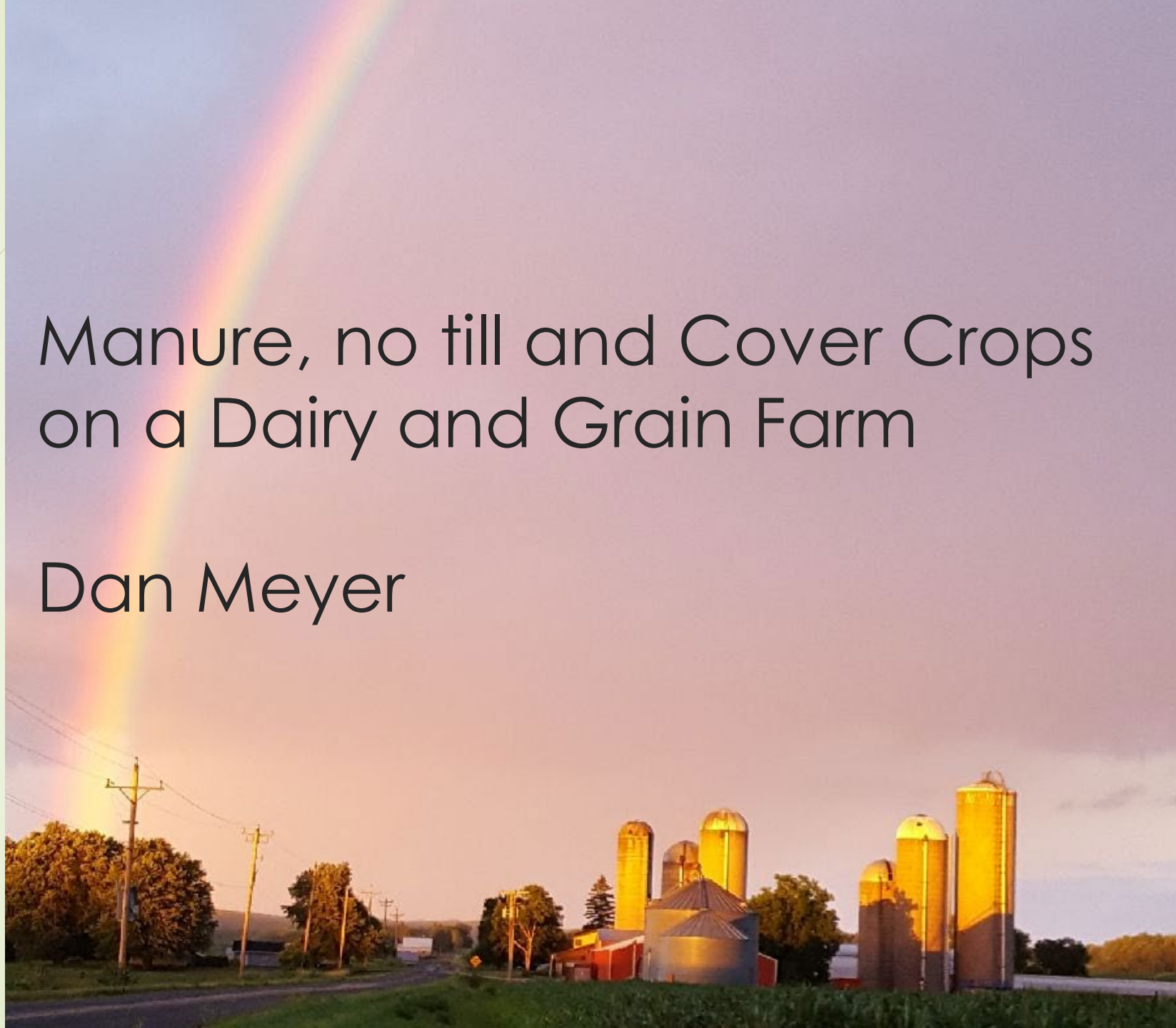




Manure, no till and Cover Crops on a Dairy and Grain Farm

Dan Meyer



Farm History and Facts

- 1250 acres
- 150 milking cows and 400 total Holsteins with youngstock
- Corn, soybeans, wheat, oats, barley, alfalfa/grass hay, dry field peas...
- Our children are the 5th generation to walk the same fields as my great grandfather



Road to Cover Crops and No-till

- Started Chisel plowing in 1987
- No-till drill in 2004
- All no-till 2014
- New way of managing manure evolved
- Easiest fields to transition to no-till were those that had been chiseled longest and history of manure in rotation



Goals!



Don't get
snookered
when
applying
manure

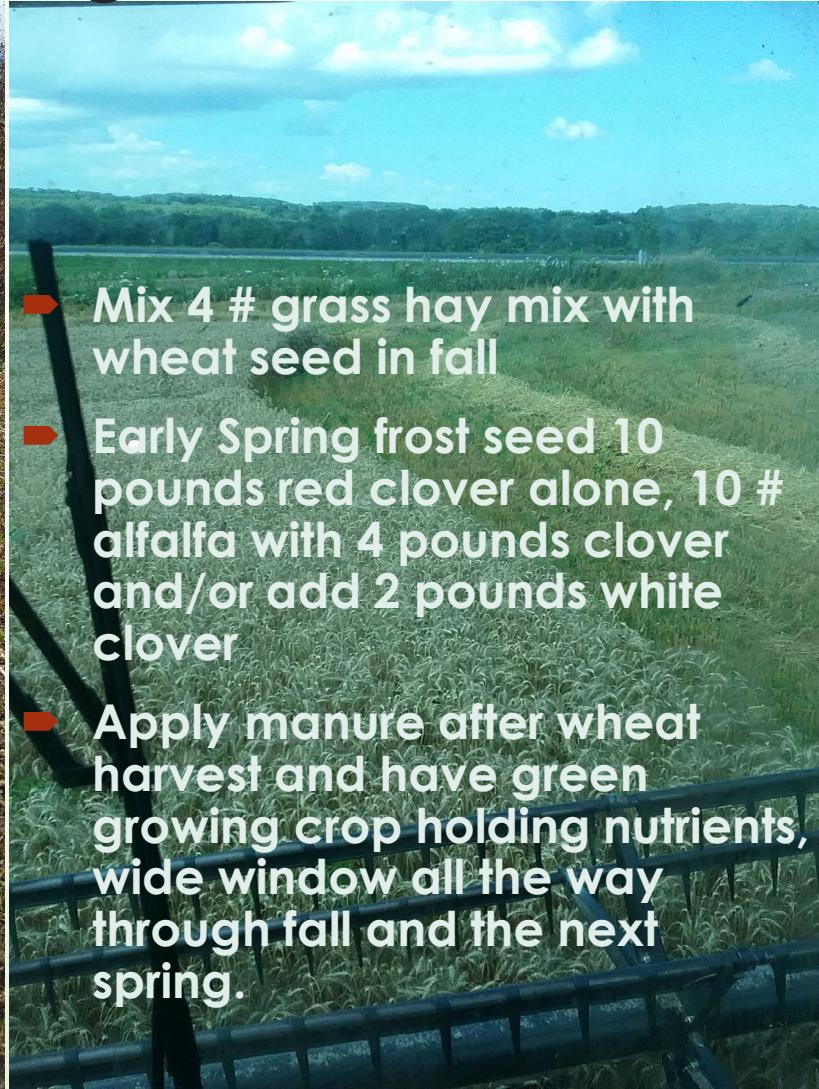


1. If this is your field what would make manure application less risky for surface and ground water.
2. What would make the guy with his hands on his hips happier also.

Manure application in no till before Winter Wheat Planting



Apply Manure
before Winter Wheat
planting



- Mix 4 # grass hay mix with wheat seed in fall
- Early Spring frost seed 10 pounds red clover alone, 10 # alfalfa with 4 pounds clover and/or add 2 pounds white clover
- Apply manure after wheat harvest and have green growing crop holding nutrients, wide window all the way through fall and the next spring.



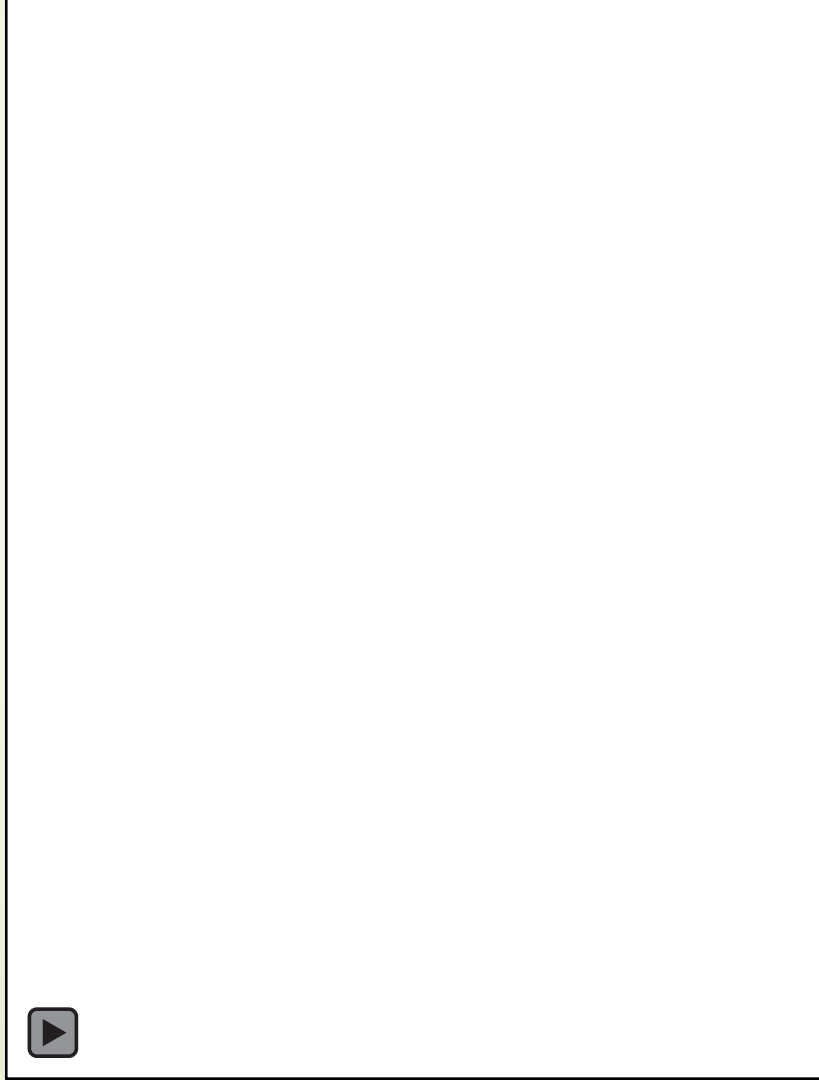
Cover Crop No Brainer

- Winter Wheat and fall small grains planting before or after manure application





Green planting to catch manure nutrients

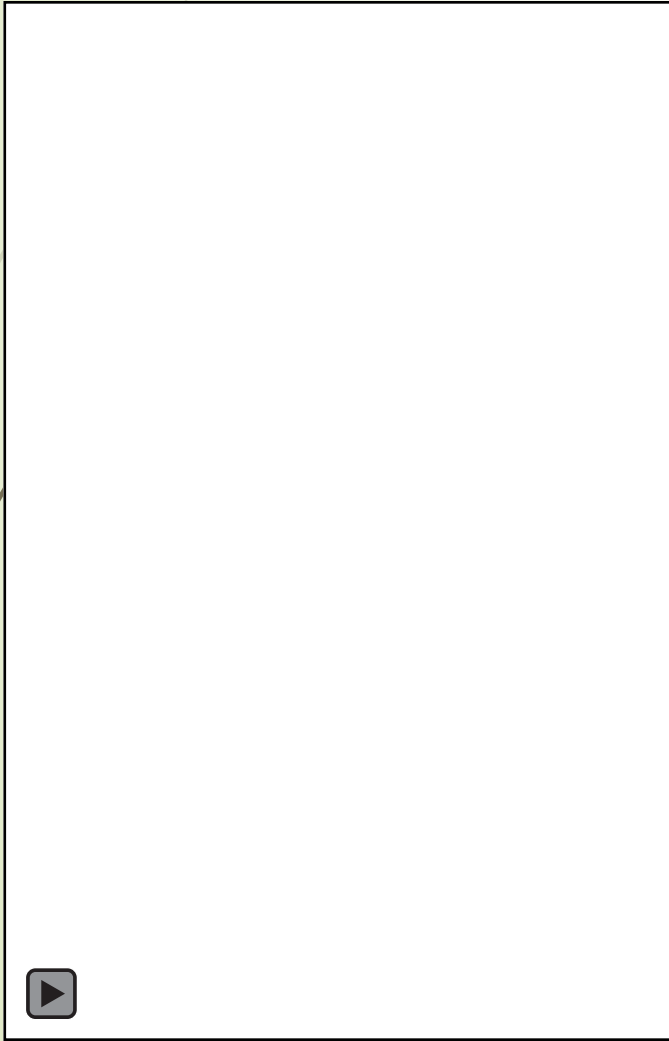


No-Till into growing Cover crop

- Terminate cover-crop at about 8 inches before corn
- Soybeans are not hurt by very tall cover crops unless dry conditions
- Apply manure to green growing cover crop either fall or spring
- Extra nitrogen needed early
- Corn will be emerald green in August



Manure into hay or cover crops can be great alternative on less than ideal spring



Manure and Fertilizer Placement and Timing- Winter Wheat



Manure often encourages great fall growth, balanced complete fertilizer

Limit to 5,000-10,000 gal. per acre

Do not see nitrogen from manure in spring until soil temps warm

Usually need to apply AMS and nitrogen (urea or 28%) in early spring....



Fit Manure into No-till and Cover-Crop with Wider Window of Small Grains

- Plan ahead-work with the weather
- No hard rule on how or when to plant or spread
- Plant cover crop asap = \$\$\$ and success
- Adjust rates of manure and cover crop based upon timing
- Even spread pattern
- Manure will retain more moisture at planting time
- Liquid 5000-10000 gal.
- Dry 10-20 tons per acre
- Know your fields and fertility



Plan Ahead.....
Then Make Good Decisions
To Fit Manure Into System



Doing all this economically



- We grow our own rye, wheat, triticale and clover seed.
- Growing cover-crop seed can be worth \$1000 per acre compared to cost of purchasing commercial seed
- On farm seed cleaner
- Homegrown seed are majority used
- Cheap to add a few pounds of rape, turnips sunflower or radishes \$1-3 per pound.
- Manure applied before or after planting cover crops = More growth
- Create a living "carpet" on your fields to reduce runoff and hold nutrients



The background image shows a close-up of a metal implement, likely a chisel plow, in a field. The implement is dark and weathered, with several blue bolts visible. It is positioned over a field of dry, brown straw and some green weeds. The ground is dark brown soil. A semi-transparent yellow text box with a thin red border is overlaid on the right side of the image, containing the title and a list of benefits.

Financial benefits of no-till, manure and cover crops

- Reduced acres per cow committed to hay, majority of our heifer feed is cover crops
- Less fuel, maintenance and replacement
- Instead of time spent chisel plowing or doing spring tillage we can focus on cows, applying manure harvesting forages and planting
- Reduced Fertilizer and more consistent yield



Benefits of No-till, diversified crop rotations including small grains, cover crops and manure.

- Much better soil structure and water infiltration
- More consistent crops on our variable soils
- Reduce Erosion
- Increase organic matter
- One person can plant
- Grain drill planting $\frac{1}{2}$ gallon fuel per acre, corn planter $\frac{1}{4}$ gallon fuel per acre
- Harvest in very wet conditions if needed.
- Apply manure in less than ideal conditions with the help of cover crops and soil structure
- ***Be careful, sometimes infiltration of nutrients can be to fast***



Thank You to Practical Farmers of
Iowa For Inviting Me To Speak!!!



Questions?

