

Midwest Cover Crop Council Illinois Report

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- 1) Impact of crop diversification on post-dispersal weed seed predation. Including forage legumes in a field crop rotation appears to increase long-term rates of postdispersal seed predation for small-seeded weed species.
 - 2) Cover crop roller in soybean production: Using a cover crop roller-crimper to terminate a rye cover crop resulted in average organic soybean yields in the range of 20-40 bu/ac over a 3 year period. I've finished the first pass at this study, and the limiting factor seems to be late cover crop maturity (can't roll cover crop until about 95% pollination), resulting in lost soybean yield potential. In this next iteration of the experiment, I'm expanding the study to the field scale and looking at a few different rye varieties that are supposed to vary in anthesis date.
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Research

Windsor Organic Research Trial compares management intensity and performance. Funding (IOP) ends in 08- results are interesting- compare cover crop based organic systems with perennial lay based rotations.

Bioenergy crop study. Compare miscanthus and switchgrass grown with and without legume intercrop (as a sort of nurse crop)- I have info on soil organic matter stocks.

Long term tillage array compares tillage intensity w/without rye cover in corn soy at three locations. Alternate name is the unfunded money pit project that proves Michelle is a dirt sap.

Evaluation of models to predict soil quality outcomes- funded through 09. Covers are one of the components considered.

Extension/Education

Active work on the Soil Quality Website and eOrganic- both have important sections devoted to cover crop management. Both have national visibility, high potential to be tailored to regional application.

See <http://soilquality.org/home.html>

Support the Agroecology and Sustainable Ag Programs workspace (much more than a web page)- could provide shared workspace for group if you liked.

<http://asap.sustainability.uiuc.edu/>

Communication

See above and the usual frenetic rash of talks. Planning the COSA roundtable (committee on sustainable and organic ag)- will focus on soil mgt this year in October- possible to feature need to perennialize systems.

Policy

Was an expert advisor to NRCS on the soil conditioning index (SCI). This used to determine eligibility for conservation programs- advanced the point that residue inputs made by covers and the like might be undervalued by models.

Matias Ruffo [ruffo@uiuc.edu] at Urbana Campus doing cover crop work, but did not submit anything to share.

Dan Anderson, Abram Bicksler, John Masuinas doing cover crop work with organic production

Dan Anderson

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Annual ryegrass variety trial ends April 2008. Nineteen different varieties were compared for winter hardiness, establishment and early growth, rooting development. Trial in 2 Illinois locations, 3 replications, 3 years.

Tillage trial comparing conventional tillage, no-tillage, and no-tillage with a cover crop, two years data, 8 replications/ year showing significant yield benefit of annual ryegrass used as winter cover crop.

Comparison of hairy vetch, crimson clover, lentils and oil seed radish in no-till corn trial started in fall 2007.

I am looking for interested researchers to do a soybean cyst nematode suppression trial by annual ryegrass across states. Preliminary 4 trials showed significant suppression in 4 different replicated locations over 2 years.