

WORKING DEFINITIONS OF COTTON SEED AND SEEDLING VIGOR**Fred Bourland****University of Arkansas Northeast Research & Extension Center****Keiser, AR****Abstract**

Attaining seed and seedling vigor in cotton is a goal of many researchers and most producers. By separating and defining components of seed and seedling vigor, progress can be achieved. Although seed vigor influences seedling vigor, we consider separately when developing working definitions. Seed vigor is distinguished from seed viability, and is defined in terms of low degree of seed deterioration. Seed vigor may be enhanced by establishing seed production and processing procedures that are conducive to low seed deterioration and by genetically selecting for resistance to seed deterioration. Seedling vigor is defined by three seedling parameters: low incidence of seedling disease, well-developed seedling roots, and rapid true leaf differentiation. Selection approaches has achieved improvement in each of these parameters. Attaining seed and seedling vigor, and subsequently vigorous stands of cotton, requires an integrated approach and attention to both seed and seedling components.