The Stephenville Center was created by an act of the 44th Texas Legislature effective May 9, 1935, authorizing the location of an agricultural experiment station in the West Cross Timbers area of Central Texas to conduct research on methods best suited to production by “sandy land” farmers. In 1939, Erath County donated 281 acres, and local donors provided another $10,000 for the acquisition of 338 additional acres of adjoining land, for a total of 619 acres. It was designated as Sub-Station No. 20. The Texas Agricultural Extension Service opened a district office on the Tarleton State College campus in 1948. Agricultural industries and research focused on fruit, nut, and peanut production and included traditional small farm and livestock operations. The region became a satellite of the developing Dallas metroplex.

In 1974 the Texas A&M University System Board of Regents approved the restructuring of the center as a Research and Extension Center. An additional 60 acres of land was acquired for the location of a new building, and the center was dedicated in September 1977. Its facilities were expanded to include greenhouses, a fruit- and nut-processing building, and additional improvements. Garden and ornamental plant culture and dairying began to supplement the agribusiness environment, and as the region’s population grew, Extension 4-H, community resource development, and family and consumer science specialists were added.

With an increasingly urban influence in a traditionally rural setting, the Stephenville Center recognizes society’s shifting priorities in food, fiber, natural resources, and environmental management systems. The need to more than double agricultural productivity on existing lands by the year 2050 must be balanced with solutions to growing environmental pressures. Our scientists are working to solve these production and environmental issues.

**Current Research**

**Identifying cropping systems that result in healthier watersheds**

Stephenville Center researchers have developed new library-independent means of screening water and soil samples for coliform bacteria that will allow better assessment of efforts to mitigate bacterial contamination of watersheds.

**Improving efficiency and sustainability of meat and milk production**

Dairies in north-central Texas have more manure phosphorus than they can safely apply as effluent or compost to their croplands without raising soil phosphorus to levels that threaten surface-water runoff into the Bosque and Leon Rivers. Stephenville Center researchers developed strategies to increase waste-management efficiency by 45% through on-dairy phosphorus recycling using year-round forage cultivation and reduced phosphorus excretion in diets. This saves dairy producers $900 million in land purchase or lease costs and reduces phosphorus pollution.

Researchers also discovered that a plant native to the southern United States could reduce egg production of the internal parasite *Haemonchus contortus* (barberpole worm), which infects sheep, goats, and cattle. Further research is required to develop application strategies and potential impact. Researchers found that secondary compounds from plants native to the southern United States could prevent housefly larvae from developing in dairy cattle manure. This natural control strategy could reduce both the environmental and the economic cost of fly control on dairy farms.
**Using native plant germplasm to restore grassland ecosystems**

New and longtime landowners in the Cross Timbers region are more interested in restoring farmland to its original diverse, native vegetation than they are in gaining economic returns from the land. Stephenville researchers are developing native plant germplasm for eventual inclusion in commercial seed mixes for woodlands, prairies, rangeland reseeding, roadside revegetation, wildlife plantings, and cultivated pastures. They collect germplasm from remnant native vegetation sites, evaluate it for potential uses, and then develop it into releases that are made available to commercial seed companies. Two cultivars have been released through the North Texas Ecotype Project, established at Tarleton State University.

**Breeding peanuts for genetic resistance or insect and disease tolerance**

Researchers at the Stephenville Center identified wild peanut genes that control rootknot nematodes and improve drought tolerance and transferred these genes into cultivated varieties, saving producers $30 million annually in pesticide applications and $40 million in irrigation and water-pumping costs.

The Stephenville Center’s greenhouses contain the largest collection of exotic species of South American peanuts of any university in the world. Some of the plants are over 25 years old, and many contain genes that will sustain peanut production in Texas, both economically and environmentally. Stephenville researchers, with scientists in Lubbock and College Station, released one new peanut variety in 2011, ‘Tamrun OL11’. This new cultivar is high O/L, sclerotinia, and tomato spotted wilt virus resistant and has the potential to increase Texas peanut farmers’ income by $20 million to $30 million per year when adopted by growers.

**Research Impacts**

- Developed an *in vitro* embryo production and transfer system to improve summer fertility in commercial dairy operations, saving the industry $40 million annually.
- Developed methods for increasing waste-management efficiency by 45% and reducing phosphorus excretion in dairy cattle, saving dairy producers $900 million in land purchase or lease costs while reducing phosphorus pollution.
- Through the identification and transfer of nematode- and drought-resistance genes from wild peanuts into cultivated varieties, researchers save producers $30 million annually in pesticide applications and $40 million in irrigation costs.

**Stephenville Center Facilities**

- Stephenville — 17,000-square-foot office/laboratory building; 650 acres of crop/grazing land; and greenhouses, shops, and animal-handling facilities.

**About Texas A&M AgriLife Research**

*A member of The Texas A&M University System*

Established in 1888, Texas A&M AgriLife Research is the state’s premier research and technology development agency in agriculture, natural resources, and the life sciences. Headquartered in College Station, AgriLife Research has a statewide presence, with scientists and research staff on other Texas A&M University System campuses and at the 13 regional Texas A&M AgriLife Research and Extension Centers. The agency conducts basic and applied research to improve the productivity, efficiency, and profitability of agriculture, with a parallel focus on conserving natural resources and protecting the environment. AgriLife Research has 550 doctoral-level scientists, many of whom are internationally recognized for their work. They conduct hundreds of projects spanning many scientific disciplines, from genetics and genomics to air and water quality. The annual economic gains from investments in Texas’s public agricultural research are estimated at more than $1 billion. Through collaborations with other institutions and agencies, commodity groups, and private industry, AgriLife Research is helping to strengthen the state’s position in the global marketplace by meeting modern challenges through innovative solutions.