

The Northern Research Station's Agroforestry Research Efforts

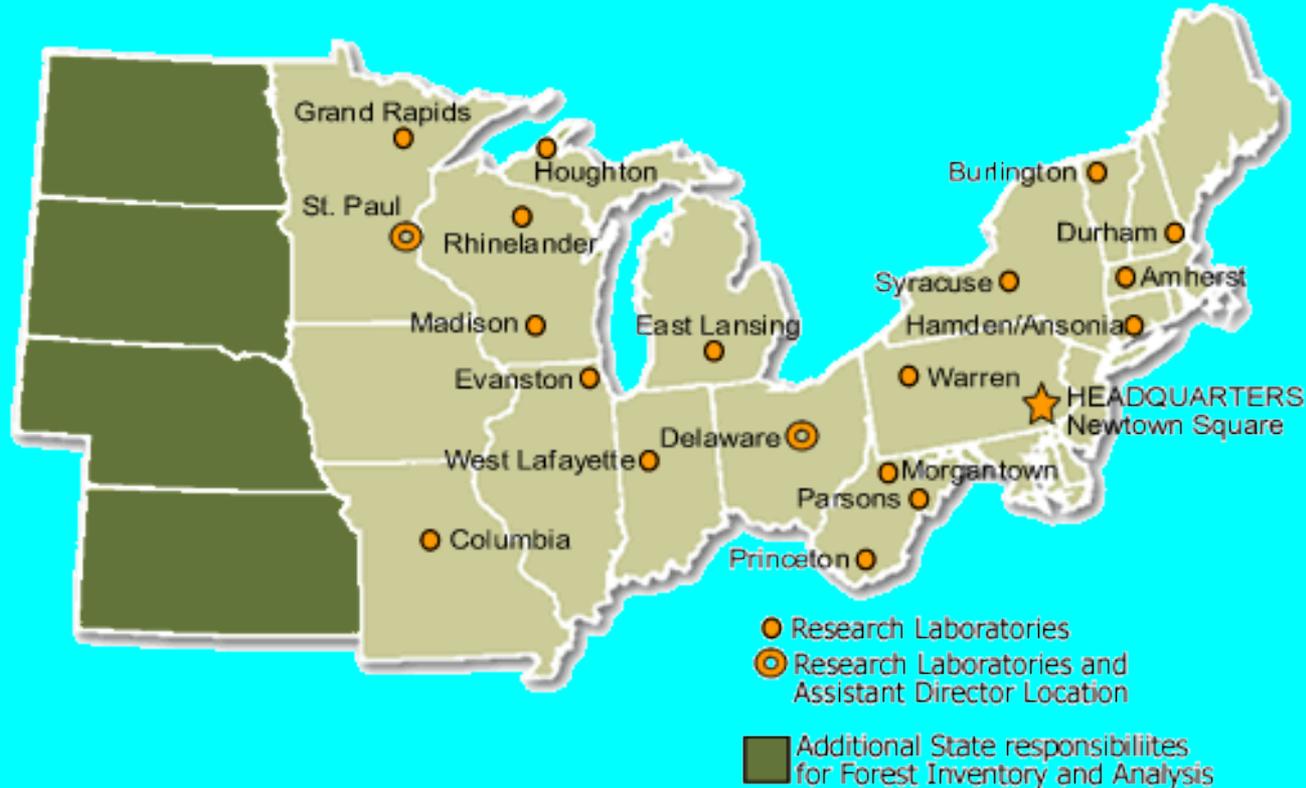


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NRS includes both the most heavily forested and heavily populated regions of the country and some of the most critical and productive agricultural ecosystems

Northern Research Station Field Locations



Forest Inventory and Analysis Research (NRS-05, St. Paul MN & Newtown Square PA)

- Developing new classification variables for detailed Land Use and Land Cover – includes several Agroforestry categories, **comments due in November** (Chip Scott)
- Examining afforestation of former agricultural lands by trees in southwest Missouri (Keith Moser and others)
- Looking into the relationship between invasive plants on forest land and the category of nearby land use, particularly agricultural land (Keith Moser and others)
- Preparing GTR on "Ag and urban forests in the context of national reporting for sustainability" (Perry and others)
- Published work on "Filling the gap: improving estimates of working tree resources in agricultural landscapes" (Perry and others 2009)
- Published work on "Assessing tree cover in agricultural landscapes using high-resolution aerial imagery" (Liknes and others In Press)
- Present data and discuss agricultural-related tree in the FIA reports for predominately agricultural states
- Developed inventory of trees in nonforest areas in the Great Plains States for the EAB project. (Lister, Scott and others)
- FS postdoc (Lang) with ARS-Beltsville (McCarty)



Biological and Ecological Research

- Active participants in the University of Missouri Center for Agroforestry (NRS-11, Columbia MO)
 - leader for the Tree/Crop Interaction cluster,
 - oversee projects in the silvopastoral cluster and flood tolerance cluster,
 - cooperater on projects in the nut tree cluster and forest bottomlands & Wildlife restoration cluster
- Evaluating shade tolerance of native and forage grasses and legumes for use in alley-cropping and silvopastoral agroforestry practices (Van Sambeek)
- Looking at genotypic variation in flood tolerance of oak seedlings (Van Sambeek)
- Experimental plantings of swamp white oak and pin oak along the Missouri River (Dey & Kabrick)
- Nitrogen fertilization studies to improve tree growth (Ponder & Van Sambeek)
- AFRI grant “Effects of contrasting perennial-annual configurations on water and biodiversity services” (Iowa State, ARS, NRS-07 Kolka)
- Research in Costa Rica on wintering Neotropical migratory birds in integrated open canopy (IOC) coffee production, in which farmers cultivate coffee in small, lightly-shaded coffee plantations and conserve an equivalent amount of adjacent forest, supports forest-dependent bird species that don't occur in shade coffee (NRS-07 King)



Social Science Research



- Combining FIA data with National Woodland Owners' Survey to look at farmer attitudes and forest conditions on farm forests (NRS-05 - Keith Moser, Brett Butler and others)
- Investigated farmer attitudes towards sustainability, especially water quality (NRS-09 Westphal, Iowa State)
 - “Landscape, community, countryside: linking biophysical and social scales in US Corn Belt agricultural landscapes” (Atwell and others 2009)
 - “Linking Resilience Theory and Diffusion of Innovations Theory to Understand the Potential for Perennials in the U.S. Corn Belt” (Atwell and others In Press)
- Nontimber forest products and their cultural significance (NRS-09 Emery)