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MILDEW OF SORGHUM IN BRASIL

Fernando Tavares Fernandes

It is difficult to establish when sorghum downy mildew appeared for the first time in Brasil. Officially it was reported by Dr. Richard A. Frederiksen of Texas A & M University, College Station, Texas in March 1974 in experimental plots near Riberão Preto, São Paulo, when he visited Brasil in 1974. The disease occurred in the late plantings of Argentina introductions and in susceptible lines from Texas considered to be free of the pathogen. The percentage of plants attacked varied from 1.3 - 88.7%. Considering that this experimental field had already been planted to sorghum for two years symptoms presented by affected plants indicated the occurrence of systemic infections, it is probable that the disease had been introduced before 1974.

In this same year it (downy mildew) was reported as occurring in severe form in experimental plots of the Experiment Station of Uruguiana, Rio Grande do Sul.

After Frederiksen's report in 1974 it was verified that the disease had already occurred previously in Brasil in the State of Rio Grande do Sul. Perhaps because of the low economic importance of sorghum at that time or because of failure to recognize its importance for corn and sorghum, it had not been recorded. Professor Perfire Costa Neto (Faculty of Agronomy of the Federal University of Rio Grande do Sul) affirms that it had been observed in 1971 at the Experiment Station of Guaiba, and in 1973 in the Experiment Station of São Sorja, both in Rio Grande do Sul, on forage hybrids derived from crosses of sorghum with sudamgrass.

In personal communication from Dr. Alexander Grobman he indicated that it had already occurred in that state in 1967.

In Brasil corn occupies a position of distinction being actually considered the most important of all agricultural products in value of production. The area occupied by this crop in 1970 was estimated to be 9.8 million hectares with a production of 14.8 million tons. Of this total, the regions of the Central West, Southeast and South produced 87%. As for sorghum, although it has been introduced in Brasil for more than twenty years its importance is relatively recent. The area occupied by this crop in 1973/74 was estimated at 200,000 hectares but there is no official production estimate. The southern region is the major production region followed by the Central West and Southeast regions.

The importance of sorghum mildew for Brasil can be summarized by the fact that sorghum and corn are hosts of S. sorghi and we do not know the reaction of corn material to this disease. Thus, if the disease spreads in Brasil it could cause incalculable losses principally to corn. Actually, sorghum mildew is restricted to the state of Rio Grande do Sul in the southern region. As for the local focus close to Riberao Preto in the Southeast region this has already been placed under control.

With the end purpose of avoiding dissemination of the disease to other areas and aiming principally at protecting corn Empresa Brasileira de Pesquisa Agropecuaria (EMBRAPA) called a meeting of technologists interested in the problem to determine methods aimed at avoiding dissemination of sorghum mildew. These methods were sent to the Department of Plant Protection of the Ministry which issued a

directive regulating the importation, distribution and planting of seed of sudangrass and its hybrids. This directive also emphasized the necessity for undertaking annual surveys to evaluate the occurrence of sorghum mildew in various regions of the country; to eradicate foci of the disease and to prohibit the planting of corn varieties susceptible to mildew, and directed resistance tests of Brazilian corn and sorghum varieties which should be conducted in Argentina or the USA.

The regulations issued by the Department of Plant Protection do not reflect that which was decided at the meeting called by EMBRAPA.

The manner in which the directive was drawn up interfered, at short notice, with the production and importation of seeds by private companies, limiting the development of corn in the country. For this reason EMBRAPA workers with sorghum, jointly with representatives of private companies, prepared a series of modifications to be made in the aforementioned directive which are being evaluated by the Department of Plant Protection.