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 CaCO$_3$/A
pH on 01/20/15
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 ...