

IMPACT OF ROTATION ON COTTON**Charles H. Burmester****Extension Agronomist, Auburn University****Belle Mina, Alabama****Abstract**

There are many factors a cotton grower needs to consider in rotating cotton with other row crops. Three of these factors are your soil type, residue from rotational crops and time management. The soil type will largely determine what type of tillage system you will be able to use. Soil compaction layers in certain soils may dictate shallow tillage for surface compaction or deep sub-soiling for deep soil compaction layers. On some soils, no-tilling cotton into high residue crops such as wheat and corn can also be beneficial. Recent research in Alabama has shown increases in soil organic matter using one year rotations of corn and wheat. These rotations increased cotton yields by 11 percent compared to continuous cotton in a ten year period. Much of this yield increase has been attributed to the increase in soil organic matter. Handling the residue from the rotational crops, however, can sometimes cause problems at planting. In many cases cotton planting dates may have to be delayed due lower soil temperatures caused by the increased residue. Planters may also need modifications to cut through or move residue so cotton seed can be accurately placed. Closing wheels on the planter are often replaced with wheels better adapted to the wetter surface soil conditions at planting. Compared to continuous cotton planting, growing rotational crops with cotton can also present some different time management problems for cotton growers. Peanuts and cotton are a great rotation for many farmers in Alabama, but both crops usually are ready for harvest at the same time. Usually one of these crops suffers due to the lack of manpower to harvest both crops. Many cotton farmers diversified into wheat, corn, soybeans and cotton due to market conditions in 2008. Growing all these crops in one season reduced risk, but also greatly increased the planning and time management needed on the farm to plant and harvest these crops in a timely manner. Growing rotational crops has many advantages to the cotton growers but also presents new challenges.