



*32<sup>nd</sup> Annual*  
**NATIONAL  
NO-TILLAGE  
CONFERENCE**

January 9-12, 2024 • Indianapolis, Ind.®

**Virtual Fencing: Making Grazing So Easy  
a Corn Farmer can do it!**

Monte Bottens, Cambridge, IL  
559-694-1582 [monte@bottens.com](mailto:monte@bottens.com)





No-Till  
Advanced Crop Nutrition Practices  
Multi-Species Cover Crops  
Livestock Integration for Soil Health  
Virtual Fencing  
Direct to Consumer Sales

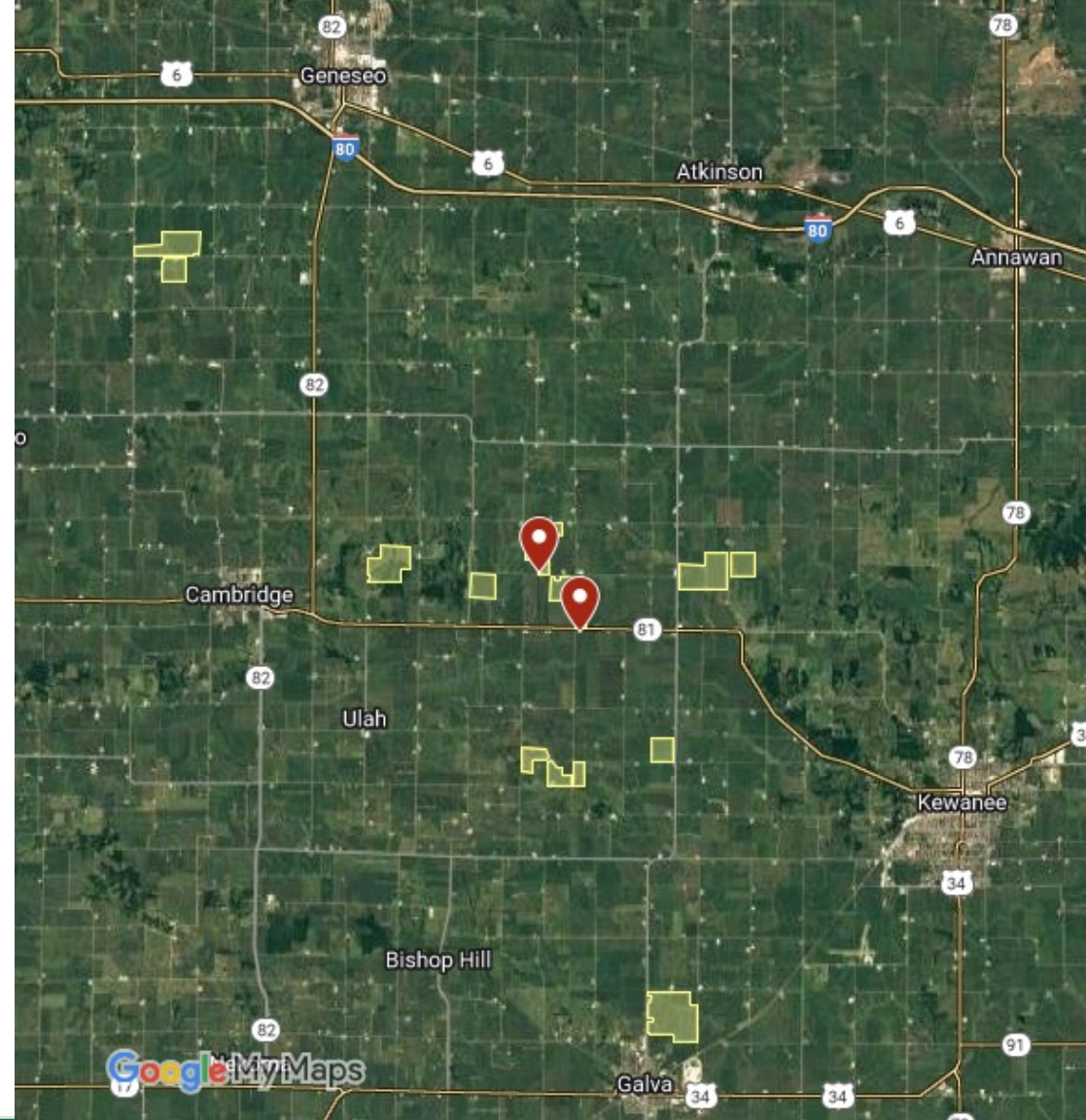
# My Farming Background

## Limited Livestock Experience





Henry County, IL since  
Bottens Family Farm &  
1869 Grateful Graze  
2500 acres of crop land  
226 of pasture/timber  
NO Neonics, Fungicides,  
Insecticides  
Non-GMO Corn, Non-  
GMO Soybean, Wheat,  
Triticale, Winter Barley





1. Minimize Soil Disturbance 1996

2. Maximize Soil Cover 1996

3. Continual Living Roots 2016

4. Increase Biodiversity 2017

5. Integrate Livestock 2017

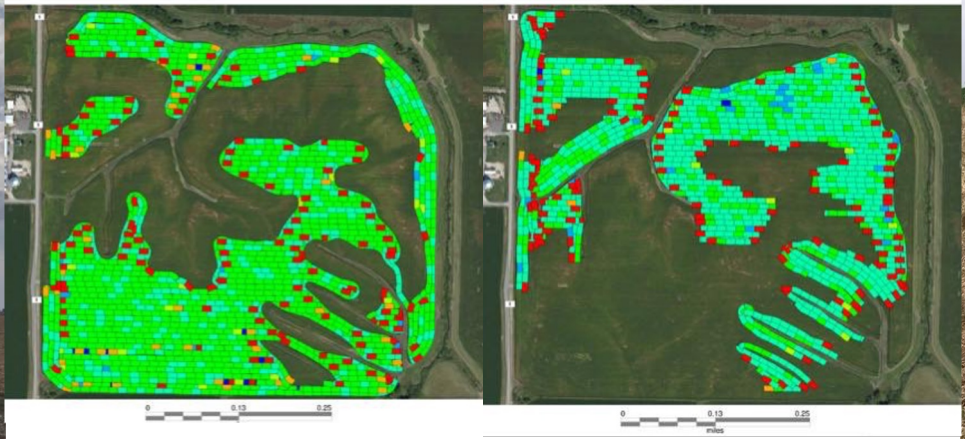


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**BOTTENS**  
FAMILY FARM





# Nutrient Management to enable Cover Crops & No-Till

VRA row-by-row

3 Separate Blends

5 locations (FurrowJet & Conceal)

175 - 18 - 23 - 21 S + Micros, Bios

1st nutrient application is with planter

Y-drop sidedress





# HD Cover Crops

Every Acre Every Year

Do more than Rye

Key Benefits

- Weed Suppression
- Water Infiltration
- Erosion
- Biodiversity





# Plant Soybeans Green

Utilizer Skip Strip covers for Corn

Now solid seed at 10 degrees for  
15" beans

Forget Res Mgrs  
Watch closing wheels

Be sure to roll! (+7 bpa)





# Water Infiltration Tests



1" of Rainfall Infiltration

Long Term No-Till, Cover Crops, Diversity, and Grazing:

2:28

Long Term Deep Tillage:

15:36

What happens to rain that doesn't infiltrate?

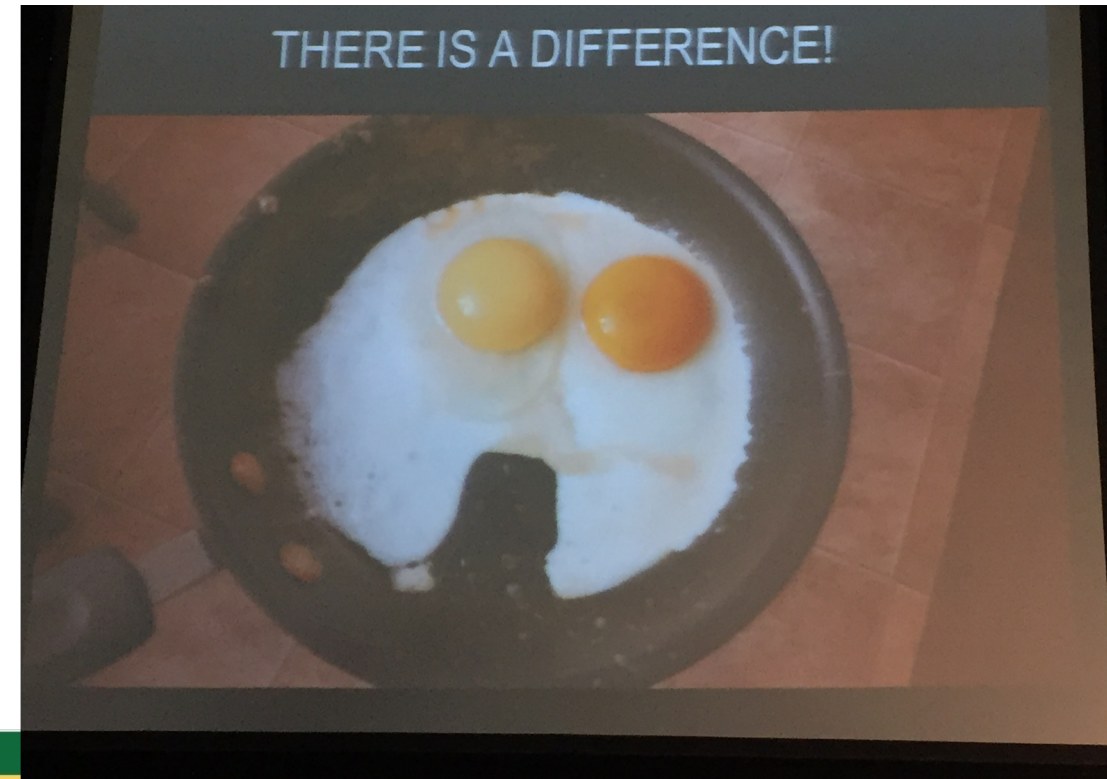
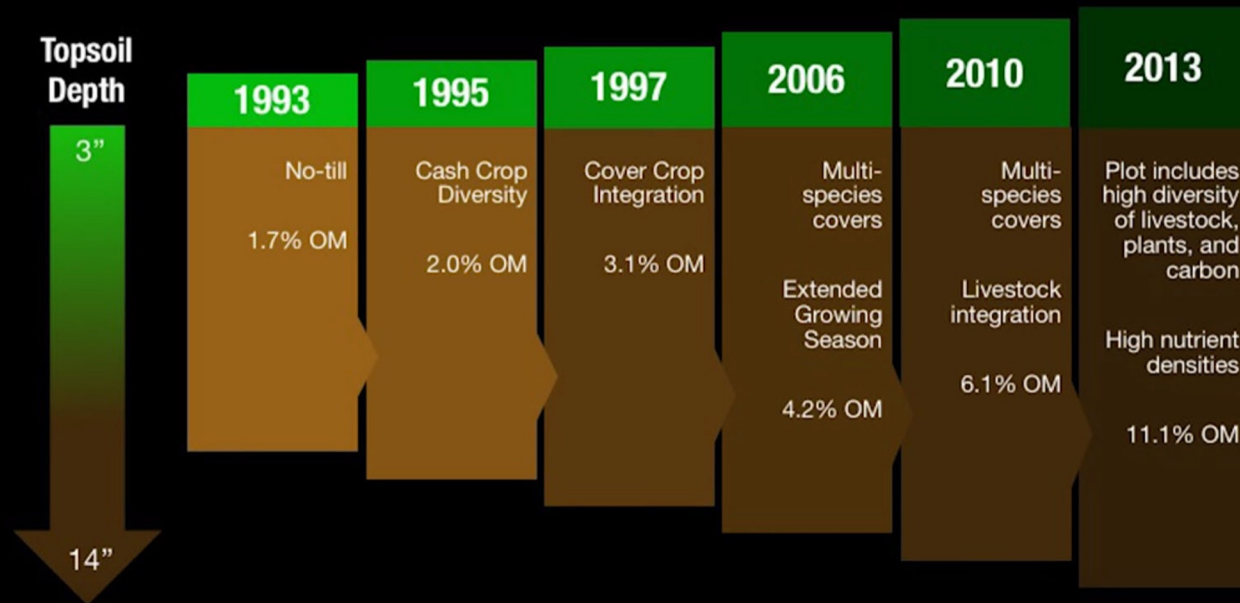
What does it take with it?

Why does it matter?



# NNTC 2016: Gabe Browns 2 slides that led to Livestock Integration

## Brown's Ranch Soil Building







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ground  
by Bayer



Sound 





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Sound 



NORTH DAKOTA  
EST. 1908  
INSPECTED & PASSED

BEEF  
NEW YORK STRIP STEAK



NOURISHED BY  
nature

**SAFE HANDLING INSTRUCTIONS**  
THIS PRODUCT WAS PREPARED FROM INSPECTED AND GRASSED MEAT AND/OR  
POULTRY. SOME FISH PRODUCTS MAY CONTAIN BACTERIA THAT COULD CAUSE  
ILLNESS IF THE PRODUCT IS MISHANDLED OR COOKED IMPROPERLY. FOR  
YOUR PROTECTION, FOLLOW THESE SAFE HANDLING INSTRUCTIONS:  
• KEEP REFRIGERATED OR FROZEN UNTIL READY TO USE.  
• KEEP BAWH MEAT AND POULTRY SEPARATE FROM OTHER FOODS.  
• WASH HANDS AND WORKING SURFACES (INCLUDING CUTTING BOARDS, UTENSILS,  
AND KNIVES) AFTER TOUCHING RAW MEAT OR POULTRY.  
• COOK THOROUGHLY.  
• KEEP HOT FOODS HOT.  
• REFRIGERATE LEFT-OVER MEAT OR POULTRY OR DISCARD.

**KEEP REFRIGERATED OR FROZEN**

Packed On: **Aug 18, 16** Net Wt./Ct: **1.95 lb**  
Processed by Bowdon Meat Processing, Bowdon, ND 58418





# Photo after a week with Dwayne Beck, Jay Fuhrer and Gabe Brown

I knew  
I had to do  
Project Moo







55 years later, Cattle are back!



# Integrated Grazing

Cover Crops

Portable fencing

Cafeteria Minerals

Essential Oils

Portable water

PLANNING!!!!





# Regen Rotation 2021



March 9  
Trit seeded Nov  
Clover seeded Feb



May 6  
2 weeks  
before Cattle



May 22  
Calving on  
Covers



July 8  
MOOving cattle  
and seeding  
summer covers



# Regen Rotation 2022

June 21

Baleage of Triticale  
and 2nd year Clover  
2.1 DM Tons/acre



September 4  
Summer  
cover  
grazing



December 2  
Seeding cereal  
rye ahead of  
soybeans

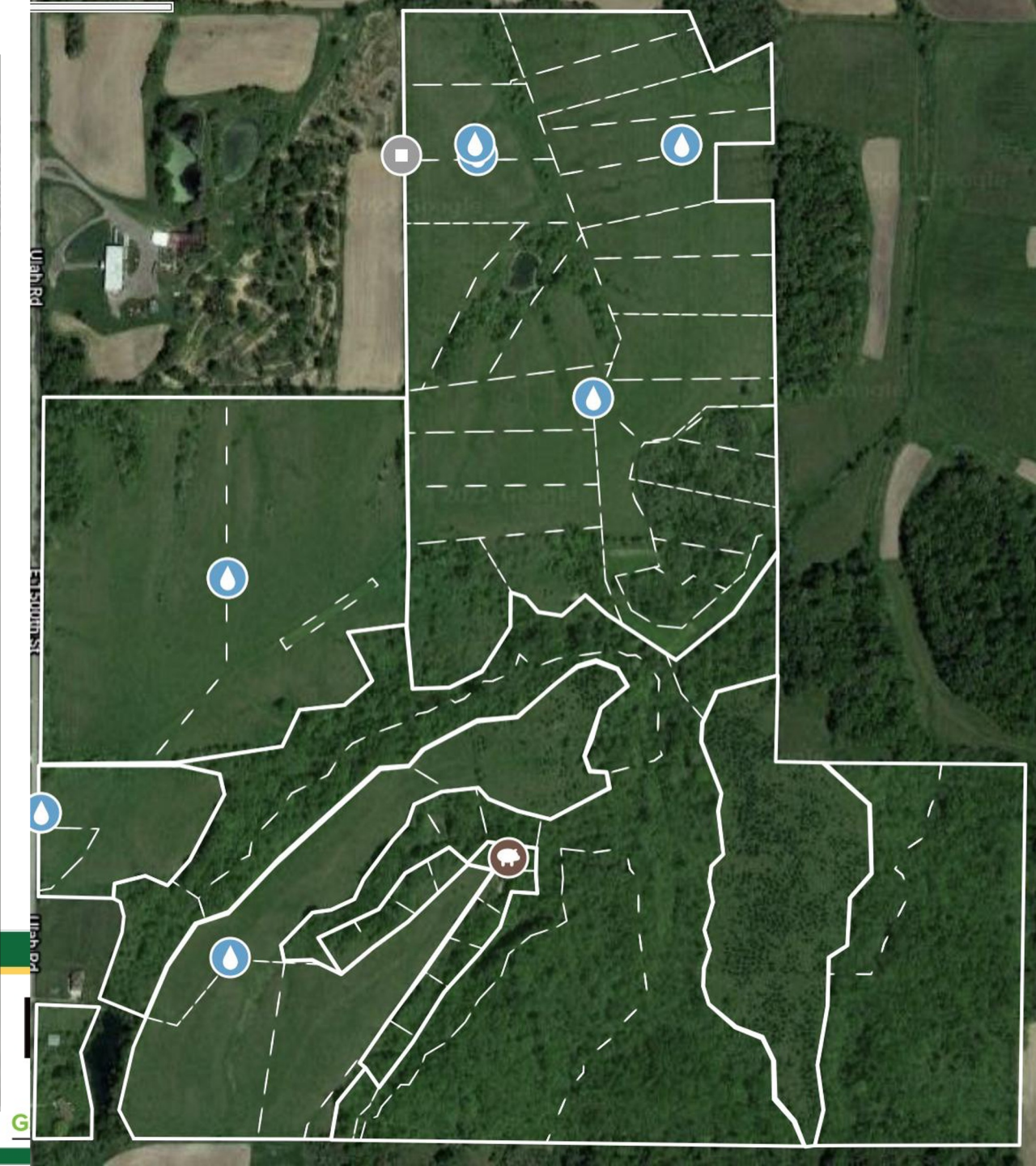




10th Ave



E 190



Utah Rd

1950

Utah Rd





“The electric light bulb did not come from the continuous improvement of candles.” (Oren Harari)



# 12/21 North America's First No Fence Cow









# The Collars



Solar Panels  
Replaceable battery  
GPS with WAAS  
Long range cellular  
Bluetooth









## Grazing area

## Audio zone



1

Define the pasture with a swipe on the **Nofence-app** and let your animals graze freely.

2

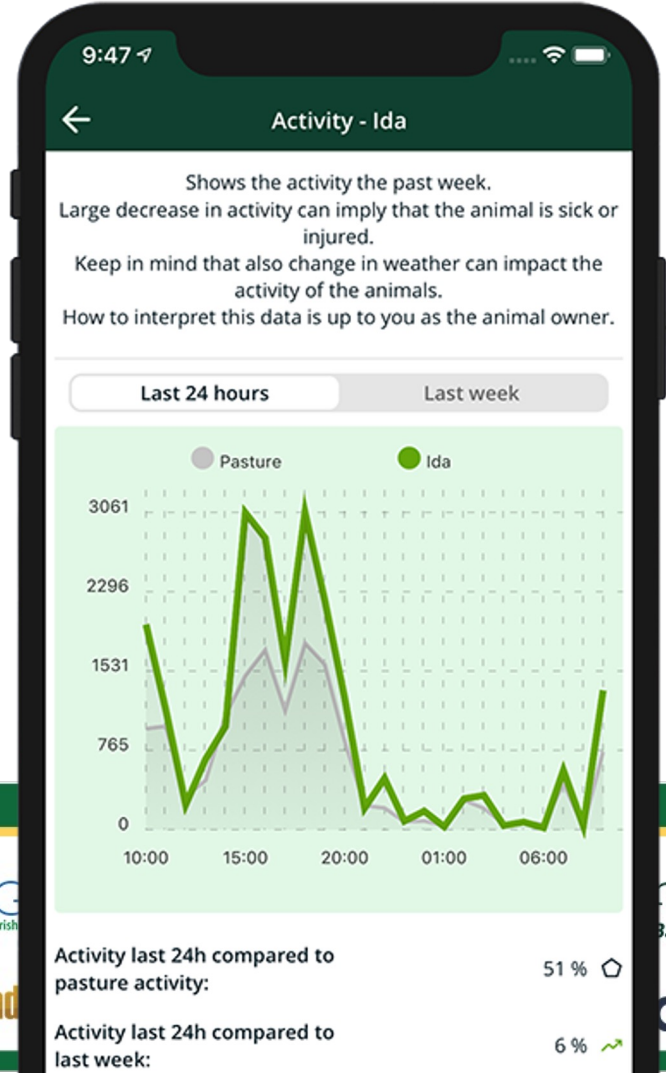
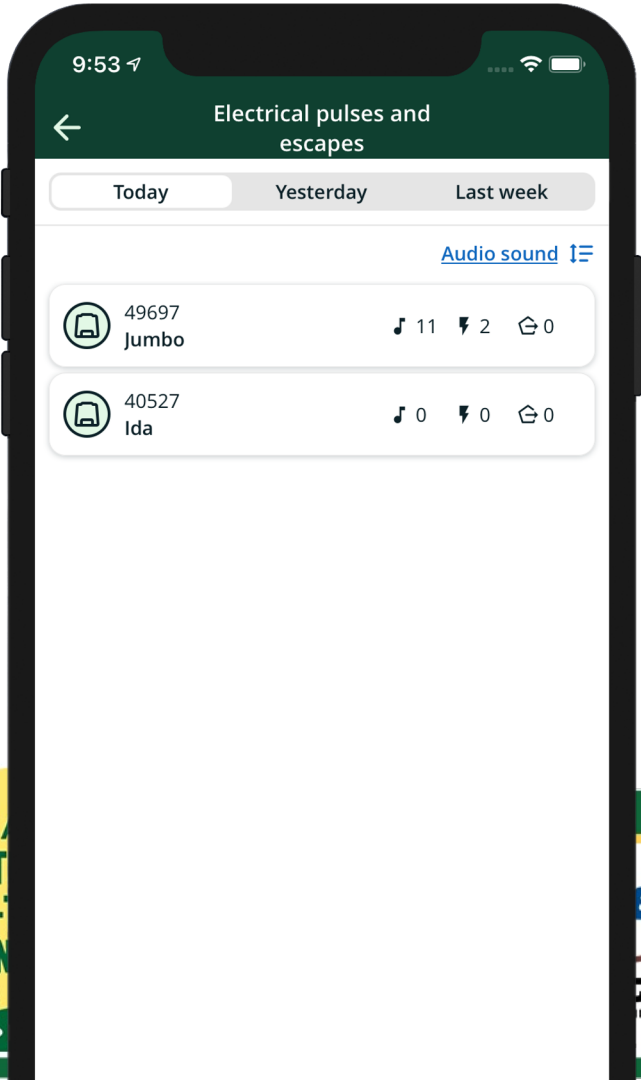
The collar gives the animals audio cues which increases in pitch if they crosses **the Nofence boundary**.

3

If the animal does not return to the pasture, it will receive a single electric pulse at the highest pitch of **the audio cue**.



# App

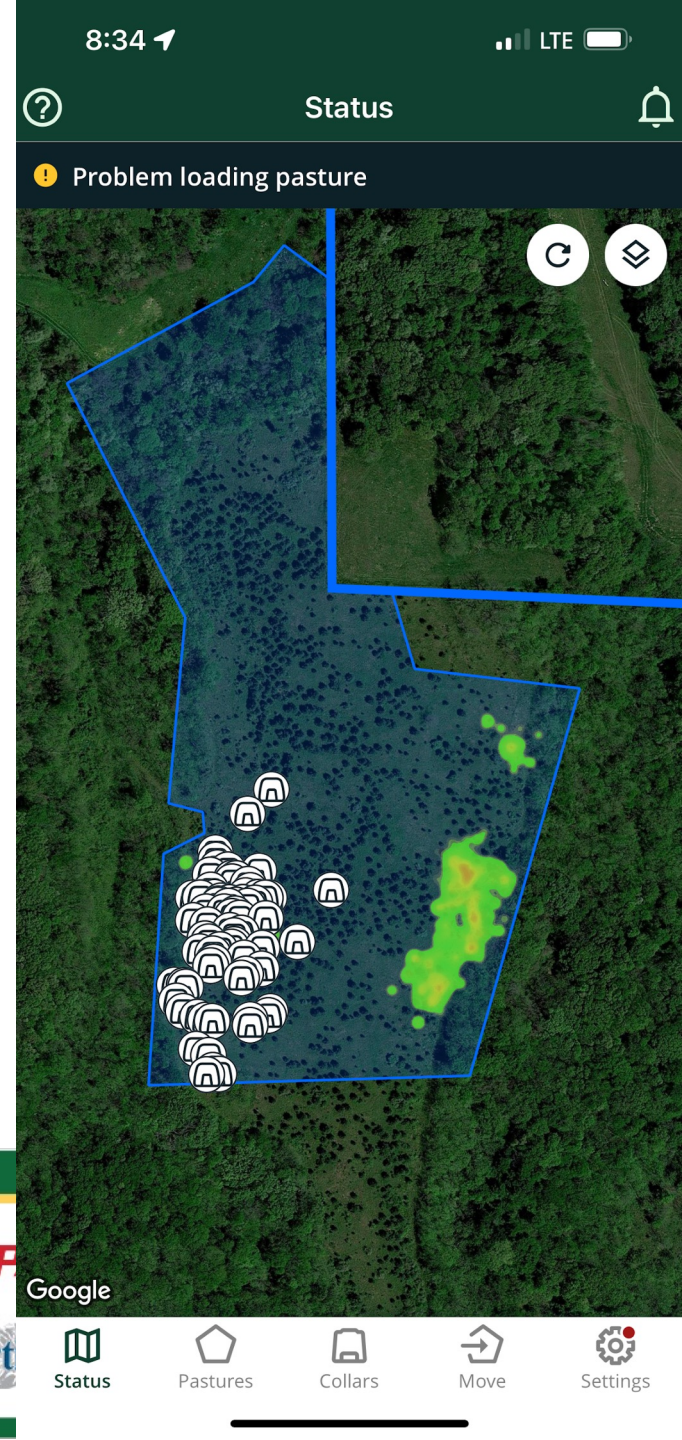
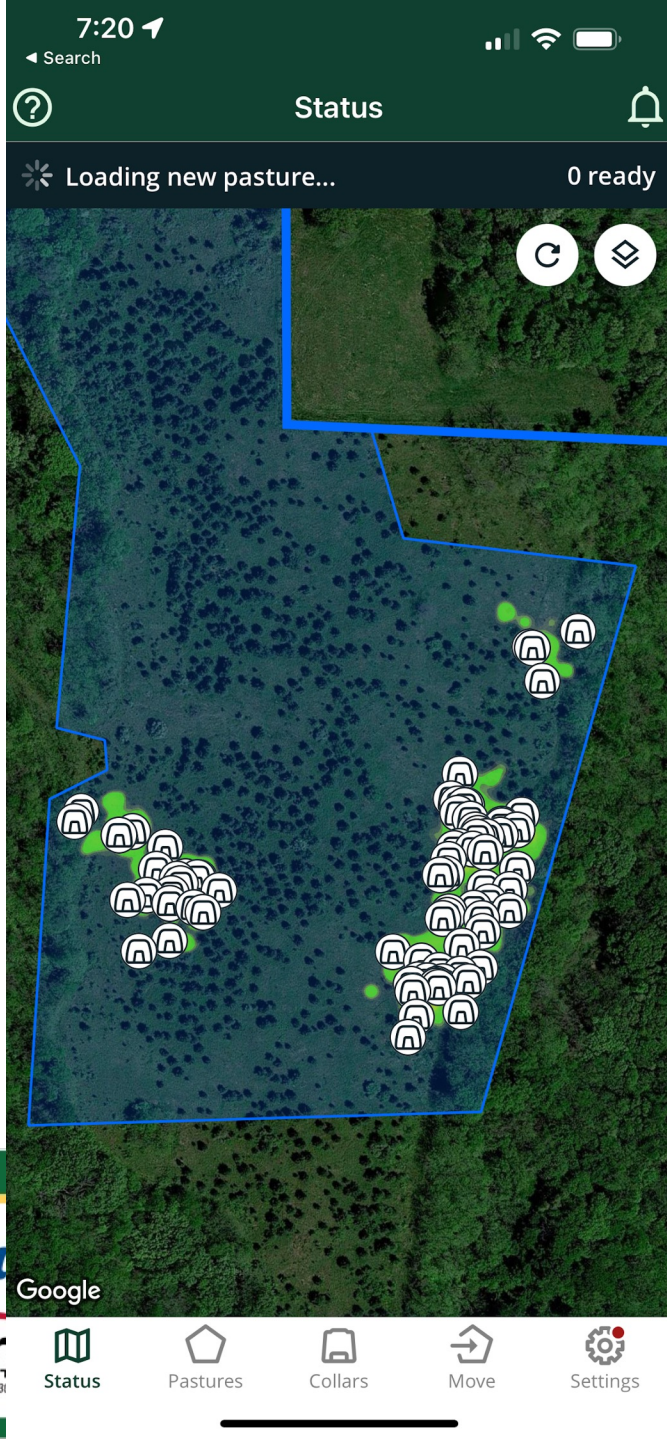
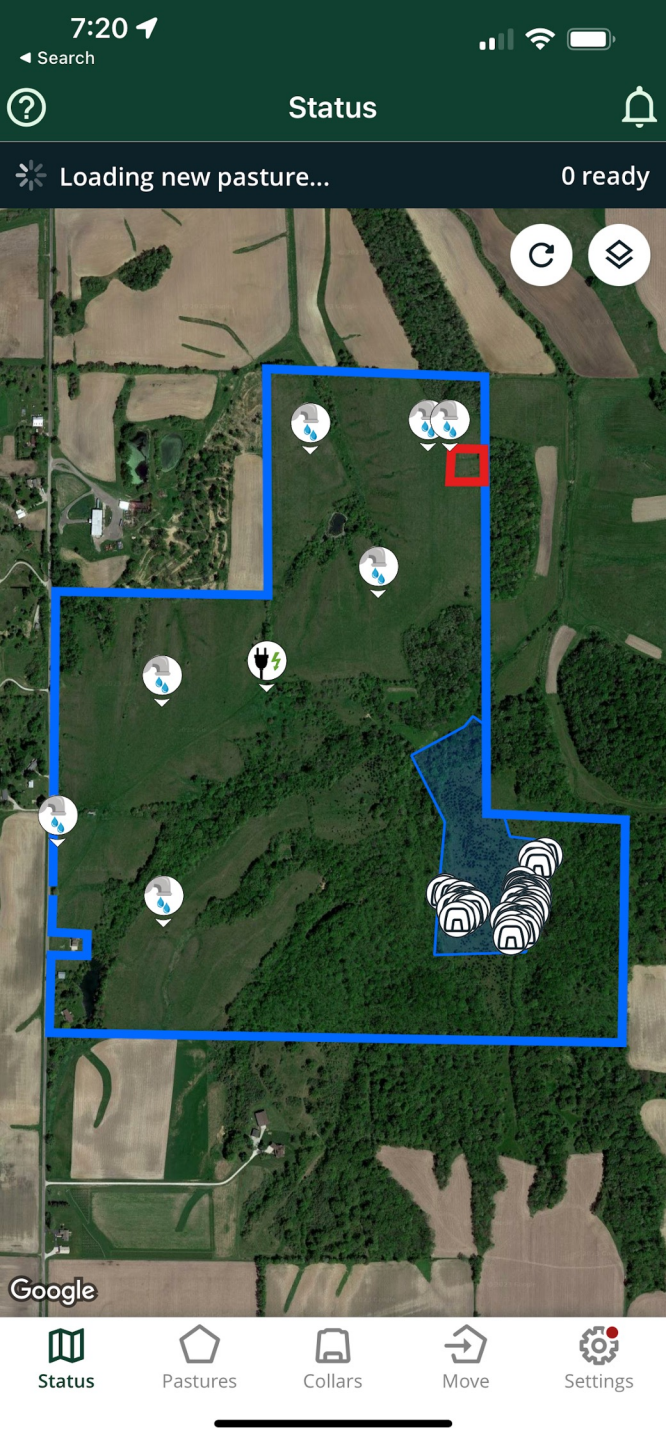


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**72,000 collars**  
**3,600 farmers**  
**440 million hours**  
**of grazing time**





A topographic map of the United States with 45 white cow icons scattered across the landmass. The icons are distributed across various regions, including the West Coast, the Great Plains, the Midwest, and the Southeast. The text '45 pilot projects' and 'Fall 2022-Winter 2023' is overlaid in white at the bottom of the map.

**45 pilot projects**  
Fall 2022-Winter 2023





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FARM EQUIPMENT  
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**MonTag**

**GS3**  
GS3 QUALITY  
SEED

**CopperheadAg**  
PRODUCTS

Soil Nourishing Root Stimulating™

**Martin Till**

SPRAYERS

**Great Plains**  
"Harvest Starts Here."

**ET ForGround**  
by Bayer



**Sound**



# Virtual Fencing For Solar

“Ability to enjoy the sheep more instead of all the time spent putting out and cleaning up posts”





**\$199**



**\$299**



**+ \$3.00-\$4.50/head/month**

Discount applied with 50 collars and above





# NRCS grazing payment

**Programs:** EQIP or CSP

**Timeframe:** 1-5 year contracts

## NRCS plan:

- Talk to your local NRCS agent to incorporate virtual fencing into your Prescribed Grazing Management Plan (Practice Standard 528)
- Producer will purchase virtual fence upfront
- Receive payments for improved grazing per acre per year of your contract





# Questions I am asked.... Cost?

2 year warranty: 51 cents/hd/day

5 year life: 26 cents/hd/day

***Labor and Fencing savings pays for the units***

UNLOCKS amazing management:

- Fencing Ponds, Timbers, Gullies in seconds
- Exclude thin areas
- No need to connect to perimeter for power
- Irregular shapes and sizes





# Battery Life

Never have recharged our batteries once installed

Simply solar even on long cloudy stretches

Barns may be a problem... I don't know-don't have a barn.





# Behavior Observations

- No more trailing along wires
- Able to adjust size without resetting a wire
- No watching you set a wire
- No stampede into next paddock

## *Creep feeding Calves*





# No More



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Precision  
Planting

**wearpart**  
TILLAGE

Cultivating Solutions for C



# Scenarios for Virtual Fencing

No Cattle--Much easier to get started than ever before!

## Set Stock Grazier

- You've heard you can double your stocking rate, but don't have the time or equipment to do daily moves

## Rotational Grazier

- Easily subdivide your paddocks allowing even more recovery time

## Daily-Move Grazier

- Hit your target time...everyday
- Increase moves to multiple times per day





# For Fun...Here's some of our favorite fencing scenarios.

1. When the ground is froze and you have to drill a hole for the post
2. When it's pouring rain and it's so muddy that the ATV can barely move (Plus lightning)
3. When your planting, harvesting or doing other farming activities
4. When your on vacation (What's that?)
5. Through the woods, crossing a creek

***Paddocks can be any shape or size and don't need to be connect to a perimeter fence/power supply.***





# My Vision for the Future - AutoGraze™

No Fence is the connected data hub for the animal with other sensors  
Autonomous water/mineral/oiler follows with the herd  
Imagery is used to assess forage quantity and quality  
Paddocks are auto generated based upon growth and forecasts

***Make grazing so easy, even a corn farmer (like me) could do it!!!***

Feedlots exist because they are the most economical way to produce meat. I believe technology can enable us to bring livestock back to the land.





# The Right Thing For The Cattle

## *Herd instincts*

- Grab the best bite before my neighbor does
- Eat and walk forward
- Stay close for protection

## *Fresh grass daily*

- Prevents parasites
- Eliminates antibiotics
- Keep clean and avoids eating in your buddies toilet

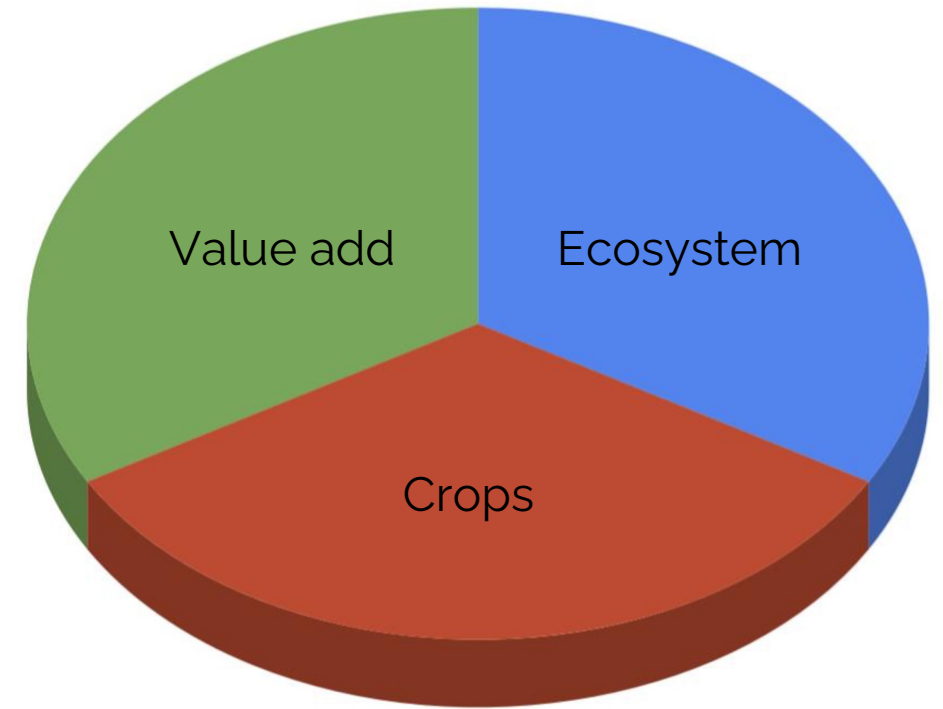




# Future Profit Streams

1. Primary Crop Production
2. Value Added Enterprises
  - a. Companion Cropping
  - b. Integrated Livestock
  - c. Premiums
  - d. Direct marketing
3. Ecosystem Services
  - a. Carbon Credits
  - b. Water Quality
  - c. Nature (Audubon, Ducks, etc.)

I believe we have the ability to **TRIPLE** gross profit with Regenerative Agriculture!





***What did me in was not what I did not know.***

***It was the things I knew which were not so.***





WICS

May 3, 2023

TILLAGE!

THE SCENE IS UNBELIEVABLE, AT  
LEAST SIX PEOPLE WERE KILLED AND

BREAKING NEWS UPDATE

# Dust Storm Causes Deadly Chain-Reaction Crash

INTERSTATE 55 NEAR SPRINGFIELD

0:13 / 1:33

CC Settings Full Screen



Janu

Illinois dust storm causes 72-car pile-up crash on I-55, killing 6



nd



May 6, 2023

WE HAVE TO DO BETTER!



May 6, 2023 - Exact same time as above



32  
NA  
NO  
CO

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Sound  
by Bayer



Sound



# Taking the Next Right Step





# Do you enjoy your food?

Pasture Raised Eggs  
Timber raised sausage  
Wild mushrooms

Farming is about eating.

Have we forgotten?





# Don't be afraid of lunatics

Joel Salatin, the self described Lunatic Farmer.

He is largely responsible for the modern pastured poultry, pastured pigs, and homestead movement.

Be a lifelong student. You can always learn something!





# The LAW of Context

I haven't given you specific things you should do on your farm.

I've shared how I am trying to put the Principle into Practice and how others have.

Your CONTEXT is for you to fully understand.

But it is NOT AN EXCUSE from trying something new!





# I believe when farmers know the right thing, they will do it.

Do you want to be an Ostrich?





You might have a lot of work to do,  
but enjoy the ride!





# Changes I've made after I learned theres a better way.

No till: Save the Soil

Cover crops: Capture Carbon, Diversity, Water Management, Weed Management

Neonic free: Save the insects, keep balance in nature

Fungicide free: Why kill the organisms that digest our residues?

Non-GMO: Stop gene flow

Livestock integration: Improve soil and provide healthy food for families to enjoy





# My Future Plans

DIVERSITY!!!

Perennials

Small grains with cover crop

Heritage grains

Milling, Ciders, Wines

Processing, Distribution and Marketing.





# What is your next right step?

No-Till

Cover Crops

HD cover crops

Small grains

Non-GMO

No Neonics

Grazing Livestock

Daily moves

What is something else that you know you need to do?

What about something you wish you didn't do?





# Just Do it!

Try your next step on enough acres that you are invested in it and paying attention to it. If too small you'll ignore it.

Do it RIGHT...no shortcuts, duct tape and cable ties.

Find out what works and move to the next.

If it works scale up to all your acres in 3 years.





# Change is not easy

Every choice I make has an impact my family, farm, community and world.

Every choice you make does, too!

Are you willing to lead the change?





DO

DO



OLD

NEW



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orGround  
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“People who say it cannot be done, should not interrupt those who are doing it”

– George Bernard Shaw





# Be our guest!

Farmers, Thought Leaders, Researchers,  
AgTech Entrepreneurs

Share your story with others

What's one thing you have learned by being here?

What will you do different as a result?

## Join us in the Phoenix Room





**Want to keep in touch?** Follow any of these companies on:   



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