# ENTOMOLOGY

## IMPACT OF PLANT POPULATION AND INSECTICIDE SEED TREATMENTS ON SOYBEAN YIELDS

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"INSECTICIDE SEED TREATMENTS PROVIDE A VALUE TO MISSISSIPPI SOYBEAN GROWERS AND THEIR OVERALL INSECT PEST MANAGEMENT PROGRAM BY STABILIZING YIELDS ACROSS A RANGE OF ENVIRONMENTS AND PLANT POPULATIONS."

*Jeff Gore*

Numerous insect pests can cause stand and yield losses in soybean in Mississippi. Neonicotinoid insecticide seed treatments are recommended in many situations to minimize the effects of early season insects. However, the value of insecticide seed treatments has come into question recently. An experiment was conducted in Starkville, MS and at two locations in Stoneville, MS to evaluate insecticide seed treatments, fungicide seed treatments, and untreated soybean seed at six seeding rates. The insecticide seed treatment used in these trials was CruiserMaxx Soybean that includes thiamethoxam and several fungicides. The fungicide treatment was treated with the same fungicides in CruiserMaxx. Overall, the untreated control (grey line) resulted lower soybean yields compared to the Cruiser treated soybeans (blue line). At lower seeding rates, Cruiser treated soybean also had greater yields than the fungicide only treated soybeans (red line). At the higher seeding rates, the fungicide only treated soybeans had greater yields than the untreated soybeans. Additionally, yields of the fungicide only treated soybean were similar to the Cruiser treated soybeans at the higher seeding rates. Over multiple planting dates, the use of insecticide seed treatment tended to stabilize yields across a wide range of plant populations in these studies. These data suggest that the use of insecticide seed treatments in soybean can be an important component of insect pest management in the southern U.S.