REACTION OF SORGHUMS TO THE ROOT, CROWN, AND SHOOT ROT OF MILO

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A NEW disease that affects the roots, crown, and shoots of Dwarf Yellow milo and some other varieties of sorghum was discovered on the Garden City, Kansas, Branch Station by the writer on August 1, 1926. The symptoms of this disease apparently caused by Pythium arrhenomanes Drechs., and some of the control problems have been described in earlier papers (1, 2, 3, 4, 5, 6).

When the disease was first noticed the infested area was very small, being confined to two spots a few feet in diameter, lying adjacent to, and apparently extending across, a cultivated alley 6 feet wide that separated two plats of Dwarf Yellow milo. The infested areas enlarged rapidly and within 12 months had completely covered the six 1/20th acre plats that made up the fertility experimental block of milo on which the disease was first discovered. The disease appeared in surrounding tracts and by 1928 a considerable area was affected. The land had been in milo each year since 1918. Beginning with the season of 1920, the land had been used for a fertility experiment with milo in which both barnyard manure and commercial fertilizer were used. One of the first two diseased spots was located in a check plat on which no fertilizer had been used and the other occurred on land that had been receiving an application of a 2-12-2 fertilizer at a rate equivalent in phosphorus to 125 pounds of superphosphate per acre annually. The two infested areas appeared to spread at the same rate. It was apparent that the previous soil treatment had little or no effect upon the disease.

The disease attacks and soon kills the plants of all varieties of milo and most hybrid derivatives of milo. Darso is also very susceptible. The first experimental work in connection with the disease produced evidence that the kafirs, feteritas, and sweet sorghums were highly resistant.

An intensive survey to determine the distribution of the disease has not been possible because of limited funds, but the disease is

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2 Superintendent of the Garden City Branch Station, Kansas Agricultural Experiment Station.
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4 Reference by number is to "Literature Cited", p. 654.