



Iowa Cover Crop Projects



Contact:
Tom Kaspar
Tom.Kaspar@ars.usda.gov

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Midwest Cover Crops Council Working Group - Iowa : The state-wide Green Lands Blue Waters representation for the MCCC is funded by Leopold Center for Sustainable Agriculture special hypoxia project funds and managed by Practical Farmers of Iowa (PFI; through Sept. 09) with assistance from partners at the USDA-ARS National Soil Tilth Laboratory.

Iowa Cover Crop Working Group – On-farm randomized, replicated cover crop and no cover crop comparisons (six so far for 2009) with three ILF farmer cooperators, and three Practical Farmers of Iowa (PFI) farmer cooperators. Partners in this project are: Iowa Dept. Ag & Land Stewardship (IDALS), Iowa Learning Farms (ILF), PFI, ISU Extension, ISU Agronomy, and Leopold Center.

Statewide Cover Crops Survey:

Iowa Cover Crop Acreage Inventory Survey: distributed 12,000 postcards through Pesticide Applicator Trainings to be held during the winter to survey producers knowledge of cover crops. 295 cards returned from 38 counties. More to come. Conducted by PFI with funding from Leopold Center for Sustainable Ag and SARE.

Other On-Farm Research & Demonstration:

Practical Farmers of Iowa:

Establishing “Wheeler” rye cover crop in a continuous corn farming system – Jerry Peckum

Iowa Soybean Association:

Three fields in 2007 and four sets of in-field trials in 08. In 08 soybeans were planted into the winter rye stubble on three of the fields and corn on the fourth. Testing N and C, watching N availability in biomass closely, sees promise for use more in beans than corn, need a way for growers to seed earlier. Plans not in place for 2009 but would like to continue the work.

On-going Research 2009

Leopold Center for Sustainable Agriculture:

Screening Winter Triticale Cultivars and Breeding Lines for Forage and Biomass Production (Heaton)

Enhancing Winter Cover with Alternate Cropping Systems in Iowa

Optimizing Legume Establishment in Winter Small Grains (Singer)

National Soil Tilth Laboratory:

Evaluation of rye, wheat, and triticale cultivars for use as winter cover crops in Iowa (Kaspar)

Nitrogen and carbon budgets of a corn-soybean rotation with rye and oat winter cover crops (Kaspar)

Rye winter cover crops in corn silage and biomass removal systems (Kaspar)

Corn plant population response to winter cover crops (Singer)

Perennial groundcovers to offset C loss from harvesting corn stover for biomass (Singer)

Forages managed as living mulches in a corn-soybean-forage rotation (Singer)

Coupling fall manure injection with winter cover crops to enhance nutrient cycling (Singer)

ISU Department of Agronomy:

The interaction effect of tillage and cover crop on soil C dynamics and water quality. (Al-Kaisi)



Coupling fall manure injection with winter cover crops to enhance nutrient cycling:

A rye/oat cover crop reduced spring concentrations of soil inorganic N after liquid swine manure injection and reduced N losses to leaching.



Evaluation of 13 rye, wheat, and triticale cultivars for use as winter cover crops in Iowa:

Averaged over 2004-2008, 13 cultivars produced from 0.58 to 1.11 tons/ac of shoot dry weight following soybean and the 5-yr average corn yield following the cover crop cultivars varied from 199 to 184 bu/ac, while the no- cover-crop check average was 200 bu/ac. In this experiment, cover crops were killed immediately before planting corn, which is not recommended. Corn population was also reduced by cover crop cultivars that showed corn yield decreases.