Conservation tillage cropping systems were introduced in the 1970s and much research has documented positive benefits such as decreased erosion, general soil improvement (carbon sequestration), and decreased labor, time, and fuel devoted to land preparation. Strip tillage, in-row subsoiling followed by a narrow seedbed preparation, is the most popular form of conservation tillage and research has validated that it can be used in peanut successfully despite concerns regarding digging, pegging, and disease. Often overlooked in discussions regarding conservation tillage are changes to crop physiology and growth, which have frequently resulted in greater water use efficiency while maintaining yield. Given that irrigation water is abundant but highly politicized in the Southeast, and that irrigation capacities are already decreased in the Western peanut regions, this drought mitigation should become the focus of conservation tillage research. Data that demonstrates this important concept will be presented from 2006-2009 research projects in Dawson, GA, and Lubbock, TX.