

## Cool Season Annual Legumes for Production Agriculture in the Southern U.S.

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Decades of research throughout the U.S have shown the benefit of integrating legumes into production agriculture. Incorporating legumes into conservation tillage systems has reduced soil erosion, decreased N inputs and increased soil organic matter. Furthermore, the value of planting legumes into forage systems to extend the livestock grazing season or improve the yield and quality of hay crops have also been well documented through years of research and on-farm demonstrations by state and federal agencies. With escalating production costs and the need to protect their natural resources, producers have a renewed interest in using legumes in current and future crop production systems and forage practices. 'AU Sunup' crimson clover (*Trifolium incarnatum* L.); 'AU Early Cover' hairy vetch (*Vicia villosa* Roth); and 'AU Groundcover' caley pea (*Lathyrus hirsutus* L.) are cool season, annual legumes developed and released by the USDA Natural Resources Conservation Service Jimmy Carter Plant Materials Center, Americus, GA; Auburn University and the Alabama Agricultural Experiment Stations for conservation tillage systems and forage production. Adaptation and performance of these legume cultivars were determined to be superior to standard cultivars and sources used for the same or similar farming enterprise in replicated field trials and on-farm research and demonstrations in the southern U.S. This poster paper will highlight adaptation and performance trials of 'AU Sunup', 'AU Early Cover', and 'AU Groundcover', transfer technology on cultural specifications and practices for using these legumes, and provide a strategy for integrating them into farming systems in the southern U.S.