

CROP RESPONSE AFTER COVER CROPS

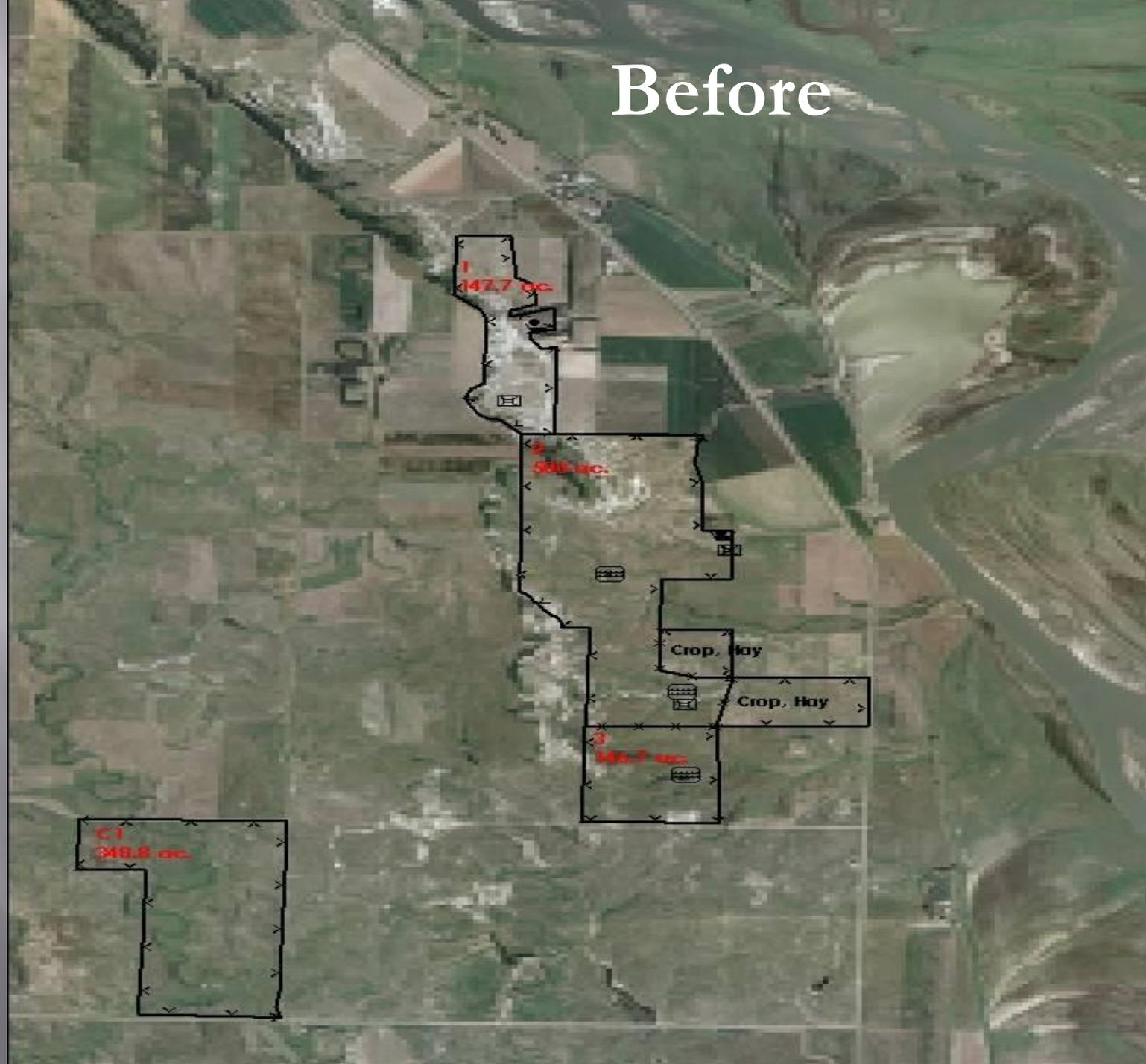
Ken Miller

Burleigh County SCD

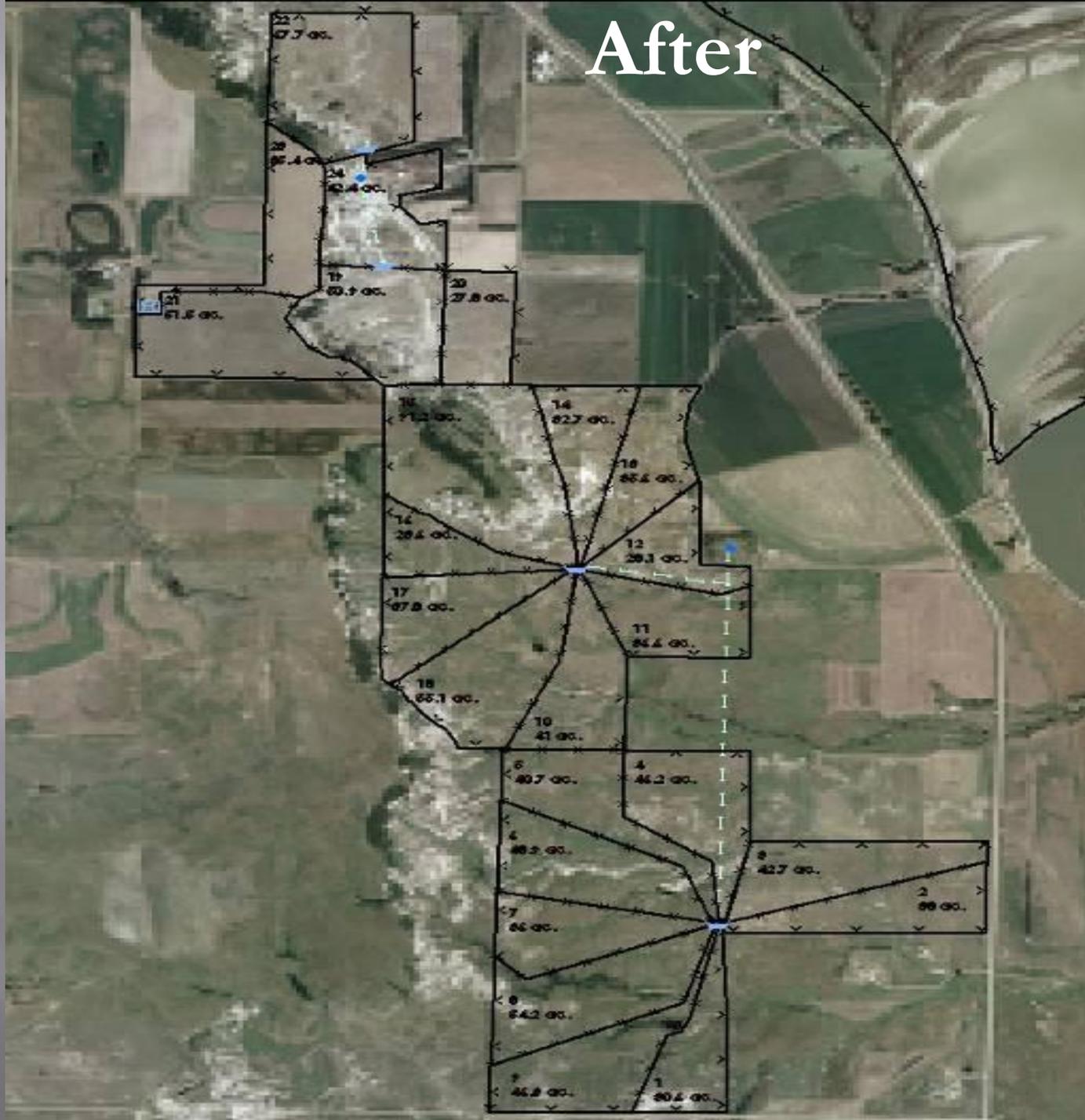
Soil Health

- ▣ 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

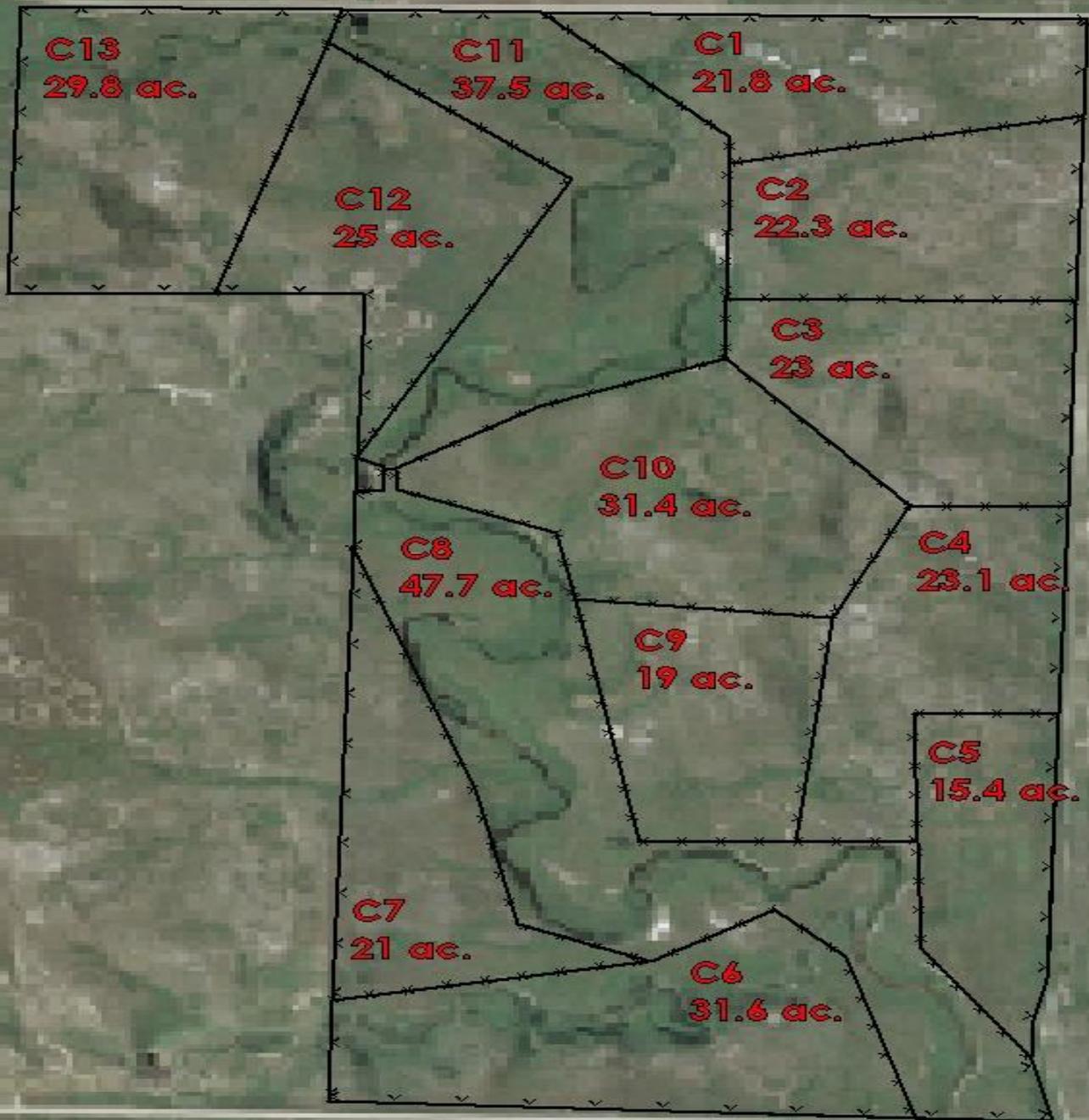


After



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 x 2 lbs/day gain = 7640 lbs of beef 7640 @
\$1.00 = \$7640

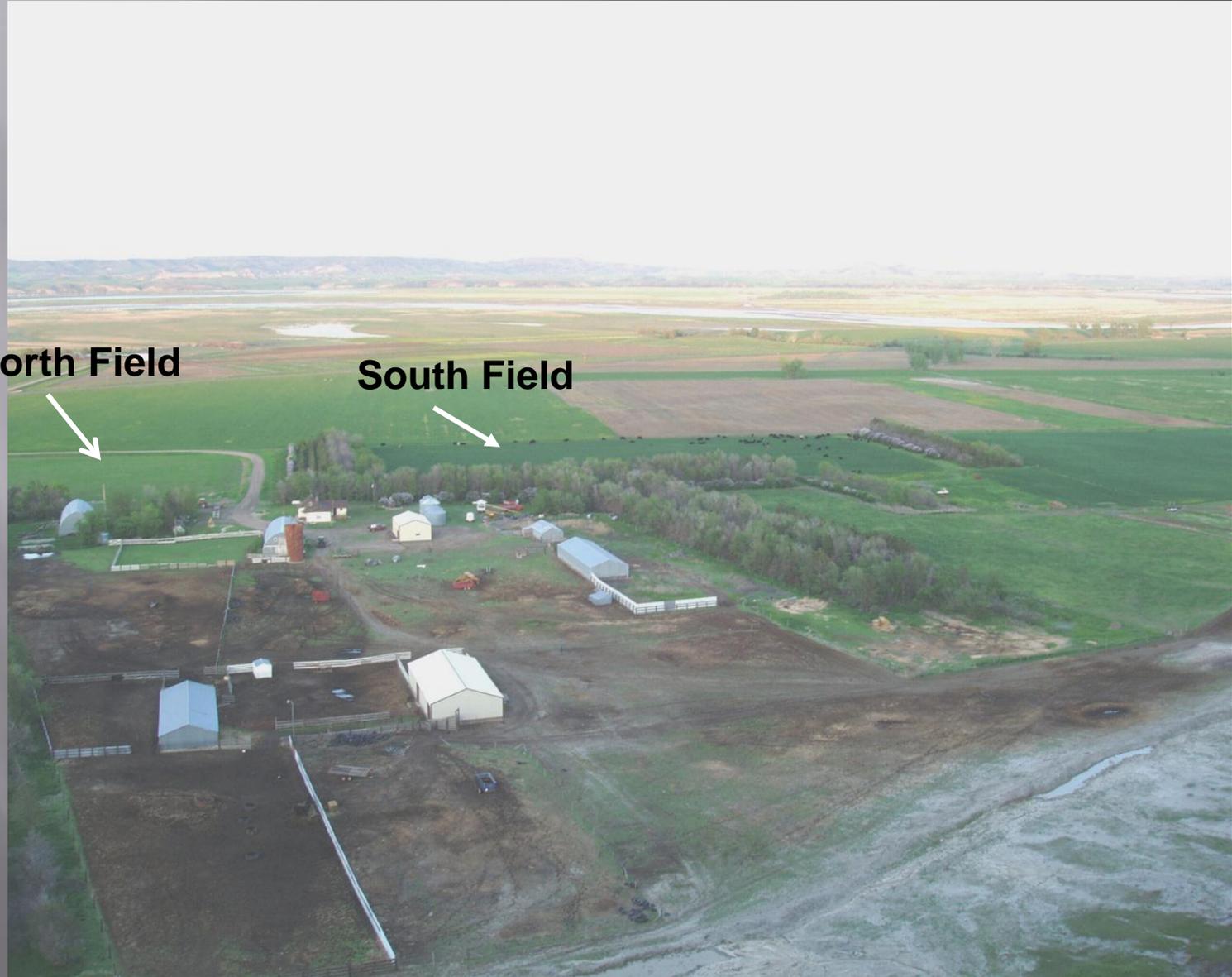
\$7640 ÷ 22 acres = \$347.00 Gross Income
Gross Income – \$138.00 Expense =

\$209.00 Profit / Acre.

Barley Crop 2008

North Field

South Field

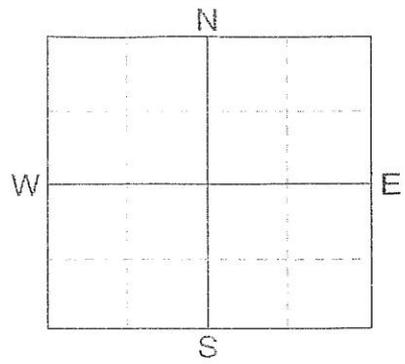




P.O. BOX 510, NORTHWOOD, ND 58267
(701) 587-6010

SOIL TEST REPORT

FIELD *South* SAMPLE
 COUNTY MORTON SECTION 21
 TWP 136-79 ACRES 9.0
 QTR NE
 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	Yield Goal	INTERPRETATION				1ST CROP CHOICE		2ND CROP CHOICE		3RD CROP CHOICE	
		V. LOW	LOW	MED	HIGH	MALTING BARLEY		MALTING BARLEY		MALTING BARLEY	
0-6" 58 lb/ac	60 BU					YIELD GOAL 60 BU		YIELD GOAL 70 BU		YIELD GOAL 80 BU	
0-24" 180 lb/ac	180 lb/ac	*****				SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES	
Nitrate N	54 ppm	*****				BAND		BAND		BAND	
		LB / ACRE	APPLICATION		LB / ACRE	APPLICATION	LB / ACRE	APPLICATION	LB / ACRE	APPLICATION	
0lsen Phosphorus	54 ppm	*****				N	10	N	10	N	10
Potassium	1170 ppm	*****				P ₂ O ₅	15	P ₂ O ₅	15	P ₂ O ₅	15
Chloride						Band(Starter)†		Band(Starter)†		Band(Starter)†	
Sulfur						K ₂ O	0	K ₂ O	0	K ₂ O	0
Boron						Cl		Cl		Cl	
Zinc						S		S		S	
Iron						B		B		B	
Manganese						Zn		Zn		Zn	
						Fe		Fe		Fe	
						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



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

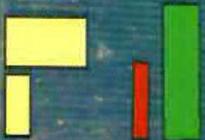
Field 6

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...

