

# Brassica cover crop trial will help farmers make cover crop decisions

On-farm research results will help farmers identify the best cover crops for their farm

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Do you know the difference between oilseed radish varieties? Which one grows the fastest? Which produces the biggest root and which recycles the most nitrogen? In 2010, twenty brassica cover crops were evaluated in Michigan and Minnesota to try to answer these questions.

The Michigan State University Extension (MSUE) Kellogg Biological Station (KBS) Land and Water Unit recently completed the first year of a multi-year Brassica cover crop variety trial in cooperation with the USDA-NRCS Rose Lake Plant Materials Center in Bath, Mich., and a team from the University of Minnesota. Key cooperators included Dale Mutch, Dean Baas and Victoria Ackroyd of MSU Extension; John Durling, John Leif and Sergio Perez of the USDA-NRCS; and Miriam Gieske of the University of Minnesota.

Nineteen accessions of mustards, oilseed radishes, and forage turnips were trialed in Minnesota while 20 accessions were trialed in Michigan. Data collected included stand, percent canopy cover, above- and below-ground biomass production, root length and plant height and flowering date. Samples taken in mid-October in each location were tested for nitrogen content. This variety trial will provide information that will be useful to both farmers and plant growth modelers at government agencies.

All accessions had achieved 90 to 100 percent canopy cover by around 45 days after planting (600-700 accumulated growing degree days). Total biomass averaged from 1.7-3.1 tons/A, while the plants accumulated an average of 95-145 lbs of nitrogen per acre. The oilseed radishes had a greater root:shoot ratio and greater root biomass than the other species accessions. Flowering varied among and within the species; some accessions had green seedpods by the end of the season. While there have been reports of Brassicas overwintering under snow cover, none of these accessions did so this year. Plans are in place to repeat this variety trial in the fall of 2011 to gather more data and test other accessions.

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