

**INSECT DAMAGE AND ECONOMIC YIELD LOSS IN COTTON****Whitney Crow****Jeff Gore****Don Cook****Mississippi State University****Stoneville, MS****Angus Catchot****Darrin Dodds****Mississippi State Mississippi****Mississippi State, MS****Abstract**

Cotton has the unique ability to recover from some degree of damage or fruit loss depending on when the damage occurs, the severity of that damage, and environmental conditions. Under optimal environmental conditions, cotton has the potential to avoid delayed crop maturity and/or yield losses by compensation. As cotton progresses throughout the season the level of concern begins to increase once the plant moves into its reproductive stages and decreases once the plant has reached cutout. Primary insect pests that routinely cause yield loss in the mid-south region in cotton are tobacco thrips, tarnished plant bug, and bollworm. The level of concern is often dependent on when infestations occur and the amount of time for recoverability. All of these pests have the ability to cause yield loss and there are data to support the plants ability to compensate from injury without associated yield losses. Cotton compensation allows some flexibility when environmental conditions are unfavorable for timely applications. It is also important to remember that all damage is not economical and when evaluating damage in cotton and structured random counts have to be taken. For example, when partitioning the plant based on zone or position, taking into consideration boll weight, approximately 6.9 to 8.6 bolls would need to be damaged every ten feet to equal the cost of a diamide application.