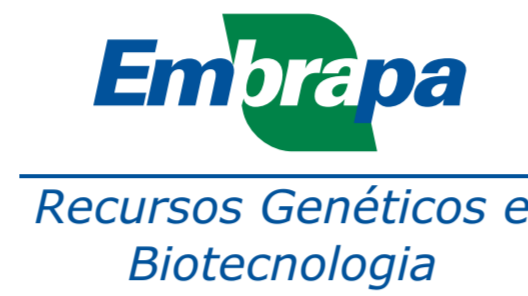


NEMATODES DETECTED IN IMPORTED GERMPLASM BY BRAZIL IN THE YEAR OF 2006

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INTRODUCTION

The Plant Quarantine Station of Embrapa Genetic Resources and Biotechnology does phytosanitary analysis in the most of plant germplasm introduced into Brazil. Plant germplasm introduction has been one of the most effective action for agricultural development in the tropics. Coffee and soybean in Brazil and pastures in Latin America, are good examples of successful introductions. But the movement of germplasm involves the risks of pest introduction that are sometimes carried by plants or plant materials.

OBJECTIVE

The main purpose of the Plant Quarantine Station of EMBRAPA is avoiding the entrance of exotic pest by analyses for detection, identification and eradication of nematodes in imported plant germplasm by Brazil.

MATERIAL AND METHODS

The techniques used for extraction and detection of nematodes were Baermann funnel, tray technique, sieving and blending, cyst detection by Fenwick and Centrifugation in sucrose solution method. In general, more than one nematode extracting method is used for the germplasm analysis.

The accessions were submitted to thermal treatment (wet heat) or tissue culture (potato; peanut) for eradication of the nematodes.

For eradication the used treatment was:

.Thermotherapy -Wet Heat: 40°C/12-30 min followed 55-60°C / 8-10 min
When is not possible to treat the germplasm material, this was incinerated.

RESULTS

During the year of 2006 were analyzed 13,624 materials and nematode detected in 3,446 accessions and they were come from ten different countries (**Table 1**). Then, is was notified that around 25% of all plant material for research introduced in Brazil had nematodes.

Table 1 - Imported materials by Brazil and intercepted nematodes, plant parasitic or not, during 2006.

Country	Plant Material	Infected Accessions	Detected Nematodes	
			Plant Parasitic Nematodes	No Plant Parasitic Nematodes
Argentina	Soybean	7	<i>Ditylenchus</i> sp.	<i>Dorylaimus</i> sp.
	Soybean	118	<i>Ditylenchus</i> sp.	
	<i>Sorghum</i> sp.	12	<i>Ditylenchus terricolus</i>	
	Sunflower	34	<i>Aphelenchoides</i> sp.	
	Sunflower	288	<i>Ditylenchus</i> sp.	
	Corn	237		
	Corn	2	<i>Ditylenchus khani</i>	
	Wheat	45	<i>Anguina</i> sp., <i>Aphelenchoides subtenuis</i>	
	Wheat	45	<i>Ditylenchus</i> sp.	
	Wheat	2	<i>Aphelenchus</i> sp.	
Costa Rica	Cacao (Seedlings)	5	<i>Helicotylenchus</i> sp., <i>Malenchus</i> sp., <i>Tylenchus</i> sp.	
	Oil Palm	1	<i>Aphelenchoides spicomucronatus</i>	
France	Potato	47	<i>Ditylenchus acutus</i>	
	Bean	4	<i>Tylenchus</i> sp.	
Germany	Raspberry (Cuttings)	3		<i>Plectus</i> sp.
Holland	<i>Lilium</i> sp.	11	<i>Aphelenchoides blastophthorus</i> , <i>Ditylenchus</i> sp., <i>Rotylenchus</i> sp.,	<i>Aphelenchoides abyssinicus</i>
Italy	Corn	204	<i>Ditylenchus</i> sp.	<i>Alaimus</i> sp., <i>Aphelenchoides spinosus</i> , <i>Cephalobus</i> sp., <i>Dorylaimus</i> sp., <i>Monhystera</i> sp., <i>Tylencholaimus</i> sp.
	Grapevine (Cuttings)	27	<i>Aphelenchoides besseyi</i> , <i>A. blastophthorus</i> , <i>Ditylenchus</i> sp., <i>Helicotylenchus</i> sp.,	
	Grapevine (Cuttings)	17	<i>Aphelenchoides</i> sp.; <i>A. bicaudatus</i> , <i>A. spicomucronatus</i> , <i>A. s ubtenis</i> , <i>Ditylenchus</i> sp., <i>Tylenchus</i> sp.	<i>Aphelenchoides tumuliscaudatus</i>
Mexico	Wheat	1302	<i>Aphelenchoides blastophthorus</i>	
Thailand	Corn	118	<i>Ditylenchus emus</i>	<i>Aphelenchoides abyssinicus</i>
	Corn	100	<i>Ditylenchus</i> sp.	
Uruguay	Wheat	225	<i>Ditylenchus myceliophagus</i>	
USA	Gourd	241	<i>Aphelenchoides besseyi</i>	<i>Prodorylaimus</i> sp., <i>Cephalobus</i> sp., <i>Dorylaimus</i> sp.
	Corn	2	<i>Aphelenchoides blastophthorus</i>	
	Corn	118		
	<i>Paspalum</i> sp.	44		
	Quinoa	185	<i>Aphelenchoides subtenuis</i> , <i>Ditylenchus</i> sp.	
	Peanut	2	<i>Ditylenchus medicaginis</i>	

CONCLUSIONS

The phytosanitary analysis of plant germplasm developed by the Plant Quarantine Station of Embrapa Genetic Resources and Biotechnology have actively reduced the risk of introducing new plant parasitic nematodes species or races into Brazil.

The treatments that eradicated the nematodes from the imported germplasm have not caused serious damage to the seed germination and vigour.