

Forage Crop Breeding and Genetics

Aggie Clover - Forage Legume & Grass Breeding Research Program

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RESEARCH AND EXTENSION
CENTER AT OVERTON



Providing reliable cultivars for sustainable forage-livestock production

The annual economic impact of the Forage Crop Breeding and Genetics program is \$15.7 million

The primary goal of the Forage Legume and Grass Breeding and Genetics Program at Overton is to provide improved and reliable cultivars for sustainable forage-livestock production in Texas and the US Southern region.

Specific problems to be addressed by this project over the next five years include:

- a) adaptation of perennial forage legumes to southern warm-season grass pasture systems;
- b) low level of hard seed and poor reseeding in crimson clover;
- c) development of annual sweet clover breeding lines with low coumarin and multi-stem traits
- d) adaptation of forage legumes for use in cover crop systems;
- e) high sensitivity of arrowleaf clover and ryegrass to aluminum toxicity in acid soils;
- f) seed yield of forage cultivars; and g) improvement of warm-season forage legumes for livestock and cover crop systems.

Multi-disciplinary research is critical to meeting these goals and includes cooperative research with plant pathology, forage physiology, soil science and mathematical modeling. Cooperative work with commercial seed companies is also critical to ensure that seed of improved cultivars are available to all stakeholders.



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BIO

Dr. Smith's current research is focused on plant breeding and genetics of forage legumes and grasses, including clovers, sweet clover, bird's foot trefoil, ryegrass, forage cowpea and forage lablab bean. Dr. Smith is the author or co-author of 67 journal articles, 2 book chapters, 133 technical publications and 112 abstracts. Dr. Smith is the plant breeder of record for 10 cultivars; seven Plant Variety Protection Certificates; and two germplasm releases.



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