

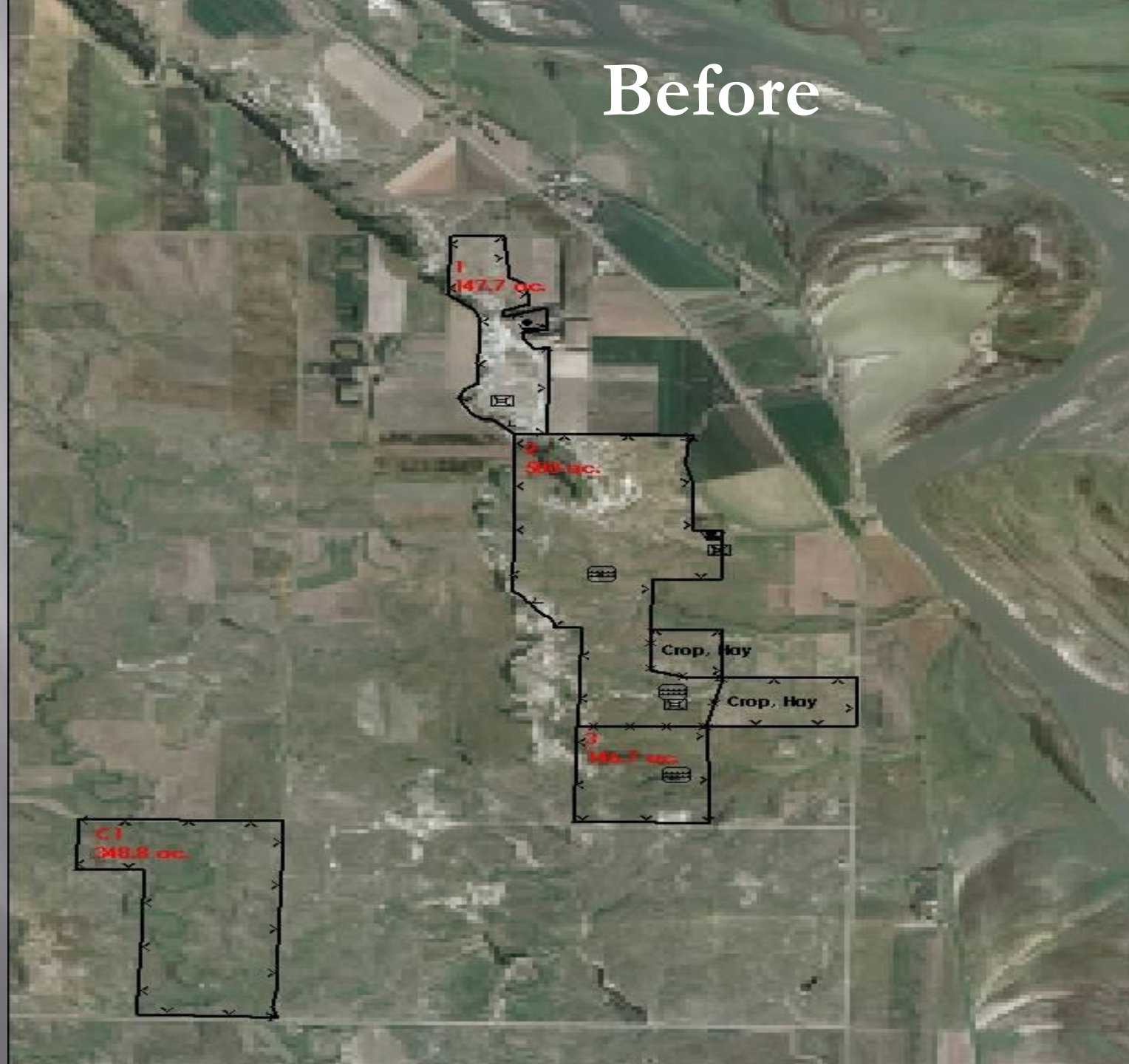
CROP RESPONSE AFTER COVER CROPS

Ken Miller
Burleigh County SCD

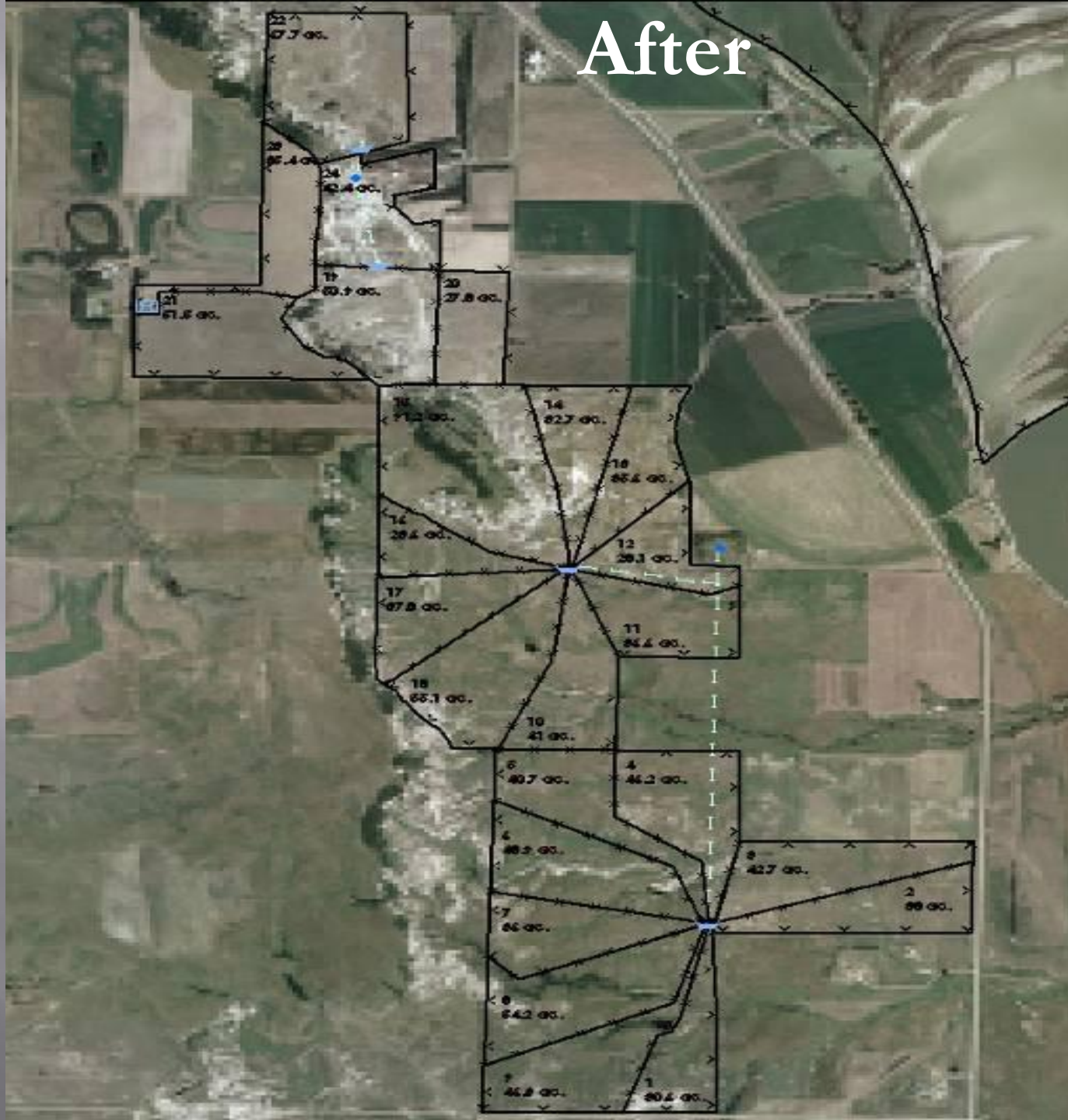
Soil Health

- ▣ What is Soil Health?
- ▣ Why Should I Care ?
- ▣ Manage More by Disturbing Soil Less.
- ▣ Diversify with Crop Diversity.
- ▣ Grow Living Roots Throughout the Year.
- ▣ Keep the Soil Covered as Much as Possible.

Before

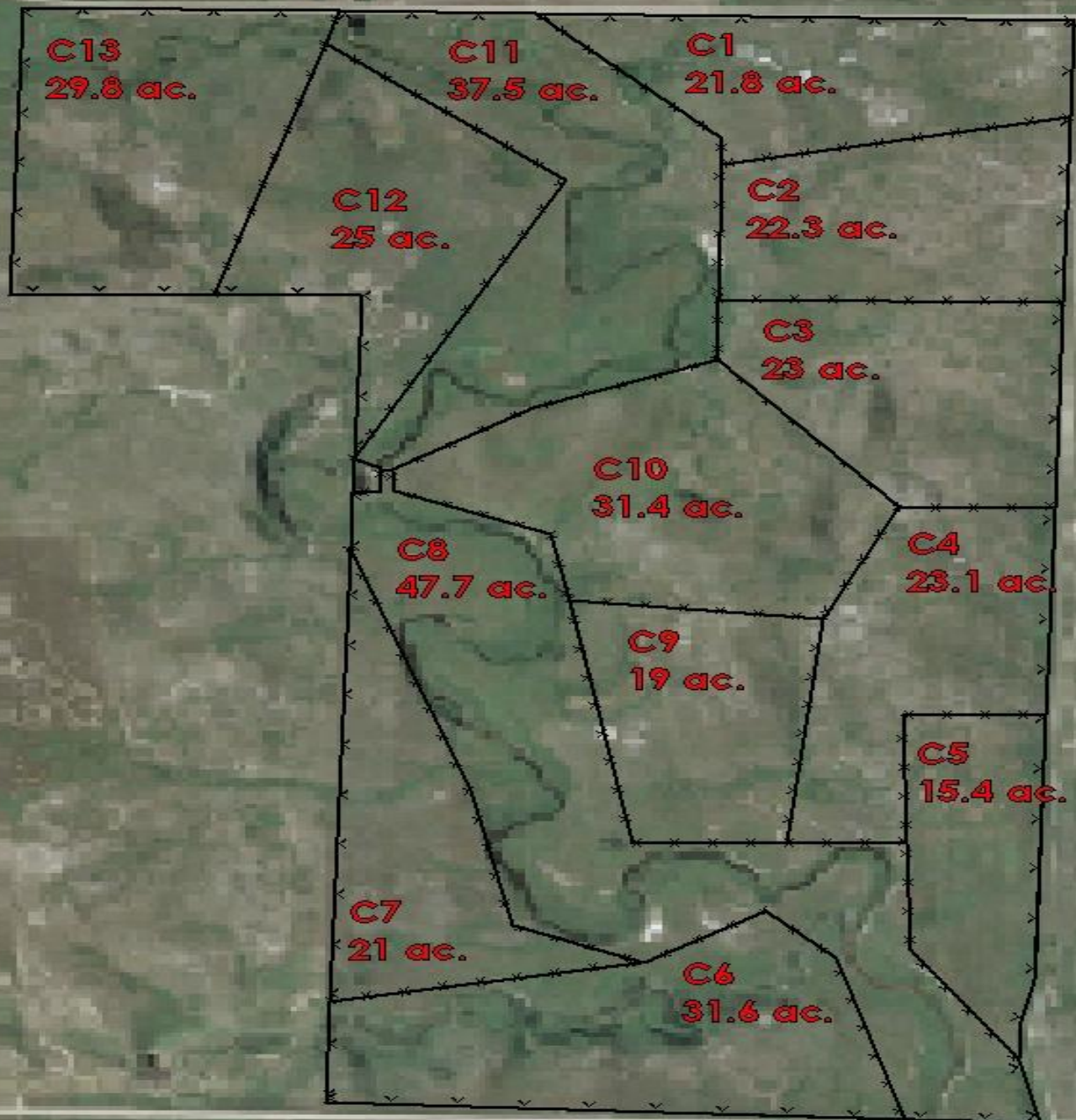


After



C1
348.8 ac.





Winter Triticale Pastures 2007



May 9, 2007 60 head Grazing Winter Triticale



Stock Density



Abby June 9, 2007



June 9, 2007 135 head H-1



Cover Crop Cocktail Seeded August 2, 2007



Early September



Grazed 22 Acres, 7 Days 122 HD



Turnip and Radish Re-growth

Nov.1, 2007



Cover Crop Cocktail Mix

Cowpea 10 lbs.@ .60/Lb.	=\$6.00
Soybean 15 lbs. @ .35/Lb.	=\$5.25
Proso Millet 8 lbs. @ .28/Lb.	=\$2.24
Pasja Turnip 1 lb. @ 2.05/Lb.	=\$2.05
Forage Radish 1 lb @ 2.40/Lb	=\$2.40
Sweet Clover 1 lb. @ .81/Lb.	=\$0.81
<u>Sunflower 1 lb. @ .25/LB.</u>	<u>=\$.25</u>

Total Cost / Acre =\$19.00

Expenses

Winter Triticale

\$14.00 Seed Cost

\$10.00 Seeding Cost

\$10.00 Chemical Cost

\$ 7.50 Starter Fertilizer 50#

\$ 26.50 Urea Fertilizer 100#

\$ 30.00 Land Cost

\$98.00 Total / Acre Expense, Triticale

Expenses

Cover Crop Cocktail

\$ 20.00 Seed Cost

\$ 10.00 Seeding Cost

\$ 10.00 Chemical Cost

\$ 40.00 / Acre Expense Cover Crop

\$ 138.00/ Acre Total Expense for 2 crops

Income From Grazing Winter Triticale & Cover Crops

2598 Grazing Days Winter Triticale

1222 Grazing Days Cover Crop

3820 Total Grazing Days

$3820 \times 2 \text{ lbs/day gain} = 7640 \text{ lbs of beef}$
 $7640 @ \$1.00 = \7640

$\$7640 \div 22 \text{ acres} = \347.00 Gross Income
Gross Income – \$138.00 Expense =

\$209.00 Profit / Acre.

Barley Crop 2008

North Field

South Field

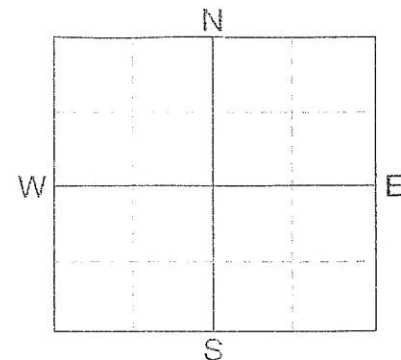




P.O. BOX 510, NORTHWOOD, ND 58267
(701) 587-6010

SOIL TEST REPORT

FIELD *South* SAMPLE
COUNTY MORTON
TWP 136-79 SECTION 21
QTR NE ACRES 9.0
PREV CROP TRITICALE



SUBMITTED FOR:

KEN MILLER
5705 HWY 1806

MANDAN, ND

58554

SUBMITTED BY:

B13174

BISMARCK FERTILIZER
4105 FULLER AVE
BOX 5011
BISMARCK, ND

58504

REF # 11135685

LAB # 10047

BOX # 300

DATE SAMPLED 3/15/08

DATE RECEIVED 3/18/08

DATE REPORTED 3/19/08

NUTRIENT IN THE SOIL		INTERPRETATION				1ST CROP CHOICE			2ND CROP CHOICE			3RD CROP CHOICE		
		V	L	W	H	MALTING BARLEY			MALTING BARLEY			MALTING BARLEY		
0-6" 58 lb/ac						YIELD GOAL 60 BU			YIELD GOAL 70 BU			YIELD GOAL 80 BU		
0-24" 180 lb/ac		*****				SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
						BAND			BAND			BAND		
Nitrate N						LB / ACRE		APPLICATION	LB / ACRE		APPLICATION	LB / ACRE		APPLICATION
						N	10		N	10		N	10	
Olsen Phosphorus 54 ppm		*****				P ₂ O ₅	15	Band(Starter)†	P ₂ O ₅	15	Band(Starter)†	P ₂ O ₅	15	Band(Starter)†
Potassium 1170 ppm		*****				K ₂ O	0		K ₂ O	0		K ₂ O	0	
Chloride						Cl			Cl			Cl		
Sulfur						S			S			S		
Boron						B			B			B		
Zinc						Zn			Zn			Zn		
Iron						Fe			Fe			Fe		
Manganese						Mn			Mn			Mn		
						Cu			Cu			Cu		

April 18, 2008



June 23

Fertilized
North Field



No Fertilizer
South Field



Harvest July 22, 2008



Seeding July 26, 2008



October 4, 2008



North Field No Cover Crop

South Field Cover Crop

Fertilizer

Yield 65 bu/ac

$65 \times 5.00 =$

\$325 Gross Income

100# Urea 46-00

50# Starter 12-34-5-6

Fertilizer cost \$44.00/ac

\$281/Acre

No Fertilizer

Yield 85 bu/ac

$85 \times 5.00 =$

\$425 Gross Income

Difference +\$144/ac

Corn Seeded May 23, 2009



Co

August 6, 2009



December 13, 2009

Yield 113 Bu/acre



Cool Season Mix



- ▣ Forage barley 48 lbs
- ▣ Field pea 40 lbs
- ▣ Hairy vetch 12 lbs
- ▣ Pasja turnip 1 lb
- ▣ Radish 2 lbs
- ▣ Rye grass 2 lbs
- ▣ Sunflower 2 lbs
- ▣ Sweet clover 1 lb

Cool Season Mix Seeded April 21, 2010



Hayed July 7, 2010
Yield 2.25 Ton/acre



Regrowth August 17, 2010



Late December 2010 Grazing



Rejuvenating Pastureland



Diverse Cocktail Mix



Cow Pea	10 #
Soybean	15 #
Pearl Millet	6 #
Sudan Grass	3 #
Corn	0.5 #
Sunflower	2 #
Turnip (Pasja)	1 #
Radish	2 #
Sweet Clover	1 #

September 7, 2009



September 7, 2009



November 15, 2009



June 2, 2010



July 7, 2010



August 17



September 6



Cowpea and Soybean with Nodules



Grazing Cover Crops December, 2010



Residue Remaining



2011 Cover Crop Mix



August, 2011



Strip Grazing



Ground Cover



Production 2011

- ▣ 44 Grazing Days/ Acre in July and August
- ▣ 16 Grazing Days/ Acre in December
- ▣ Grazing both low carbon and high carbon in the same year.

Menoken Farm

Building Site

Field 1

Field 2

Field 3

Field 4

Field 5

Field 6

Field 7

Field 8

Field 9

Field 10



No Insecticides
No Fungicides
No Commercial Fertilizer
No GMO'S

West Side

No Commercial Fertilizer

No Compost

No Compost Tea

122.3 Bushels per Acre

East Side

No Commercial Fertilizer

1-2 Ton of Compost

2 Compost Tea Applications

128.8 Bushels per Acre

The Menoken Farm

Power of Crop Diversity

Both Sides were Planted into Last Year's Cover Crop Residue

2006 – 2010 Burleigh County FSA Committee Reasonable
Yield Established by Year = 100 Bushels per Acre

Soil Health, Priceless...

