

## ABSTRACTS OF DISCUSSION SESSIONS

**THEORETICAL LIMITS OF BIOLOGICAL CONTROL OF PLANT-PARASITIC NEMATODES OF PLUVIAL CROPS IN THE SEMI-ARID TROPICS.** P. Baujard, Muséum National d'Histoire Naturelle, Laboratoire de Biologie Parasitaire, Protistologie, Helminthologie, 61, rue Buffon, 75005 Paris, France.—Seventy species of plant-parasitic nematodes belonging to Tylenchida, Longidoridae and Trichodoridae were identified from field surveys in the arid and semi-arid regions of West Africa. SEM observations showed numerous microorganisms that might be potential biological control agents were associated with the cuticle of these nematodes. Arid and semi-arid regions of West Africa are characterized by the alternance of a long dry season (8-11 months) with a short rainy season (1-4 months). Throughout the dry season, the upper layers of the soils (0-40 cm) are completely dry (soil moisture below 0.2%), and consequently, plant-parasitic nematodes and their pathogens are in an anhydrobiotic state. Due to such ecological conditions, management of the biological control of plant-parasitic nematodes appears rather problematic.

**ALTERNATIVES TO METHYL BROMIDE TO CONTROL SOIL FUNGI.** M. L. Gullino, D.I.V.A.P.R.A. - Patologia vegetale, University of Torino, Via Giuria 15, 10126 Torino, ITALY.—Soilborne fungi are the cause of major losses in intensive vegetable and ornamental crop production in Italy. Methyl bromide (MB) has been a vital fumigant for soil disinfestation. Meeting the challenge of national and international regulations to reduce applications and emissions of MB requires a fully integrated approach based on combinations of currently available soil disinfestation methods. Solarization, particularly when carried out for 4 weeks under greenhouse conditions, represents a possible solution for a number of crops (i.e. tomato, lettuce, basil), with respect to most soilborne fungi, and reducing weeds. In order to improve its effectiveness and also to reduce its length, solarization can be adopted in combination with reduced dosages of fumigants, including MB. Data to date indicate the possibility of obtaining good results by combining solarization with the application of dazomet, metam-sodium or methyl bromide. Less exploited, but promising, is the possibility of combining solarization with biocontrol agents, such as antagonistic *Fusarium oxysporum*, applied against Fusarium wilts, or strains of *Trichoderma* spp. against root and basal rots, incited by *Pythium* spp. and *Rhizoctonia solani*. Particularly interesting is the possibility of applying biocontrol agents as seed dressings. The results obtained during the past few years in Italy will be critically reviewed, and the possibility of transferring them under practical conditions were discussed.