Cover Crops
Revisiting an Old Idea

Comparing Evapotranspiration of Cover Crops to Evaporation with three Fallow Scenarios

Mary Dye
Spring Peas, 2013

• Planted May 5, 2013
• Grazed from June 15 – July 31
• Carried 2800 Sheep through Five Rotations
• Palatability preserved straw residue cover
Microbe Generator on August 1 after 5 rotations on grazing.
Mobile Microbe Generator
Controlling Bio-Mass reduces Soil Moisture Losses

Retaining Straw Cover Protects Soil Moisture
Primary Question from 2013:
At what point does a cover crop remove too much soil moisture?
Will the 2013 Cover Crop Hurt 2014 Yields...
We Don’t Know...
Crop Insurance Concerns:
• Termination Dates were changed several times during the 2013 Year.
• Final Decision posted in late October 2014 requires 90 days prior to seeding for termination of Cover Crops.
• Clearly there is no consensus between NRCS and RMA regarding the benefits of Cover Crops.
Is the risk worth it?
2014 Cover Crop – Winter vs. Spring Peas

• 2014 Cover Crop was a Winter Forage Pea
• Peas failed to develop nodes
• Cover Crop required grassy weed herbicide.
• Pea variety was a grain type forage pea and failed the palatability test.
• Grain type forage peas are determinant, and produce limited foliage.
• Maturation draws soil moisture.
• Sheep consumed stubble cover.
• Peas revealed substantial problems with pH stratification.
Primary Question from 2014:

Will pH stratification in direct seeding systems prevent reaping the benefits of cover crops?
Is Lime a better approach to soil health?
Lime Application in November
Approx 250 Lb CaCO₃/A

pH on 01/20/15

5.9
5.0
4.9
5.5
5.2
5.2
5.2
5.8
6.0
6.2
6.4
Lime Application in November
Approx 500 Lb CaCO$_3$/A

pH of soil surface following double rate application of lime.
Next Year’s Cover Crop Trial

Permanent Cover Crop: Winter Wheat seeded into grazed alfalfa for 2015 harvest
Now, the Data ...