Project Impacts

NSRC-FUNDED RESEARCH FINAL REPORT

Tree Foliage Chemistry Data Base to Monitor Forest Health


Steve Horsley

PROJECT AWARD YEAR AND TITLE:

2001, 2003

Regional Foliar Chemistry Database

PRINCIPAL INVESTIGATORS:

Richard Hallett
USDA Forest Service Northern Research Station, NH
rhallett@fs.fed.us

Marie-Louise Smith
USDA Forest Service Northern Research Station, NH
marielouisesmith@fs.fed.us

Mary Martin
University of New Hampshire
mary.martin@unh.edu

Scott Ollinger
University of New Hampshire
scott.ollinger@unh.edu

Forest health and monitoring has become a major focus of scientists and research institutions in Europe and North America. Increasing interest in forest health arises from growing concern over widespread forest decline in Europe, high-elevation spruce/fir decline in North America, and sugar maple decline in the United States and Canada. Increasing attention to atmospheric pollution, climate change, and greenhouse gases, such as carbon dioxide, has raised questions about accurate quantification of carbon uptake and sequestration and concerns regarding losses of critical forest nutrients such as calcium, an important nutrient for long-term forest productivity.

Regional assessments of forest health and productivity require a strong, region-wide understanding of ranges in chemical nutrient concentrations in the foliage of the region's forest tree species. NSRC researchers requested foliar chemistry data from 122 scientists. They created a database of data from 25 research projects located in approximately 13 states in the northeastern United States.

The database now contains foliar chemistry data from 10,000 trees. Currently, there are 294 registered users of the online database at http://foliar.sr.unh.edu/. The database is a searchable resource that provides foliar chemistry data for most eastern forest tree species. In addition, the website provides cumulative frequency distributions of the foliar chemistry for each tree species and chemical element represented in the database. Data can be submitted to the database by registering on the website.

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