

Iowa State University

Located approximately 4 miles north of Ames, the 230-acre **ISU Horticulture Research Station** is a short drive from central campus. The station has a headquarters building with offices, laboratory, meeting/classroom, cold storage and an apple-sorting room. Other improvements include a shop, pesticide building, equipment storage, turf research building, a 15-acre lake, extensive irrigation system and six 0.2-acre ponds. The farm hosts field days and tours.

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Horticulture Hall on the Iowa State campus has approximately 7,500 sq. ft. of laboratory space divided among our research faculty. The **Department of Horticulture Greenhouses** are attached to Horticulture Hall and support activities related to specific courses, research projects, extension demonstrations and departmental functions. The greenhouses cover about 10,400 sq. ft. separated into two areas designated as “Research” and “Instructional” wings.

This “21st Century” range consists of eight 20 ft. x 25 ft. separate bays for research purposes and approximately 5,600 sq. ft. of space divided into four bays for instructional use. The range has steam converted to hot water perimeter base lines with overhead snow melting capabilities and in-floor coil heat tubes. A dual-purpose shade curtain/thermal blanket system is used for heat retention in cold periods, and sun shading during the summer. Fan and pad or fog-cooling systems provide superior growing conditions during hot periods. The control system is web-based and is equipped with auto dialer environmental alarms and can be accessed anywhere that a smart phone has a signal. The “Research” wing has supplemental lighting to extend day length or photoperiod. Approximately 300 sq. ft. of bench space has intermittent mist irrigation for plant propagation.

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The **Muscatine Island Research and Demonstration Farm** in Fruitland, IA, consists of 126 acres. Research includes:

- **Variety trials** - Scientists conduct trials of advanced breeding lines and the newest cultivars of fruits, vegetables and ornamental crops.
- **Cultural methods** - Scientists evaluate production strategies and methods for sustainability and environmental stewardship. Research areas include: efficient fertilizer use to protect groundwater and develop guidelines for plant tissue nutrient tests; using plastic mulches and row covers; irrigation management (both drip and overhead); earliness techniques for high-value vegetables; and organic crop production.

- **Pest control** - Researchers evaluate new products and methods of controlling diseases, insects and weeds. Integrated pest management practices are explored to address food safety and environmental concerns. Weather data collection and insect trapping provide information for scheduling spray applications for certain pests, such as corn earworm, corn borer and melon leaf blights.

The farm serves as an extension education hub for commercial growers. Field days or individual visits to the research farm provide clients with an opportunity to interact with Iowa State production specialists and observe recommendations being used in the field.

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