

## SUGAR MAPLE/GINSENG RESEARCH PROJECTS

### Uihlein Sugar Maple Field Station

Wild American Ginseng and Sugar Maple share a very similar geographic range in North America. Understory plants, particularly herbaceous perennials growing beneath the sugar maples in the Uihlein forest are the same species that are often associated with wild ginseng populations growing elsewhere. In April of 1998 a soil sample was collected from the Uihlein sugar bush and analyzed for nutrient content at Cornell's Soil Testing Laboratory. The soil appeared to have very similar characteristics as soils in which healthy populations of wild ginseng are found in New York State.

Although many regions of New York have a long anecdotal history of wild ginseng growing within the region, the area near Lake Placid does not seem to share this history based on conversations with long time residents. The following project was initiated to determine if ginseng could be cultivated in a sugar maple forest in the Lake Placid region.

During the summer of 1998 six test plots approximately 6 feet wide by 33 feet long were prepared within the Uihlein sugar bush by removing the surface vegetation and rototilling the soil to a depth of six inches. Soil samples were collected and analyzed from each of the six plots. Calcium levels varied substantially from plot to plot. Calcium is a crucial element for healthy ginseng growth. Calcium levels ranged from 430 pounds per acre

to 1710 pounds per acre. P, K, and Mg levels were not significantly different from plot to plot.

Each of the six plots was divided into three sections. Each plot was planted exactly the same. Each received two ounces (approximately 700 seeds) of ginseng seed from a commercial source, two ounces of seed from a different commercial source, and approximately 50 one-year-old ginseng rootlets. In addition, each of the plots, except a control plot, received a different rate of gypsum (calcium sulfate) to increase the calcium level in the soil.

Ginseng seed germination and growth has been monitored for the past three years. In the fall of 2001 a workshop was held at the Uihlein Field Station for clients and cooperative extension agents to discuss what makes a good ginseng planting. The results of growth in the six plots after three years varied from poor to excellent. The factors that influenced the success of the plots were compared to a Visual Site Assessment and Grading Criteria form to be used with soil analysis data to help further determine the sites with best potential.

In October of 2001 a second study was initiated to determine under what alternate dominate tree species would ginseng grow best. Many indications are that ginseng will grow best under sugar maple. However, farmers and growers that want to grow ginseng may lack the sugar maple resource. Five trees of four species, sugar maple, beech, yellow birch and hop hornbeam were chosen. Soil samples were taken from around each tree to determine soil type and nutrient qualities and saplings of species other than

the sample were removed. 50 three and four year old rootlets were planted in one-foot spacings on two, four, and six-foot radii under the drip line of the sample trees. Survival and growth will be monitored over the next four years.

Also situated at the Uihlein Field Station Sugarhouse is a demonstration plot of ginseng grown from seed and goldenseal, another rare herbaceous perennial that has income potential. A demonstration of gourmet mushrooms will also be established this spring. These demonstration plots will be used to show producers and visitors some sources of alternative income also available in their forests.

A repository of ginseng from six southern states was also established to observe the ability of the transplants to survive a northern climate and to provide genetic material for future projects.

Principal Investigators and Cooperators include: Bob Beyfuss - Cornell Cooperative Extension American Ginseng Specialist, Dr. Louise Buck - Agroforestry Specialist Cornell University, Dr. Marianne Krasny - Faculty Director of the Maple Program at Cornell University, Lewis Staats - Cornell Cooperative Extension/NY Maple Specialist (retired), Colin Campbell - Extension Support Specialist/Manager Uihlein Sugar Maple Field Station, and Jeff Murphy - Temp. Services Professional Uihlein Sugar Maple Field Station. Funding is partially supplied by the NYS-DEC and is greatly appreciated.

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