Thirty Years of Clovers, Cows and Cooperators

Dr. Gerald R. Smith

Institution: Texas A&M University System

Crop: Forage Legumes (Clovers and Lablab bean)

The Forage Legume Breeding Program at Overton is successful only by the coordinated work of several scientists, multiple students and technicians and the vast overlay of USDA/ARS support through regional projects, germplasm collection expeditions, and the National Plant Germplasm System. The development of multiple pest resistant arrowleaf clover was possible only through cooperative work with ARS units that no longer exist and through many hours of grazing evaluations by cattle. Improved white clover was developed only by reaching all the way back to white clover germplasms that were developed by ARS scientists that came out of World War II and went to work at land grant universities in Mississippi and South Carolina. The combination of these old white clover germplasms with Plant Introduction lines collected on NPGS expeditions gave us a fresh, new variety with better adaptation in the US Southern Region. All of the varieties listed below exist only because scientists were sent to the ends of the earth by NPGS to collect seed of all the forage legumes that they could find and then those seed have been very carefully stored and increased at Plant Genetic Resource Centers scattered around the US. The combination of plant genetic resources; cooperative research with scientists at other Land Grant institutions; and the network of USDA/ARS scientists and support has resulted in excellent new cultivars of forage legumes developed in Texas and used across the US Southern Region. Only recently has plant breeding and cultivar development become even partially attractive to federal competitive funding. This project has existed through funding supplied by the State of Texas; Hatch projects; and the Texas seed industry.

Indicate all funding sources

- USDA – ARS
- Hatch Funds (These are also known as USDA formula funds. They are often used for salary support for agricultural faculty and technicians, and to fund experiment station operating costs)
- State Funding
- Industry

What problem was addressed by this success?

- Disease or pest
- Yield

Please indicate all stake holders that benefited from this success story

- Growers
- End-users
- Consumers

Indicate the number of each type of participant in this success story

Undergraduate = 2
Graduate Student = 2
Post Doc = 1
Research Technician = 4 (1 from a minority)
Other = 0

What are the outputs? Output = (product, goods and services resulting from success e.g. varieties or germplasm released, new genetic tools etc)

- Overton R18 rose clover: public release
- Apache arrowleaf clover: exclusive release; PVP
- Rio Verde lablab bean: exclusive release; PVP
- Neches white clover: exclusive release: PVP
- Sabine crimson clover: released
- Blackhawk arrowleaf clover: exclusive release; PVP in progress
- Silver River Sweetclover: exclusive release in progress

Which category below best describes this success story?

Varieties released