EFFECT OF DELAYED POSTEMERGENCE WEED CONTROL IN LIBERTY-LINK COTTON

Michael G. Patterson
C. Dale Monks
Auburn University
Auburn University, AL
Robert Goodman
Dept Ag Econ, Auburn University
Auburn University, AL

Abstract

Field trials were conducted in 2006 and 2007 to evaluate the interaction of pendimethalin and/or fluometuron applied preemergence followed by multiple applications of Ignite herbicide on weed control and seed cotton yield. A research area at the E. V. Smith Research Center located in east central Alabama and infested with spiny pigweed (*Amaranthus spinosus*), goosegrass (*Eleusine indica*) 80% and crowfootgrass (*Dactyloctenium aegyptium*) 20% was planted to Fibermax 966 LL cotton each year. Pendimethalin at 1.0 lb per acre (Prowl H20) alone, fluometuron at 1.5 lb per acre (Cotoran 4L) alone, or a combination of the two were applied preemergence after planting. These were compared to no preemergence herbicide. Gluphosinate (Ignite 280) at 0.39 lb per acre was applied postemergence at different cotton growth stages across all preemergence herbicides. Individual plots received from one to four postemergence applications (one, four, eight, and 12 leaf cotton). A layby treatment of linuron + diuron (Layby Pro) tank mixed with MSMA was applied to the entire trial area when cotton was approximately 18 inches tall. Visual weed control ratings were obtained 7 to 10 days after postemergence applications. Seed cotton yield was machine harvested from each plot and all data was subjected to an analysis of variance with means separated by the appropriate LSD (.05)

Application of any preemergence herbicide provided 790 (pendimethalin) to 1411 (pendimethalin + fluometuron) lbs of cotton more than when no preemergence herbicide was used in the absence of any gluphosinate postemergence application. Three applications of gluphosinate at four, eight, and 12 leaf cotton stages were needed to obtain optimum weed control and seed cotton yield in the absence of any preemergence herbicide. However, the first application of gluphosinate could be delayed until cotton reached the 12 leaf stage without incurring yield loss if any preemergence herbicide was applied with this weed spectrum.