

**EVALUATION OF COVER CROP INFLUENCE ON POTASSIUM UPTAKE DYNAMICS IN THE  
SOUTHEASTERN COTTON BELT****Eli B. Hobbs****Tyler S Soignier****Brian K. Peralisi****William Joseph Rutland****Mississippi State University****Starkville, MS****Darrin M. Dodds****Angus Catchot****Bradley Norris****Mississippi State University****Mississippi State, MS****Justin McCoy****Mississippi State Univ,****Verona, MS****Hunter Perry****Corteva Agriscience,****Leland, MS****Abstract**

Field experiments were established at three Mississippi locations to evaluate soil K<sub>2</sub>O uptake and influence on cotton yield and fiber quality. Four winter cover crop treatments including no cover crop, cereal rye, crimson clover, and cereal rye plus crimson clover were seeded into 38" rows to determine K<sub>2</sub>O content in accumulated biomass. Phytogen 400 W3FE was planted at 42,000 seeds acre<sup>-1</sup> to determine K<sub>2</sub>O leaf content at mid-bloom for all treatments. Soil samples were taken at cover crop initiation, cover crop termination, and harvest to track soil K<sub>2</sub>O levels throughout the growing season. Cover crop termination soil samples were analyzed to determine cover crop influence on K<sub>2</sub>O availability at planting. Harvest soil samples were analyzed to determine influence of K<sub>2</sub>O fertilizer on soil K<sub>2</sub>O levels. Fertilizer treatments included no K<sub>2</sub>O, 150 lbs K<sub>2</sub>O acre<sup>-1</sup> at planting, 150 lbs K<sub>2</sub>O acre<sup>-1</sup> at pinhead square, and split application at planting and pinhead square. Harvest data collection included total node, first fruiting branch, and node above cracked boll. Mid-season height and node data were taken at pin head square, mid-bloom, and cutout.