

Media Relations

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New UNH Research Explores New Practice That Brings Cows Into the Woods



UNH recently cleared a silvopasture area for heifers at the UNH Organic Dairy Research Farm. Once the pasture is established, the heifers will graze among the trees. For now, they are enjoying their new environment with more shade. Credit: UNH

DURHAM, N.H. – Seeing cows graze in a forest may be an uncommon site in New England but at the Organic Dairy Research Farm at the University of New Hampshire, heifers soon will be dining among the trees. Researchers with the [NH Agricultural Experiment Station](#) have launched a silvopasture project at the farm to investigate this relatively new agroforestry practice in the region.

Silvopasture is the simultaneous management of forages, livestock, and timber on the same piece of land. Potential benefits of silvopasture include shelter and shade for livestock, which can reduce animal stress and

increase productivity, as well as a source of diversified income from management of timber products. Silvopasture is appealing because it allows farms with limited pasture land to expand their pasture land base without needing to completely clear a section of their forested land.

“Our project seeks to quantify the benefits as well as tradeoffs associated with the establishment of silvopasture systems in our region so as to ensure that New England’s agricultural future remains as sustainable as possible,” said Richard Smith, assistant professor of agroecology. The project team also includes Heidi Asbjornsen, associate professor of ecosystem ecology, and Alix Contosta, research scientist with the UNH Institute for Earth, Oceans and Space.

“Silvopasture represents a new form of agricultural land use change – the conversion of forested land to agriculture -- and a potentially expanding component of our local and regional food system,” Smith said.

Specifically, UNH researchers are trying to understand what happens when forested land is converted to silvopasture. They are interested in how much forage can be produced in a silvopasture under the soil and climatic conditions typical across New England, what happens to the nitrogen and carbon that are in the soil and the trees during and after the establishment of silvopasture, and how the establishment of silvopasture affects the movement and quantity of water that moves through the system and the trees that remain.

Researchers have established a 2.5-acre silvopasture at the UNH Organic Dairy Research Farm. They plan to compare the silvopasture system to a recently established open pasture, a long-term permanent pasture, and the abutting forested land. In addition, they are making similar measurements on farms across the Northeast that are also practicing silvopasture, including the North Branch Farm in Saranac, NY, where former UNH doctoral student Joseph Orefice is maintaining replicated silvopasture and open pasture plots.

Nicole Guindon, manager of the UNH Organic Dairy Research Farm, said grass is beginning to grow on the recently cleared land. The heifers add nitrogen to the soil with their manure as well as help turn up surface material by walking around. Farm staff are supplementing their diet with hay, which also helps break down surface materials.

“Benefits of the project will include more region-specific information for livestock producers who are interested in establishing silvopasture systems on their own farms and data that researchers can use to better understand how silvopasture and other agricultural land uses contribute to local and regional ecosystem services that forested and agricultural landscapes provide to society,” Smith said.

Founded in 1887, the [NH Agricultural Experiment Station](#) at the [UNH College of Life Sciences and Agriculture](#) is UNH’s original research center and an elemental component of New Hampshire’s land-grant university heritage and mission.

The [University of New Hampshire](#), founded in 1866, is a world-class public research university with the feel of a New England liberal arts college. A land, sea, and space-grant university, UNH is the state’s flagship public institution, enrolling 13,000 undergraduate and 2,500 graduate students.

PHOTO AVAILABLE FOR DOWNLOAD

<https://colsa.unh.edu/nhaes/sites/colsa.unh.edu.nhaes/files/media/images/odrfsilvopasture.jpg>

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