

# Increasing Texas A&M AgriLife Research capability

## Modernizing infrastructure

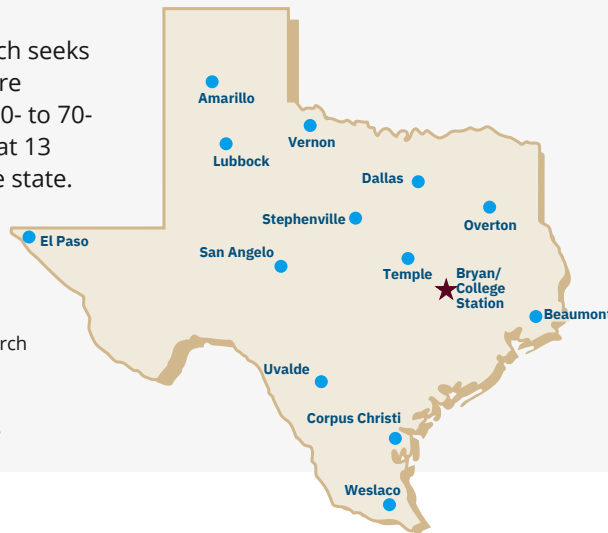
### Modernizing research facilities

AgriLife Research lab space and equipment are critical components of the agency's ability to support Texas commodities — a major contributor to U.S. agriculture. Top-notch research infrastructure is critical to maintaining economic competitiveness and excellence, and responding to advances in agriculture, natural resources and the life sciences.

Our research missions have outgrown 60- to 70-year-old lab environments and now require cutting-edge, specialized instrumentation and equipment.

### Objective

Texas A&M AgriLife Research seeks investments in infrastructure upgrades that modernize 60- to 70-year-old research facilities at 13 research centers across the state.



- Texas A&M AgriLife Research and Extension Center
- ★ Texas A&M University and Agency Headquarters



### Anticipated outcomes

- Advanced speed and degree of scientific discoveries in plant and animal systems.
- Increased statewide competitive advantage in high-priority global initiatives like carbon capture, supply chain solutions and control of antimicrobial resistance.

### World-renowned research in each Texas region

Enhanced funding for the 13 regional AgriLife Research centers would create a geographically expansive research environment where scientists and graduate students access the best resources for conducting research unique to each center's geographic location. Water conservation research in Dallas, citrus research in

Weslaco, and cow and calf research in Overton are examples of critical, regional research areas that support Texas commodities. At the same time, AgriLife Research scientists and laboratories are the public faces of Texas' agricultural and natural resources research. Each should reflect the world-class, cutting-edge, life-changing impact of AgriLife Research.

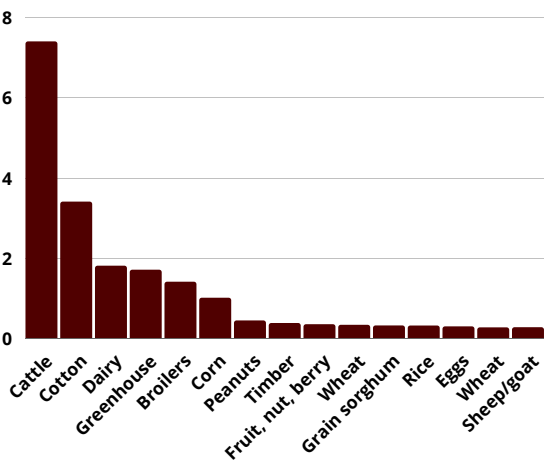
# Food and fiber system contribution to Texas GDP

Food and fiber produced in Texas is a major contributor to agricultural systems across the U.S. and the world.

## Texas' top agricultural commodities

<b>Cattle</b>	<b>\$7.4. billion</b>
<b>Cotton</b>	<b>\$3.4 billion</b>
<b>Dairy</b>	<b>\$1.8 billion</b>
<b>Greenhouse</b>	<b>\$1.7 billion</b>
<b>Broilers</b>	<b>\$1.4 billion</b>
<b>Corn</b>	<b>\$1 billion</b>
<b>Peanuts</b>	<b>\$433 million</b>
<b>Timber</b>	<b>\$369 million</b>
<b>Fruit, nuts and berries</b>	<b>\$339 million</b>
<b>Vegetables</b>	<b>\$324 million</b>
<b>Grain Sorghum</b>	<b>\$308.5 million</b>
<b>Rice</b>	<b>\$306 million</b>
<b>Eggs</b>	<b>\$285 million</b>
<b>Wheat</b>	<b>\$260 million</b>
<b>Sheep, goats, wool, and mohair</b>	<b>\$264 million</b>

<p><b>\$159+ billion</b></p> <p>Texas food and fiber system contribution to Texas' \$1.84 trillion GDP</p>	<p><b>\$6.3 billion</b></p> <p>in annual agricultural exports</p>
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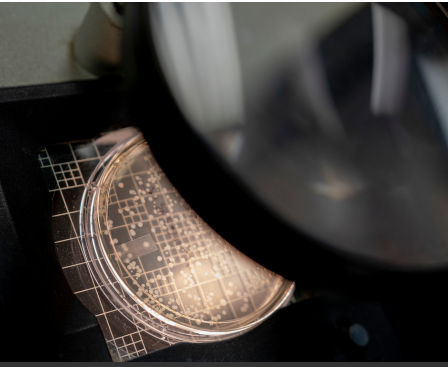


## New, critical research areas

AgriLife Research scientists' priorities have expanded to include new economically and topically important research areas. Of growing importance to the state are animal and plant genomics; DNA or marker-assisted genetic selection; chemical and biological speciation of air, water and waste constituents; and viral diseases of plants and animals.

### Examples: Upgrades and impacts

- Equipment such as high-throughput DNA sequencers would allow scientists to determine the genetic compositions of microbes, insects and plants, helping them to develop new crop varieties.
- Mass spectrometers would be used in research relating to healthy compounds in foods. Chemical analysis enhanced by ion detectors would allow scientists to more accurately detect nutrients and pesticides in water.
- Retrofitting several labs around the state to Biosafety Level 2 standards would allow scientists to conduct experiments that require specific containment and precise measurements of chemicals and biological agents.
- Improvements in air handling and negative pressure space would allow for experiments relating to molecular recombinant DNA, aiding vaccine development, and new plant varieties that resist disease and improve soil fertility.



## Adapting to change

Outdated equipment across AgriLife Research facilities, as old as 60-70 years, does not mirror modern agricultural practices or laboratory safety standards.

Moreover, modern analytical and scientific equipment is required to develop new solutions that position Texas and U.S. agricultural producers to battle drought, disease and increased input costs.

New technologies can also help develop livestock that tolerate heat, resist disease and consume less water.

