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TRIP REPORT

MEXICO
by
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U.S. SUGAR CROPS FIELD STATION
MERIDIAN, MISSISSIPPI

September 13-17, 1982

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Institute of Agriculture and Natural Resources
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FOREIGN TRAVEL REPORT

Traveler: Natale Zummo, Research Plant Pathologist, Sugar Crops Field Station, Meridian, Mississippi 39301. NRP No. 2C090.

Country Visited: Mexico, September 13-17, 1982

Purpose of Trip: To observe and take disease notes on the advanced sorghum breeding material in the Celaya area of Mexico.

Summary: The Celaya area of Mexico is having problems with their maize crop due to extended drought. Sorghum appears to do well in some of these areas where maize suffers from drought. Sorghum can not be grown in some of the highland maize areas because of low temperatures. There appears to be adequate resistance to most sorghum diseases in the varieties currently being grown in Mexico.

Travel Details: Arrived at Guadalajuara Airport September 13, 1982, accompanied by Dr. Lynn Gourley, Sorghum Breeder, Mississippi State and Dr. Henry Pitre, Entomologist, Mississippi State University, where we were met by Dr. Alberto Betancourt, Sorghum Breeder with I.N.I.A. and went directly to the sorghum and maize nursery at Zapopan. The most important problem at Zapopan appeared to be weed control or lack of it with insects and diseases of lesser importance. The most important disease at Zapopan was maize dwarf mosaic (MDMV) which was severe on isolated plants. Bacterial leaf stripe and bacterial leaf streak were also observed with leaf streak a possible secondary invader on virus infected plants. Leaf blight (Exerohilum turcicum) and pokkah boeng (Fusiarium moniliforme) were also present on sorghum. Head smut (Spacelotheca reilliana) was very severe (up to 70% infection) on maize in plots adjacent to the sorghum. Although S. reilliana also attacks sorghum, there was no head smut on sorghum.

On Tuesday morning, September 14, we drove with Dr. Betancourt to the sorghum nursery at Ocotlan where we met with Ing. Agr. Santiago Medina. The disease situation on sorghum was more severe at Ocotlan with downy mildew being especially damaging to some sorghum lines. However, there were several lines that had excellent resistance to downy mildew. Other sorghum diseases observed included leaf blight, mosaic, bacterial leaf stripe, and bacterial leaf streak. There were lines with good resistance to leaf blight at Ocotlan that need to be identified. That evening we drove with Dr. Betancourt to Celaya.

On September 15, we went to the sorghum nursery at Celaya and met with Ing. Agr. Narro, plant pathologist. Ing. Narro asked me to show a class of eight plant pathology students

some of the more prevalant sorghum diseases in the field. Yellow sorghum stunt and yellow leaf blight were identified for Ing. Narro. Other diseases identified in the field included two downy mildews Peronosclerospora sorghi (sorghum downy mildew) and Sclerophthora macrospora,(crazy top),mosaic, bacterial leaf stripe, bacterial leaf streak, pookah boeng, and a genetic striping.

Dr. Betancourt and Ing. Narro are writing a handbook on sorghum diseases in Mexico and asked if I would contribute photos to be used for the identification of the diseases. I will cooperate with them. Ing. Narro has utilized my preservation technique for preserving disease tissue so that I was able to identify for him those diseases that he was not sure of.

That afternoon I.N.I.A. provided auto transportation to El Batan (CIMMYT Headquarters) where we met for a short time with Dr. Vartan Guirigossian, sorghum breeder with I.C.R.I.S.A.T.). Dr. Vartan showed us some of his sorghum at El Batan.

Dr. Guirigossian had to leave unexpectedly for the United States on September 16, so we met with Dr. George Rodriguez, barley breeder with CIMMYT. Dr. Rodriguez is planning to leave CIMMYT to go into private farming near Saltillo.

Mexico is having problems with their maize crop due to extended drought. Sorghum can do well in some areas where maize suffers from drought. One of the concerns in growing sorghum in Mexico may be weed control. There is a severe weed problem in many places and the growers are only now beginning to use chemical weed control. However, there has not been the research and extension done on the use of these chemicals and as a result, in some areas, there is damage to the crop. We saw residual herbicide injury on sorghum, beans, and maize. There presently appears to be adequate resistance to most of the important diseases in sorghum varieties now being grown in Mexico.