EXTENSION

Nebraska On-Farm Research Network

Years:	2008-2009
Title:	Cover Crop in Corn/Soybean Rotation
County:	Dodge
Crop:	Corn
Study ID:	029053200801M2
Objective:	To determine & document the effect of growing a cover crop (rye) and its influence on the profitability of corn production.
Treatments:	Corn planted into soybean stubble with no cover crop vs. planting where cover crop had been growing. No cover crop planted between corn and soybeans.

Nebraska Soybean & Feed Grains Profitability Project

University of Nebraska Lincoln

Nebraska On-Farm Research Network

Results: 2008 Corn

Variable	Check	Cover Crop	Prob >/T/
Yield, bu/ac @ 15.5%	141	128	0.0012 ***
Moisture, %	14.3	14.6	0.1204 ns
Plants, 1000/ac	21.6	21.5	0.8240
MIR	0.95	0.88	0.1482 ns
Cost/ac	---	$63.20*	

Planting Date: 5/13/08 Harvesting Date: 11/5/08 Rye Killed: 4/28/08

*Rye seed - $13.20/ac; Drilling - $6.50/ac; 40 lbs 11-52-0 - $33.00; Glyphosate (qt) - $10.50/ac

Results: 2009 Residual Study Soybean (Variety)

Variable	Check	Cover Crop	Prob >/T/
Yield, bu/ac @ 13%	70	72	0.2896 ns
Moisture, %	16.3	16.2	0.6517 ns

Planting Date: 5/08/09 Harvesting Date: 10/19/09

Nebraska Soybean & Feed Grains Profitability Project

Nebraska On-Farm Research Network

Results: 2009 Corn (Hybrid)

Rye planted 10/01/08 50 lbs/ac N as area applied.
Rye sprayed 4/17/09 with Gromoxone (poor kill).
Corn planted with 90 lbs/ac N (liquid N).
Corn sprayed with glyphosate to kill remaining rye in early June.

Variable	Check	Cover Crop	Prob >/T/
Yield, bu/ac @ 15.5%	187	175	0.0031 ***
Moisture, %	17.7	17.4	0.4112 ns
Response to 50 lbs/ac Added N,bu/ac	0	24	0.0003 ***
Cost per acre	0	$28.25	
Extra 50 lbs/ac N	35.71	35.71	

Planting Date: 5/08/09 Harvesting Date: 11/22/09

Nebraska Soybean & Feed Grains Profitability Project

Nebraska On-Farm Research Network

Summary: The use of a cover crop resulted in a reduced grain yield on 2008. This could be due to nitrogen being found in the biomass of the cover crop. In 2009, residual effects from 2008 were determined, with no effect found in the following soybean crop. Another study in 2009 had a significant reduction in grain yield of corn where a cover crop was grown (-13 bu/ac). The application of an additional 50 lbs/ac N had no effect on grain yields where no cover crop was grown; however, grain yield was increased by added nitrogen where cover crop was grown (24 bu/ac). This suggests a nitrogen tie-up in the cover crop biomass.

Nebraska Soybean & Feed Grains Profitability Project

EXTENSION

Nebraska On-Farm Research Network

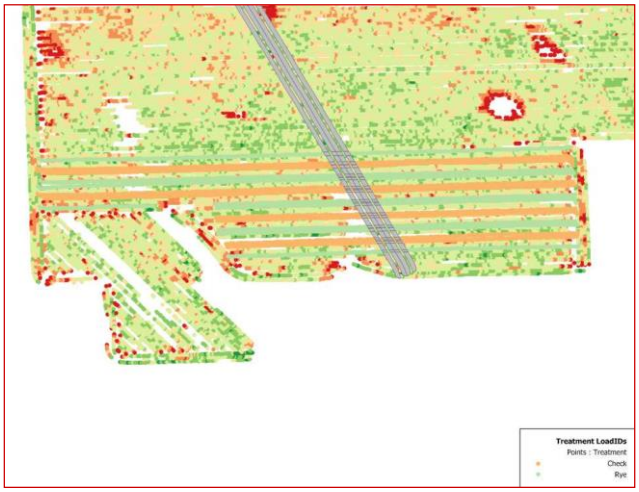
August 2 Imagery

Nebraska Soybean & Feed Grains Profitability Project

University of Nebraska Lincoln

EXTENSION

Nebraska On-Farm Research Network

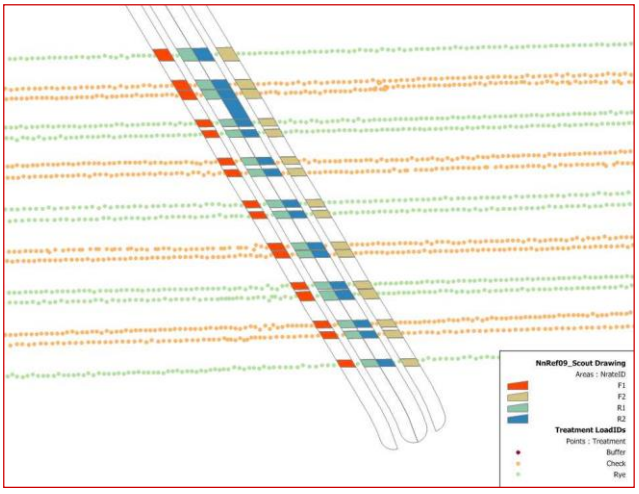


Nebraska Soybean & Feed Grains Profitability Project

University of Nebraska Lincoln

EXTENSION

Nebraska On-Farm Research Network



Nebraska Soybean & Feed Grains Profitability Project

University of Nebraska Lincoln