

WORKING MEETING ON SUNFLOWER DISEASES

(Bucharest, 15—17 December 1981)

A working meeting on sunflower diseases took place in Bucharest, Romania, between 15—17 December 1981, under the auspices of the Co-ordination Centre of the F.A.O. Research Network on Sunflower.

The meeting was attended by delegates from Hungary, Yugoslavia and Romania.

The Hungarian delegation was represented by dr. József Vörös and dr. Ferenc Virányi from Plant Protection Institute of Budapest and by dr. Sandor Bologh from the Ministry of Agriculture.

The Yugoslav delegation was made up of dr. Milivoje Aćimović and dr. Dragan Skorić from the Novi Sad Institute of Field and Vegetable Crops.

The host country was represented by specialists and research workers from the Research Institute for Cereals and Industrial Crops of Fundulea, the Research Centre for Plant Protection, the Central Laboratory for Phytosanitary Quarantine and the Ministry of Agriculture and Food Industry.

The agenda of the meeting included topics related to symptomology and etiology of the main sunflower diseases, and possibilities to prevent and control them by integrated measures, as well as the elaboration of a joint programme for diminishing the losses caused by various pathogens.

The meeting was chaired by dr. A. V. Vrânceanu, leader of the Romanian Sunflower Research Programme and Co-ordinator of the F.A.O. Research Network on Sunflower, who underlined the imperious need to use all the existing ways and means of struggle against diseases and insect pests, for the harvest rescue. Although the genetic potential of the present sunflower hybrid cultivars is high enough, the average yields in many countries lag much behind this level, due to a great extent to the attack of plant parasites.

In his introductory statement, dr. Horia Iliescu, in charge of the research theme on sunflower crop protection in Romania, reviewed the pathological status of sunflower crop in this country under the specific climatic conditions of the year 1981.

During the discussions, a great attention was paid to the unexpected outbreak of a new, destructive disease of sunflowers that occurred in the neighbouring regions of Yugoslavia, Romania and Hungary. The disease

has drawn the attention of the Yugoslav specialists still from 1979, and already in 1981 it has reached epiphytotic dimensions.

The disease symptoms appeared on sunflower leaves and stems as large brownish-gray spots causing a partial or complete destruction of plant tissues, which frequently resulted in the breaking of the stems. The spots spread rapidly in all directions, surrounding the stem, the marrow gradually disintegrated so that the stem turned hollow and broke easily.

Dr. J. Vörös reported that the pathogen inducing this disease belongs to the genus *Rhabdospora*, supposing that it could be a very virulent form of the species *Rhabdospora heli-anticola* (Coore and Horkness) Saccardo, described at the end of the last century as pathogen on sunflowers. Picnidia of this species develop on the stem, immersing in the substratum, with small ostium, without septa, having simple or branched conidiophores inside. The conidia are hyaline, one-celled, long filiform, curved and sharp to both ends, with a drop of oil inside.

Dr. M. Aćimović presented scientific evidence in supporting his opinion that the pathogen is a fungus belonging to *Phomopsis* genus, i.e. a conidian form of some species of the genus *Diaporthe*. For the exact determination, the perfect form of asci with ascospore has to be obtained.

The participants agreed to co-operate for a more detailed investigation of this pathogen, in order to establish the control measure and reduce the incidence of the epiphytotics.

The main aspects concerning the integrated control of sunflower diseases by means of agrotechnical methods, seed chemical treatments or fungicide treatments applied during the vegetative period, were discussed in the second part of the meeting. Good results have been obtained in Hungary and Yugoslavia by helicopter sprayings with Benlate 50 (1.5 kg/ha) for preventing the gray and white rot attack.

The possibility to develop sunflower inbred lines and hybrids resistant to diseases was analysed. The information provided by Romanian and Yugoslav breeders pointed out the existence of a promising genetic variation of resistance to the attack of the recently identified pathogens (*Phomopsis*, *Rhabdospora*, *Phoma*), permitting to develop sources of resistance in the very near future.

A joint programme for preventing and controlling the main sunflower diseases was proposed and adopted, including the adequate measures for producing healthy, free of diseases seeds, as well as seed treatments with systemic or contact fungicides to prevent downy mildew (*Plasmopara helianthi*) and seedling rotting (*Botrytis cinerea*, *Sclerotinia sclerotiorum*). The recommendation to burn and plow deeply the diseased residues left after harvesting was formulated, especially in sunflower crops heavily infested by soil-borne pathogens.

The meeting was followed by a study visit at the Research Institute for Cereals and Industrial Crops of Fundulea and the Research Centre for Plant Protection in Bucharest.

The sunflower pathologists from the three co-operating countries agreed upon a next meeting to be held in Hungary in August 1982, with the purpose to examine the evolution of the *Phomopsis* or *Rhizoctonia* diseases directly in sunflower commercial fields.

H. ILIESCU