

2014 MICHIGAN WHITE MOLD SOYBEAN PERFORMANCE REPORT

Sanilac County Location: Central Conventional, Central RR Early, Central RR Late & Central Liberty Link
D. WANG, J. F. BOYSE and R.G.LAURENZ, DEPT. OF PLANT SOIL & MICROBIAL SCIENCES

This report provides information on the performance of soybean varieties when challenged with white mold, which is also known as Sclerotinia stem rot.

TESTING PROCEDURES

The Sanilac County site had a high level of white mold infestation and was rated for disease severity. This site was not averaged into the central zone. Seed was planted in 6-row plots, 20 feet long with 15-inch row spacing, at a depth of 1.5-inches. The planting rate was 160,000 seeds/acre. At each location, varieties were replicated four times in a lattice design. The plots were trimmed to a length of 14 feet and the center four rows were harvested. Experimental design, data management, and data analysis were conducted with AGROBASE Generation II, (Agronomix Software, Inc., Winnipeg, Canada).

TEST SITE INFORMATION

Sanilac County

Nearest city: Sandusky
Cooperator: Gerstenberger Farms, Inc.
Planting date: 5-31-14
Harvest date: 10-30-14
Previous crop: Wheat
Soil type: Parkhill Clay Loam
Fertilizer: Fall Potash
Herbicides: Conventional and Liberty Link Trials -
Preemerge 1.5#/A Lorox 50% D.F., 1.33 pt/A Dual II
Magnum
Roundup Ready Trials-32 oz./A Roundup Powermax

USING THE DATA

Results are presented in Table 9, Table 10, Table 11 and Table 12. These evaluations were done to provide information on the relative susceptibility of varieties to white mold. Although no varieties have been identified that have complete resistance to the disease, there are varieties that have lower infection rates than others when the disease is present. The selection of varieties that have low infection rates and high yields can help growers profitably in fields where white mold infections occur.

The following traits were rated using the procedures outlined in the Michigan Central and Southern Conventional Soybean Variety Trial Report: yield, height, and lodging. White mold levels were determined by rating 30 random plants in the center rows of each plot. Each plant was rated on a

scale of 0 to 3 with 0 = no infection, 1 = infection only on branches, 2 = infection on the main stem but pod fill was normal, and 3 = infection on the main stem resulted in plant death and poor pod fill. The scores of the 30 plants rated for each plot were totaled. The total was divided by 90 (the total if all 30 scored plants were given a rating of 3) and multiplied by 100 to give a disease severity index (DSI). A DSI of 100 would be given to a plot where all evaluated plants had a rating of 3 and a DSI of 0 would be given to a plot where all evaluated plants had a rating of 0.

DSI and yield values are given as averages of the replications. Plant height, and lodging values are given as averages over the replications for 2014. LSD (least significant difference, found at the bottom of each data column) values are given for each test. The LSD values are useful for comparing two varieties in the same test and are explained in detail in the Michigan Central and Southern Conventional Soybean Variety Trial Report. The C.V. (coefficient of variation, found at the bottom of each data column) is indicative of the trial precision. Lower C.V. value indicates more precise trials.