

Manure Slurry Seeding of Forage and Cover Crops


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Portions of this work were funded by the Great Lakes Basin Program for Soil Erosion and Sediment Control
And
NCR-SARE

Goal

- Develop an integrated process that incorporates
 - low-disturbance tillage
 - manure application
 - and seeding of cover crops
- in one efficient operation



1/12/2010

Manure slurry-enriched seeding of cover crops



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Seed placement and emergence

- Aeration tillage creates cracks and fissures that are filled with seed-laden slurry.



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Seed placement and emergence

- Variable depth of emergence from near surface to 3 or 4 inches.



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Fewer plants, greater biomass

Daikon radish

Forage turnip



Seeded
09/01/09
Harvested
12/05/09

1/12/2010

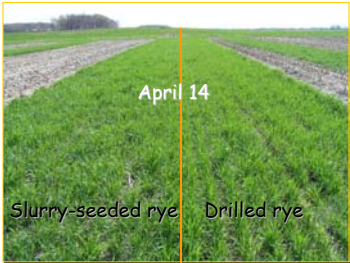
Small grain cover after corn silage



October 4

1/12/2010

Small grain cover crop after corn silage




April 14

Slurry-seeded rye Drilled rye

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Suitable for several crops



Slurry No-till Slurry No-till

Oil seed radish Annual rye grass

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Pasture improvement



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Pasture improvement



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Pasture improvement



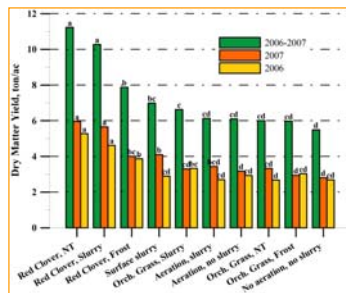
Slurry Seed RC

Frost Seed RC

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Orchardgrass/Red Clover in Brome grass sod

- No-till and slurry-seeded RC yield signif. greater.



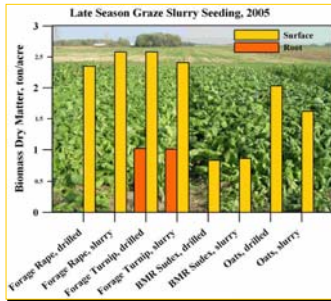
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Late season/stockpile grazing



1/12/2010 Drilled + 50 lb/ac N Slurry-seeded

Late season/stockpile grazing



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Manure N and RC on wheat



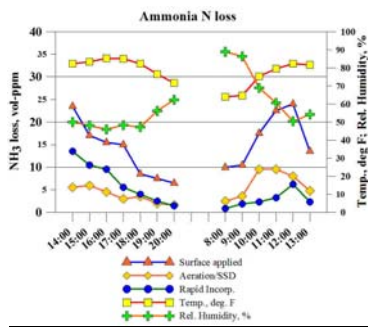
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Little damage, equal yields



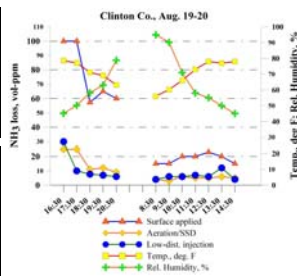
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August 8-9, wheat stubble



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August 18-19, wheat stubble



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Slurry-enriched seeding is environmentally sensitive

- Environmental benefits
 - Conserves crop residue and improves infiltration, reduces over land flow.
 - Stabilize soil and contaminants, recycles nutrients.
- Crop protection
 - Natural pest suppression, reduction in pesticides.
- Soil quality benefits
 - Reduce tillage and traffic, organic inputs, sequester carbon, increase soil organic matter.
- Resource efficiency
 - Aeration tillage, manure application and cover crop seeding in one pass. Saves 2 gal/acre fuel, 0.35 h/acre labor.



1/12/2010
