




Stoney Creek Farm

Grant, Dawn & Karlie Breitkreutz



***Cow-Calf Producer – Rotational Grazing**

***Cover Crops for fertility, grazing, forage**

A wide-angle photograph of a grassy field. The grass is green with some brown patches. In the background, there is a fence line with several trees, including a large evergreen on the right. The sky is not visible.

**This is how and why we started
down the path we are on.**



Home Pastures:

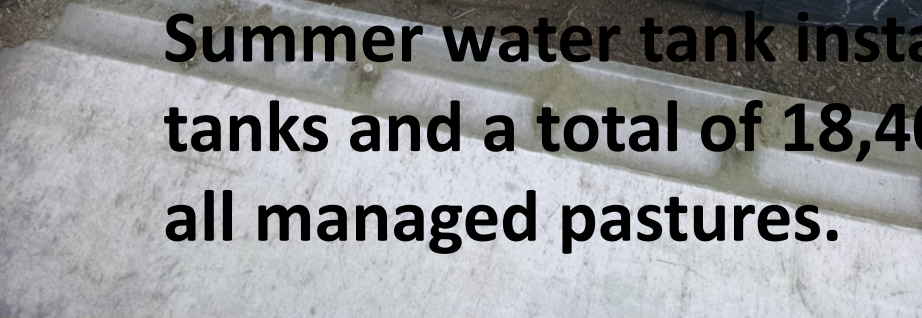
1. Split 47-acre pasture in half
2. We were cutting & spraying thistles and fertilizing once per year.

Changes:

1. NRCS EQIP contract to split 47-acre pasture into 9 paddocks with 2 water tanks & 2900 feet of above-ground water line.
2. Improvements noticed after one grazing season.



Summer water tank installation. Evolved to 14 tanks and a total of 18,400 feet of waterline over all managed pastures.





**Native pasture converted, through grazing,
from 3 species to over 20 species.**





First pass on this paddock.

Sadly, this has become more common during the spring in our area.





Soil from our field.

Soil from a tilled field.



**Live roots
3 ½ feet
in soil
March 2016**



- The current production model is all about killing.
- Kill weeds, kill pests, kill fungus, kill diversity.

- Are we killing **our soil**?
- Are we killing **OUR PROFIT**?

April 23, 2017



Symptoms of a Degraded Resource

-Lack of Moisture

-Poor Fertility

-Compaction

-Weeds

-Low Yields

-High Input Costs

-Too Much Moisture

-Salinity

-Disease

-Pests

-Litter: Too Much/Too Little

-Labor

-Erosion

-Poor Infiltration

No-Till seeded soybeans.

**Moldboard Plowing
every other year.**



SOIL HEALTH PRINCIPLES

1. Keep soil covered.
2. Minimize soil disturbance.
3. Increase crop diversity.
4. Keep living roots in the soil.
5. Integrate livestock.

Single-Species Cover

- We began with single species.
- Two out of three years failed.
- We failed to follow soil health principle #3, increase crop diversity.





Cover crop mix following wheat harvest.

Breitkreutz Mix #1

Mix	Variety/Crop	Germ	Origin	Test Date
25%	Rymin Winter Rye	85%	SD	07/15
25%	Fridge Winter Trit	95%	KS	05/15
19%	TillageMax Dover Oat/Radish	90%	CA/NZ	04/15
12%	VNS Winter Pea	79/1%	MT	02/15
6%	VNS Hairy Vetch	85%	AUS	05/15
6%	Medium Red Clover w/ Nitro	85/5%	OR	07/15
5%	Winfred Brassica	96%	OR	07/14
2%	Tillage Radish	90%	OR	05/15

96.77% Purity, 0.19% Crop, 3.03% Inert, 0.01% Weeds

Noxious Weeds: None Lot 5042 Wt. 50 lb.

Prairie Creek Seed, Inc., 21995 Fillmore Rd.,

Cascade, IA 52033 877-754-4019



**After wheat harvested & straw
baled.**

Six weeks later, same field.



Corn planter set up for no-till.



We adapted our no-till drill to interseed cover crop into corn.



Freshly seeded cover into standing corn and surviving cover from fall.





Soil Temperatures



Soil Temperatures

- 70 degrees, 100% moisture used for growth.
- 100 degrees, 15% moisture used for growth, 85% moisture lost through evaporation and transpiration.
- 130 degrees, 100% moisture lost through evaporation and transpiration.
- 140 degrees, soil bacteria die.

September - chopping corn silage.





**Approved cover crop
seeded in corn crop on
DNR-owned land as part
of the cooperative
farming agreement.
Picture taken
November 8th.**



We had the neighbors stumped.





DIVERSITY



Breitkreutz Mix #1

Mix	Variety/Crop	Germ	Origin	Test Date
27%	Iron & Clay Cowpea	80%	FL	4/16
20%	PCS-SS-2020 Sorghum Sudangrass	80%	TX	4/16
10%	VNS Hairy Vetch	90%	ARG	12/15
10%	Indianhead Lentil	85%	ND	6/16
10%	Wonderleaf Millet	85%	TX	4/16
7%	VNS Sunn Hemp	89/5%	S. Africa	12/15
2%	Medium Red Clover	70/15%	OR	6/16
2%	Barkant Turnip	90%	OR	12/15
2%	VNS Ethiopian Cabbage	94%	OR	1/16
2%	Hunter Brassica	95%	OR	1/16
2%	Barsica Rape	90%	OR	12/15
2%	Tillage Radish	90%	OR	5/16
2%	Peredovik Sunflower	80%	SD	7/15
2%	Winfred Brassica	98%	OR	1/16

98.05% Purity, 0.22% Crop, 1.57% Inert, 0.15% Weeds

Noxious Weeds: None Lot 6062 Wt. 50 lb.

Prairie Creek Seed, Inc., 21935 Fillmore Rd.,

Cascade, IA 52033 563-852-3192

Installing fence in cover crop field.



After the first day of grazing.





Too Much or Too Little

- If you have too much water, you need to increase your crop intensity to use more water.

- *In other words, grow cover crops!*

- If you do not have enough water, you need to increase the water holding capacity of your soils.

- *In other words, grow cover crops!*

1700 beneficial insect species for every one pest species.



Gabe Brown, 2017

Wheat "Sense"

Expense

Seeding/acre	\$20
Seed	<u>\$38</u>
Total	\$58

Return

Cow Feed/acre	\$110
Straw/acre	<u>\$ 35</u>
	\$145

Net Gain=\$87

Delayed Gains/Savings for Following Crop Year

Purchased Fertilizer	\$39/ac
Purchased Herbicide	\$11-\$20/ac
Purchased Seed	<u>\$53/ac</u>
Total	\$103/acre

Total Net Gain=\$190/acre

One of the best rewards for our efforts!



CLEAN WATER!!!

**Stoney Creek Farm
has been
recognized as an
agricultural water
quality certified
producer using
best management
practices that
enhance water
quality.**




“Upon this handful of soil our survival depends. Husband it and it will grow our food, our fuel and our shelter and surround us with beauty. Abuse it and the soil will collapse and die, taking humanity with it.”

Sanskrit Text – 1500 B.C.



If you build it, they will come!



A photograph of a herd of brown cows on a dirt road. In the background, several people are riding horses. The scene is set in a lush green field with trees in the distance. The text is overlaid on the top half of the image.

God blessed us with this life, and our goal is to leave the land in better condition for the generations to come.

This is our little piece of heaven!!

Thank You!

