## THE COMPOUND STRESSES OF TOBACCO THRIPS (*Frankliniella fusca*) AND RENIFORM NEMATODES (*Rotylenchulus reniformis*) ON COTTON YIELD Whitney Crow Angus Catchot Darrin Dodds Tom Allen Don Cook Mississippi State University

Mississippi State University Starkville, MS Jeff Gore Mississippi State University Stoneville, MS

## <u>Abstract</u>

Tobacco thrips, Frankliniella fusca (Hinds), and reniform nematode, Rotylenchulus reniformis Linford & Oliveira, are important pests of cotton production systems. They have the potential to delay maturity and stunt growth which can result in reduced yields. In 2015, research was conducted in Hamilton, MS to evaluate the impact of tillage, seed treatment, and nematicide on the control of tobacco thrips and reniform nematodes. Treatments consisted of two levels of tillage, (conservational and conventional tillage); six levels of seed treatments or in-furrow applications, (imidacloprid plus thiodicarb, imidacloprid, thiamethoxam plus abamectin, thiamethoxam, aceptate plus terbufos, and an untreated control); and two levels of nematicide, (no nematicide and 1, 3- dichloropropene). There was no significant three way interaction between nematicide treatment, tillage system, and seed treatment on nematode control, thrips control, or damage due to thrips. There was an interaction between seed treatment and tillage on the amount of thrips damage sustained where conventionally tilled treatments had an overall increase in thrips damage as compared to conservationally tilled treatments, and acephate plus terbufos provided the greatest control against thrips damage compared to other seed treatments. Furthermore, there was a main effect of seed treatment on thrips populations in which acephate plus terbufos provided the greatest population control. There was an interaction between nematicide and seed treatment in respect to cotton yield. When variation was reduced by the presence of a nematicide there was separation within seed treatment, in which treatments containing abamectin, thiodicarb, or terbufos yielded higher than the untreated control.