

Acorbat 2002

Banana producers desperately seek resistant varieties

The 15th ACORBAT meeting in Carthagena (Colombia) at the beginning of November was attended by nearly 900 participants. Black Sigatoka and viruses were a constant preoccupation throughout the meeting. The problems have been identified but it is difficult to perfect the remedies. In all cases, they involve drastic changes in agricultural and commercial practices in the sector.

For the past 30 years, producers, exporters and scientists working on the banana and plantain sectors in the Caribbean and Latin America have met at two-year intervals under the auspices of ACORBAT (Association for Cooperation in Banana Research in the Caribbean and Tropical America). The 15th meeting was held in Carthagena (Colombia) from 27 October to 2 November. ACORBAT, a French association founded in 1964, is a forum for discussion and exchange devoted to banana questions in the broad sense. Some 60 papers, dozens of posters, and service providers' stands make these meetings major events in the world of bananas. Nearly 900 people participated in the debates perfectly organised by AUGURA, the Colombian Banana Growers' Association.

The proceedings of this very rich region are now available. This article is not intended to be an exhaustive summary but highlights the important points.

Between Sigatoka and viruses

The discussions included considerable coverage of the major phytosanitary problems of black Sigatoka disease and viruses, thus indicating the main preoccupations of the participants. Control of black Sigatoka (black leaf streak disease) is a

longstanding subject. The use of an intensive or systematic control strategy rather than rational control with a warning system (*Research and Methods* supplements to *Fruitrop* 56 and 59) has resulted in the appearance of resistance of the fungus, calling into question the effectiveness of the treatments used. The most striking example is Costa Rica,



where non-rational fungicide application has resulted in increasing the number of aerial sprayings (more than 50 per year). Entire zones are now unsuitable for banana production. The production potential of Ecuador could likewise be reduced for the same reasons. Colombia has succeeded in protecting itself better than others from this phenomenon, but for how long? The scientific community is mobilised and working in particular

on the breeding of dessert banana varieties that are resistant or more tolerant than the Cavendish group and of different plantain varieties. One of the leaders on the subject, FHIA (Fundación Hondureña de Investigación Agrícola) is distributing the famous FHIA 01 or Goldfinger. This is a potentially resistant dessert type banana and has been widely distributed and used in intensive growing. The hopes that producers have placed in it may be dashed. In addition to problems of the duration of green life and hence of export sales, there is a real risk of the overcoming of resistance by adaptation/mutation of the pathogen. A few signs of loss of resistance have been observed in Cuba in a plantain hybrid, FHIA 21. The genetic improvement approach is thus not simple, especially as another leaf streak family species, *Mycosphaerella eumusa*, that is even more aggressive than black Sigatoka, seems to be spreading in Asia (Indonesia, India, etc.) and the Indian Ocean.

Back to the drawing board

Three solutions are open to producers today. The first is the modification of the genome of banana to breed transgenic banana varieties. Some have already been developed in the laboratory, in particular in Mexico.

Numerous questions remain, however, ranging from consumer acceptance of these bananas to the assurance that the fungus will not circumvent resistance, as is the case today with the varieties produced by conventional breeding programmes.

The second solution consists of the in-depth modification of farming systems. The principle is that of creating refuge zones for the fungus in the form of islands of susceptible varieties in multi-varietal plantations. This prevents the fungus from mutating and adapting to tolerant varieties too quickly. This solution implies drastic changes in agricultural practices (plantation management, organisation of harvesting, scheduling of shipments, etc.) and trade procedures. It means a revolution! Indeed, the export sector (13 to 14 million tonnes) is centred on a single varietal complex, the Cavendish group. This solution is also the only way of forcing operators to launch market segmentation through the broadening of the varietal range available. Even if this is not for tomorrow, the solution should be envisaged today.

A third, completely different pathway would be the relocation of production—at least that of fruits for the international market—in dry zones free of Sigatoka. Irrigated perimeters in Brazil are already involved in this change.

The situation is serious but not hopeless, because the agrichemicals industry is keeping an eye on it! At least this is the message that the sellers of 'mixtures' are trying to get across. Making new with old, proposing the same outdated techniques of heavyweight spraying of banana plantations, talking more than they should about the sustainability of production, protection of the environment and of workers, they have deployed marketing treasures to maintain their sales.

Beware of viruses Sib. Lavalette

The other, more recent preoccupation is the presence in certain banana varieties of viruses that remain dormant until they awaken, stimulated in particular by stress (*in vitro* multiplication, difference in temperature, etc.). Without going into the very complex technical details, the discovery of these viruses or parts of viruses hidden in the genome of one of the two species forming the genus *Musa* pulls the rug from under the feet of the breeders who have been dipping into this source of genes, in particular using conventional methods (crosses) to recover the factors of resistance of various wild banana varieties. The discovery has caused the halting and complete redesigning of a great many improvement programmes.

The FHIA 21 variety is a good illustration of the difficulties faced by scientists and, as a result, by producers. Announced as tolerant to black Sigatoka, it has since been found to carry the Banana Streak Virus (BSV), reducing years of work to nothing. There are many similar examples. CIRAD-FLHOR has had to discard numerous bred varieties and re-orientate its work on breeding.

The common market organisation of banana (almost) absent from discussions

A minor part of the work of ACORBAT, questions of market were addressed right at the end of the meeting. FAO presented the results of its banana trade forecasting model for 2010, but did not include the 800 000 tonnes of EU bananas. Even if it can be understood that this production consumed locally is excluded from world export statistics, it is more difficult to see why it is not included in the study of import and price levels at a 10-year horizon.

Unless of course it is considered that European production will be rendered so marginal by 2010 that it will no longer have the slightest effect on the behaviour of the European market. This hypothesis should amuse French West Indian producers, ceaselessly accused of slashing prices on the European market. Such models had been presented and strongly criticised at the last meeting of the Intergovernmental Group (IGG) on Bananas and on Tropical Fruits held in Costa Rica (*Fruitrop* 85, page 1). They are thus still widely used.

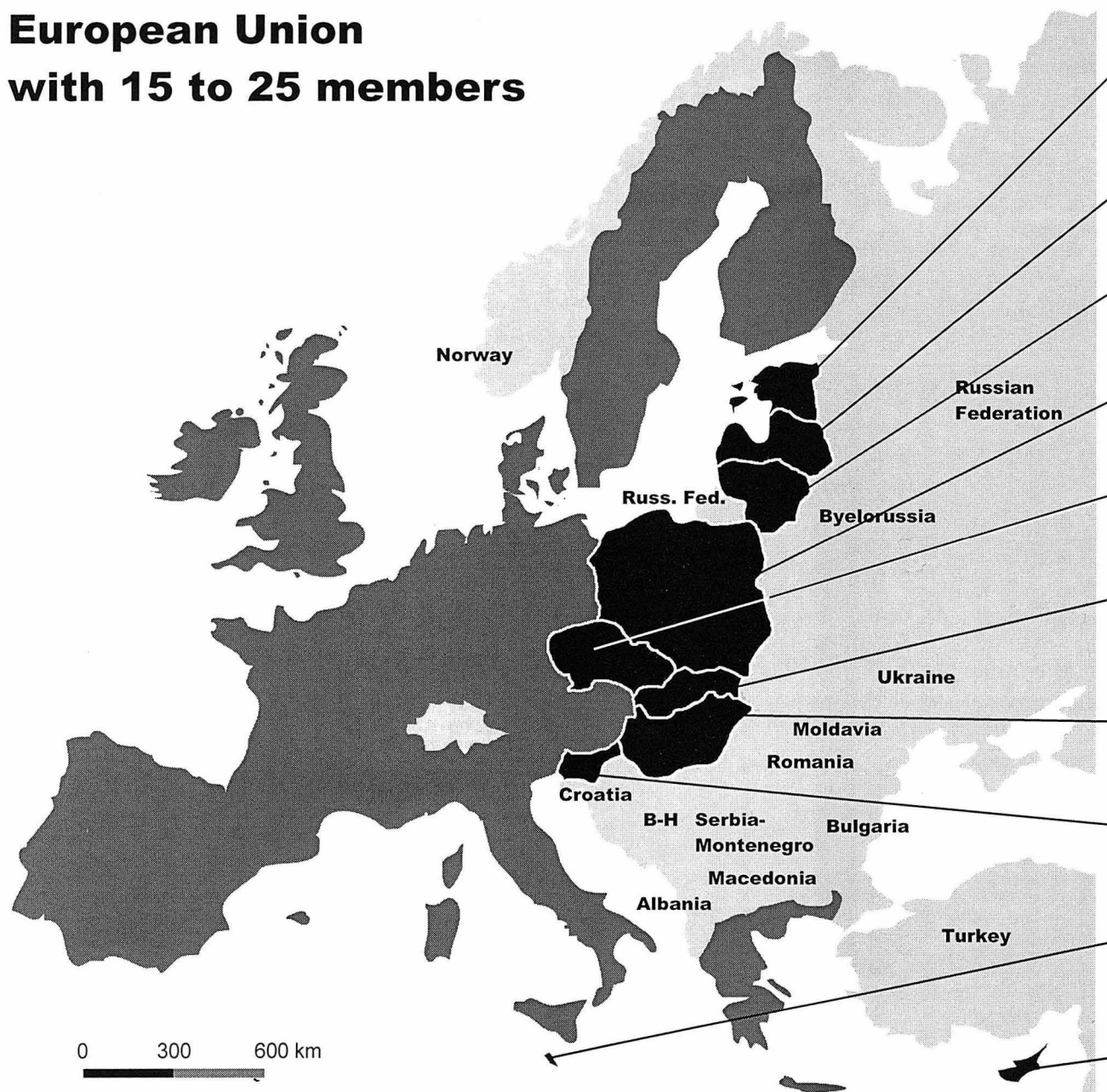
Surprisingly absent from the discussions until then, the European Union and its CMO banana were the target of a frontal attack by the representative of the American transnational Chiquita. In a paper whose text was not included in the collection distributed at the start of the congress, he said that the European banana supply policy was unfair and illegal. Amongst other things, he criticised the America-Europe agreement of April 2001. Everything got a bash: the Doha ACP derogation (customs zero-rating), customs dues remaining to be negotiated at the switch to a tariff-only system and the absence of a position concerning EU enlargement. To finish, he made a stirring appeal to the producers and workers in all countries to unite to fight the hydra of Europe. It is true that the supply of fruit and vegetables as seen from the United States is easier to organise. The application of phytosanitary rules seen by some suppliers as obstacles to trade (e.g. the seizing of clementines from Spain) and the new Bio-Terrorism Bill that should become law in 2003 make it possible to separate the wheat from the chaff, the good from the bad, without it being necessary to give further explanations to the international ■

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European Union with 15 to 25 members

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Estonia	
Population: 1 377 000	2001 econ. growth: 5%
Capital: Tallinn (pop 408 300)	Banana imports: 12 056 tonnes
Per capita GDP: Euro 4 679	Banana exports: 4.7 tonnes
GNP/EU GNP: 17%	Banana consump: 8.9 kg/cap/year
Latvia	
2 406 000	7.6%
Riga (pop 800 000)	18 420 t
Euro 3 485	690 t
15%	5.9 kg/cap/year
Lithuania	
3 689 000	5%
Vilnius (pop 580 000)	30 611 t
Euro 3 969	10 294 t
15%	4.4 kg/cap/year
Poland	
38 577 000	1%
Warsaw (pop 1 600 000)	310 073 t
Euro 4 592	16 115 t
19%	7.4 kg/cap/year
Czech Republic	
10 260 000	3.3%
Prague (pop 2 000 000)	116 399 t
Euro 5 490	2 007 t
24%	12 kg/cap/year
Slovakia	
5 403 000	3.3%
Bratislava (pop 428 672)	56 454 t
Euro 4 000	1 277 t
17%	12.2 kg/cap/year
Hungary	
9 917 000	3.8%
Budapest (pop 1 800 000)	84 188 t
Euro 5 746	950 t
22%	7.5 kg/cap/year
Slovenia	
1 985 000	3%
Ljubljana (pop 330 000)	33 799 t
Euro 9 440	373 t
43%	13.8 kg/cap/year
Malta	
392 000	- 1%
Birkirkara (pop 21 500)	7 065 t
Euro 9 290	-
44%	17.6 kg/cap/year
Cyprus *	
790 000	4%
Nicosie (pop 181 000)	245 t / production 12 000-14 000 t
Euro 13 542	16.7 t
63%	15.2 kg/cap/year

* Cyprus: the north of the island is occupied by the Turkish army which supports the self-proclaimed government of the 'Turkish Republic of Northern Cyprus'

FRUITROP

ENLARGEMENT IN 2004 AND CMOB

CLOSE-UP