

GERALD R. SMITH

TAMU Regents Fellow and Professor, Forage Breeding and Genetics
Texas A&M University System, Texas AgriLife Research, PO Box 200, Overton, TX 75684

EDUCATION

B.S.	Agronomy	1975	Auburn University
M.S.	Agronomy	1977	Auburn University
Ph.D.	Agronomy (Plant Breeding)	1981	Mississippi State University

APPOINTMENTS

1981-1987	Assistant Professor	TAES-Overton, TAMU System
1987-1993	Associate Professor	TAES-Overton, TAMU System
1993-2008	Professor	Texas AgriLife Research, TAMU System
2008-present	TAMU Regents Fellow	Texas AgriLife Research, TAMU System

PROGRAM OVERVIEW

This position is responsible for conducting a forage legume improvement program for Texas. The primary emphasis of this program is the development of reliable, productive, pest resistant forage legumes that complement existing forage-animal production systems or allow development of new systems. This research includes: forage legume germplasm collection and evaluation; crossing and population development; pest resistance screening; selection for various traits, including seed production, maturity, and ecoregion adaptation. Cultivar development, ranging from initial selections to licensing and PVP applications, is a large component of this program.

SIGNIFICANT 5-YEAR ACCOMPLISHMENTS

In this time period we have released four new forage legume cultivars. Neches white clover combines early flowering and seed production with high forage yield and is broadly adapted on loamy bottomland soils from east Texas across the entire US southern region. Blackhawk arrowleaf clover combines multiple pest resistance with early maturity into a valuable forage cultivar for Texas and southern cattlemen. Neches is licensed to Barenbrug USA and Blackhawk is licensed to Oregro Seeds. Sabine is a new cultivar of crimson clover selected for late flowering and improved hard seed levels. Recurrent selection was used to shift flowering date and to improve hard seed production and reseeding. Sabine flowers about 10 days later than Dixie crimson, allowing a better match to ryegrass in grazing management systems. Silver River sweetclover is a new cultivar of annual white-flowered sweetclover developed at Overton and Beeville for alkaline soils in central and south Texas. This new sweetclover is highly resistant to sweetclover rust and will provide reliable grazing in these regions of Texas.

PUBLICATIONS (10 of the most recent of pubs, patents, book chapters, software)

Patents

1. Neches white clover (*Trifolium repens* L.), PVP issued 2013, PVP#201300086.
2. Rio Verde lablab bean (*Lablab purpureus* [L.] Sweet), PVP issued 2008, PVP#200800221.

Publications

3. Evers, G.W. and G.R. Smith. 2006. Crimson Clover Seed Production and Volunteer Reseeding at Various Grazing Termination Dates. *Agron. J.* 98:1410-1415
4. Smith, G.R. and G.W. Evers. 2005. Concurrent selection for low coumarin and multi-stemmed crowns in annual sweetclover. *Proceedings of XX International Grassland Congr.* June 26 – July 2. Dublin, Ireland.

5. Smith, G.R., I.J. Pemberton, F.M. Rouquette, Jr., and G.W. Evers. 2006. Progress in breeding forage legumes for disease resistance and adaptation to adverse environments in Texas and the US southern region. 13th Australasian Plant Breeding Conference Proceedings. Christchurch, New Zealand. April 18-21, 2006.
6. Smith, G.R., F.M. Rouquette, Jr., and I.J. Pemberton. 2008. Registration of Rio Verde lablab. *J. of Plant Reg.* 2:15.
7. Smith, G.R., F.M. Rouquette, Jr., and I.J. Pemberton. 2009. Lablab Bean: A New Multi-purpose Forage and Seed Crop for Texas. Proceedings of 14th Australasian Plant Breeding Conference. 10-14 Aug. 2009. Cairns, Australia
8. Rouquette, F.M., Jr. and G.R. Smith. 2010. Review: Effects of biological nitrogen fixation and nutrient cycling on stocking strategies for cow-calf and stocker programs. *The Prof. Anim. Scientist* 26:131-141.
9. Rouquette, F.M., Jr., W.F. Anderson, K.R. Harris-Shultz and G.R. Smith. 2011. Stand maintenance and genetic diversity of bermudagrass pastures under different grazing management strategies during a 38-year period. *Crop Sci.* 51:2886-2894.
10. Silveira, M., F.M. Rouquette, Jr., G.R. Smith, H.M.S. daSilva and J.C.B. Dubeax. 2014. Soil fertility principles for warm-season perennial forages and sustainable pasture production. *Forage and Grazinglands*. Vol. 12, No. 1 (doi:10.2134/FG-2013-0041-RV).

D. CAREER TOTAL PUBLICATIONS SUMMARY

1. Peer Reviewed Journal Articles – 51
2. Abstracts and Conference proceedings – 95
3. Technical Publication and Reports - 135

E. AWARDS AND HONORS

1. American Forage and Grassland Council - Merit Certificate 1988.
2. TAMU Vice-Chancellor's Award in Excellence for Team Research, 1996.
3. Award of Excellence in Agricultural Research. Build East Texas. 2001.
4. TAMU Vice-Chancellor's Award in Excellence (Team Award), 2004
5. TAMU Soil and Crop Sciences Dept. Research Award. 2006
6. TAMU Regents Fellow Award 2008

F. PROFESSIONAL, SCIENTIFIC AND HONOR SOCIETIES

1. American Society of Agronomy and Crop Science Society of America.
2. Gamma Sigma Delta
3. Southern Pasture and Forage Crop Improvement Conference - Breeders Work Group Chairman 1990-91; General Chairman 1995-96.
4. North American Trifolium Conference - General Chairman 2003-04.
5. Clover and Special Purpose Legumes Crop Germplasm Committee (National Plant Germplasm System), member 1988-present. Vice-Chair and Secretary 1995-98. Chairman 1999-2002.
6. Texas Pasture and Forage Workgroup. Chairman 1992-93

H. FUNDING

1. Total grant proposal requests for last five years. \$9,773,484.00
2. Grant funding awarded for last five years. \$244,438.00
3. Royalty funding for last five years. \$45,000