Introducing...

Hudson Valley Laboratory

Agricultural Research and Extension on Tree Fruits and Vegetables

Since 1923

Hudson Valley Laboratory
Highland, NY
A Field Research Station of the New York State Agricultural Experiment Station

Cornell University
College of Agriculture and Life Sciences
Purpose and Impact

Cornell University scientists and staff at Hudson Valley Laboratory (HVL) conduct applied research to improve the production of fruit and vegetable crops grown in eastern New York. Research-based information is provided to New York growers through educational programs organized by Cornell Cooperative Extension (CCE) and participating CCE associations from Suffolk County in Long Island to Plattsburgh in the Champlain Valley.

The Cornell scientists stationed at HVL live and work in the Hudson Valley. They understand the local economy, experience directly the impacts of seasonal weather patterns, and can react quickly when unique production or pest-control problems develop during the growing season. Access to statewide, national, and international resources available through Cornell allows HVL scientists to review the best available information, tailor that information to meet the needs of regional agricultural producers, conduct additional on-site research as necessary, and deliver the appropriate information to growers in a timely manner. HVL scientists also act as the "eyes and ears" for their campus-based colleagues, keeping them informed of research needs and technological innovations in the eastern New York horticultural industries.

Scientists at Hudson Valley Lab are an essential part of the network that keeps New York green by helping New York growers compete for local, domestic and world markets for horticultural products.

May 22, 1923: New York State Governor signs legislation enabling the New York State Agricultural Experiment Station (NYSAES) at Geneva to establish a field station for agricultural research in the Hudson Valley "for the experimental study of the problems of increasing the production and controlling the diseases and injurious insects of the horticultural crops of the Hudson River Valley."

1923-62: Cornell scientists working in the Hudson Valley are initially based in Highland, then on the campus of Vassar College, thereafter, at two locations in Poughkeepsie.
Research at Hudson Valley Lab

The topography, soils, climate, and geographic location of the Hudson Valley provide local growers with unique opportunities and challenges:

Opportunities

- The longer growing season in the Hudson Valley allows orchardists to grow long-season apple varieties that do not mature elsewhere in the state.
- Organic soils and river bottoms provide ideal conditions for vegetable production.
- The Hudson Valley’s proximity to the New York City metropolitan area provides growers with the opportunity to market horticultural products to millions of local consumers.

Challenges

- Hudson Valley growers must maintain competitiveness in domestic and world markets while producing crops in an increasingly urban landscape.
- The warm, humid climate favors the development of diseases and insect pests not usually found in cooler regions of the state.
- Hudson Valley growers need effective pest management strategies for mites, insects, plant diseases, and wildlife pests (e.g., deer), but the management strategies must be designed and applied in ways that are compatible with the sensitivities of non-farm neighbors from urban backgrounds.

History of Hudson Valley Lab

1942: The local fruit industry organizes the Hudson Valley Horticultural Research Cooperative (later renamed the Hudson Valley Research Laboratory, Inc.) to provide assistance and leadership in finding appropriate facilities.

1952: After fire guts the Poughkeepsie laboratory, the Hudson Valley Research Laboratory, Inc. arranges to purchase land and construct a new laboratory. Cornell University agrees to lease, equip, and staff the new buildings and to purchase additional acreage adjacent to the site for experimental plantings.

1963: Scientists move into the new facility at the current location in Highland.
Facilities and Staffing

The Hudson Valley Laboratory and associated buildings were constructed by the Hudson Valley Research Laboratory, Inc., a non-profit grower-owned corporation dedicated to supporting research that will benefit the fruit and vegetable industries of the Hudson Valley. This corporation leases the laboratory to Cornell University. Cornell owns 25 acres of research orchards located on the hill behind the laboratory.

The 7,000 square-foot laboratory building houses four labs that are well-equipped for applied research. Other buildings include two greenhouses, three walk-in cold rooms, a shop, and an eight-bay parking garage. A pole barn for farm equipment and a modern pesticide storage facility are located in the research orchards.

HVL provides a base of operations that allows Cornell scientists to conduct research on problems not easily investigated by scientists at more distant university campuses. HVL scientists conduct much of their research in commercial orchards with assistance and support provided by the orchard owners.

HVL is permanently staffed with Ph.D. research scientists specializing in tree-fruit horticulture, plant pathology, and entomology. Each scientist is a faculty member in their respective department at the New York State Agricultural Experiment Station in Geneva, NY, which is part of Cornell University. In addition to the three scientists, full-time employees at the lab include seven technicians and a receptionist/administrative assistant.

Cornell Cooperative Extension (CCE) of Ulster County employs a fruit specialist who is also housed at HVL. The Ulster County fruit specialist reports to the county CCE office in Kingston, NY.

1964: Experimental orchards are planted behind the laboratory; some are used until 1997.

1974: The Hudson Valley Research Laboratory, Inc. organizes and underwrites an addition to the original laboratory that nearly doubles available space for offices and laboratories.

1991: Cornell University constructs a modern pesticide facility and pesticide rinse-water disposal system in the research orchard.

1998: Hudson Valley Lab celebrates its 75th anniversary.
Agriculture in the Hudson Valley

The soils, climate, and topography of the lower Hudson Valley are well-suited for fruit production. Despite increasing urbanization, the Hudson Valley supports more than 150 fruit farms with a total of 15,700 acres. Farm-gate revenues at these farms exceeded $42 million in 1996. Ulster County has the second largest apple crop among all counties in New York State.

The lower Hudson Valley also encompasses several river-bottom and black-dirt regions that support a concentration of sweet corn and onion farms. Approximately 5,000 acres of fresh-market sweet corn are produced in the Roundout and Wallkill River Valleys, generating annual revenues of $5.8 million. To the south, in Orange County, organic soils created by an ancient lake now support more than 60 black-dirt farms and an onion industry that encompasses 5,200 acres and generates $20 million dollars in annual revenues (based on data from 1993-1996).

For more information, contact:

Dr. David Rosenberger
Hudson Valley Lab Superintendent
3357 Route 9-W
P.O. Box 727
Highland, NY 12528
Ph: 914-691-7151 • E-mail: dar22@cornell.edu
Accomplishments and Ongoing Research

- Use plant growth regulators to adjust crop load on apple trees for maximum production and profitability.
- Increase winter hardiness and reduce cold injury to apple trees through novel uses of nutritional supplements and plant growth regulators.
- Evaluate new fungicides, insecticides, and miticides for improved pest control on apples and pears.
- Develop and test integrated pest management strategies for fruit insects and diseases.
- Manage postharvest decay of apples to minimize losses during long-term, controlled-atmosphere storage.
- Evaluate new apple cultivars for horticultural qualities and susceptibility to insects and diseases.
- Develop insect management programs for fresh-market sweet corn.
- Develop integrated pest management strategies for controlling onion bulb mite and onion thrips.

http://www.nysaes.cornell.edu/Hudson