfall of volumes due to the losses declared in Colombia due to the early summer winds (several thousand hectares), the tough climatic conditions in Costa Rica or the truly staggering floods in Côte d'Ivoire, in the Niéky region (more than 1 000 ha ravaged).

In addition, on the demand side, growth is still in place. Imports into the EU have registered a performance up +5% over the first 6 months of 2014, i.e. an excess of 120 000 t from 2013. The dollar sources are on the rise, relatively, a bit less quickly than the ACP sources: +6% for the ACPs (+31 000 t) and +4% for dollar sources (+89 000 t). All the dollar sources are up, with the exception of Colombia, which is stagnant, and Brazil, which is continuing on its downward trend. As for the ACPs, the Dominican Republic,



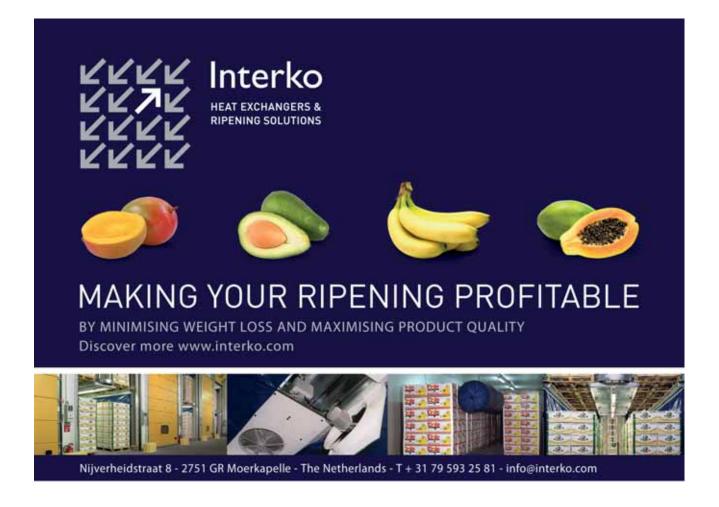
Côte d'Ivoire and Ghana are on a steep rise. The impact of the floods in Côte d'Ivoire in late June will only begin to be expressed in the import statistics from July. This will also be the case for Colombia, which has sustained massive losses in its banana plantations. European production is also set fair: + 5 % over one year. All the big sources are on the rise, with a special mention for Guadeloupe, which has gained + 15 %! European consumption estimates conducted by CIRAD-FruiTrop (including European production) exhibited a 5 % rise during the 1st half of 2014. Over this period, consumption relapsed only in May. The rise in consumption over a sliding 12-month scale (July 2013 to June 2014) is nearly 150 000 t.

United States too saw a prevailing upward trend, though in much more modest proportions: + 1 % (+ 27 000 t) in the 1st half of 2014. Guatemala and Costa Rica are up by 4 and 11 % respectively. All the other big sources are struggling. Re-exports, primarily to Canada, are greater than in 2013: + 4 %. The customs val-

ue of imports has remained stable for the past 4 years, at 445 USD/tonne.

We should recall that world banana demand is lively. In our review edition of April 2014 (**FruiTrop** no.221), we observed that consumption in 2013 was practically at a historic European peak, at nearly 5.4 million tonnes (+ 4.1 %), that it was rising in similar proportions in the United States (+ 4 %, to 4 million tonnes) and that it was shooting up in Russia (+ 7 %), reaching practically 1.4 million tonnes.

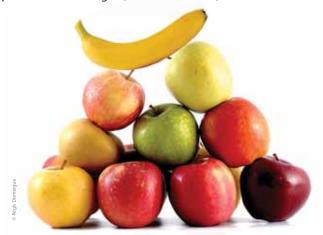
In summary, the climatic damage and positive consumption trend are enabling the market to maintain a sound balance, despite the Ecuadorian source soaring from record to record for exports. So we are ending the summer period, often dangerous for the banana sector, with highly satisfactory market conditions. The awful weather of this summer throughout Europe helped maintain interest in this fruit, even though European production of summer fruits (apricot, peach and nectarine) was abundant.

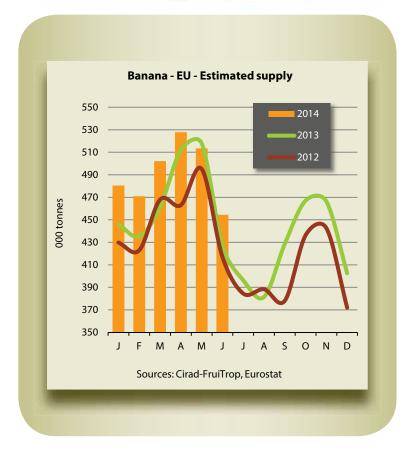




Unpredictable Russia

Outside of the banana sector, another event this summer stands out in the memory: the Russian embargo on certain European products, especially fruits and vegetables. The consequences of this embargo for the world banana market are difficult to appraise. Whatever else, they will be big. This announcement coincides with a truly alarming forecast for the European apple season... since we are set for masses of them. As the World Apple and Pear Association has announced, it is the best harvest for ten years. In this very edition, Cécilia Celeyrette (infofruit.fr) provides a detailed analysis of the situation. Apple production is set to climb 9 % from 2013, and exceed the three-year average by 12 %, reaching practically 12 million tonnes! Just under one third is produced in Poland. As our partner Richard Bright (reefertrends.com) underlines elsewhere, big





Northern Hemisphere sources are also set for steep rises: + 11 % for the United States, + 4 % for Russia and even + 10 % for Ukraine. Conversely, production is set to fall in China (- 7 %), Turkey (- 24 %) and in the Balkans (- 31 %).

A massive importer of European apples, and in particular Polish apples, Russia absorbs 7 % of the EU's production, and 57 % of the EU's total exports (2013 figures). But it is also a big consumer of European pears, peaches, nectarines and citruses... as well as vegetables. In total, the European Commission estimates the value of European fruit and vegetable exports to Russia at 2 billion euros. A major increase in worldwide apple availability, closure of an essential outlet for European fruit (and vegetable) production and increased Russian apple production potential are raising fears of imbalances that could work for or against the banana.

Since while Russia has said that it would take advantage of this trade war to develop import flows from other sources, especially for the apple, its consumption could also affect the banana, of which the Russians are very fond. The Ecuadorian surpluses could find a natural outlet, since the South American source already supplies 97 % of Russian consumption. That is behind the scenes; the main action is being played out within the EU. Poland, the other big European apple producing countries and their neighbours could act on the temptation, through price cuts, to consume the surpluses which will no longer find a taker in Russia. That would be double trouble for the banana market: a depressive effect on banana prices, and a fall in consumption.

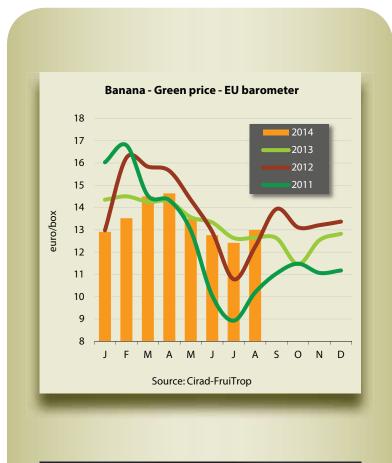
My dearest summer

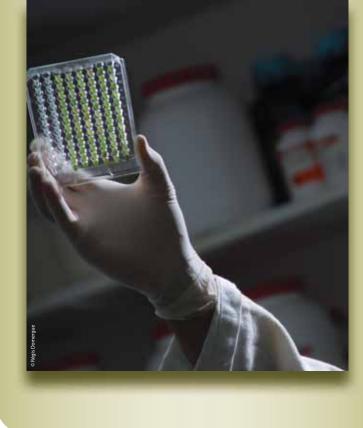
A catastrophe on the horizon, or a grain of sand in the machine; no-one can say as yet. That is a shame since, hitherto, the banana sector was enjoying a favourable trend in terms of import price, while more and more bananas are being consumed. While 2014 did not hit the highest heights, the balance for January to August shows an import price (reference: EU barometer developed by CIRAD) of 13.4 euros/box, slightly above the 2011-2012-2013 three-year average. Taking the summer period (July-August) on its own, the situation is better still, with the average price reaching 12.7 euros/box. This takes us

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slightly above the excellent summer of 2013, and 2 to 3 euros per box up on the anni horribiles of 2011 and 2012.

So for the moment, everything is working for the best. There are no stocks being deferred from week to week, there is a clear shortfall throughout Europe and prices are strong. Now we need only pass this information on to the supermarket sector, which wants to roll out its traditional autumn promotions programme without taking into account the changes in world availability. This is one of the great classics. A few years ago, FruiTrop demonstrated how Aldi managed its retail prices (i.e. its green purchase prices) completely regardless of the international cyclical conditions.

But how long will the prevailing optimism last? That is the big question. Since while there is a shortfall due to the climatic damage, a return to production will follow. If the drive from Ecuador were to persist, the second half of 2015 could see a surplus situation. But, as the worst is never certain, above all in the banana sector, let's enjoy this period of relative calm.

Rumour: the oldest medium in the world

We will end this detailed review of summer 2014 by touching on a rumour which has shaken the industry. Who would have thought that the banana, as well as all the import fruits, could be caught up in the Ebola fever virus ravaging West Africa? Indeed, the rumour, which could have rapidly turned into hysteria, spread throughout Europe. The word was that all fruits imported from Africa were carrying the disease. The European distribution sector quickly asked the import sector for explanations. The pressure eased after German's highest sanitary authorities in the field ruled out any risk of the disease spreading in Europe via fruit imports. Let's hope that this vicious rumour has joined the pantheon of true-false news, such as the imminent extinction of the banana (2003 and then 2014), the carnivorous banana (Mozambique, 2011) or even the notorious Euro-myth that the European Commission imposed regulations on the curvature angle of bananas (1994) ■

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European apples and pears in 2014

Pips in focus



Nearly 250 representatives of the apple and pear sector came together, as they do every year, for the 38th Prognosfruit Conference which was held in early August in Istanbul, Turkey. Apple production of the EU-28 is again set for a very good level. The harvest could even return to the strong level of 2012, i.e. 11.9 million tonnes (+ 9 % from 2013). The situation is more qualified for the pear, since the climatic conditions have not always enabled all the big producer countries to fully express their potential. The harvest is reportedly even slightly smaller than last year (2.3 million tonnes, -2% on 2013), a long way down on the 2011 level (2.6 million tonnes). However, the characteristics of the 2014 vintage will be more favourable for fruit sales. with smaller volumes and a better size range than last year.



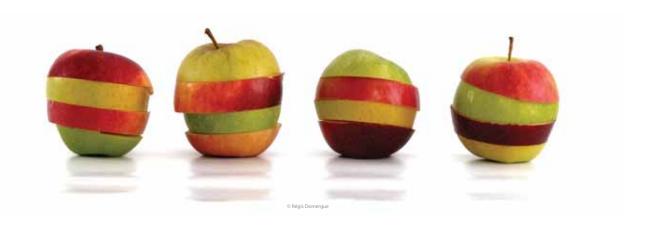
Apple - EU-28 - Harvest forecast				
	2014-15	Variation on		
000 tonnes		2013-14	average for last 5 years	
EU-28 total	11 893	+9%	+ 13 %	
incl. EU-15	6 956	+8%	+ 5 %	
Italy	2 388	+ 13 %	+ 11 %	
France	1 487	-6%	- 3 %	
Germany	1 036	+ 29 %	+ 12 %	
Spain	446	- 4 %	- 4 %	
Netherlands	350	+ 11 %	0 %	
Belgium	301	+ 37 %	+9%	
Portugal	264	- 7 %	+ 2 %	
Greece	231	- 2 %	- 8 %	
United Kingdom	225	+ 10 %	+ 11 %	
Austria	188	+ 21 %	+9%	
Denmark	24	+4%	+ 13 %	
Sweden	16	-6%	- 7 %	
incl. NMCs	4 935	+ 10 %	+ 28 %	
Poland	3 540	+ 12 %	+ 36 %	
Hungary	780	+ 33 %	+ 48 %	
Romania	285	- 22 %	- 26 %	
Czech Rep.	116	- 4 %	+ 2 %	
Slovenia	68	+ 21 %	+ 12 %	
Croatia	62	- 35 %	- 20 %	
Slovakia	45	+ 7 %	+ 18 %	
Lithuania	27	- 33 %	- 46 %	
Latvia	12	- 20 %	+ 5 %	
Source: WAPA				

European apple market set to be highly competitive

The climatic conditions have overall been highly favourable to fruit setting in most of the countries. Hence after an already very plentiful season, the 2014 apple harvest is set to be fairly abundant, though the picture falls short of the ideal in terms of the number of fruits, and disparities between production zones. Hence the North European countries, i.e. Germany, the United Kingdom or to a lesser degree Benelux, should make a comeback after the shortfall registered last year. The harvest could even reach a record level in Italy, while it appears to be down slightly in the other South European countries, including France. Hence the sales could be disrupted, with another fall in shipments from Southern Europe to Northern Europe.

Production should also be abundant in Eastern Europe, with probably a new record for Poland and Hungary, while export opportunities to other East European countries appear to be more restricted. Indeed the Russian embargo should be a big burden on exports, especially from Poland, which ships out nearly 70 % of its volumes to Russia. The harvest is also set for a very good level in this country (1.7 million tonnes), as well as Belarus (160 000 t). Ukraine could register a production record of 1.3 million tonnes (+ 20 % on the 3-year average).

Long-distance exports could be held up by the leftover Southern Hemisphere apples, while the United States is preparing to gather





Apple - EU-28 - Harvest forecast by variety				
		Variation on		
000 tonnes	2014-15	2013-14	Average for last 5 years	
Golden Delicious	2 587	+2 %	+4%	
Gala	1 294	+ 7 %	+ 17 %	
Idared	1 096	+4%	+ 31 %	
Red Delicious	635	+6%	- 1 %	
Jonagold	562	+ 12 %	- 4 %	
Shampion	481	+ 5 %	+ 35 %	
Jonagored	443	+ 30 %	+ 72 %	
Club varieties	437	+ 2 %	+ 87 %	
Elstar	426	+ 23 %	+7%	
Granny Smith	356	- 1 %	+ 1 %	
Fuji	317	+ 2 %	+ 24 %	
Braeburn	313	+ 4 %	+ 3 %	
Cripps Pink	220	+ 18 %	+ 32 %	
Gloster	200	+ 2 %	+ 32 %	
Jonathan	163	-8%	- 33 %	
Reinette Grise	116	- 4 %	+ 16 %	
Morgendurf/ Imperatore	83	+ 46 %	+ 30 %	
Boskoop	81	+ 40 %	+ 22 %	
Pinova	76	+ 23 %	+ 86 %	
Cox Orange	33	- 21 %	- 49 %	
Lobo	30	0 %	- 56 %	

the biggest harvest in their history (5.8 million tonnes, + 18 % on the three-year average). Only China should register a small downturn (35 million tonnes, - 7 % on 2013), which should bring down the total Northern Hemisphere production by 3 % from 2013.

Two-tones in abundance

The return of North European countries to production should result in a good harvest level for two-tones, especially Elstar, Idared and Pinova, and for end-of-season varieties (Jonagold/Jonagored). Production could be slightly greater than last year for Gala and, more modestly, for Braeburn and Fuji. It is set to be much greater for Cripps Pink, with the constant growth of surface areas. For the other club varieties (Ariane, Belgica, Cameo, Diwa, Greenstar, Honey Crunch, Jazz, Junami, Kanzi, Mariac, Rubens, Tentation, Wellant, etc.), there is no really significant growth. The harvest should be close to last year's level for Golden Delicious and Granny.

A bit less pressure for the pear

The pear harvest forecasts are a bit more lukewarm, although the climatic conditions were good during flowering and fruit-setting in most countries, except for Italy. The potential is in particular slightly lower in South European countries, after a very abundant 2013. Italy and Portugal, although at production levels comparable to previous years, will be a long way from expressing their full potential (966 000 t for Italy, and 210 000 t for Portugal in 2011). This fall can be explained by the restricted potential for certain varieties in Italy (Kaiser, Santa-Maria and Comice), and by too short a flowering period in Portugal. Production in France is continuing to fall. Conversely, it is still growing in Northern Europe, with the growth in surface areas. We are expecting a new production record in Belgium and the Netherlands, although these countries were affected by hailstorms in June. The size range should be up on last year.



Pear - EU-28 - Harvest forecast				
	2014-15	Variation on		
000 tonnes		2013-14	average for last 5 years	
EU-28 total	2 272	- 2 %	- 3 %	
incl. EU-15	2 161	- 1 %	- 3 %	
Italy	707	- 3 %	-8%	
France	371	-8%	- 12 %	
Germany	340	+8%	+18 %	
Spain	336	+ 3 %	+ 17 %	
Netherlands	176	+9%	+ 3 %	
Belgium	135	- 14 %	- 18 %	
Portugal	35	+9%	- 15 %	
Greece	30	- 12 %	- 27 %	
United Kingdom	24	-8%	- 18 %	
incl. NMCs	111	- 20 %	- 14 %	
Poland	50	- 23 %	- 15 %	
Hungary	31	- 14 %	- 3 %	
Romania	19	- 21 %	- 17 %	

Source: WAPA

Pear - EU-28 - Harvest forecast by variety				
		Variation on		
000 tonnes	2014-15	2013-14	average for last 5 years	
Conference	889	- 1 %	+ 5 %	
Abate Fetel	356	+ 17 %	+ 19 %	
William BC	256	- 10 %	- 13 %	
Rocha	176	+9%	+3%	
Comice	87	+ 5 %	- 6%	
Coscia-Ercollini	68	- 15 %	- 23 %	
Guyot/Limonera	66	- 18 %	- 25 %	
Blanquilla	41	- 24 %	- 43 %	
Kaiser	28	- 48 %	- 46 %	
Passe-Crassane	12	- 14 %	- 27 %	
Durondeau	6	0 %	-6%	
Others	286	- 10 %	- 11 %	



Risk of heavy impact by the Russian embargo on pears

With the potential avoiding excess, the sales prospects were set to be favourable, especially at the beginning of the season once the leftover Southern Hemisphere pears had been sold off. Indeed, the summer pears potential was low, for Guyot (- 23 % on 2013 in France), Williams (- 28 % in France and - 6 % in Italy) or Coscia-Ercollini (- 18 % in Italy), or even for other varieties such as Blanquilla or Kaiser. But the Russian embargo rapidly wiped out the advantage from the small harvest, heavily burdening sales of these varieties. It could also deal a major blow to Conference, after an overall harvest potential set to be average, between the South European shortfall and hail in Northern Europe. The countries most affected should be Belgium, which exports 40 % of its volumes to Russia, and to a lesser degree the Netherlands (15 %). The potential should avoid excess for Comice (- 6 % on the 3-year average), and above all for Passe-Crassane (- 27 %), with the surface areas shrinking every year. Furthermore, although distinctly more abundant than last year and the average, the harvest ought not to reach the 2011 level either for Abate Fetel (404 000 t). The Rocha harvest should at the very most be within the average for the past 5 years, without reaching the 209 000 t of the 2011-12 season. The direct impact of the Russian embargo should be small for these sources, with this outlet representing just 5 % of their respective exports. Nonetheless, they could be indirectly hindered by the transfer of North European volumes on the intra-Community market ■

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A report by Éric Imbert

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Avocado post-harvest

Avocado Avocado Avocado Vocado



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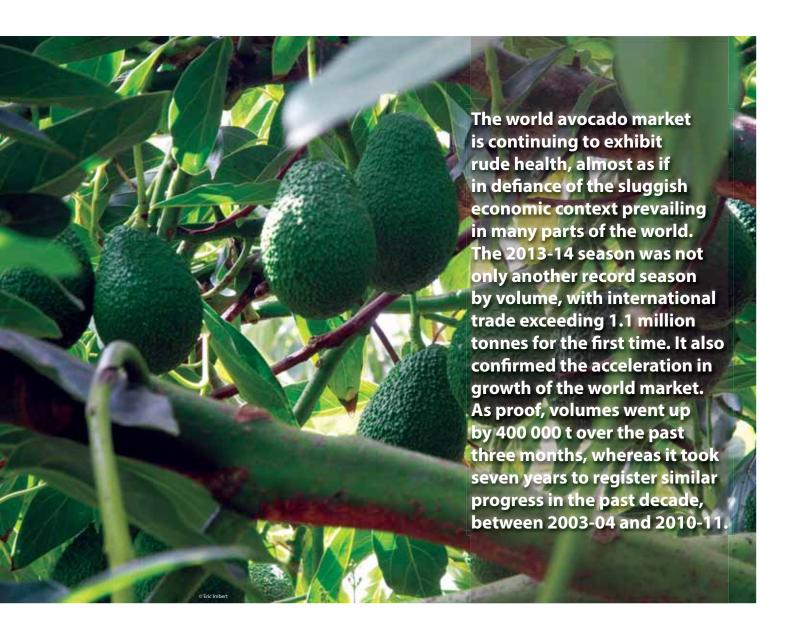


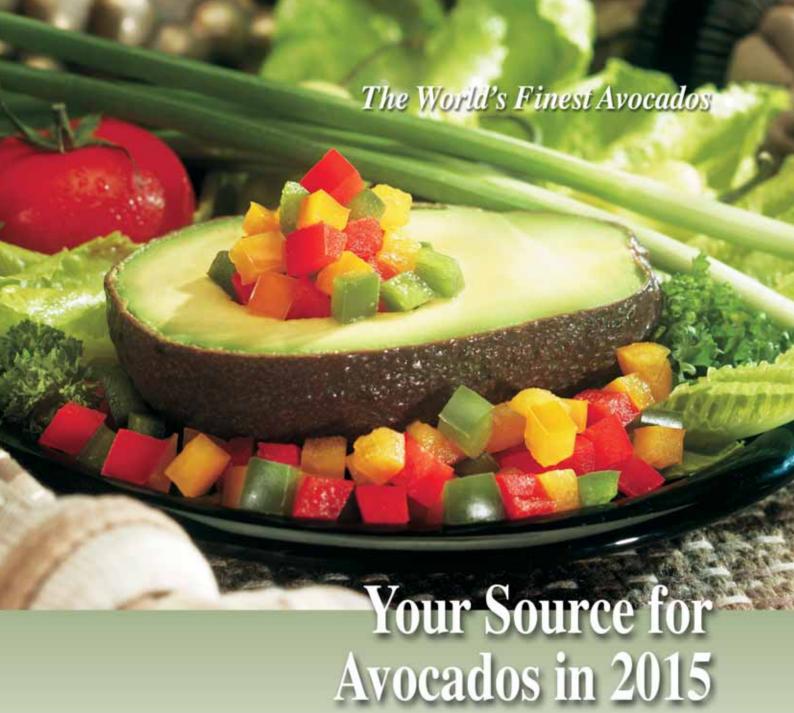




World avocado market in 2013-14

European Union stronger than the United States





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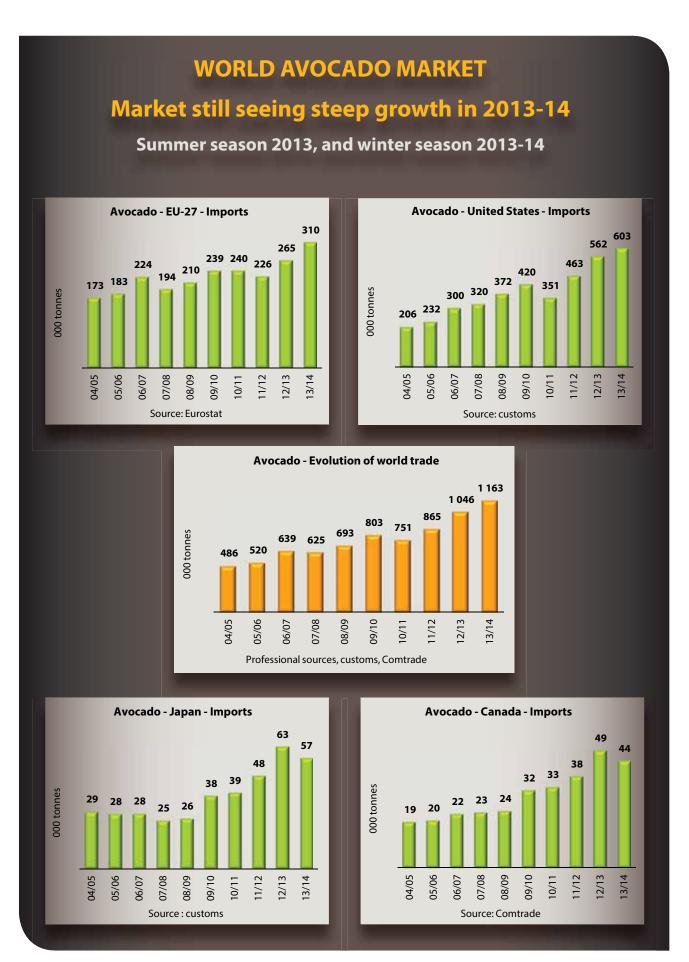
Growth down in the United States, but running on empty

The US market, still by far the world's number one, of course continued to drag international trade upward. Imports recorded between July 2013 and June 2014 rose by approximately 40 000 t from the previous season, culminating in a record level slightly in excess of 600 000 t, i.e. just over half of world trade. A performance to be hailed, although its level is considerably down on the previous two seasons, when growth was around 100 000 t. This slowdown must be put into context, and very fortunately, does not seem to indicate waning interest from US consumers in the avocado.

Consumption trend still as strong as it is reassuring

It is fuel that seems to have been in short supply to feed the insatiable appetite of the US market, with Mexican production only maintaining a stable level. Figures from the consumption boards are still very reassuring. Sales climbed 13 % between 2012 and 2013. The performance followed the same trend in Q1 2014 (+ 8.5 %), according to the latest data available. While the maturity of the Californian market seems to have been confirmed (+ 2.5 % between 2012 and 2013, and down slightly in Q1 2014), the mechanisms for growth are in place. The dynamic remains highly pronounced in other Western States and in the Mid-South States (Texas, Louisiana, Oklahoma and Alabama), markets now not far removed in size from California. Furthermore, it has been confirmed that the graft is taking in the highly populated and still low-consuming areas in the east of the country: growth remains just as explosive in regions such as the rich North-East, the Great Lakes, the Centre and South-East (up 20 to 25 % between 2012 and 2013, and around 20 % in Q1 2014, except in the Great Lakes). So the future appears assured, at least in the medium term, especially since the rise in volumes came without affecting the price levels. The indicator calculated by our Market News Service has registered a distinct rise from the tough 2012-13 season, returning to a level within the average for the past 4 years.

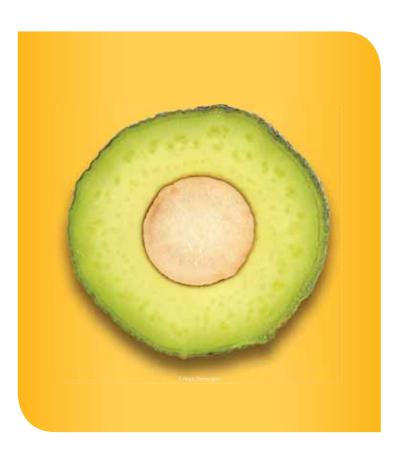






Explosive growth in the EU, confirming the market's surge

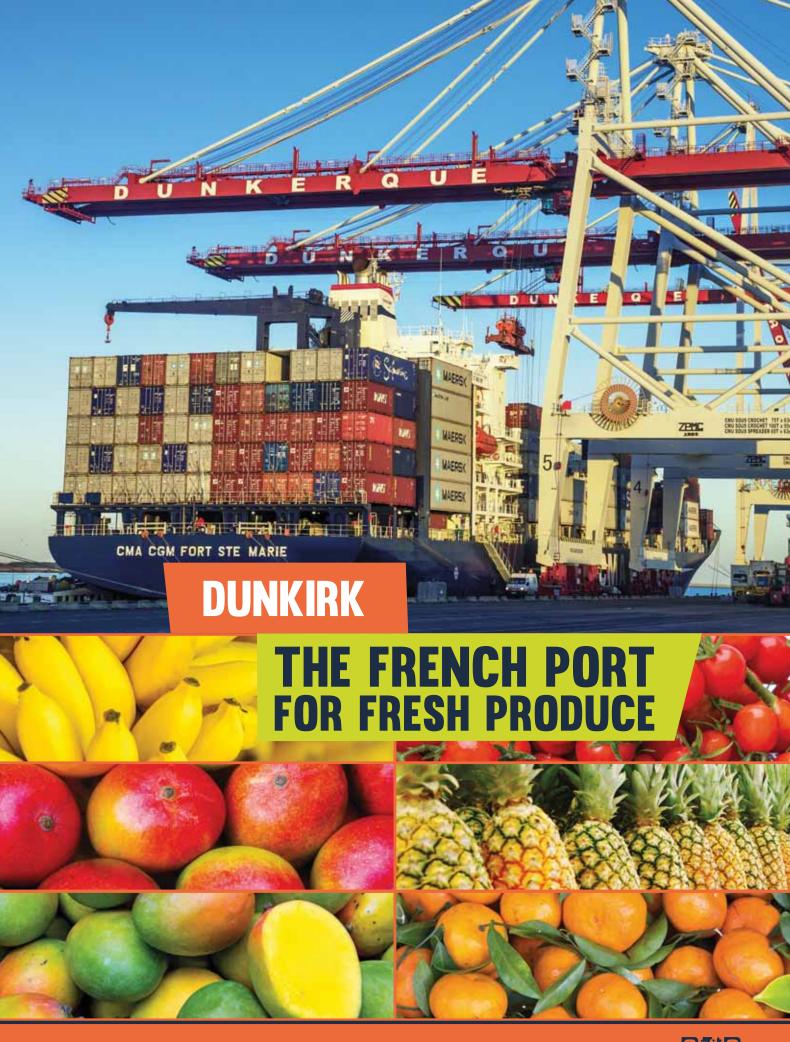
The surge of the EU-28, perceptible in 2012-13, was confirmed in the finest style. The rise in import volumes, of approximately 45 000 t, was greater than the 40 000 t registered in 2012-13 and, for the first time, exceeded the level of the US market. A symbolic success, it is true, which should soothe the spirits of the operators who have invested heavily and worked tirelessly to this end over the past few years. The rise in the summer market, which should be around 30 000 t from 2013, comes as no surprise. The growth in Peruvian imports, regular for the past ten years, and still very pronounced during the 2013 season, enabled the summer market to climb by 80 000 t between 2004 and 2014. The main factor to underline is the fine performance of the winter market. The rise in volumes in 2012-13, after a long period of quasi-stagnation, found clear confirmation. Imports went up by 30 000 t, peaking at a record level slightly above 160 000 t.



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Prices at a good level, particularly thanks to the astounding first half-year!

Just as in the United States, the fine price performance during the 2013-14 winter season is demonstrating that a fundamental growth trend in consumption has set in on the Old Continent (see next article). The indicator calculated by our Market News Service for the 2013-14 season based on the size 18 was down on the past two seasons, but remains at an excellent level, 4 % above average. The first half was purely and simply astounding! Our indicator climbed from early January to be on familiar terms with the 10-euro mark in late February, despite a record supply for this period, 15 % above the supply from the previous season and approximately 1.4 million boxes per week. As the cherry on the cake, it held up at between 8.50 and 9.50 euros/box from mid-February to mid-May, despite average imports of 1.7 million boxes per week, i.e. 26 % more than during the previous season.



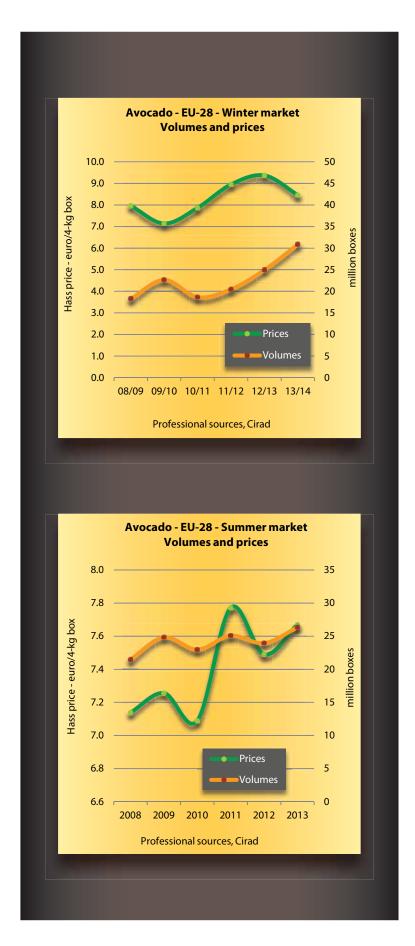












No fuel to feed growth of outsiders

The dynamic of the two world leaders has literally dried up the world market, and consequently, starved the other markets. Hence the slight downturn in the Japanese and Canadian markets, respectively no.3 and 4 in the world, should be interpreted as a hiatus in growth, rather than an abrupt turnaround in consumer interest in the avocado. In both cases, imports are down approximately 5 000 t because of the tension on Mexican fruits, an essential source in feeding these two markets. Imports registered 57 000 t to Japan and 44 000 t to Canada, i.e. respectively 4 and 5 % of the world market. The sole exception among the outsiders is the really fine dynamic holding up in Russia. The growth rate has been 2 000 t per year since 2010, thanks in particular to the volumes of green varieties released by the Western European markets, less and less interested in these cultivars. The volumes base nonetheless remains relatively modest, at slightly under 15 000 t.

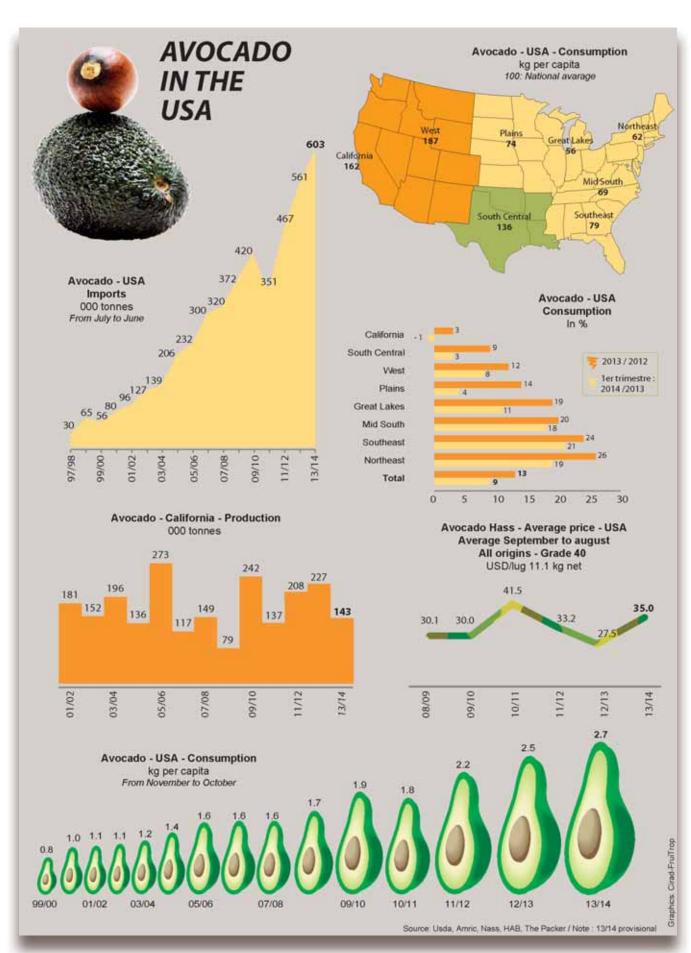
A reassuring and above all highly promising balance

The balance for the 2013-14 season is a positive one in more than one sense. On the one hand, it unsurprisingly confirms the overall dynamic of the world market, with growth once again registering a two-digit figure.

On the other hand, with another year of strong growth in EU imports, it demonstrates that a new driving force on the world market has started up, and that it is no less powerful than the US market, if it is given fuel (see next article). Finally, the high price levels registered on the two big world markets mentioned above reassure us of the solidity of demand in the medium term, while the intermediate markets are no longer managing to find the volumes necessary to take off. Yet we shouldn't jump the gun: the summer season, which is ending on the Community market, has demonstrated that the risks of oversupply are still there (see summer review inset)

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Initial review of the 2014 summer season: 6 weeks of very costly oversupply

A record winter season, followed by a record summer season. And the word is far from getting around, in view of the volumes received in the EU-28. According to an initial estimate drawn up from professional figures, the overall supply registered a rise of approximately 20 000 t, approaching 170 000 t. Practically all the supplier countries to the European market shipped out record volumes. This was clearly the case with Peru, whose shipments to the Old Continent probably grazed the symbolic 100 000-t mark. Overall, this source will have exported nearly 170 000 t of avocado this season, if we take into account the 65 000 t aimed at the US market. This makes a rise of more than 60 000 t from the 2013 season, which says a lot about the current growth dynamic.

The growth in South African surface areas is also showing through in the volumes shipped to the EU this season. Just as for Peru, an incoming shipments record was beaten, with probably more than 55 000 t. The Brazilian challenger also saw a considerable rise, reaching a high point with approximately 5 000 t. The only under-performance to report is from Kenya, with incoming shipments to Europe down by approximately 4 000 t. But can we really talk about under-performance? Since while incoming shipments of green varieties, which for a long time formed most of the Kenyan supply, have rapidly faded (barely more than 1 000 t this season), Hass shipments have held up very well, rising from 2013 to near the 2011 record.

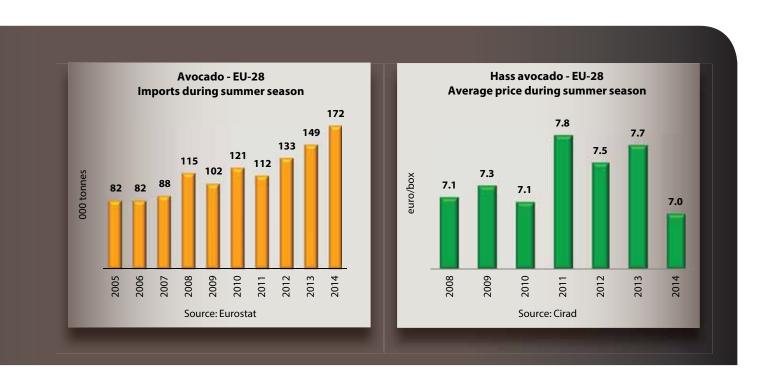
How did prices react to this rise in volumes? With a level of nearly 7.00 euros/box, our indicator based on the size 18 registered a downturn of just less than 10 % from previous seasons. The level of rates was particularly poor, at between 5.25 and 6.25 euros/box for three long months from early June to early September. This crisis was due primarily to a one-and-a-half month period of clear oversupply. From early June to mid-July, volumes reached an irrational level of between 1.8 and 2.0 million boxes per week, up 25 % from 2013, and more than 60 % from 2012. Which is a shame, since the market had demonstrated a very fine durability at the beginning of the summer season, with our price barometer continuing to fluctuate above the 9.00-euro mark, despite a very high weekly supply rate of approximately 1.7 million boxes. The additional one million boxes sold from early June to mid-July therefore cost all the links in the industry very dear, since it led to a price fall of more than 3 euros per box for three months!

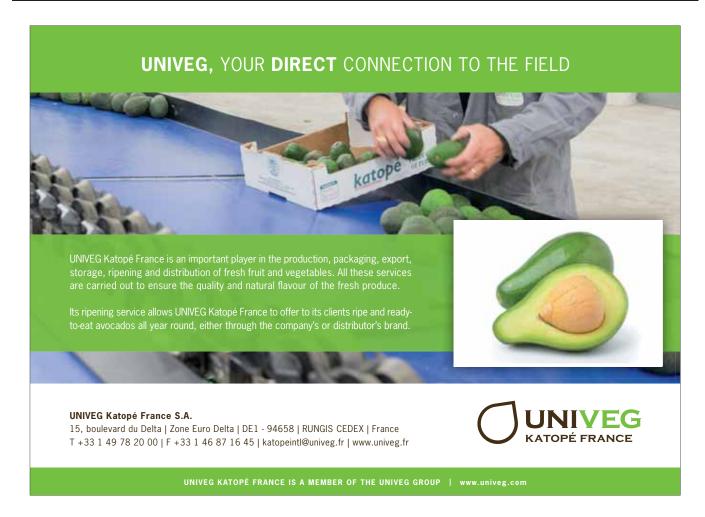


Avocado — EU-28 — Imports during summer season												
tonnes	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014*
S. Hemis. total	68 477	62 333	82 391	82 180	87 748	114 569	102 317	120 933	111 564	132 738	148 666	171 500
Peru	11 266	14 590	18 096	30 508	35 857	49 829	45 661	56 345	66 155	62 618	86 260	100 000
Southern Africa**	36 404	30 528	47 906	36 589	38 445	51 109	38 821	47 800	27 375	49 083	45 165	57 000
Kenya	19 828	16 236	15 458	13 641	11 999	11 841	15 038	14 123	15 028	17 078	13 313	9 500
Brazil	979	979	931	1 442	1 447	1 790	2 797	2 665	3 006	3 959	3 928	5 000

^{*}Estimate / **South Africa + Zimbabwe + Swaziland / Source: Eurostat











European avocado consumption

A record vintage in 2013-14...
and set to usher in more

It has practically given cause to claim victory! The 2013-14 season shows that the import sector's efforts to develop consumption in Europe, striving in particular to improve the quality of fruit available to the general public, through varietal change and the ready-to-eat segment, are working. It is a real source of pride for the initiators of this approach, which are most often small or medium facilities which have had to invest heavily to dare to pick up the gauntlet thrown down by the American operators.





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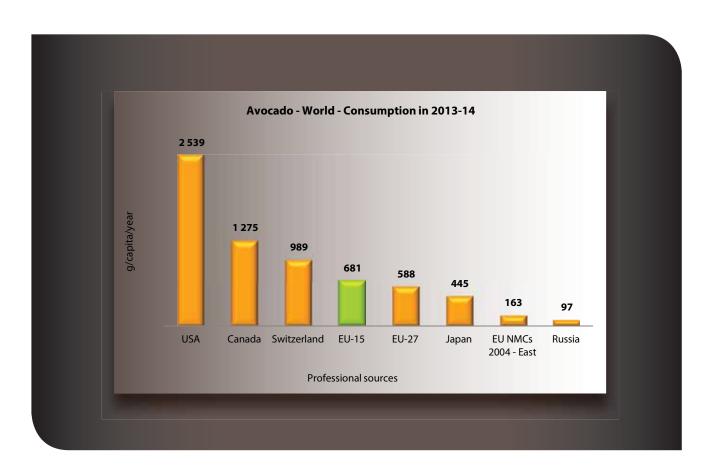






Three avocados on average per year per capita

According to our estimates, European consumption amounted to approximately 290 000 t from June 2013 to May 2014. This figure takes the volumes absorbed per capita in the EU-28 to just under 600 g/year. This average level does not carry much significance, since it conceals a still very marked difference between the East and West of the Community. Despite an increasingly pronounced dynamic, the inhabitants of Eastern Europe consume just one little avocado per year (just over 160 g, i.e. one size 24 fruit). It is still the Western part of the continent which is driving the market, but again with volumes remaining restricted in comparison with other high-revenue zones. The almost 700 g consumed today per capita per year (i.e. approximately 3 size 18 fruits) is a long way from the Swiss consumption level of 1 kg, the Canadian level of nearly 1.3 kg, and even further from the US level of 2.5 kg; markets which, in addition, are far from being mature, and are continuing to exhibit a fine dynamic. In short, the European market has started to make good steps forward, but it still has a long way to go.



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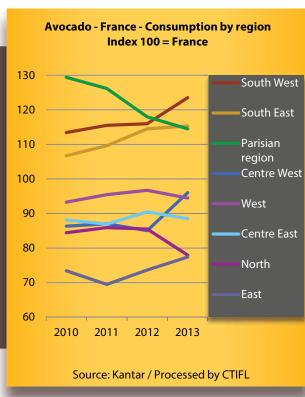
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France on top!

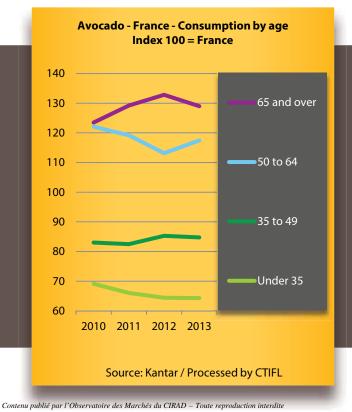
As the old adage says, some things get better with age. France, the pioneering market where the avocado hatched in Europe, and which has ever since been number one in terms of volumes, is also the market which best rode the wave of growth of the 2013-14 season. Volumes, up 8 000 t from the previous season, approached the consumption record of 90 000 t set in 2004-05. If we believe the data of the consumption boards, this boom is mainly due to greater popularity of the avocado in under-consuming regions, which augurs well for the future! The product is increasingly breaking into Eastern France, which is nonetheless well behind despite a fine rise. A similar observation can be made for Central France, and to a lesser degree in the West. The sole exception of note is the fall in consumption in the North, probably associated with the low revenue levels in some parts of the region, the product being increasingly consumed among the better-off segment of the population. As for the big consumers, the South's infatuation with the avocado is intensifying, unlike the Paris region which is still among the aficionados of the product, but has lost more than 15 index points 3 in years! This downturn is amazing for this part of the country where average revenues are the highest in France. Another cloud on the horizon is that the avocado is highly consumed by the oldest segment of the population, while its popularity is tending to drop among young people - a trend which also seems to be linked to the rise in the retail price.

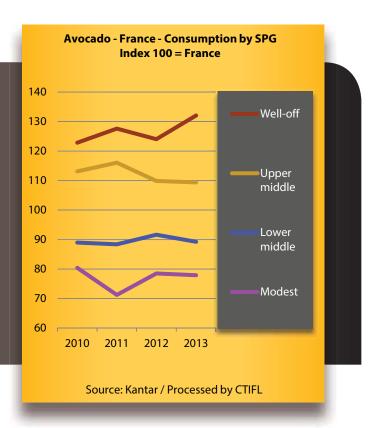


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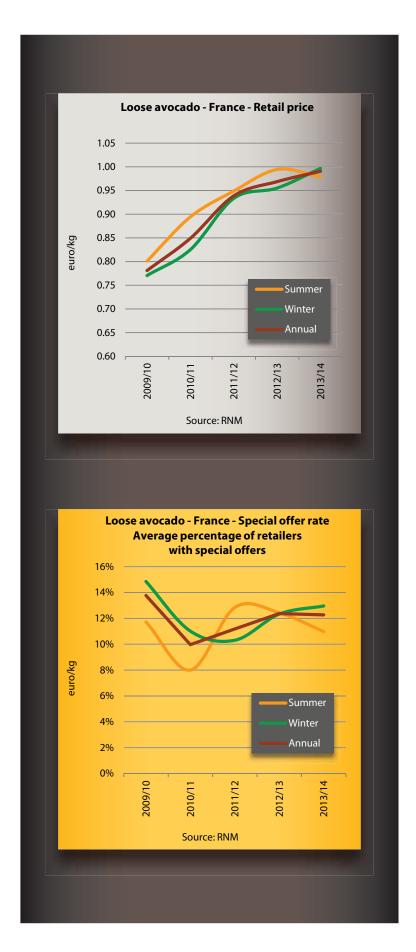












Quality comes at a price, but it is driving the market upward in France!

It cannot be said that the spectre of deflation, threatening the economies of the Old Continent, has hovered over the French avocado market. With practically the whole distribution sector switching to triggered fruits, retail prices have continued to rise, reaching a record level near the one-euro mark on the loose market segment. This is a dazzling demonstration that the consumer is prepared to pay a bit more as it happens approximately 15 to 20 % — to be guaranteed a product that they can at least eat (no more avocados that never ripen), and that in most cases will meet their expectations in terms of taste. Nor have distributors needed to drive sales by increasing the promotional activity, with the number of promotions keeping to the average despite the abundance of volumes to sell. This model, which demonstrates that quality is able not only to increase consumer satisfaction, but also turnover for the benefit of all links in the industry, must be contemplated for other products and, first of all, for other climacteric fruits. We can only encourage the efforts made in this respect also by the imports sector to develop a similar approach with the mango. The same could apply to the grapefruit for example, where more relevant segmentation would make it possible to demarcate fruit from tropical regions.

An excellent balance in the United Kingdom

The results are lukewarm in Europe's two other big consumption centres. The United Kingdom has recorded a very fine performance, doing more than confirming its little leap made in 2012-13 after a long flat period, registering a spectacular increase of 15 %. This long-term success relies on two pillars. On the one hand, the communication campaigns conducted for the past few years have made it possible to persuade a good proportion of consumers that the avocado is a health fruit, emphasising in particular the qualities of its fatty acids. Furthermore, banking on quality, in the form of developing clear segmentation, seems to be bearing fruit. The vast majority of distribution sector sales now comprise ready-to-eat fruits (pack of 2 fruits, generally size 20 to 22, or even





24). The remainder of sales (generally in loose form, from sizes 14 to 16, or even 12 more recently, a baby pack of 3 small fruits of size 28 to 32) comprise triggered fruits. Hence the British market is now hot on the heels of Scandinavia, with its consumption in excess of 43 000 t.

Mixed fortunes for Scandinavia

The balance is much more qualified in this northern part of the continent. The maturity of the two main markets has been confirmed. Consumption stabilised in Sweden, where volumes per capita are slightly above the 2 kg/year mark. In Denmark, they actually saw a considerable decline. Conversely, the growth trend which had established itself on the Finnish and Norwegian markets two or three seasons ago seems to be consolidating. The annual consumption per capita is now approaching the one-kilo mark in Finland, and the (fateful?) 2-kg mark in Norway.

Germany corroborated and into overdrive!

The 2013-14 season confirmed that the German market was among the most promising. Consumption beat a new record of 27 000 t, up by approximately 2 000 t from the previous season. Hence it has climbed more than 10 000 t since the market's first steps at the end of last decade, and the tempo should pick up considerably over the coming years. The switch from green varieties to triggered Hass, the main factor behind the awakening of the market, has now spread

practically across the board. Aldi Nord took the plunge approximately one year ago, and Lidl last season, following the trail blazed by the pioneering Aldi Sud at the end of the previous decade. Hence approximately 90 % of the German distribution sector has now opted for quality, and has been rewarded by sales quadrupling in certain stores. Another important factor for the development of consumption on this highly price-responsive market: size range tailored to consumer revenue. Indeed, the distribution sector is mainly working with big fruits in the urban areas, and more modestly sized avocados in rural areas. Similarly, the discount stores are offering smaller fruits (16-18 for example) than the conventional supermarkets (14).

"Little markets" taking off, but will they gain altitude?

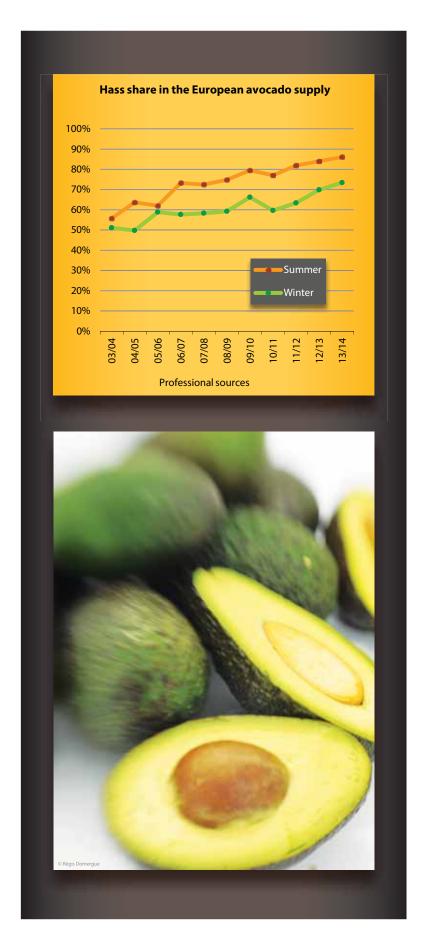
Goods news too from Western Europe's "little markets", which weigh in at under 10 000 t. Italy, hitherto among the non-subscribers in terms of the avocado, seems to be showing some initial signs of awakening. For the first time, consumption took off from 4 000 to 5 000 t per year. Nonetheless, the prospects seem modest for the medium term. While the avocado is now present on supermarket shelves (green varieties of size 10, or even 12), it is still very much an exotic fruit. Hass is very scarce and little known (except for some ready-to-eat fruit packs available from certain supermarkets), and gaining public approval is a challenge calling for heavy investment that no professionals seem to want to take on at present.

The same observation can be made in Austria, where an initial leap was observed, with volumes taking off from 2 000 to 2 500 t/year. Conversely, the Irish market remained completely static.

Eastern Europe: markets which now matter

The East European markets registered another brilliant performance in 2013-14. Just as between 2011-12 and 2012-13, the rise was approximately 4 000 t, taking overall consumption to nearly 16 000 t. Practically all the markets in the zone registered spectacular increases, of around 45 % on average from last season. Poland and the Baltic States remain the regional





champions, with consumption levels nudging the 5 000-mark t in 2013-14. Romania, Hungary and the Czech Republic come next, with volumes of between 1 000 and 2 000 t. This dynamic is very good news in more than one respect. On the one hand, it is an opportunity to familiarise consumers from these regions with the avocado, hitherto very little known, thanks to the accessible introductory prices of the green varieties. On the other hand, it is reassuring as to the future of the green varieties. These cultivars, which continue to represent a significant proportion of production for certain supplier countries (approximately one quarter of the Spanish supply, two thirds of the Israeli supply and one third of the South African supply), now have only a very restricted outlet in Western Europe. During this last season, they represented just one guarter of volumes consumed during the winter period, and under 15 % of volumes during the summer period.

Big growth margins

The growth trend which has taken hold on the Community market seems to be solid, provided that the fuel is there (see next article). While there are clearly margins for growth, how big are they? We should seek some answers to this difficult question in the analysis of the markets where consumption is tending to stabilise, a probable sign of approaching maturity. Are the volumes absorbed by the big Scandinavian markets, such as Sweden or Denmark, which seemed to stall once they passed the 2 kg/ capita/year mark, good gauges for the markets of non-producer countries? True, competition from local produce on the same segment is less than in Southern Europe, but the climate is also less favourable for consumption of raw vegetable salads. If we can believe the Freshfel estimate of overall fruit consumption in the various Community countries, Sweden is actually slightly under-consuming in relation to France or Germany. Although this consumption level might represent only a very rough marker, the big European markets are still a very long way from it: more than 600 g/capita for France, more than 1.3 kg for the United Kingdom and more than 1.7 kg for Germany. Hence even if we take only these three driving markets, which together represent a population of more than 200 million, the growth margins are enormous! ■

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Avocado — Consumption in Europe (EU-27 + Norway)								
	Estimated			2013-14 co				
	marketed volume in 2013-14 (tonnes)	Population in millions	Consumption per capita (grams)	2012-13	average 2009-10 to 2012-13	GNP-PPS (index)		
EU-27 + Norway	289 357	495.0	585	+ 18 %	+ 23 %	100		
EU-15 + Norway	273 103	401.2	681	+ 16 %	+ 21 %	111		
France	88 656	65.9	1 345	+ 10 %	+ 14 %	108		
Scandinavia	43 709	25.8	1 694	+ 16 %	+ 24 %	136		
Sweden	19 924	9.6	2 075	+ 2 %	+ 25 %	127		
Denmark	8 719	5.6	1 557	- 30 %	- 20 %	125		
Norway	9 877	5.1	1 937	+ 33 %	+ 69 %	191		
Finland	5 189	5.5	943	+ 62 %	+ 147 %	112		
United Kingdom	43 182	64.3	672	+ 16 %	+ 24 %	106		
Germany	27 109	80.8	336	+6%	+ 22 %	124		
Netherlands	27 117	16.8	1 614	+ 124 %	+ 34 %	127		
Spain	21 413	46.5	460	+ 42 %	+ 19 %	95		
Italy	6 425	60.8	106	+ 29 %	+ 36 %	98		
Belgium	5 180	11.2	463	- 15 %	+ 18 %	119		
Austria	3 428	8.5	403	+ 47 %	+ 38 %	129		
Portugal	2 431	10.4	234	- 18 %	- 12 %	75		
Ireland	2 219	4.6	482	+8%	+4%	126		
Greece	1 967	11.0	179	- 1 %	+ 11 %	75		
Luxemburg	267	0.6	485	+ 31 %	+ 25 %	264		
Eastern Europe NMCs	16 254	99.7	163	+ 45 %	+ 107 %	68		
Poland	4 724	38.5	123	+ 58 %	+ 99 %	68		
Baltic states	4 823	6.2	778	+ 35 %	+ 78 %	71		
Czech Republic	1 373	10.5	131	+ 43 %	+ 113 %	80		
Slovakia	601	5.4	111	+ 5 %	+ 46 %	76		
Hungary	1 311	9.9	132	+ 101 %	+ 158 %	67		
Slovenia	773	2.1	368	- 17 %	+ 183 %	83		
Romania	1 852	19.9	93	+ 78 %	+ 223 %	54		
Bulgaria	541	7.2	75	+ 61 %	+ 122 %	47		
Croatia	256	4.2	61	+ 85 %	nd	61		

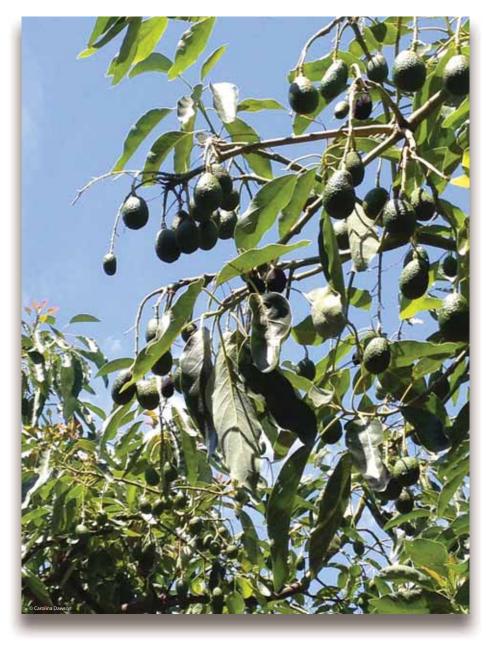
From June 2013 to May 2014 / Import-export+production / Sources: Eurostat, FAO, professionals





European avocado market Forecast for the 2014-15 winter season

A season under tension



Each year follows the last, but they bear little resemblance! After a 2013-14 season when the supply level was sufficiently abundant to quench the thirst of the European market for the avocado, the 2014-15 season is now set to be under tension.

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Avocado - Chile - Production 300 219 200 200 140 104 104 104 104 * estimate / Professional sources

Chile dried up...

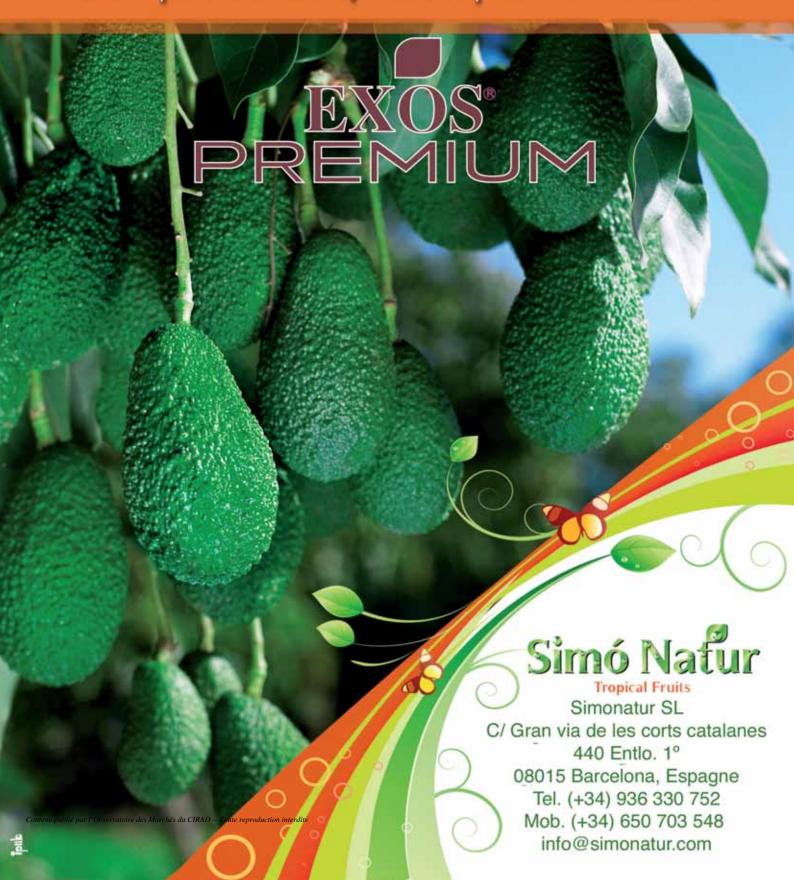
Indisputably, the major pendulum effect of Chilean volumes is the main point to take away from the start of this season. According to the latest information gathered, production should not exceed 140 000 tonnes, as opposed to nearly 230 000 t last season. This drastic fall puts the 2014-15 harvest among the lowest in recent years. It can be explained not only by the well-known alternating effect in production, but also by the persistent drought in certain parts of the country, and by the resulting abandonments of orchards. In this context overall exports should not exceed the 65 000-70 000 t mark, given the local consumption level, i.e. barely more than the volumes bound for the European Union alone in 2013-14. So Europe should receive between 30 000 and 40 000 t, if we assume a market share of between 40 and 60 % since Chile's strategic focus shift to the Old Continent implemented in 2012-13. The upper hypothesis of 40 000 t, based on the 2012-13 figures when the Chilean season was curtailed like this season, and the very high prices in Europe, is perhaps the most credible. In either scenario, there is a major supply shortfall in relation to the 63 000 t in 2013-14.

Avocado — Chile — Exports							
tonnes	2009-10	2010-11	2011-12	2012-13	2013-14		
Europe	52 174	25 762	32 929	42 571	64 247		
USA	134 596	54 383	73 795	14 710	53 297		
Central and South America	5 971	5 900	7 342	8 888	11 735		
Japan and Asia	1 703	393	1 638	1 283	1 978		
Total	194 444	86 439	115 703	67 452	131 257		





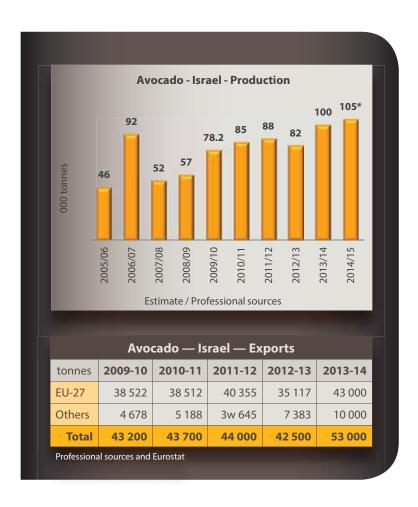
votre spécialiste des fruits tropicaux marocains





Production practically stable in Israel, though volumes earmarked for export up slightly?

The Mediterranean sources will clearly not be able to make up for the lack of Chilean Hass, despite a probable small rise in their exports. The climatic conditions were good throughout the cropping cycle in Israel. Hence production should at least maintain last season's high level, i.e. approximately 100 000 t. Certain sources even believe that a slight growth of 10 % is probable. The Hass volumes earmarked for export should register slight growth, with this variety representing an increasing proportion of production. Shipments of green varieties will depend on the market. While nearly all of the Pinkerton should be exported, the local market will come into competition with the international market for varieties such as Ettinger, Fuerte, Ardith and Arad. If, as we might assume, the tension on Hass is favourable for the green variety prices holding up, volumes earmarked for export could also be slightly up on last season.



A little more in Spain? Yes, but...

The Spanish harvest is also slightly bigger than last season. There seems to be a considerable increase among the green varieties, which represent approximately 25 % of production. However, this should be put into perspective given the scarcity of volumes seen in 2013-14. The increase in Hass could be around 10 to 15 %. However, this should not be taken as certain, because of high temperatures during the latter part of summer. Physiological dropping is still a possibility to fear. In addition, the size range now seems to be on the medium to small side.

Avocado — Spain — Exports (October to May or April)							
tonnes	2009-10	2010-11	2011-12	2012-13	2013-14		
Intra EU-27	31 420	44 461	33 272	42 039	41 292		
Extra EU-27	4 980	1 804	4 750	7 717	3 148		
Total	36 401	46 265	38 022	49 756	44 440		
				Soi	irce: Furostat		

Source: Eurosta





Top-up Moroccan volumes shrinking, though Colombia continuing its rise to the fore

So what about the outsiders? A downturn in the harvest is taking shape in Morocco, despite the cultivation area still seeing considerable growth. Exports achieved an exceptional level of 4 500 t in 2013-14, after a steep upswing in production due to the frost which hit the previous season. They should be between 2 000 and 3 000 t in 2014-15. Conversely, shipments will primarily comprise big fruits, with the small ones being shifted toward the increasingly hungry local market. Morocco also imports increasingly significant volumes, which culminated at more than 9 000 t in 2013.

Unlike Morocco, Colombia will continue to increase its shipments. However, they will remain relatively moderate. According to professional sources, they should come close to 3 000 t, as opposed to just over 1 000 t in 2013-14. The acceleration will be much more significant by a few years' time, with the large surfaces areas set up recently entering into production.



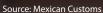
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A very open market for Mexico, though with conditions

The downturn in Chilean imports, combined with near-stability in Mediterranean volumes, should lead in a fall in the supply to the Community market, which might be estimated at 15 to 20 % from last season. So the context appears favourable for a decent level of top-up volumes from Mexico. The exporters will get what they need. Unsurprisingly, given the growth in surface areas over recent years, production should be greater than in 2013-14, where it already registered a colossal level of 1.3 million tonnes. The magnitude of the increase is still difficult to ascertain, and depending on the sources, ranges from moderate to + 20 %. It remains to be seen whether the conditions offered by exporters will be compatible with the requirements of the European market. Prices should be more attractive in October, with the harvest of fruits from the main flowering period coming to the fore. Conversely, the "prepaid" contract mode and the qualitative heterogeneity of certain brands could still be serious impediments. Mexican shipments into Europe have not exceeded the 10 000-t mark since 2008-09.

Avocado — Mexico — Exports							
tonnes	2009-10	2010-11	2011-12	2012-13	2013-14		
United States	274 329	283 814	359 262	522 488	512 000		
Japan	34 473	35 159	42 354	55 883	50 600		
Canada	25 435	22 687	27 431	35 044	33 700		
European Union	10 807	3 155	4 153	9 137	6 300		
Others	25 883	19 642	29 537	34 893	34 700		
Total	370 927	364 457	462 737	657 445	637 300		







A market under tension, especially for the Easter promotions

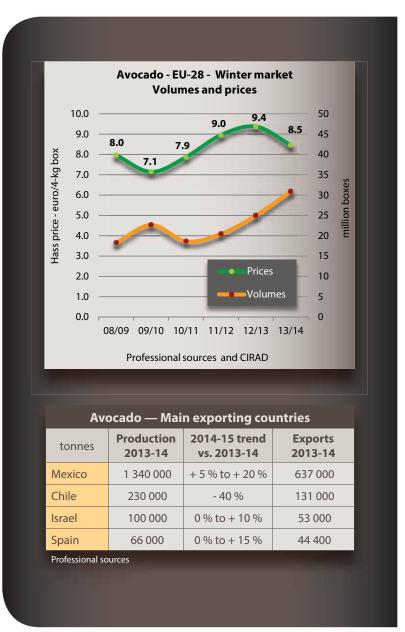
Prices promise to be high overall, not only because of the downturn in supply mentioned above, but also because of the demand dynamic, which has been in excess of 15 % for the past two seasons. The 2012-13 season can probably be used as a reference (moderate Chilean supply, and similar Mediterranean exports). The market could be particularly tight at the start of 2015. In view of the volumes available, the Chilean season will not be able to extend over the record period seen in 2013-14 (last incoming shipments in early May!), although exporters too are seeking to tap into a market probably very buoyant at this time of year. The final batches were delivered in late February/early March, if we take previous seasons as a reference, when volumes were similar. So the supply should be small after this period, until Peruvian volumes take off in around early May. There should be high tension for the Easter promotions (early April in 2015). Will this context enable the green varieties to claw back more space on the shelves? We might think so, although specialists in these cultivars saw no auguries in September.



Thereafter the market could have a turnaround in store for us, but it is giving nothing away. Unless there are major climatic problems, Peruvian production should again see very steep growth, with the entry into production of considerable new surface areas combining with the young orchards reaching their prime. Furthermore, the US market could be distinctly less open than in 2014, because of the upswing in Californian production. However, this scenario should still be taken as conditional, with the recurrent drought ravaging the south-west of the United States and the abnormally high temperature levels in Q2 potentially compromising this rise in volumes

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Prospects for the European avocado market

Towards a winter market under tension over the forthcoming seasons?

The last two seasons have shown that a consumption growth dynamic is now established in the EU, a seemingly solid trend given the growth margins of most of the markets in this part of the Old Continent (see previous article). Nonetheless, we can ask the question, which is not so common in the world of fruits and vegetables, where oversupply is generally the rule: where to find the fuel to feed this momentum?







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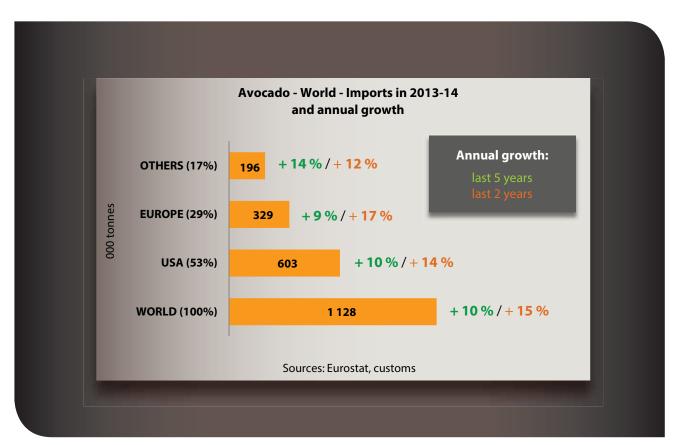
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Supply is a sensitive subject, in view of the risks of the upstream segment racing out of control, but approaching it by gauging demand will probably help avoid the even more perilous pitfall of unguided and completely disproportionate growth of production. To ensure the Community market a growth of approximately 10 %, a conservative figure in view of the 17 % of the past two seasons, an additional 30 000 t per year will need to be found during the coming seasons (i.e. approximately 2 000 ha with a high productivity level), of course without counting competition from other world markets (see graphs). Is the planting dynamic in place upstream sufficient to meet this demand?





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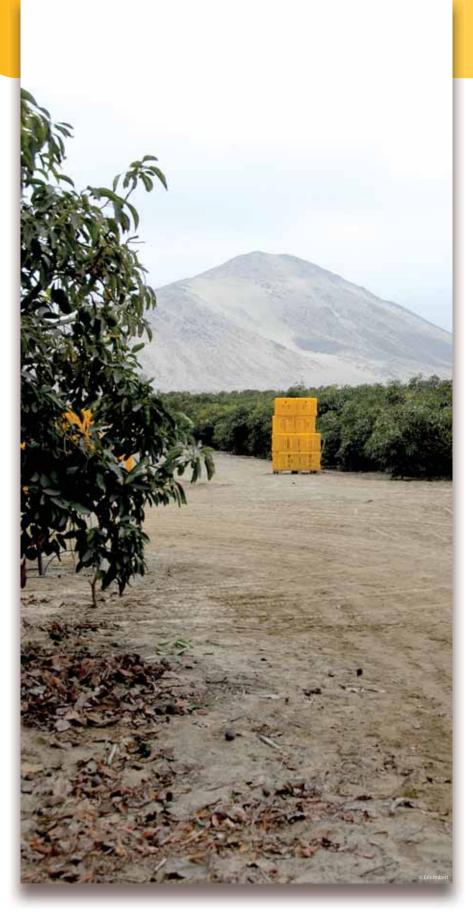












Peru able to continue its driving role in Europe

The issue of the supply prospects to the European market during the summer season does not seem to be the most difficult to deal with. Peru, which has been by far the main force behind the summer market for around ten years, should continue to play a driving role in Europe. On the one hand, the period of very steep growth in production recorded since 2013 is only starting to be expressed. Enormous surface areas will continue to enter into production or come into their prime during the forthcoming seasons, with the planting rate having been between 1 000 and 2 000 ha per year since 2009. We must also recall that the average yields in this country are among the highest in the world, thanks to the particularities of the production conditions (see FruiTrop no.179).

On the other hand, Peruvian exporters should still need the European market, at least in the medium term, although the United States and even more so Chile, which has just opened up, are more natural markets. The window of opportunity remains relatively tight in the United States. Mexico holds a strong hand, since its production culminates from early October to late May, whereas California remains an essential source, although the recurrent destructive drought is raising questions as to the future.

The season now ending seems to be demonstrating that Peru is able to feed the growth of the European market and at the same time meet demand from the US market, even when it is largely open, as was the case in 2013-14, due to the Californian production shortage. An initial review drawn up based on the professional figures leads us to believe that shipments to the EU should rise by more than 10 000 t in 2014, to approach or exceed 100 000 t, with the United States registering a simultaneous increase of at least 40 000 t, to probably exceed 65 000 t.





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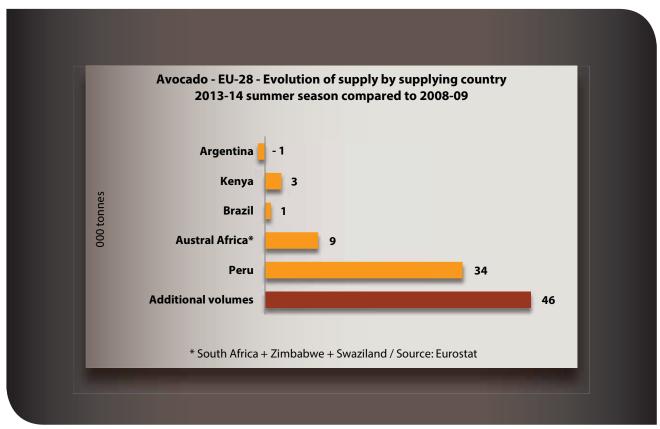






Significant expansion of surface areas in South Africa

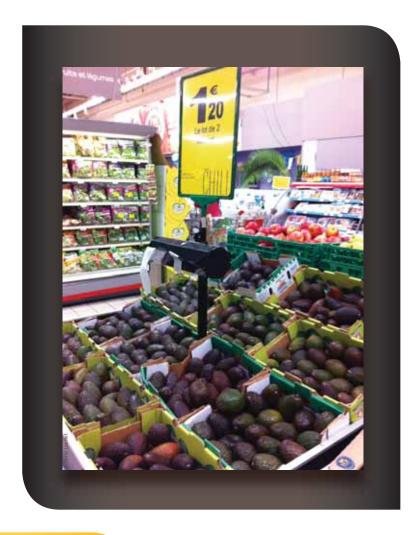
South Africa, which currently provides between 30 and 35 % of the European summer market supply, is also able to contribute to growth. Production there too is on the rise, as is demonstrated by the record volumes exported to the EU in 2014, which should approach 60 000 t for the first time. The annual planting rate is a long way from equalling the Peruvian rate, but it has picked up, going from approximately 350 ha until 2012 to 500 ha in 2013. Kenya should also be in on the action, although on a smaller scale. The downturn in imports observed the past two seasons is due to the near-total abandonment of Fuerte for export, and switching the focus to Hass; and planting is still slightly up for this variety. Furthermore, we should also count on slightly bigger top-up volumes from outsiders such as Brazil or Tanzania.





Chilean rise not to be overestimated

The case of the winter season seems to be rather more complex. The rise by nearly 50 000 t of the overall supply to the European market recorded in two seasons, of which Chile is the main architect, must not be over-interpreted. Unlike Peru, this increase is not due to production growth, but to a strategic turn imposed by increasingly tough Mexican competition in the United States, which is hard to counter. Hence although Chile's trend of refocusing on Europe seems sustainable, that does not mean volume growth will be seen over the coming years. The persistence of a devastating drought in certain zones of the country (La Ligua and Petorca valleys, Coquimbo region), frosty spells and falling economic profitability have forced the abandonment of many plots. Indeed, the Chilean cultivation area has reportedly shrunk by 7 500 ha over the past few years, and now amounts to approximately 28 000 ha. With these surface areas, the top production level should barely be different from 2013-14, when just over 62 000 t of fruits were shipped to Europe. Hence, while Chile is in a position to remain the leading Hass supplier to the Community market during the winter season, it does not seem able to support its growth, at least in the medium term.



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No major change in Spain

What about the Mediterranean suppliers? Surface areas are expanding in Spain, especially for Hass, which now represents the bulk of planting. The mango, less water-intensive than the avocado and hitherto highly profitable, is now deemed risky by certain producers because of the large surface areas planted over the past few seasons. Nonetheless, the avocado cultivation area does not seem to be expanding by more than one hundred hectares per year. Water is now a limiting factor in certain zones, with demand for human consumption having risen steeply with the population growth, especially in the Marbella region. Major infrastructural work should be carried out, in order to irrigate new areas so that avocado growing really takes on a new magnitude in Axarquia. These new large-scale and costly developments are at present only under study.



Modest growth in Israel

The dynamic is livelier in Israel, though without being explosive. According to professional sources, the cultivation area is growing by approximately 200 to 300 ha per year, especially in the centre and north of the coastal zone and in the south of the country. Projections show that production should rise by 30 000 to 50 000 t by 2020, of which 20 000 to 35 000 t for Hass, which currently represents approximately 70 % of planting. Nonetheless, these additional volumes will not be earmarked solely for export. The local market, still under development mainly thanks to a growing population (+ 1.5 million inhabitants during the past decade), should its take its share, especially in green varieties such as Ettinger, Fuerte, Ardith, Arad and Reed.



Context more favourable for growth of the Moroccan cultivation area

Growth is also continuing in Morocco. The record level of exports, which for the first time exceeded 4500 t in 2013-14, is tangible proof of this. The planting rate has picked up, reportedly amounting to around 300 to 500 ha/year in recent seasons. The problem of real estate remains very significant (high cost of land, with common law always posing an impediment to regrouping of plots). However, the measures implemented to prevent or mitigate the climatic problems have reassured producers, who had been burnt by the frosts of 2012-13 (subsidy for purchasing wind machines, insurance against climatic catastrophes). In addition, the succession of poor citrus growing seasons has encouraged certain citrus growers to convert their plantations to the avocado. So production growth should be expected, though within the current 5 000 ha Hass cultivation area. Nonetheless, the growing appetite of the local market for the avocado will need to be taken into account, which could take its toll on the exportable volumes (especially for small fruits).

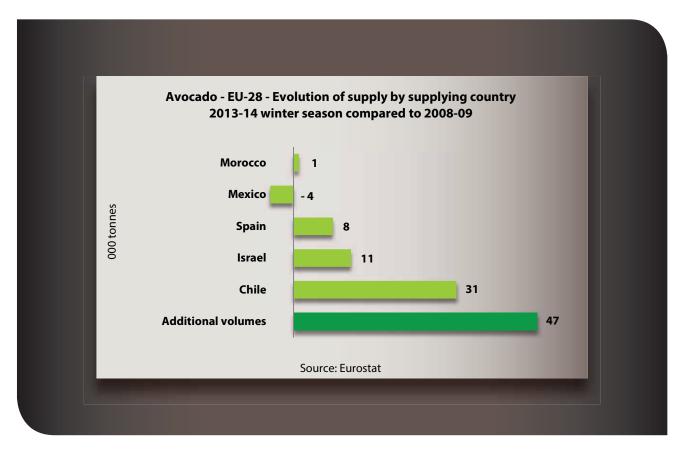


Is the return of Mexico credible?

Could Mexico, in the medium term, once again become one of the supply pillars of the Community market, as was the case in the early 2000s? The question is really being asked, and the hypothesis is serious, although the level of exports to Europe might leave some doubt: they have never exceeded the 10 000-t mark for the past five seasons. Mexican production already represents 30 % of world harvests, with more than 1.3 million tonnes — an industry in the literal sense of the term, since the country's 11 500 producers and 37 packing stations (counting only the APEAM affiliates) generate 100 000 direct jobs and 200 000 indirect jobs. This production will take on massive proportions over the years to come: 50 000 ha have been planted since 2007-08, of which 34 000 ha over the past three years. True, the appetite of the US market should remain immense. Maintaining the 10 % annual growth recorded by this market over recent seasons corresponds to approximately an additional 80 000 t per year, to be shared between the various suppliers! However, the expansion of the Mexican cultivation area represents considerably greater quantities, and in any case exceeds the growth in surface areas approved for export to the United States, which are up on average by 4 500 to 5 000 ha/year. What outlets are there for these additional volumes? The local Mexican market, where demand is highly flexible in relation to price, is able to absorb a large part of them. Nonetheless, a bigger outlet to diversification export markets will be clearly desirable, or even very necessary. In this context, the Community market, which has become just as lucrative in recent seasons as Japan or Canada, will probably become a useful alternative once more.

A future challenger: Colombia

Colombia is also a serious avenue to explore in this volumes race. True, its presence is currently very small (barely more than 1 000 tonnes exported to the EU in 2013-14), but its volumes should be on a whole new level by two or three years' time. According to the latest statistics from *Consejo Nacional del Aguacate*, the Hass cultivation area amounted to 9 300 ha in 2012. The planting rate, already high, has reportedly climbed to more than 1 000 ha per year. Anoth-





	Hass and export varieties cultivation area in 2013-14 (ha)	Annual estimated growth (ha/year)	Hass and export varieties production 2012-2014 average (tonnes)
Mexico	168 000	> 10 000	1 300 000
Chile	27 000	- 1 750***	184 000
California	21 800	- 300***	185 000
Spain	9 400	100	70 000
Colombia	9 300*	> 1 000	35 000*
Israel	7 000	200 - 300	100 000
Morocco	5 000	300 - 500	9 000
New Zealand	4 200	300 - 500	21 000
Winter season total	251 700	> 10 000	1 904 000
Peru	13 000 - 15 000	1 000 - 2 000	150 000
South Africa	14 500 -15 000	500	110 000 - 120 000
Kenya	10 000 - 11 000**	500	na
Brazil	1 000	150	na
Summer season total	40 250	2 650	_





er important point is that it is no longer small producers who are investing, but mainly big local agro-industrial groups which have resources and good technical mastery of the crop. Many world leaders in avocado production or importers based in the big consumption markets and specialising in the product also seem to be casting longing glances at Colombia.

It is true that the country has no shortage of assets in terms of production calendar, logistics (10 to 12 days to serve Europe) and cost prices (see FruiTrop no.214). So the Colombian giant is not sleeping: it is awakening! Four packing stations are currently in service: two in the Medellin region (Hass Colombia in El Retiro and Westfalia in Guarne), one in Valle del Cauca (Frutales Las Lajas) and one in Quindio (Wolf & Wolf between Armenia and Pereira). True, a large part of its volumes should eventually be sent to the US market, 5 days away by sea. Its borders could open up in around 2016 (opening protocol entered into with APHIS). However, the European market should remain a choice outlet for Colombian exports.

Tension on the winter market, at least for the next few seasons

The 2014-15 winter season should be emblematic of the tension which could prevail during the forthcoming winter seasons (see forecasts article). Yet things could change in the medium term. On the one hand, a massive growth trend is in progress in certain countries (Colombia, Mexico), which should produce its effects by the end of the decade. On the other hand, the supply calendars of certain summer suppliers, such as Peru, are increasingly flexible, and tend to overlap with the winter season supplies (weekly Peruvian imports to Europe in excess of 800 000 boxes throughout September). For all these reasons, the growth margin due to growth of consumption during the winter season in Europe must not be overestimated.





Hass avocado - France - Difference between summer and winter season prices 10.0 9.0 8.0 7.0 6.0 4.0 3.0 2.0 1.0 Winter 0.0 Source: CIRAD

Beware the summer season!

The findings are different regarding the summer season, as is shown by the Hass average price differential, now constantly widening between these two periods (see graph). Caution must be the watchword. The season which has just finished shows that oversupply is still a big risk, and that brings painful consequences: two months of incoming shipments approximately 10 % above the market's absorption capacity caused a three-month crisis, during which prices were between 5.25 and 6.25 euros/box for the good sizes. The supply expected for the coming years seems not only able to support the market growth, but to be of such a level that other episodes of this type are highly probable. Hence the period from June/July seems eminently perilous, given the Peruvian volumes set to emerge between mid-May and late June. So this is another opportunity to reiterate that the communication efforts to boost consumption in the Old Continent must be stepped up.

It may not be irrelevant to highlight once more the example of the US market: the growth in consumption, which is now on average in excess of 2.5 kg/ capita/year, is largely due to the continuous promotion efforts led by the Hass Avocado Board (HAB) for around fifteen years, with a budget in excess of 40 million USD for 2013 alone. This project is still up in the air in Europe, but it may have every chance of rapidly coming to fruition, if we want to finish on a note more tinged with irony than optimism! Europe may be 15 years behind the United States (which is more or less confirmed in terms of development of the ready-to-eat segment). Paradoxically, this could be good news, since the large-scale promotion efforts orchestrated by HAB were implemented back in 2002 on the other side of the Atlantic! ■

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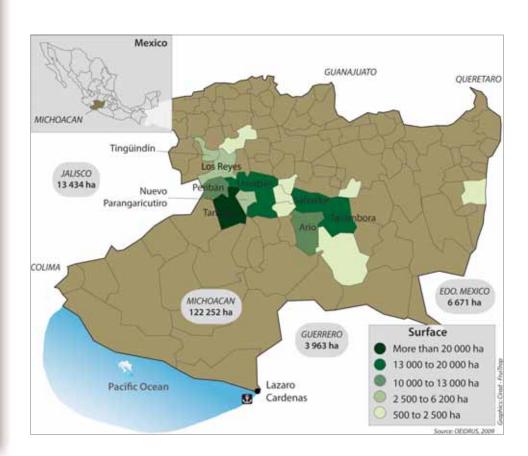




Location

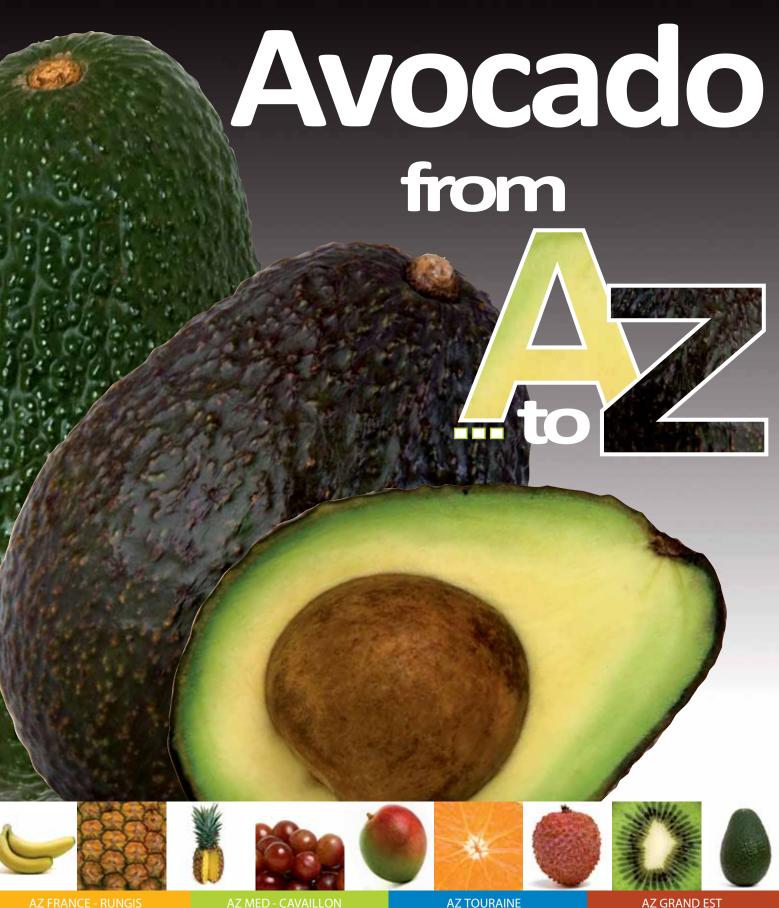
The Mexican cultivation area, the number one in the world with approximately 150 000 ha, is mainly packed into the south-west of the country. Michoacán State alone encompasses three quarters of the country's surface areas, with six central districts providing most of the production (Tancitaro, Tacambaro, Uruapan, Salvador Escalante, Periban and Ario de Rosales). This mountainous region offers the advantage of producing throughout most of the year, thanks to plantations located at an altitude varying from 1 600 to 2 400 m. In addition, generous rainfall from June to September makes it possible to cover half of the annual water reguirements. The orchards are medium-sized (5 to 10 ha), and comprise mainly aged trees, whose productivity fluctuates between 9 and 11 t/ha. The neighbouring Jalisco State, where surface areas are growing rapidly, comes in second place with nearly 7 % of surface areas. The cultivation stock is young, and the more high-tech plantations produce approximately 15 t/ ha. The nearby States of Nayarit, Mexico City, Morelos and Guerrero make up the bulk of the rest of the cultivation area.

The historic leader in terms of production, Mexico has managed to develop within around twenty years the world's number one avocado export industry, feeding the strongly growing US market, which has become accessible. Mexico now controls more than half of world trade, thanks in particular to the immense Michoacán cultivation area. The activity remains highly profitable, but the industry is seeking to diversify its outlets ahead of the forthcoming boom in production.



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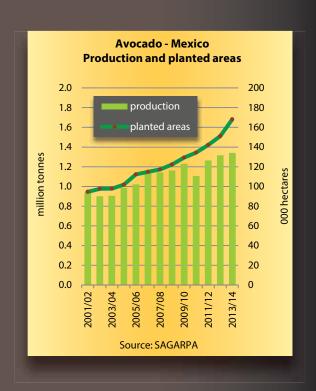
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Mexican avocado

Production

The crop started to take on a new scope in the 1970s, with the launch of a national policy of fruit growing development, using the improved varieties introduced in the 1960s, such as Hass. Production then embarked on a regular upward trend, to supply a local market where the fruit is a staple of the diet. The growth picked up pace in the 1990s with an export activity aimed mainly at Europe coming to the fore. A turning point came from 1997, with the gradual lifting of the sanitary barriers restricting access to the US market. The profitability of the crop is rising despite the relatively high level of production costs, and "green gold" surface areas are expanding at a very high rate in Michoacán, the only region authorised to export to the United States, as it is free from quarantine diseases and parasites. Production, which exceeded the one million-tonne mark in 2005-06, has been around 1.3 million tonnes in recent seasons. The more than 30 000 ha planted in addition since the start of the decade promise a very high tempo of production growth over the coming years.

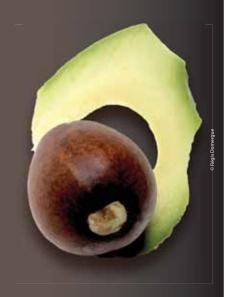


Varieties and production calendar

Introduced from California in the 1960s, Hass is by far the main variety present in Mexico. We can also find some plantations of native cultivars (Sinaloa, Perfecto, etc.), or of Fuerte and Nabal. The special cultivation conditions for Hass in Mexico enable several flowering periods in a year. Each one bears fruits with different characteristics. These multiple flowering periods and the diversity of the planting altitudes ensure production throughout the year, with a slack period from May to July.

Observations:

- Flor loca: small size, as they are the first fruits harvested, with a rounded shape and smooth skin. The favourite in Mexico.
- Aventajada: pear-shaped, granular fruits.
- Normal: main flowering, fruits similar to Aventajada.
- Marceña: late flowering, fruits variable in appearance, small size, pearshaped with thick skin. But good taste quality, since their oil content is high thanks to high sun exposure.



	Avocado - Mexico - Production calendar																					
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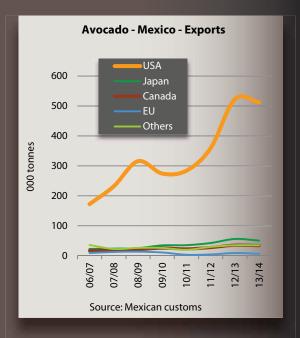


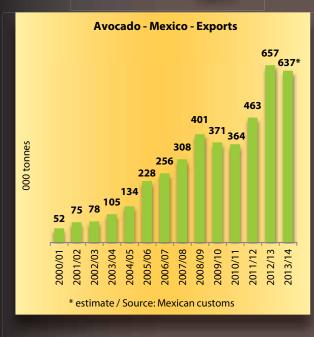
Mexican avocado

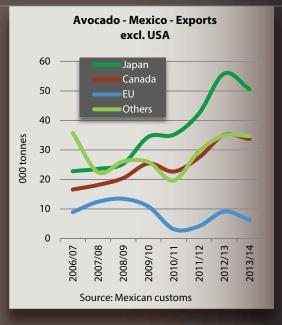
Exports

The export activity really got started in the 1990s, to support the growth of the young European market. Yet it is thanks to sales in the United States that the Mexican export industry took on the scale at which it is known today. Firstly, the gradual lifting of the sanitary protection measures governing access to this market enabled exporters from Michoacán, still the only producer region approved today, to sell in an increasing number of States (19 States authorised in 1997, with complete opening since 2007, under the ALENA agreements). Secondly, the consumption boosting system implemented jointly by the various suppliers present on this market from 2002 under the aegis of the HAB, has led to a genuine boom in demand. Hence exports have soared from approximately 50 000 t per season in the late 1990s to more than 650 000 t the past two seasons. Despite the growth prospects in the United States remaining considerable, Mexican exporters are seeking to diversify their outlets, in view of the expected growth tempo over the next few years. Shipments to the nearby markets (El Salvador, Costa Rica, etc.) and above all to Canada and Japan, deemed safer than the European market, have grown considerably. APEAM coordinates shipments to the United States, and gathers a budget for conducting promotions. 80 % of volumes are exported by six or seven companies (mostly US and Chilean owned).







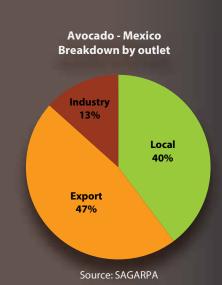




Mexican avocado

Outlets

The growth in international demand and rise in prices which followed have had profound repercussions on the breakdown of production by outlet. The local market, where the avocado is among the staple foods, is no longer in first place. Although the volumes consumed locally are still very large, they have tended to wane in recent years because of the product becoming more expensive at the retail stage. Exports are now the leading outlet, and have absorbed approximately half of the harvest in recent years, as opposed to barely 15 % ten years previously. The volumes aimed at industry have grown considerably since the late 1990s, and represent approximately 15 % of production. Mexico is the world leader on this segment, thanks to several factories working for the pharmaceutical industry (oil) or food industry (guacamole, frozen avocado).



Avocado - Mexico - Production cost in 2013

	Low-tech farms	High-tech farms
Cost	3 390 USD/ha	4 520 USD/t
Yield	8-10 t/ha	14-16 t/ha

Source: USDA

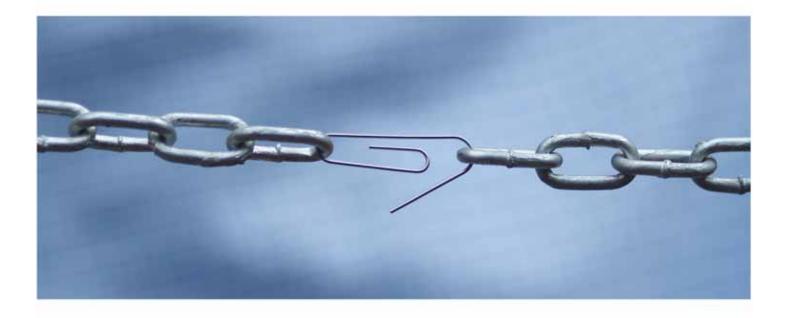
Logistics

The containers are loaded at the packing station. Those earmarked for the EU are shipped by lorry from the production zone to Altamira, the port of Tamaulipas State, providing access to the Gulf of Mexico (East Coast). The journey of more than 900 km takes approximately 24 hours. The fruits earmarked for Japan set out from the port of Lazaro Cardenas, located on the west coast, approximately 250 km from the production zone. The US market is served by means of road logistics. The vast majority of these volumes pass through Texas (approximately 1 300 km to the border, i.e. 20 hours). The rest passes via Arizona. Imports to this country are duty free.



Avocado - Mexico - Sea freight													
Markets	Main shipp	ing lines	Transit	Observations									
Markets	Port of departure	Port of arrival	time	Observations									
EU	Altamira	Le Havre Antwerp	19 days 21 days 25 days	CMA/CGM Hapag Lloyd, CSAV Maersk									
	Lazaro-Cardenas	Rotterdam	25 days	Maersk									
Japan	Lazaro-Cardenas	Yokohama	17-19 days	APL, Hapag Lloyd									

Information... your weak link?



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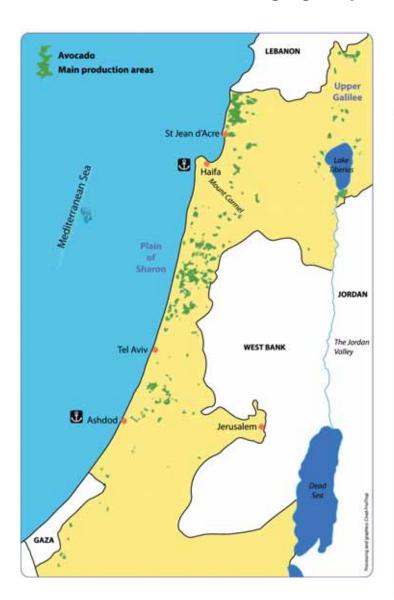
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A pioneering and dominant source in the Mediterranean, Israel can be classified among the leading 10 to 12 producer countries, with volumes up by approximately 100 000 t, still largely comprising green varieties. Focused on export, this country provides a significant proportion of the Community market supply during the winter season, where it has made a big contribution to raising the profile of the product. The cultivation area is still seeing slight expansion, in particular for Hass.



Location

The bulk of the 7 000 ha Israeli cultivation area is located on the coastal strip approximately 25 km wide between Tel Aviv and the Lebanese border. There are two distinct big centres separated by Mount Carmel. In the south, the Sharon Plain, which extends from the north of Tel Aviv to Mount Carmel, packs in approximately one third of the cultivation area. The north covers a similar surface area, in the zone renowned for the quality of its produce which extends from the City of Acre to the Lebanese border. The rest of the cultivation area is mainly located in the south of the country (approximately 16 % of surface areas, especially in the coastal zone located between Ashdod and Tel Aviv), in the Upper Jordan Valley and Upper Galilee, which both encompass approximately 9 % of the surface areas. The dry climate helps limit sanitary problems (no Phytophthora). Hence rational agriculture is very widespread and the average yields are high. However, the spread of the pest Ambrosia since the end of the last decade is a challenge taken very seriously by producers. The availability, quality and cost of irrigation water, still highly problematic in the early 2000s, have seen considerable improvement in most zones, thanks to massive use of recycling, and to a lesser degree to desalination. Hamsin, the hot wind which sometimes blows between April and June, can cause steep falls in production. The Volcani Centre provides significant research support.



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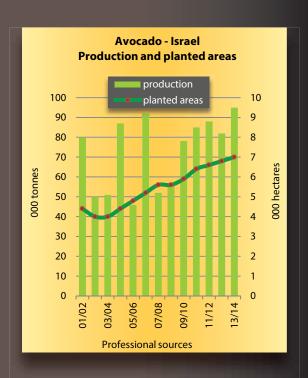
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Israeli avocado

Production

The crop expanded rapidly from the late 1950s, with the plantations culminating at 11 000 ha during the 1980s. Thereafter, surface areas gradually halved, after a succession of difficult seasons and the implementation of a less favourable economic policy for the primary sector. From covering just 4 000 ha in the early 2000s, the cultivation area has been reinvigorated, and now amounts to approximately 7 000 ha. It produced nearly 100 000 t in 2013-14. The growth in surface areas, which is continuing at a rate of approximately 200 to 300 ha/year, and the rising yields, should enable production to continue to climb (target 130 000 t to 150 000 t for 2020). Nearly three quarters of production come from kibbutzes or Moshavs, cooperative agricultural organisations. There are a good dozen packing stations established in the country. The two main ones alone, Granot and Milopri, pack approximately one half of production.



Varieties and production calendar

The season is relatively long, thanks to a wide varietal range, which has greatly evolved. The emphasis is currently on Hass, which represents approximately 35 to 40 % of total surface areas and 70 % of new plantations. As for green varieties, Pinkerton and Ettinger remain the two predominant varieties (approximately 15 to 20 % of total surface areas each). Fuerte is running out of steam, and represents less than 10 % of the cultivation stock. The rest of the range comprises Reed, Ardith, Arad, Nabal and Fino.



	Avocado - Israel - Production calendar														
0	N	D	J		F	М	Α	М	J	J	Α	S			
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			Fue	rte											
	Hass														
			Pinke	rton	1										
					Nabal										
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							Reed								



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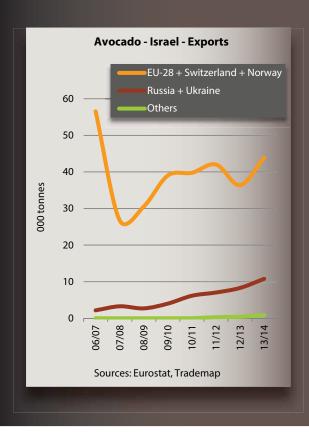


Israeli avocado

Exports

Exports, which follow a distinct production cycle, are very slightly down since the end of the recession period of the 1980s. Volumes are currently fluctuating between 45 000 and 53 000 t, in a season with normal climate conditions. Exporters are following a diversification strategy based on shipments targeted according to the respective expectations of each market, in size and variety. Approximately 80 % of volumes are still aimed at the European Union, where Israel has made a big contribution to the familiarity and growth in avocado consumption. France is still the main destination, receiving approximately 40 % of exports dedicated to the EU. The British, Benelux, Scandinavian and German markets, where the presence of the Israeli avocado has grown over recent seasons, follow in the ranking. Eastern European countries, whether Intra or Extra-Community, have become important destinations for green varieties, whose outlet is increasingly restricted in Western Europe. Hence, Russia now absorbs nearly 20 % of total exports. Liberalised since the end of the State monopoly held by Agrexco until 1993, exports are now in the hands of around a dozen private companies. The two main ones alone, Mehadrin and Galilee, represent two thirds of volumes.

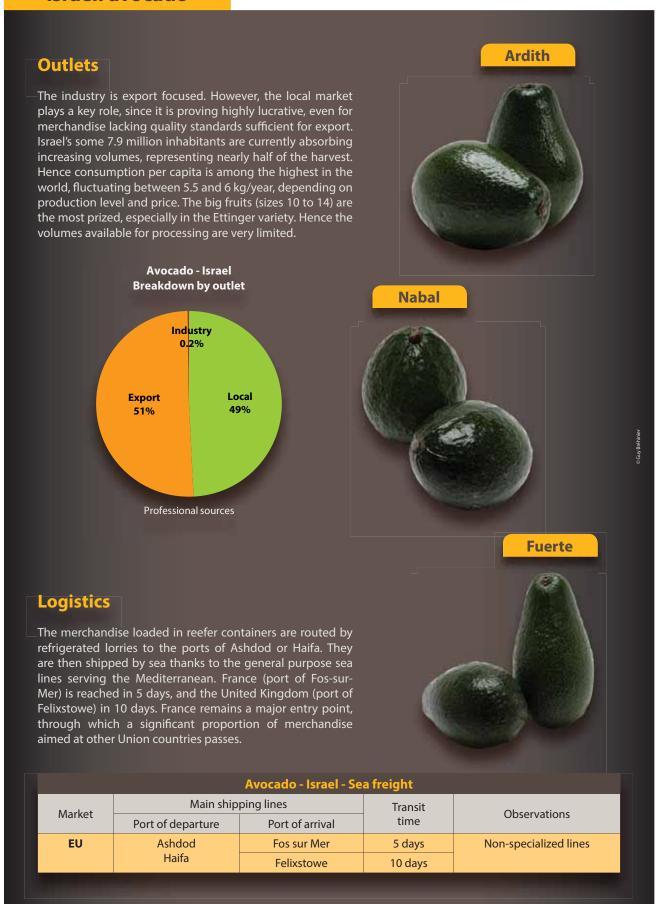








Israeli avocado







The Spanish avocado industry, created in the early 1970s, is now among the world's leading exporters, with shipments of approximately 40 000 to 50 000 t/ year. Spain is the only country in the EU to produce significant volumes on the European continent, thanks to the special climatic conditions of the Andalusian coast. This source is one of the major players on the Community market, where it focuses its shipments given the comparative advantages at its disposal in terms of logistics and customs.

Location

The cultivation area covers approximately 10 000 ha, with more than 90 % is packed into the Andalusian coast, between the sea and the first foothills of the Sierra Nevada (Costa Tropical). This coastal strip approximately 80 km long and ten kilometres wide, located between the west of Malaga and Motril, enjoys a climate of its own. The winters there are mild, and the low rainfall is compensated for by the generally decent availability of quality water, mainly supplied by the Sierra Nevada dams. Sanitary problems are limited to fungal root diseases and a mite. Under demographic and tourism pressure, the zones west of Malaga are tending to stabilise or shrink, while plantations are expanding slightly in Axarquia and, to a lesser degree in the Grenada region, more difficult to work. Pioneering orchards, covering around one hundred hectares, were recently established in the cooler region of Alicante. The rest of the plantations for the most part can be found in the Canary Islands, on La Palma and Tenerife.



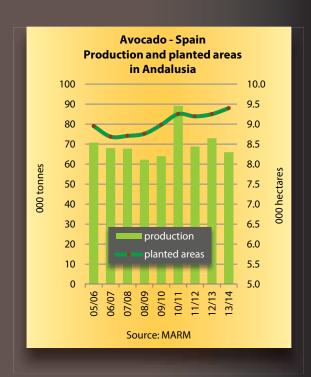




Spanish avocado

Production

The introduction of the crop to the Canary Islands goes back a long way (16th Century), though only recently to the Peninsula. The first industrial plantations were set up in the early 1970s. The surface areas, amounting to barely 1 000 ha in the late 1970s, boomed during the 1980s (water supply infrastructures developing, and fall in profitability of open-air market gardening, under pressure from the emergence of the Almeria zone). Andalusian production, which has fluctuated between 65 000 and 75 000 t in recent seasons, should grow slightly in the medium term. Avocado surface areas are growing by approximately one hundred hectares per year, with competition from the mango, which has a lower water consumption and has been hitherto highly profitable, slightly less strong than in the past. Approximately 40 % of farms are traditional, amounting to less than 5 ha. These facilities coexist with modern industrial plantations.



Varieties and production calendar

The Hass variety makes up more than three quarters of production, and is on a growth trend. The main smooth varieties are Fuerte and Bacon, with the latter also acting as a pollinator and wind break. The range is rounded off by some Lamb Hass plantations in the cooler region of Alicante, with Reed and Maluma planted recently.





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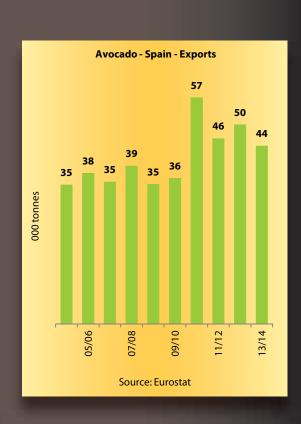




Spanish avocado

Exports

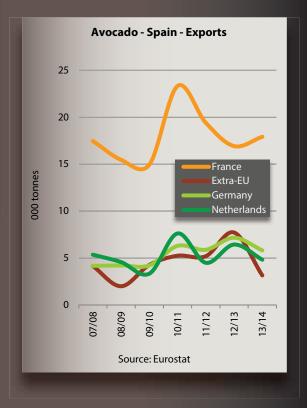
Exports exceeded 10 000 t during the 1980s, and grew steeply between the beginning and end of the 1990s. In recent seasons, volumes have been between 40 000 and 50 000 t. Spanish exporters very much target the European Union, which absorbs 80 % of volumes. Road transport is fast and economic, in particular to serve France, the main EU consumer country. In addition, this source has the advantages of the Common Market, especially in terms of customs, unlike all of its competitors. France remains the main market for the Spanish avocado, absorbing approximately 50 % of volumes. Germany has become Spain's number two customer in recent years, ahead of the Netherlands and the United Kingdom, which is losing ground. Shipments to the East of the Community are growing, though they remain limited. Volumes shipped outside of the EU are on a significant growth trend. The bulk of shipments is aimed at Morocco (entry-level small fruits). Some volumes are also exported to distant markets (South Africa). Most of the volumes are sold by a cooperative, and around just ten traders, some of which are also producers. There is no interprofessional association.





Logistics

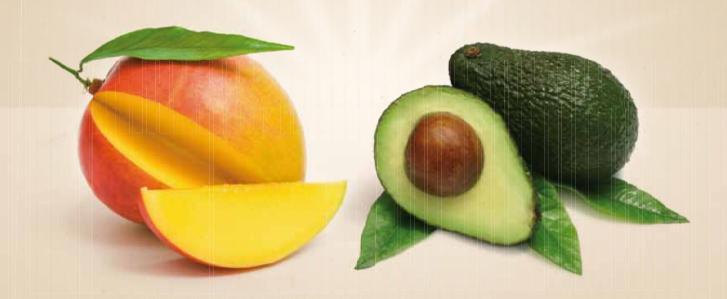
Logistics are exclusively by road for serving the EU markets. The vast majority of volumes pass via the logistics hub at Perpignan's Saint-Charles market, which is reached in around 16 hours. The United Kingdom and Scandinavia receive deliveries within 72 hours. Shipments to distant markets are made by air, via Malaga airport.







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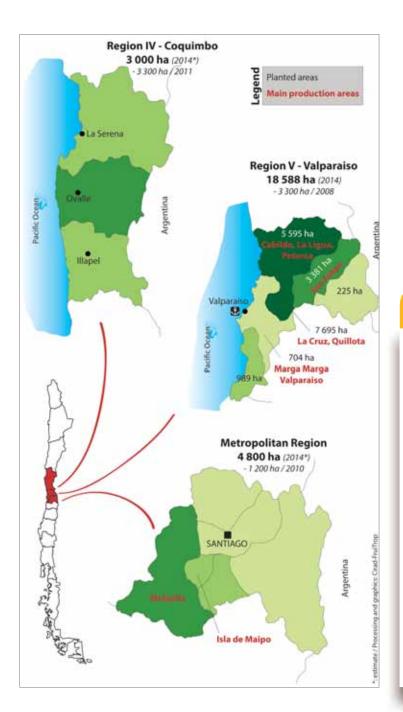
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From 1990 to 2000, Chilean professionals managed to develop the world's second biggest export industry, based on the growing appetite of US consumers. However, the rising Mexican competition on this market, in a more difficult climate context at local level, has forced them to drastically reduce the rate of planting, and develop a new economic model. The internal market has become a major outlet, while exports have refocused on the EU.

Location

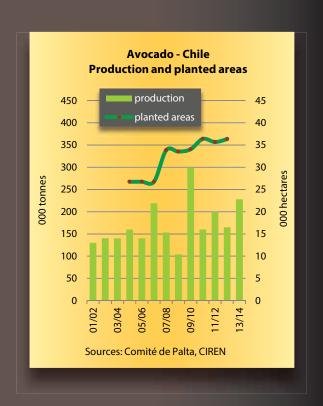
Chile possesses assets for fruit growing thanks to the natural sanitary protection provided by the sea, the Andes mountain belt and the Atacama Desert. The cultivation area, which is packed into the centre of the country, has reportedly shrunk very considerably in recent years, now amounting to approximately 26 000 ha according to professional estimates. Region V (Valparaiso) encompasses two thirds of its surface areas, divided between two main centres. The orchards of the Aconcagua valley, the traditional zone located in the heart of the region (cities of La Cruz, Quillota and San Felipe), have been extended by harnessing the foothills of the mountain belt. The orchards in the valleys of the Petorca River and La Ligua rivers, located in the north, have grown more recently, but are on a downward trend. The rest of the cultivation area is primarily found in the neighbouring regions. The surface areas are tending to shrink slightly in the Metropolitan region, into which the south-west's cultivation zones are packed (Melipilla/Isla de Maipo), due to their better water reserves. There has been a steeper fall in region IV, especially in the main production centre (river valleys located upstream and downstream of Ovalle).



Chilean avocado

Production

The promotion effort led jointly in the United States by Comité de Palta and HAB enabled the Chilean industry to take off in the mid-90s, by developing an export activity aimed at feeding the growing appetite of North American consumers. Production doubled in less than ten years, culminating at more than 200 000 t in 2006-07. Thereafter, the horizon clouded over. Frosts have regularly struck certain pioneering plantations set up in highly frost-exposed plain zones. In addition, a drought, which is only getting worse, has set in from the north of region IV to the south of region V (particularly heavily impacting on La Ligua and Petorca valleys, and in the Ovalle region). Furthermore, the profitability has deteriorated because of Mexican competition coming to the fore in the United States and a less favourable exchange rate. The most low-tech producers are now in a precarious economic situation. The industry is seeking to recover a better level of competitiveness, by taking a strategic turn toward Europe and other diversification markets, and by developing technical innovations, in particular to boost an often low average yield (low soil porosity). The current production potential is said to be around 250 000 t in a normal year.



Varieties and production calendar

Forced by demand from the North American market, Chilean producers have converted to Hass, which now represents the bulk of their production. The rest of the harvest comprises a wide varietal range. The many Chilean varieties, predominant in the 1970s, are now highly marginalised, and aimed at the local market. The main one, Negra de La Cruz, now represents just 2.5 % of surface areas. The proportion of Fuerte has decreased steeply. Other varieties are present, such as Edranol, Bacon or Zutano, but they are primarily used as Hass pollinators.

The production calendar covers a long period, thanks to the heterogeneity of plantation distribution in terms of latitude and distance from the sea. Most of the volumes are produced between September and March.

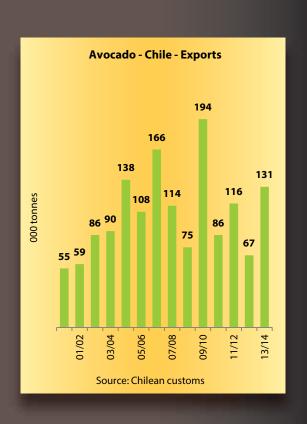
	Avocado - Chile - Production calendar																							
J	F		N	1	Α	١	Ν	1		J		J	1	A	!	S	(0	1	1	C)		
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				E	sthe	r																		

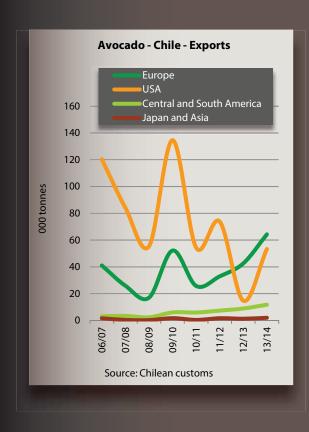


Chilean avocado

Exports

The explosive growth of exports from the late 1990s is exemplary. It should in large part be credited to Comité de Palta, the organisation for local and international promotion of the industry, funded by professionals. This structure developed an original collaboration strategy with the California Avocado Commission (CAC), in order to jointly tap into the potential of the US market (harnessing the complementarities of the production calendars, supply regulation and promotions). Hence total exports went from less than 20 000 t in 1997-98 to nearly 200 000 t in 2009-10. However, the lightning rise of the Mexican competition in the United States has changed things around. The EU, initially a diversification market, as it was more difficult to operate on (controlled atmosphere required to extend the shelf life to 45 days), has become the number one destination for the Chilean avocado since the 2012-13 season. Exports to the neighbouring markets are also tending to see considerable growth, particularly to Argentina, while the Brazilian borders have just opened up. Asia (and Japan in particular) is absorbing increasing quantities, though they still remain limited.









Chilean avocado

Outlets

The export sector, the original outlet of Chilean production, continues to absorb a large proportion of volumes, fluctuating from 60 to 65 % of total volumes in a normal production year. However, the local market is a fallback value increasingly prized by producers, with its market share even climbing to nearly 60 % during the "little" 2012-13 season. The promotion efforts made by Comité de Palta have helped raise consumption to more than 5 kg/capita. Furthermore, the local market has the advantage of being easy to operate on, and secure in terms of payment for producers. The volumes earmarked for processing are marginal.

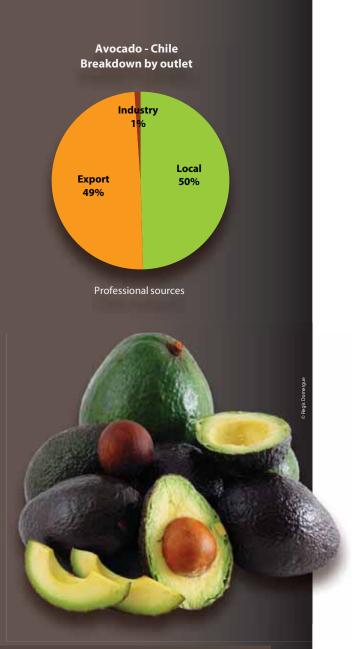
Avocado - Chile - Production cost in 2012

USD	Metropolitan and Valparaiso region					
per hectare	Plains	Hills				
Labour	2 146	2 381				
Inputs	2 145	3 424				
Others	536	726				
Total	4 828	6 531				

Source: USDA

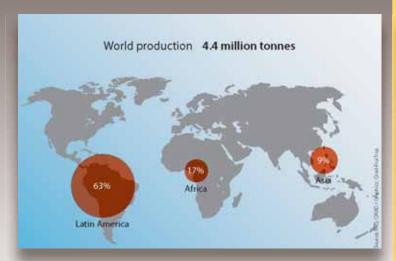
Logistics

Most of the merchandise is shipped by road to the port of Valparaiso. It is located near the production zones, and has a USDA inspection station. In the United States, Chilean exporters enjoy access to the efficient Californian distribution network. Controlled atmospheres are systematically applied for shipments to Japan, and for approximately two thirds of shipments to the EU.



	Avocado - Chile - Sea freight												
Market	Maii	n shipping lines	Transit	Observations									
Market	Port of departure	Port of arrival	time	Observations									
USA	Valparaiso	West coast: Los Angeles, Long Beach, San Diego	12-17 days	Makes up the bulk of American imports from Chile									
		Florida: Miami	10-12 days										
		East coast: New York, Philadelphia	15-22 days										
Japan	Valparaiso	Tokyo	25 days										
EU	Valparaiso	Dunkirk Rotterdam Algeciras Felixstowe	21 days 20 days 17 days 22 days										

AVOCADO — Production (2013-14)



Avocado — The 10 lead	ling producer countries				
tonnes	2013-14 or FAO 2012				
Mexico	1 340 000				
Indonesia	294 200				
Dominican Republic	290 000				
Chile	228 000				
Colombia	219 000				
Peru	215 000				
Kenya	186 000				
United States	169 000				
Brazil	159 000				
Rwanda	145 000				

Sources: FAO, USDA, professionals

AVOCADO — Exports (2013-14)



Avocado — The 6 leading exporting countries										
tonnes	2013-14									
Mexico	635 000									
Chile	131 257									
Peru	113 133									
Spain	44 440									
South Africa	49 460									
Israel	53 054									
	•									

Sources: FAO, USDA, professionals Contenu publié par l'Observatoire des Marchés du CIRAD – Toute reproduction interdite

AVOCADO — Imports (2013-14)



Avocado — The 6 leading importing countries										
tonnes	2013-14									
United States	603 149									
Netherlands	153 378									
France	105 288									
Japan	56 836									
United Kingdom	44 978									
Canada	44 599									

Sources: FAO, USDA, professionals

	USA — Imports — Main supplier countries													
tonnes	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14								
Total	371 662	420 361	351 120	462 777	561 892	603 149								
Mexico	301 695	270 200	281 672	360 924	515 143	512 276								
Chile	56 363	133 888	54 355	74 701	14 721	53 305								
Peru	-	11	137	9 157	15 860	21 617								
Dom. Rep.	13 584	15 984	14 956	17 204	16 150	15 947								
New Zealand	-	269	-	791	-	-								
Others	20	9	-	-	18	4								

Source: USDA

	Canada — Imports — Main supplier countries													
tonnes	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14								
Total	23 665	32 196	33 467	37 974	48 599	44 418								
Mexico*	20 474	25 435	22 687	27 431	36 299	33 451								
USA*	2 053	3 814	7 728	6 497	8 786	7 189								
Peru	450	1 342	1 266	2 483	2 282	2 905								
Dom. Rep.	143	314	314	255	351	456								
Chile	492	1 196	1 340	1 055	659	261								
Brazil	43	75	109	166	131	75								

Sources: COMTRADE and *national customs

South America — Main markets										
tonnes	2007	2008	2009	2010	2011	2012	2013			
Total	14 887	11 047	19 088	18 881	15 048	17 670	18 403			
Argentina	3 221	2 638	3 494	8 357	5 493	9 179	9 621			
Colombia	11 226	7 507	12 501	9 044	7 190	6 023	3 904			
Chile	400	390	678	303	1 880	698	3 882			
Ecuador	40	512	2 416	1 177	485	1 770	996			

Sources: COMTRADE

Central America and Mexico — Main markets										
tonnes	2007	2008	2009	2010	2011	2012	2013			
Total	27 426	26 365	28 683	35 956	27 486	42 132	42 266			
Costa Rica	6 970	7 571	6 809	9 638	9 958	13 731	13 061			
Salvador	10 079	9 747	11 163	9 308	9 262	13 754	12 666			
Honduras	9 335	7 566	8 939	9 032	6 426	10 412	11 405			
Guatemala	950	1 087	1 772	1 380	900	3 312	2 923			
Mexico	91	393	0	6 598	940	923	2 211			

Sources: COMTRADE

European Union — Imports — Main supplier countries										
tonnes	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14				
Total, incl.	210 487	239 451	239 726	225 748	266 280	312 143				
N. Hemis. total	94 540	134 816	118 742	113 733	132 766	162 344				
Chile	15 832	51 383	25 244	32 637	41 074	62 968				
Israel	30 071	38 522	38 512	40 448	35 175	42 844				
Spain	32 930	31 420	44 460	33 270	42 000	41 300				
Mexico	11 647	9 326	3 371	2 909	9 085	6 293				
Morocco	1 908	977	3 346	2 803	840	4 766				
Dom. Rep.	2 077	3 016	3 621	1 312	2 451	1 749				
Tanzania	5	21	62	133	968	1 259				
Colombia	25	51	121	121	486	1 162				
S. Hemis. total	115 539	104 301	120 933	111 936	132 852	148 824				
Peru	49 829	45 661	56 345	66 155	62 618	86 260				
Southern Afr.*	51 109	38 821	47 800	27 375	49 083	45 165				
Kenya	11 841	15 038	14 123	15 028	17 078	13 313				
Brazil	1 790	2 797	2 665	3 006	3 959	3 928				
Argentina	970	1 984	-	372	114	158				

Other Western European countries — Main markets										
tonnes	2007	2008	2009	2010	2011	2012	2013			
Total	8 320	9 018	9 568	11 538	13 644	14 779	17 146			
Norway	3 219	3 841	4 046	5 154	6 555	7 090	8 785			
Switzerland	4 936	4 995	5 340	6 152	6 789	7 340	7 915			
Iceland	165	183	183	232	300	349	446			

Sources: COMTRADE

Russia — Imports — Main supplier countries										
tonnes	2007	2008	2009	2010	2011	2012	2013			
Total	4 392	4 806	5 827	8 367	9 474	11 156	13 948			
N. Hemis. total	2 928	2 180	3 479	5 318	6 199	6 925	8 997			
Israel	2 769	2 016	3 316	5135	5794	6674	8716			
Spain	159	164	163	183	405	251	281			
S. Hemis. total	1 377	2 515	2 224	2 861	3 087	3 934	4 545			
South Africa	1 225	1 923	1 445	1 984	1 321	2 345	2 678			
Peru	42	442	438	597	1 475	1 259	1 462			
Kenya	110	150	342	280	291	330	405			

Sources: COMTRADE

Other Eastern European countries — Main markets									
tonnes	2007	2008	2009	2010	2011	2012	2013		
Total	702	884	905	1 362	1 630	2 066	2 828		
Ukraine	510	691	694	1 026	1 249	1 623	2 068		
Belarus	91	97	113	177	229	255	482		
Croatia	53	42	61	108	101	118	192		
Serbia	48	54	37	51	51	70	86		

Sources: COMTRADE

Japan — Imports — Main supplier countries										
tonnes	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14				
Total	26 054	37 520	39 043	47 734	62 687	56 836				
Mexico	25 220	33 603	35 733	40 722	56 373	50 278				
United States	77	1 023	2 430	3 966	5 140	4 971				
Chile	224	1 673	334	1 014	535	892				
New Zealand	533	1 221	546	2 032	639	695				

Other Asia countries — Main markets										
tonnes	2007	2008	2009	2010	2011	2012	2013			
Total	2 965	2 869	3 534	4 6 1 6	5 255	6 103	6 568			
China	1 305	989	1 293	1 976	2 393	2 783	2 851			
Singapore	659	747	978	1 285	1 497	1 691	2 015			
South Korea	655	492	325	457	402	534	722			
Thailand	188	413	664	540	440	530	552			
Malaysia	158	228	274	359	523	565	428			

Sources: COMTRADE

Oceania — Main markets								
tonnes	2007	2008	2009	2010	2011	2012	2013	
Total	7 764	9 737	9 551	9 415	16 166	10 725	12 593	
Australia	7 675	9 729	9 509	9 287	16 166	10 723	12 567	
New Zealand	89	8	42	128	-	2	26	

Sources: COMTRADE

	Persian Gulf — Main markets									
tonnes	2007	2008	2009	2010	2011	2012	2013			
Total	3 118	3 759	4 120	6 596	8 164	14 410	15 348			
Saudi Arabia	542	376	682	1 610	2 056	7 736	8 000			
United Arab Em.	1 735	2 528	2 442	4 000	5 000	5 500	6 000			
Qatar	235	217	338	366	360	486	598			
Kuwait	426	371	400	400	400	400	400			
Yemen	180	268	258	220	348	288	350			
Sources: COMTRAI)E									

	Africa — Main markets									
tonnes	2007	2008	2009	2010	2011	2012	2013			
Total	7 525	8 669	8 942	11 045	9 598	11 107	15 086			
Morocco	5 162	7 105	6 927	8 055	6 683	8 817	9 130			
Egypt	34	104	70	445	85	112	2 914			
South Africa	1 886	1 123	1 381	1 976	2 156	1 660	2 308			
Namibia	443	337	564	569	674	518	734			
Sources: COMTRAI)E									



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The main avocado varieties

Avocado is a dicotyledon of the genus Persea of the Lauraceae family. More than 200 varieties are divided between three races. The Mexican race is of little commercial interest as most of the fruits are too small. However, its agronomic qualities mean that it is widely used as rootstock or as a parent. Practically all sales of fruits of the West Indian race are on domestic markets. International trade handles mainly varieties belonging to the Guatemalan race or crosses between the Guatemalan and Mexican races.

The Guatemalan race

Persea nubigena L. Wins var. guatemalensis

This race probably originated not only in the highlands of Guatemala but also in the Chiapas in Mexico. The leaves are large and uniformly dark green on both faces. Although it is not as tolerant to cold as the Mexican race, it is useful for marginal cultivation zones. The fruits are roundish and have thick, very hard warty skin. The size may vary considerably but they are generally larger than fruits of the Mexican race. The seed is fairly small and almost always clings. Pulp oil content is medium at 10 to 20%. Flowering to harvest time is 8 to 10 months. It can be longer in the cold parts of California (12 to 14 months). The race is a good parent for crosses (contributing genes for small seeds). Nearly 40% of avocados belong to this race, including 'Anaheim', 'Corona', 'Sharwil' and the major commercial varieties such as 'Edranol', 'Gwen', 'Hass', 'Nabal' and 'Reed'.

The West Indian race

Persea americana Miller var. americana

In spite of its name, this race probably originated in Colombia. It is well suited to humid tropical regions where it is used to supply local markets. The tree has large green leaves. The fruits are elongated, usually large and weigh 400 to 900 g. The epidermis is fairly thin (0.8 to 1.5 mm) and is smooth and shiny, soft green or greenish yellow or reddish when mature. The pulp is watery with a low oil content (< 10%). The seed—often free—is large and has a more or less corrugated surface. All these characteristics make the fruits delicate. They often display pulp browning (caused by chilling injury) at the temperatures generally used for the storage and refrigerated transport of fruits of the other races ($+6^{\circ}$ C, $+8^{\circ}$ C). The race is the most sensitive one to cold and aridity but the most tolerant to salinity. The flowering to harvest time is only 5 to 7 months. The West Indian race groups about 15% of avocado varieties and the best known among them are 'Peterson', 'Pollock' and 'Waldin'.

The Mexican race

Persea americana Miller var. drymifolia Schlecht and Cham.

This fairly hardy race is adapted to low temperatures originated in the Mexican highlands. It differs from the two other races in several botanical characteristics:

- the leaves are generally small and release a characteristic anise odour when crumpled;
- flowering is earlier than in the other races and the flowering to harvest time is 7 to 9 months;
- the fruits are small and elongated and rarely weigh more than 250 g. The skin is very thin and smooth.

The pulp is often fibrous and has a high oil content (> 15%). The seed is generally large and sometimes free. This race is very sensitive to salinity. In contrast, it tolerates high temperatures and comparatively low relative humidity. Furthermore, it has greater tolerance to *Phytophthora cinnamomi* than the other races. It thus forms good rootstock and its genetic potential is well exploited in hybridisation breeding programmes. Finally, its high lipid content is an interesting feature when the fruits are used for oil production. About 20% of varieties belong to this race. The best known include 'Duke', 'Gottfried', 'Mexicolo', 'Topa Topa' and 'Zutano'.

Hybrids

A large proportion of the varieties of interest for international trade are hybrids. These are generally natural crosses and in rarer cases are the result of breeding exploiting the inter-fertility of the three races. The main selection criteria are agronomic (resistance to pests and diseases, especially Phytophthora, tolerance to salinity and cold, productivity, etc.) and those related to fruit quality (size, high pulp percentage, flavour, absence of fibres, oil content, etc.). 'Bacon', 'Ettinger', 'Fuerte' and 'Lula' in particular are natural Mexican x Guatemalan hybrids. Guatemalan x West Indian hybrids, mainly from Florida, include the varieties 'Ajax', 'Booth', 'Choquette', 'Collinson' and 'Simpson'. Mexican x West Indian hybrids such as 'Indian River' are very rare. Other varieties resulting from inter-race crosses are possible.

Hass

Guatemalan race

Flowering type: A
Fruit shape: pyriform
Skin: dark green and brown
at maturity, not very thick, warty
Oil content: 18 to 20%

Average weight: 250 to 350 g
Seed:skin:pulp ratio: 16:12:72 (small seed)

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



Flowering type: B Fruit shape: obovate Skin: green, matt, smooth, medium thickness. Pliable and tough, it is easy to remove Oil content: 16 to 18%

Average weight: 250 to 400 g Seed:skin:pulp ratio: 15:10:75

(large seed)



Fuerte

This variety was long the most commonly planted in the world and originated in Mexico (Atlixco). The tree is vigorous with fairly good resistance to frost (to 4°C), but is particularly temperature-sensitive during the flowering period. Productivity is generally good in temperate zones but it displays strong alternate bearing. The fruits are easy to peel and have excellent organoleptic qualities (buttery pulp).

Reed

Guatemalan race

Ettinger

Mexican x Guatemalan hybrid

Flowering type: B

Fruit shape: narrowly obovate

Skin: bright green, fine, fairly smooth

Oil content: 18 to 22%

Average weight: 250 to 350 g

Seed:skin:pulp ratio: fairly large seed

This variety was bred from 'Fuerte' in Kefar Malal in Israel, where it is mainly grown. The tree is very fertile and vigorous with an erect habit. The fruits are similar to those of 'Fuerte'. The skin is susceptible to problems of corky areas and tends to adhere to the pulp. The pulp is buttery and fibreless and has good organoleptic qualities.



Flowering type: A
Fruit shape: spheroid
Skin: medium thickness,
slightly rough, pliable
Oil content: 19 to 20%
Average weight: 400 to 500 g
Seed:skin:pulp ratio:
17:11:72

This variety of Californian origin was selected by James

Reed. Registered in 1960, the patent expired in 1977. It has succeeded in conserving the qualities of its parents 'Nabal' and 'Anaheim' without their negative features. It is fairly productive and alternate bearing is not marked. Its resistance to cold is comparable to that of 'Hass'. The fruits are large and a singular round shape. They keep well on the tree. The organoleptic qualities are excellent and the buttery pulp has a slight nutty taste and does not blacken after slicing. Peeling is also easy.

Pinkerton

Mexican x Guatemalan hybrid

Flowering type: A Fruit shape: pyriform

Skin: dark green, rough, tough and pliable, medium thick, easy to peel

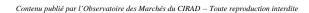
Oil content: 18 to 25% Average weight: 270 to 400 g

Seed:skin:pulp ratio: 10:13:77 (small seed)

A recent variety bred in California by John Pinkerton and registered in 1975. It is probably the result of a Hass x Rincon cross. The tree is very vigorous and tolerates temperatures of -1/-2°C to 30°C. Production is good and alternate bearing is little marked. The fruits may suffer from ring-neck if the tree is under conditions of stress. The organoleptic qualities of this variety are excellent (nutty taste). The pulp is smooth, buttery and fibre-less.



Photos © Guy Bréhinier





Avocado quality defects

Parasite disorders

The most common: Anthracnose (black rot due to *Colletotrichum*)







Mild internal anthracnose

Mild internal anthracnose

Mild internal anthracnose



Mild to severe external anthracnose



Final-stage external anthracnose





Stem-end necrosis due to **Fusarium**







Surface disorder due to Sphacelma persea - Scab



Surface disorder due to Sphacelma persea - Scab

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Photos © Pierre Gerbaud et E. Laville



Physiological disorders

Damage caused by the cold Poor regulation of controlled atmosphere



Internal damage, early development



Internal damage, mid-stage development



Internal damage, late development



External damage



Lack of O2 and excess CO2

Mechanical and other problems

Variation in coloration and maturity Mechanical bruising



Variation in coloration and maturity



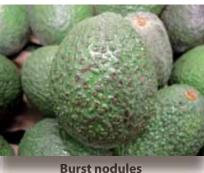
Mechanical bruising



Cork-like patch due to friction



due to friction



due to friction

Photos © Pierre Gerbaud et E. Laville



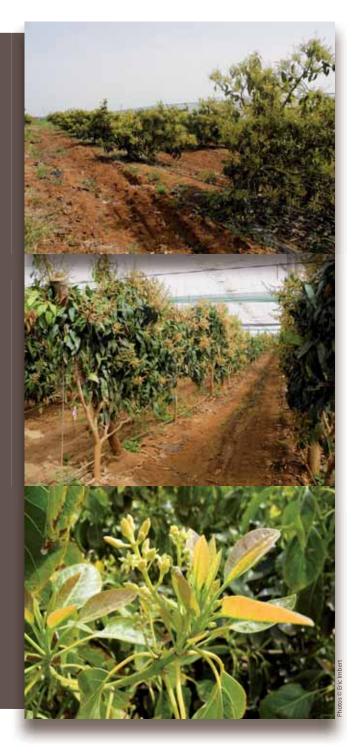


Avocado post-harvest

Post-harvest management of fruits is of prime importance. It affects both quality and yield as losses can range from 5 to 50%.

The special features of climacteric fruits

Climacteric fruits have special physiological characteristics. They must be harvested after reaching a sufficiently advanced stage of development and hence of maturity. It is only then that they are capable of synthesising sufficient amounts of ethylene to be able to start ripening (a strong increase in respiration that physiologists refer to as the 'climacteric' marks the start of deep-seated physiological changes). Only mature fruits will display satisfactory organoleptic characteristics once they have ripened. Avocado is a singular climacteric fruit. It can only start the ripening process after it has been picked. One of the best ways of storing the fruit is therefore to leave it on the tree. Some varieties can remain on the branch for several months, depending on the season. Suitability for 'tree storage' is generally very small or non-existent for West Indian cultivars but marked for hybrids, especially for Guatemalan x Mexican crosses. Nevertheless, prolonged storage can have a negative effect on production in the following season. These physiological considerations highlight the importance of the harvest date. Several variables that depend on the variety and the producer country concerned are to be taken into consideration to judge the optimum stage of maturity. Visual appraisal, fruit weight and diameter and the number of days after flowering give useful information but this is not accurate enough. Determining the matter content—strongly correlated with the oil content—is the most commonly used method. Appraisal of the stage of maturity is completed by analysis of enzymatic activity, electrical conductivity, aromatic compounds or precursors or by tasting tests when the fruits have ripened.





Storage

Cooling

The temperature is lowered to slow the metabolism of the fruit so that it can be stored. This slows ethylene synthesis and its effects. It is therefore sought to bring the fruits to the best temperature for storage as rapidly as possible after harvesting (ideally in less than 6 hours). The duration of cooling depends on the initial and final temperature of the fruit and on the ambient air conditions (temperature, wind velocity and relative humidity). The time necessary varies from 8 to 10 hours. It is important to halt the cooling phase 2°C before the final temperature desired to be sure not to reach temperatures that are too low and that might damage the produce.

Refrigeration

Optimum storage temperatures vary according to the variety, the period of the season (maturity) and the storage period desired. In general, the temperature for mature avocado ranges from 5 to 12°C with atmospheric relative humidity of 85 to 95%. The more delicate end-of-season fruits are stored in the lower part of the temperature range. For 'Hass', physiologists advise maintaining fruits at 5 to 7°C at the beginning of the season and 4.5 to 5.5°C at the end. More than four weeks of storage at these temperatures is not recommended. The optimum temperature range for 'Fuerte' is 6 to 8°C but not for more than three weeks. In practice, professionals keep all the classic commercial varieties at between 5 and 6°C. Temperatures must be strictly controlled to prevent any fluctuation. Movement of air is also regulated. Heat is released during the beginning of the ripening process and this must be taken into account. Respect of the cold chain is of crucial importance.

Controlled atmosphere

Controlled atmospheres are widely used for long transport and can lengthen the duration of storage. Low O2 levels combined with high CO2 reduce respiration and ethylene production. An O2 content of 2 to 5% and CO2 of 3 to 10% are generally used. The main classic commercial varieties can thus be stored for 5 to 6 weeks and even longer for 'Hass'. The effects of unsuitable O2 and CO2 levels are described in the paragraph entitled 'Main types of post-harvest physiological deterioration' below.

Alternative technologies for long storage

Treatment with 1-MCP. Application of 1-MCP (1-methylcyclopropene) is reported to limit the internal symptoms of chilling injury (dulling of the pulp, vascular browning) in fruits stored for more than four weeks. The technique is said to give good results especially for the green varieties that are less suitable than 'Hass' for long storage (with regard to the standards in force). It has been used on a proportion of the South African harvest for three years.

Step-down temperature. This technique has been used in the South African avocado sector for several years to conserve fruit quality and reduce internal symptoms of chilling injury. The storage temperature is lowered in steps (1 to 2°C each week) during transport, with care taken not to descend lower than 3.5°C. There are procedures (temperature and duration) for the different cultivars and regions of South Africa.





Packing

Fruits with the desired maturity index are sorted, washed and graded before packing. Each market has its own packing requirements.

Avocado — USA — 11.34-kg box 43 x 32.6 x 17.50 cm

45 X 32.6 X 17.50 CM							
Weight (g)	Size						
422	28						
377	32						
340	36						
298	40						
241	48						
196	60						
156	70						
122	84						
102	96						

Avocado — USA 5.67-kg box

3.07	lg box
Weight (g)	Size
422	14
377	16
340	18
298	20
241	24
196	30
156	35

Avocado — Europe — 4-kg box 35 x 28.5 x 9 cm

Weight (g)	Size
461-475	8
366-400	10
306-365	12
266-305	14
236-265	16
211-235	18
190-210	20
176-189	22
156-170	24
146-155	26

Avocado — Japan — 6-kg box 43.9 x 33.1 x 11 cm

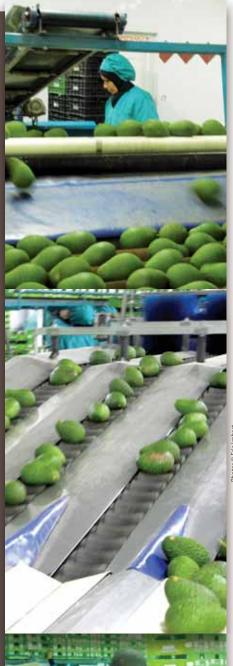
73.9 X 33.	I X I I CIII
Weight (g)	Size
340	18
298	20
241	24
196	30
156	35

Ripening

The ideal temperature for ripening is 15 to 20°C. Above 25°C, ripening is irregular, unpleasant flavours appear and the risk of rot increases. This natural process can also be controlled. Treatment with ethylene (100 ppm at 20°C for 12 to 72 hours depending on the maturity of the fruit) speeds up ripening by 3 to 6 days. It is possible to obtain fruits at an even stage of ripeness in chambers in which temperature, relative humidity and ethylene content are the main parameters controlled. Nevertheless, ripening still depends on the initial stage of maturity of the fruit.

The main precautions to be taken in shops

Avocado fruits are very sensitive to impacts and to pressing by consumers. Ripe and nearly ripe fruits must be stored at lower temperatures (1 to 6°C). Misting is not recommended.







Main types of post-harvest physiological deterioration of avocado

Storage-related damage

Chilling injury. This damage is caused by low temperatures—generally lower than 3°C—or by prolonged storage. The symptoms may appear three days after packing during storage and more often when the fruits are removed from the cold room. Two forms of chilling injury are observed. The symptom of internal chilling injury is a browning of the pulp starting at the base of the fruit and sometimes vascular browning in the same area. In 'Fuerte', this disorder takes the form of small dark spots in the pulp. The symptoms of external chilling injury are irregular black spots on the epidermis. They may appear during storage and most frequently when the fruits are removed from cold storage.

O2 deficit and excessive CO2. Too great a decrease in the O2 level (in particular to less than 1%) can cause irregular brown spotting of the epidermis that can spread to the pulp. Too high a CO2 level (over 10%) can cause discoloration of the epidermis and the development of unpleasant flavours, especially when the O2 level is low.

Fungal infection in the field revealed during or after storage

The control of fungal diseases requires effective orchard management and appropriate treatments before the harvest. All bruising of the fruits must be avoided at the post-harvest stage, they must be refrigerated rapidly and the cold chain maintained.

Anthracnose. This is the most frequent disease during storage and is caused by infection of the fruit by *Colletotrichum gloeosporioides* in the orchard and appears only during ripening. It causes serious necrosis. Ordinary small, scattered injuries develop into large circular brown spots on the epidermis. The underlying pulp blackens and the rot reaches the stone. The rate of development of this rot depends on the transport and storage temperature and above all the state of maturity of the fruits.

Stem-end rot. This disease is also caused by infection by a fungus, *Botryodiplodia theobromae*. Small pale brown spots appear initially in the stem zone. The rot spreads rapidly to the rest of the fruit. The pulp is then infected to the stone. Any injury in the epidermis favours infection by the pathogen.

Avocado — Post-harvest diseas	ses caused by pathogenic fungi
Pathogen	Diseases
Alternaria spp	Black rot
Botryodiplodia theobromae	Stem-end rot
Botryosphaeria ribis (Dithiorella gregaria)	Stem-end rot
Colletotrichum gloeosporioides	Anthracnose: Black rot
Fusarium spp	Stem-end rot
Penicillium expansum	Blue mould
Pestalotiopsis perseae	Brown spots
Phomopsis perseae	Brown rot
Phytophthora citricola	Small surface injuries
Pseudocercospora purpurea	Soft rot
Rhizopus stolonifer	Corky patches on epidermis
Trichothecium roseum	Pink rot



The harvest stage in the case of climacteric fruits

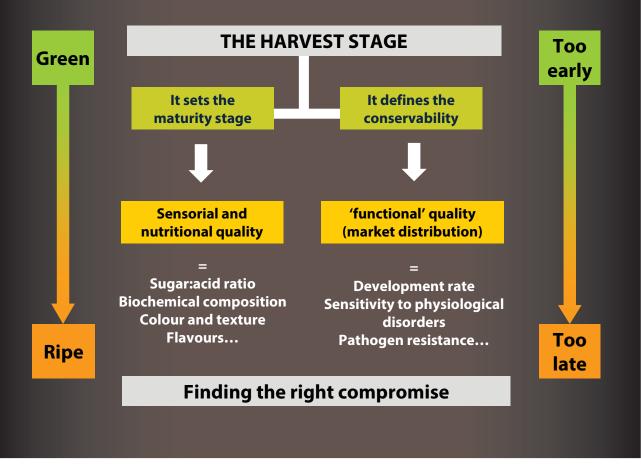
This stage is particularly important since the state of maturity of the fruit is "set" upon harvesting (see **FruiTrop** No.198, page 29, maturation article). The impact of the harvest stage is split into two aspects (see diagram):

- in qualitative terms, the earlier a fruit is harvested, the less taste properties it will exhibit, with a fairly low sugar content (enrichment in sugars is linked to the length of time on the plant) and a poor ability to develop flavours;
- in commercial terms, a fruit harvested at a stage too close to the fruit's true maturity will have a lower conservability. But if the fruit is harvested too early, its ability to ripen may be insufficient, and it will not be able to go through the correct maturation development.

Importers are dependent on the compromise which may be found to reconcile taste quality and market distribution. Defining an optimum harvest stage is a real challenge, since there are not necessarily any clear visual descriptors indicating with acceptable precision the stage of maturity before maturation of climacteric fruits (known as the preclimacteric stage).

In parallel, with the markets constantly changing, the development of triggering (avocado, mango) becomes singularly complicated: how to be sure that the fruits have reached their ability to ripen? How to adapt the triggering process to the fruit stage of maturity, in the knowledge that the batches are heterogeneous?

There are possible alternatives for improving batch homogeneity, but this calls for a high degree of interaction between the production and distribution industries. Eventually, we will need to take into account the changes to cropping techniques on fruit physiology (conservation, metabolism of maturation). We will also need to assess the possibility of sorting fruits using non-destructive measures, to obtain homogeneous batches in order to adapt and ensure the performance of the triggering techniques.





Wholesale market prices in Europe

August 2014

					EUROPEAN UNION - EURO				
					Germany	Belgium	France	Holland	UK
AVOCADO	Air	TROPICAL	BRAZIL	Box		Jeigiani	14.00	16.20	
			DOMINICAN REP.	Box			12.80		
	Sea	EDRANOL	SOUTH AFRICA	Box				5.30	
		FUERTE	KENYA	Box					6.87
		LIACC	SOUTH AFRICA	Box	5.50			5.63	7.19
		HASS	BRAZIL KENYA	Box Box	5.50 5.50		5.03		
			PERU	Box	6.50		5.45	6.50	6.87
			SOUTH AFRICA	Box	5.50		5.69	7.50	0.07
		NOT DETERMINED	BRAZIL	Box	5.50		3.02	7.50	9.37
		PINKERTON	SOUTH AFRICA	Box			5.25	6.50	
		RINTON	SOUTH AFRICA	Box				6.85	
		RYAN	SOUTH AFRICA	Box	5.50			5.88	
BANANA	Air	RED	ECUADOR	kg				4.88	
DAINA	/ \	SMALL	COLOMBIA	kg			6.45	5.17	
	Sea	RED	ECUADOR	kg			51.15	2.06	
		SMALL	ECUADOR	kg				2.65	
CARAMBOLA	Air		BRAZIL	lea					4.16
CARAINIBULA	All		MALAYSIA	kg kg			4.86	5.18	4.10
			MALAYSIA	kg			4.00	5.10	3.57
									3.37
CHAYOTE	Sea		COSTA RICA	kg			1.20	1.43	
COCONUT	Sea		COTE D'IVOIRE	Bag			11.00	12.03	12.81
COCONOI	Jea		DOMINICA	Bag			11.00	12.03	13.75
			SRI LANKA	Bag				20.00	10.93
			1						
DATE	Sea	BAHRI	ISRAEL	kg			4.00	3.90	
		MEDJOOL	ISRAEL MEXICO	kg			4.00	7.35 10.00	
			PERU	kg				6.50	
			SOUTH AFRICA	kg				7.10	
		NOT DETERMINED	EGYPT	kg				71.10	4.37
			TUNISIA	kg					1.88
DUDIAN	Λ:,,		THAILAND	Len				0.00	
DURIAN	Air		THAILAND	kg				8.00	
EDDOE	Sea		COSTA RICA	kg			2.50	2.06	
CINCER	Can		CLUNIA	Len		1	3.50	2.00	2.52
GINGER	Sea		CHINA THAILAND	kg kg			3.50	2.98 3.04	2.53
			HIAILAND	, kg				5.04	
GUAVA	Air		BRAZIL	kg				6.21	
	Sea		BRAZIL	kg					2.29
KUMQUAT	Air		BRAZIL	kg					3.96
Romgon	/\!		SOUTH AFRICA	kg				3.97	3.70
			1	11.9			'		
LIME	Sea		BRAZIL	kg	1.44	2.33	2.40	2.88	2.19
			KENYA	kg					2.11
			MEXICO		1.44	2.78	2.88	3.01	2.64
LITCHI	Sea		ISRAEL	kg				4.23	4.69
	264		ISINCE	ı ky				7.23	4.09
MANGO	Air	KENT	SENEGAL	kg			3.50		
		NOT DETERMINED	ISRAEL	kg			3.50		
		NAM DOK MAI	THAILAND	kg				8.60	
	500	SHELLY	ISRAEL	kg				2.17	1 1 7
	Sea	ATKINS KEITT	BRAZIL DOMINICAN REP.	kg kg			1.31	0.90	1.15 1.47
		INCH I	PUERTO RICO	kg			1.31		1.47
		KENT	SENEGAL	kg	1.50		1.30		
		LILY	ISRAEL	kg				0.88	
		NOT DETERMINED	DOMINICAN REP.	kg	1.38				
			INDIA	kg					1.56
		DALAMED	PUERTO RICO	kg	1.38				
		PALMER SHELLY	BRAZIL ISRAEL	kg				1.16	1 72
		SHELLI	ISTAEL	kg					1.72
MANGOSTEEN	Air		THAILAND	kg				7.45	
MANUOS	-		COSTA DICA					4.07	
MANIOC	Sea		COSTA RICA	kg			1.15	1.07	



						EUROPE	AN UNION -	EURO	
					Germany	Belgium	France	Holland	UK
MELON	Sea	GALIA	EGYPT	kg					1.87
		HONEY DEW	BRAZIL	kg					1.25
			T			1		1	
PAPAYA	Air	FORMOSA	BRAZIL	kg		2.85	2.50	3.20	3.56
		NOT DETERMINED	BRAZIL	kg		3.57	3.50	3.49	
	C		THAILAND	Lon				4.81	2.06
	Sea		COLOMBIA	kg				2.20	2.86
			ECUADOR	kg				2.38	2.14
PASSION FRUIT	Air	NOT DETERMINED	COLOMBIA	kg	5.00	5.25	5.50	5.28	
		PURPLE	ISRAEL	kg		0.1.0		5.72	
			KENYA	kg		5.25			4.69
			SOUTH AFRICA	kg			7.00		
			VIETNAM	kg			8.00	7.00	
			ZIMBABWE	kg				4.43	
		YELLOW	COLOMBIA	kg				8.88	
PERSIMMON	Sea		NEW ZEALAND	kg				3.84	
PHYSALIS	Air	PREPACKED	COLOMBIA	kg			8.00	6.67	8.33
FIII JALIJ	Sea	FILFACILD	COLOMBIA	kg	7.09		0.00	7.50	0.55
	Jea		COLOIVIDIA	Kg	7.09			7.50	
PINEAPPLE	Air	VICTORIA	MAURITIUS	Box				13.88	
			REUNION	kg			4.00		
			SOUTH AFRICA	Box				12.15	
	Sea	MD-2	COSTA RICA	Box	6.25	6.38		6.65	9.37
			COSTA RICA	kg			0.75		
			COTE D'IVOIRE	kg			0.85	12.15 6.65 9.3	
			ECUADOR	Box					
			PANAMA	Box				7.50	
DITALIANA	Δ:	DED	ICDAEL	Lon	1		1	717	
PITAHAYA	Air	RED	ISRAEL	kg					
		VELLOW	VIETNAM	kg					
		YELLOW	COLOMBIA	kg				9.33	
			ECUADOR	kg				8.40	
PLANTAIN	Sea		COLOMBIA	kg			1.10		
			COSTA RICA	kg					1.39
			ECUADOR	kg			0.90	0.68	
RAMBUTAN	Air		THAILAND					7.47	
SAPODILLA	Air		THAILAND					7.93	
								7.23	
SWEET POTATO	Sea	NOT DETERMINED	HONDURAS	kg					1.87
			PERU	kg			1.73		
			SOUTH AFRICA	kg			1.70		1.12
		WHITE	BRAZIL	kg				1.35	
			HONDURAS	kg				1.35	
TAMARILLO	Air		COLOMBIA	ka				6.90	
IAMARILLO	All		COLUMBIA	kg				0.90	
TAMARIND	Air		THAILAND					3.07	
7/0.04	-		DD 4 711						
YAM	Sea		BRAZIL	kg			1.00	1.55	1.37
			GHANA	kg			1.90	1.65	

Note: according to grade

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