

Improving Life Through Science and Technology.

**AgriLIFE RESEARCH**
Texas A&M System



Texas AgriLife Research



In 1887, the U.S. Congress passed the Hatch Act, paving the way for Texas lawmakers to establish the Texas Agricultural Experiment Station (now Texas AgriLife Research). By the turn of the twentieth century, it served as the source for much needed research into the pressing agricultural issues of the day: plant diseases and animal parasites, grass and forage production, and the economical feeding of dairy and beef cattle.



Today, Texas AgriLife Research is the state's premier research agency in agriculture, natural resources, and the life sciences. An agency of the Texas A&M University System, AgriLife Research collaborates with the Texas A&M University College of Agriculture and Life Sciences, the Texas AgriLife Extension Service, and others to help fulfill the A&M System's land-grant mission of teaching, research, extension, and service.



Headquartered at Texas A&M University in College Station, AgriLife Research serves the entire state through its on-campus units and regional Research and Extension Centers. We conduct hundreds of projects spanning many scientific disciplines. Our research is international in scope.

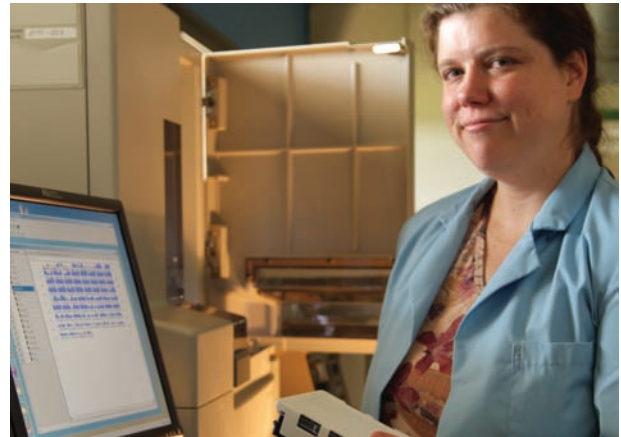
With our new name and a renewed vision for serving the state of Texas, AgriLife Research

delivers life-sustaining and life-changing impacts to citizens throughout the state. While maintaining our traditional connection to farming and ranching, our researchers are also developing fruits and vegetables with enhanced nutrition and disease-fighting compounds, leading innovative research for renewable energy sources, working with the U.S. military to sustain training lands, and implementing new methods to improve air and water quality.

Some of AgriLife Research's more recognizable accomplishments are summarized on the following pages. In short, the economic returns on investment in agricultural research are substantial. One study concluded that annual economic gains from investments in Texas's public agricultural research have reached more than \$1 billion over the past four decades.

Playing an important role in our success are the many partnerships we have formed. AgriLife Research is cultivating educational, corporate, government, and community partners to meet modern challenges and is providing significant returns on investments.

AgriLife Research is improving life through science and technology.



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These are just a few recent highlights of the impact of AgriLife Research on Texas and its people:

Sustain Healthy Ecosystems and Conserve Natural Resources

- Through application of irrigation-efficiency measures developed by Texas AgriLife Research, farmers in the Edwards Aquifer region have saved .5 million acre-feet of **water**, valued at \$3.4 million.
- Researchers have developed cost-effective management options to circumvent **golden algae blooms** in Texas lakes. In the past, the overgrowth of this algae species has resulted in fish kills and recreational losses ranging between \$10 and \$20 million.
- By developing effective application schedules to control harmful insects while reducing the use of pesticides, AgriLife Research has helped **vegetable growers** save millions of dollars — and protect the environment.
- AgriLife researchers have developed chemical treatments that **reduce ammonia emissions** from feedyards by 80 percent.



Enhance Competitiveness and Prosperity of Urban and Rural Agricultural Industries

- AgriLife Research has contributed to the expansion of the **horticultural industries** in East Texas, with an estimated economic impact in excess of \$1.2 billion. Our programs have helped growers to double watermelon production over 10 years, increase nursery and greenhouse production, create a blueberry industry, increase and improve ornamental plant production, and have greater success with home landscapes and gardens.
- Researchers are developing protocols for incorporating **distillers grains** into feedlot finishing diets at higher-than-expected levels. Feeding distillers grains could decrease feedlot grain costs by \$15 per head. Based on current market conditions, this translates into nearly \$1 million in savings for a 35,000-head feedlot.
- AgriLife Research scientists have discovered the only known way to make **citrus trees** resistant to greening disease and citrus canker, both of which have devastated the \$9 billion Florida citrus industry and now pose a threat to the Texas citrus industry.



- Developed by AgriLife Research, new **wheat varieties** — TAM 111 and TAM 112 — have increased annual farm gate income by more than \$6 million.

- Demonstrated that the addition of limestone to soils increases **soil fertility** and forage production, resulting in annual cost savings of \$1 million for East Texas farmers and ranchers.

- Developing a method to interrupt the vine-to-vine spread of **Pierce's disease** by controlling insect vectors has reduced the disease spread in established and newly planted vineyards throughout Texas.



- Using a novel method for applying antibiotics, our scientists have developed a strategy for reducing the incidence of the most common and severe form of **foal pneumonia** by 75 percent. Bacterial pneumonia is a leading cause of disease and death in foals, affecting approximately 1 in 10 foals.

Improve Public Health and Well-Being

- Our researchers have discovered a compound from sheep being used in **clinical trials** for multiple sclerosis, rheumatoid arthritis and hepatitis.

- Researchers have documented that **dietary omega-3 fatty acids**, such as those found in fish oil, regulate transmission of



information that alters the body's responses at the cellular level. This finding has enhanced the ability to determine colon cancer risks.

- Researchers have **discovered a gene** associated with resistance to tuberculosis among people infected with HIV. This discovery will lead to a new understanding of how the tuberculosis bacterium causes disease and will create new avenues for controlling tuberculosis among those with HIV. It will also lead to new methods for screening people at high risk of developing tuberculosis.

- To improve the **safety of our food supply**, AgriLife Research developed materials for Hazard Analysis and Critical



Control Point (HACCP) training for more than 1,700 food industry personnel in 26 states and 8 countries. We also provided food safety educational programs for more than 800 USDA inspectors.

Serving the State of Texas

Texas AgriLife Research comprises its College Station headquarters, 13 research centers reaching from El Paso to Beaumont and Amarillo to Weslaco, and associated research stations. A member of The Texas A&M University System, AgriLife Research has 1,700 employees, 375 of which are doctoral-level scientists who are nationally recognized experts in their fields.

AgriLife Research collaborates with more than 30 nations. In 2009, expenditures will be more than \$170 million.



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