



HARSHAW FORESTRY RESEARCH FARM

Rhineland, Wisconsin



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Located in north central Wisconsin, the 520 acre (210 ha) Harshaw Research Farm was established in 1972 from a former agricultural farm to provide a venue for important experiments with planted trees. During the 1970s and 1980s experiments at Harshaw Farm focused on short-rotation intensive culture of hybrid poplars (*Populus*), funded by the U.S. Forest Service and U. S. Department of Energy (DOE). Ultimately, these studies led to large-scale industrial plantings for fiber production and formed the basis for our current leading position in bioenergy crops. In 1997, the Aspen FACE (Free-Air Carbon Dioxide and Ozone Enrichment) Project was installed at the Harshaw Farm through support from a variety of collaborators (see list below). This major international multi-institutional climate change experiment is evaluating the direct effects of the increased concentrations expected by the year 2050 of the greenhouse gases, carbon dioxide, and ozone on northern hardwood ecosystems.

Assets:

Scientists: 7 Northern Research Station scientists are working at this site.

Scientific support: 18 technicians and/or professionals provide support for these scientists.

Cooperators: More than 20 research institutions from 8 countries are involved in the research, with over 50 scientists per year working in the project. Collaborating organizations include: U.S. Department of Energy, Michigan Technological University, Brookhaven National Laboratory, Canadian Forest Service, National Council for Air and Stream Improvement, and the National Science Foundation

Needs:

Annual operating costs: \$2,400,000



Harshaw Forestry Research Farm is administered by:

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More About Harshaw Farm

Location: Latitude 45.60 N, Longitude 89.50 W

The Harshaw Research Farm is located 9 miles west of Rhinelander, WI.

Research—past and present. During the 1970s and 1980s the Harshaw Farm hosted a program of experiments on short-rotation intensive culture of hybrid poplars (*Populus*). In the 1980s and 1990s replicated genetics plantings of larch (*Larix*), jack pine (*Pinus banksiana*), willow (*Salix*), and trembling aspen (*Populus tremuloides*) were established and continue to the present. The Free Air Carbon Enrichment (FACE) project was established in 1997 in association with the U.S. Department of Energy, Michigan Technological University, and other organizations. The project focuses on the effects of elevated carbon dioxide and ozone, alone and in combination, on the growth and health of northern forest trees under near natural conditions. The purpose of studies at the FACE facility is to determine how these two atmospheric gases will affect the composition and health of future forests, so that forest management and regulatory policies can be based on solid science. This is the only FACE facility in the world studying northern forest trees and the only one studying the effects of ozone on trees.

Research opportunities: Propose research projects to the Aspen FACE Steering Committee online. See Aspen FACE website for process (<http://aspenface.mtu.edu/>).

Facilities: The property includes an 80-acre area enclosed within a deer-proof fence with a water supply for irrigation, a heated office/shop building, unheated storage buildings, a utility building housing ozone generators, and a 2,500 sq. ft. office/laboratory building constructed in 2007.

More information on the Aspen-FACE can be found at:
<http://aspenface.mtu.edu/>

