## IMPACT OF HERBICIDE TIMING, DRILL PLACEMENT, AND HIGH RESIDUE COVER CROP MIXTURES ON WEED CONTROL IN COTTON Anna Johnson Trey Cutts Auburn University Auburn, AL Andrew Price USDA-ARS

Auburn, AL

## Abstract

The inclusion of winter cover crops is a common tool for integrated weed management in both conventional and conservation systems. Two trials at E.V. Smith Research Center in Shorter, AL were established in November of 2016 to evaluate the efficacy of several cover crop systems as an additional form of weed control in cotton. One trial evaluated herbicide timing over a rye (*Secale cereal*) treatment and a mixture of rye, oats (*Avena sativa*), wheat (*Triticum aestivum*), crimson clover (*Trifolium incarnatum*), and tillage radish (*Raphanus sativus*) in comparison to winter fallow. Each cover crop system was evaluated under four herbicide regimes including non-treated, PRE only (Prowl and Reflex), POST only (Engenia fb Roundup Powermax), and PRE+POST treatments. The second trial compared several cover crop mixtures and precision drill placements (under a PRE+POST herbicide system). The treatments included winter fallow, rye through the whole plot and row middles only, a mixture of crimson clover and tillage radish through the whole plot and in-row only, and a mixture of rye, crimson clover, and tillage radish over the whole plot and with precision placements. Weed control ratings and cotton yield data following the first year under these cover crop systems indicated that rye and mixture cover crop systems under all drill placements had no distinct impact on weed prevalence in the first year. Data also indicated that PRE and POST herbicides could be necessary to prevent significant reductions in lint yield when palmer amaranth is present.