

University of Tennessee

Three large, state-of-the-art **greenhouse facilities** are located on the UT-Knoxville Agriculture campus, totaling 22,000 square feet. When the ancillary space used for the headhouses, classrooms, common laboratories, mechanical rooms, storage closets, upper lofts and restrooms is included, the total footprint of the three facilities covers 39,000 square feet.

Faculty representing several University of Tennessee Institute of Agriculture departments utilize these greenhouses for various research, teaching and extension programs such as reforestation, phytoremediation, soil biology, plant diseases, insect biology, plant breeding and propagation, plant nutrition, organic agriculture, turfgrass science, biotechnology and biofuels, landscape and public horticulture, and protected agriculture including fruit and vegetable production.

All three greenhouses are Venlo style structures operated with a Priva climate control system. This particular combination offers a large number of custom climate options for a wide range of crops and provides complete automation to optimize, manage and control the growing environment. Although the greenhouses can be used to grow nearly any crop, each was designed to provide a particular function.

Central Greenhouse (2008)

- 6 Bays: each 945 square feet
- High light intensity, favoring field crops research
- Deionized water supply
- Large headhouse work area

South Greenhouse (2009)

- 10 Bays: 2 x 1500 square feet, 4 x 630 square feet, 4 x 945 square feet
- Large and small classrooms with Smart Board technology
- Headhouse layout enables student observation and access for hands-on training

North Greenhouse (2012)

- 10 Bays: each 630 square feet
- Increased containment, facilitates entomological and plant pathology research
- 4 laboratories
- Chemical fume hood
- Specialized root washing sink
- Deionized water supply

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The **East Tennessee AgResearch and Education Center** includes 1,968 acres, and is known for its comprehensive and diverse research program in agriculture. Research areas of emphasis include, but are not limited to, turfgrass management; soybean, corn and wheat breeding; switchgrass production and processing; organic vegetable crops; season extension with high tunnels; plant diseases; and weed management and control.

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Organic Research Farm/Organic Crops Unit (OCU) The ETREC-Organic Crops Unit is located 7 miles south of UT's Agriculture Campus. This 92-acre tract is utilized to provide land, equipment, and support for faculty and graduate students to conduct agriculture related research, with a primary emphasis on sustainable and organic crop production. The unit's main soil type is Decatur Silt Loam.

Facilities available at the Organic Crops Unit include: seven high tunnels, a greenhouse and head house, and a vegetable grading and packing facility.

The primary research undertaken at Organic Crops Unit includes: vegetable-based field and variety research trials, organic management techniques, organic and sustainable forage research, no-till corn and soybeans, management practices for production of corn and soybeans, with emphasis on fertility and weed control, bee and wildflower management, student market garden, tomato variety testing, vegetable production on biodegradable mulches, and extensive use of cover crops for prevention of erosion, improving organic matter content of the soil, and for overall sustainability.

The Organic Crops Unit hosts an Organic Crops Field Tour every 18-months (April or October), in which the public is able to see first-hand the methods and approaches the Organic Crops Unit is using to become a leader in sustainable and organic crop production research.

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The **West Tennessee AgResearch and Education Center** conducts research on ornamentals, turf grasses, agronomic and horticultural crops in Jackson, TN. The center has offices, laboratories and three meeting rooms.

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The **Plateau Research & Education Center (PREC)** is widely known for its contributions in fruit and vegetable research. The center includes 2,100 acres in three locations.

The center is about equal distance from Nashville, Knoxville and Chattanooga and is the site of research in beef, fruits and vegetables, field crops, and swine. The center is most noted for its studies in beef, squash, muskmelons, watermelons, pumpkins, greens, cabbage, green beans, apples, blueberries and tomatoes. Information from studies at the Center is applicable to small, part-time, family farm operations. Research data from annual fruit and vegetable variety trials is widely used by growers large and small, both in Tennessee and across the nation.

The PREC hosts an annual Steak and Potatoes Field Day highlighting interests of three groups of producers and landowners: those interested in improved beef production, those interested in commercial and personal fruit and vegetable production and those interested in forest management issues.

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The **Middle Tennessee Research & Education Center** includes 1,263 acres. The center is the site of research studies in beef and dairy cattle, commercial crops, fruit trees and forage crops. The center conducts research to evaluate varieties of commercial crops, management systems and weed control systems to improve crop production efficiency. Work is also underway on the production and management of fruit and vegetable crops, including peaches, apples, grapes, and blueberries.

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The **Center for Profitable Agriculture** is located on the grounds of the Middle Tennessee Research & Education Center in Spring Hill. The activities of the Center for Profitable Agriculture are primarily Agricultural Extension Service programs.

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