
KEY PIECES START
ALLOWING THE CHANGING PRACTICES
imgflip.com


@FLOLOfarms ModSquad
DuoSeed Drill
Physico Blow
Shoup Special
imgflip.com


April 22,2016

May 09,2015


$15 an acre in seed =15bu

Residue removal = We need to treat as a second crop?


October 10,2016….


FLYPAPER EFFECT
MIKE BREDESON GRADSTUDENT SDSU
RESULTING IN INSECTICIDE REDUCTION
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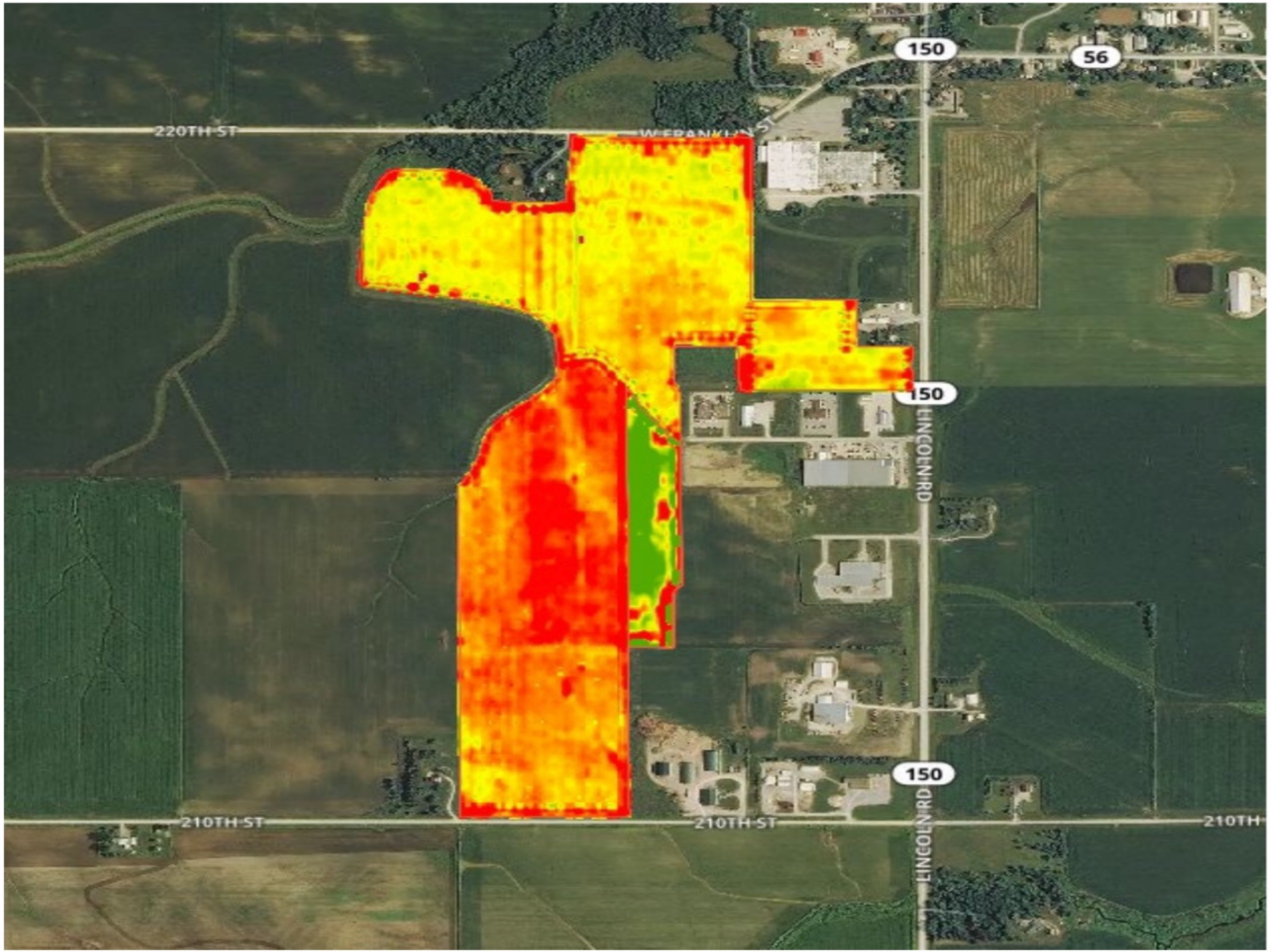
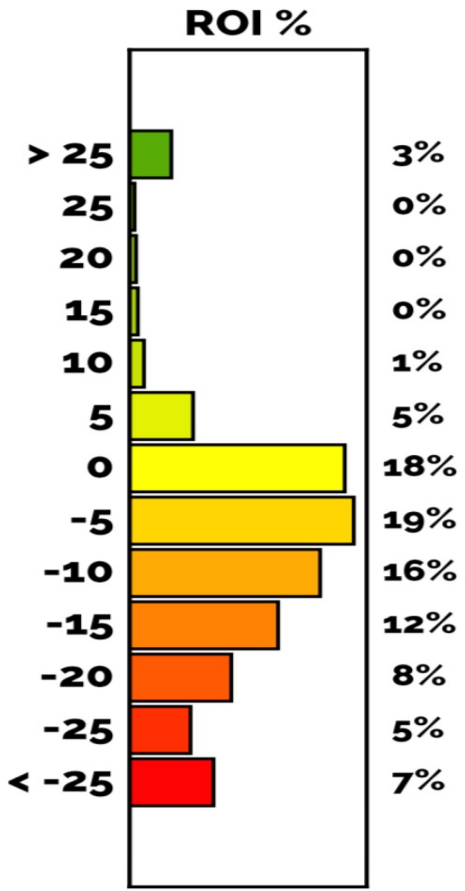
RELAY/COMPANIONS

Starting to create challenges as we run out of space

Return on Investment





Relay cropping &the start of Companion cropping


$20 seed cost……2 crops
June 15,2016


Are we happy yet?
If Calendar allows
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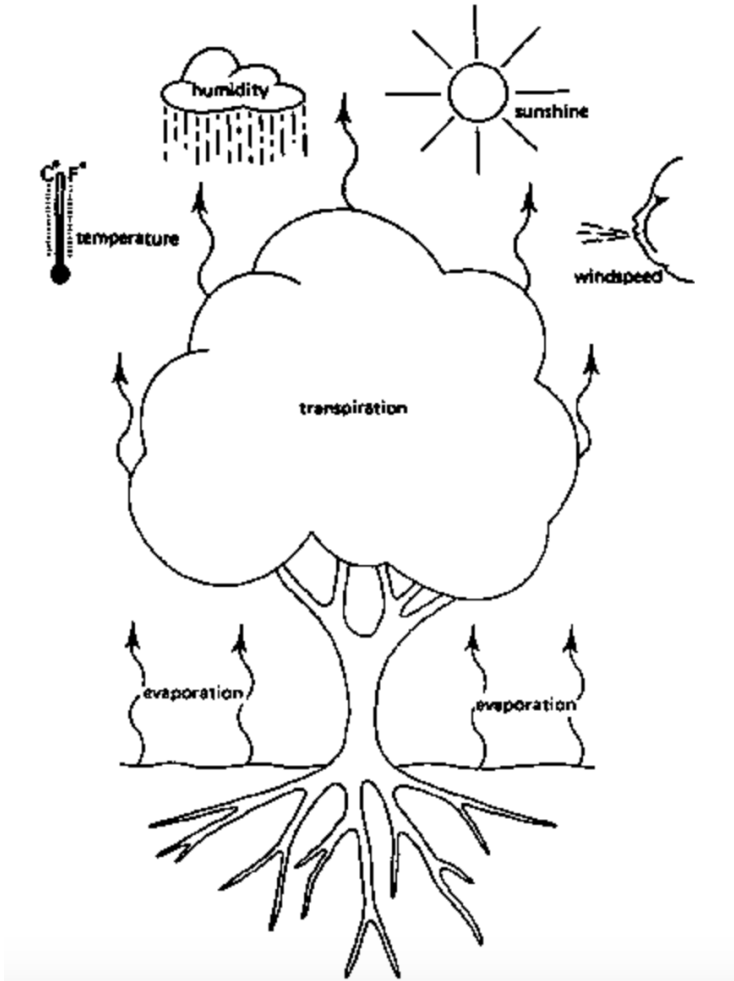
Crop	Crop water need (mm/total growing period)
Alfalfa	800-1600
Banana	1200-2200
Barley/Oats/Wheat	450-650
Bean	300-500
Cabbage	350-500
Citrus	900-1200
Cotton	700-1300
Maize	500-800
Melon	400-600
Onion	350-550
Peanut	500-700
Pea	350-500
Pepper	600-900
Potato	500-700
Rice (paddy)	450-700
Sorghum/Millet	450-650
Soybean	450-700
Sugarbeet	550-750
Sugarcane	1500-2500
Sunflower	600-1000
Tomato	400-800

Fig. 6 Major climatic factors influencing crop water needs




WARNING
STAND CLEAR OF WINGS WHEN FOLDING OR UNFOLDING

Breakeven on RyeBuckSoy

30bu Rye x $10=$300

30bu Soy x $12=400

400#buckwheat x$.30=$120

$820per acre revenue

Or equivelent to 200bpa @$4.10

History would show….I could easily double these numbers

Soybeans are factoring in a NonGMO premium

Breakeven on MaltBarley/Soy
50bu Malt Barley x $8=$400
30bu Soy x $12=400

$800per acre revenue

Seed cost on both $24 acre
$20 herbicde/fungicide

Breakeven on WheatSoy
50bu Wheat x $6=$300
40bu Soy x $12=480

$780per acre revenue

30 unit of N/24d upfront
Been avoiding fungicide…
What is rotational Benefit? To Corn?

Nutrient Density

Many of us talk about it….How Many are doing something about it

What are your levels in Grain/Produce?

Simple example: China insist on 35-36% soybeans

Brazilian 2108 exports average 36.83% protein down from 37.14%

Argentina averaged 35.4% which is up from 34.6%

USA averaged 34.2% in same period?

FLOLOfarms 2018 soybeans came in @ 39.65% protein


Commodity production =low cost producer
Long story short=quality pays
Why grow commodity or feed grade?
imgflip.com

Yield becomes somewhat irrelevant when

We become the low cost producer while producing quality products

2018

Cereal Rye /Soybeans with companion clover

40 bu of 99% germ Cereal Rye

60bu Food Grade Tofu soybeans

Conservatively $12 a bushel

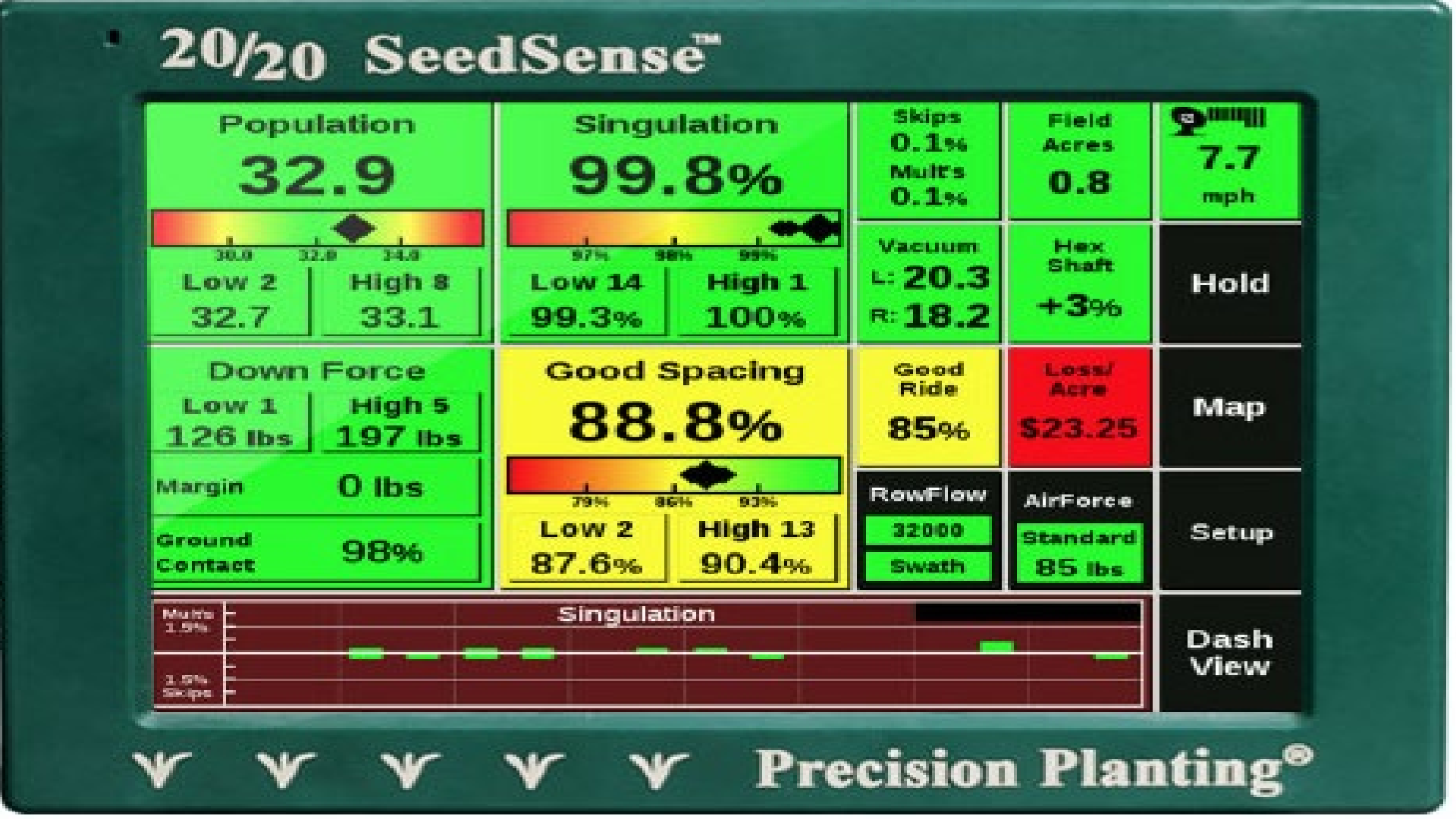
$100 seed/chem/fert

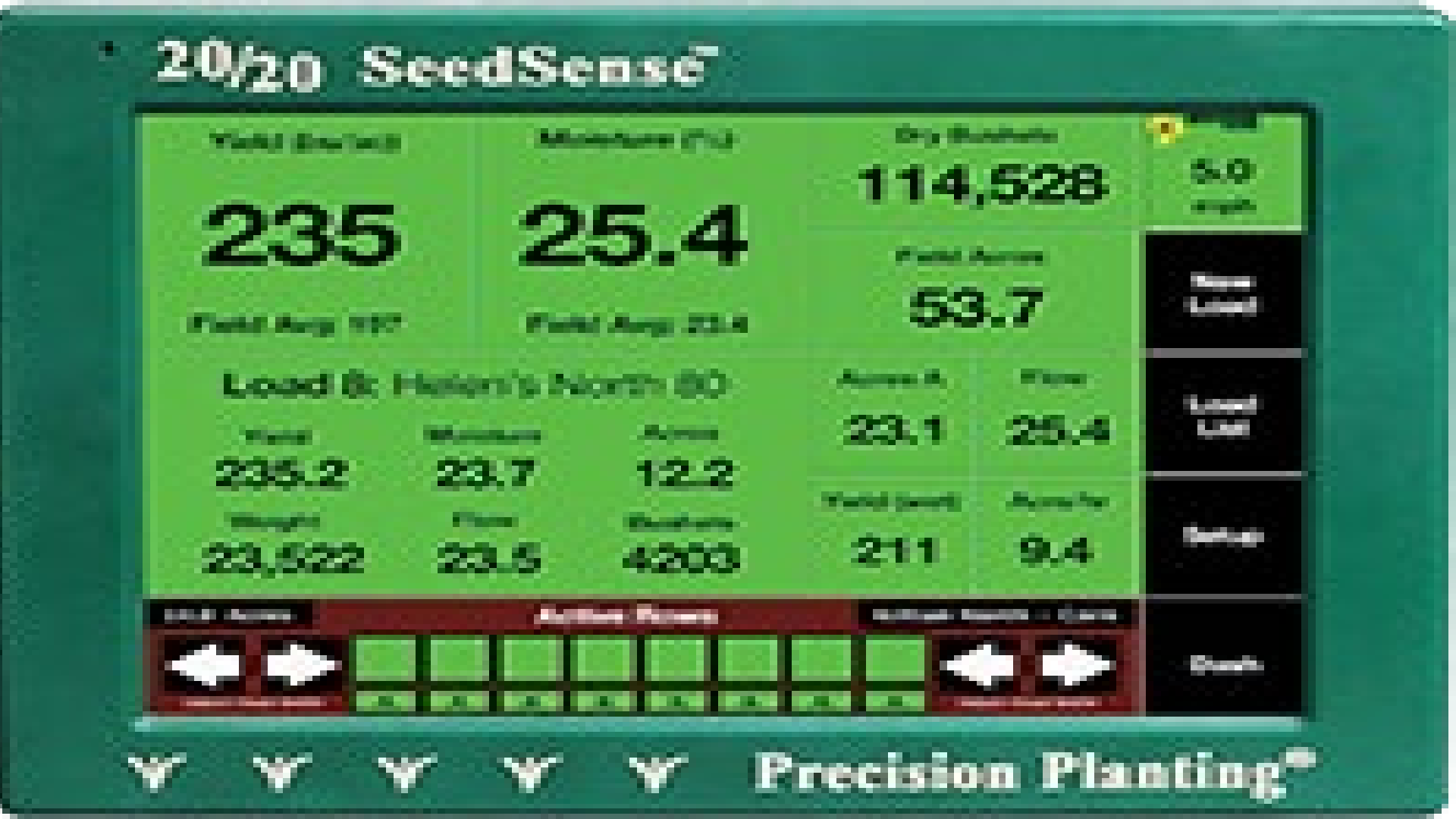
$100 equipment…. Plant 2x Harvest 2x

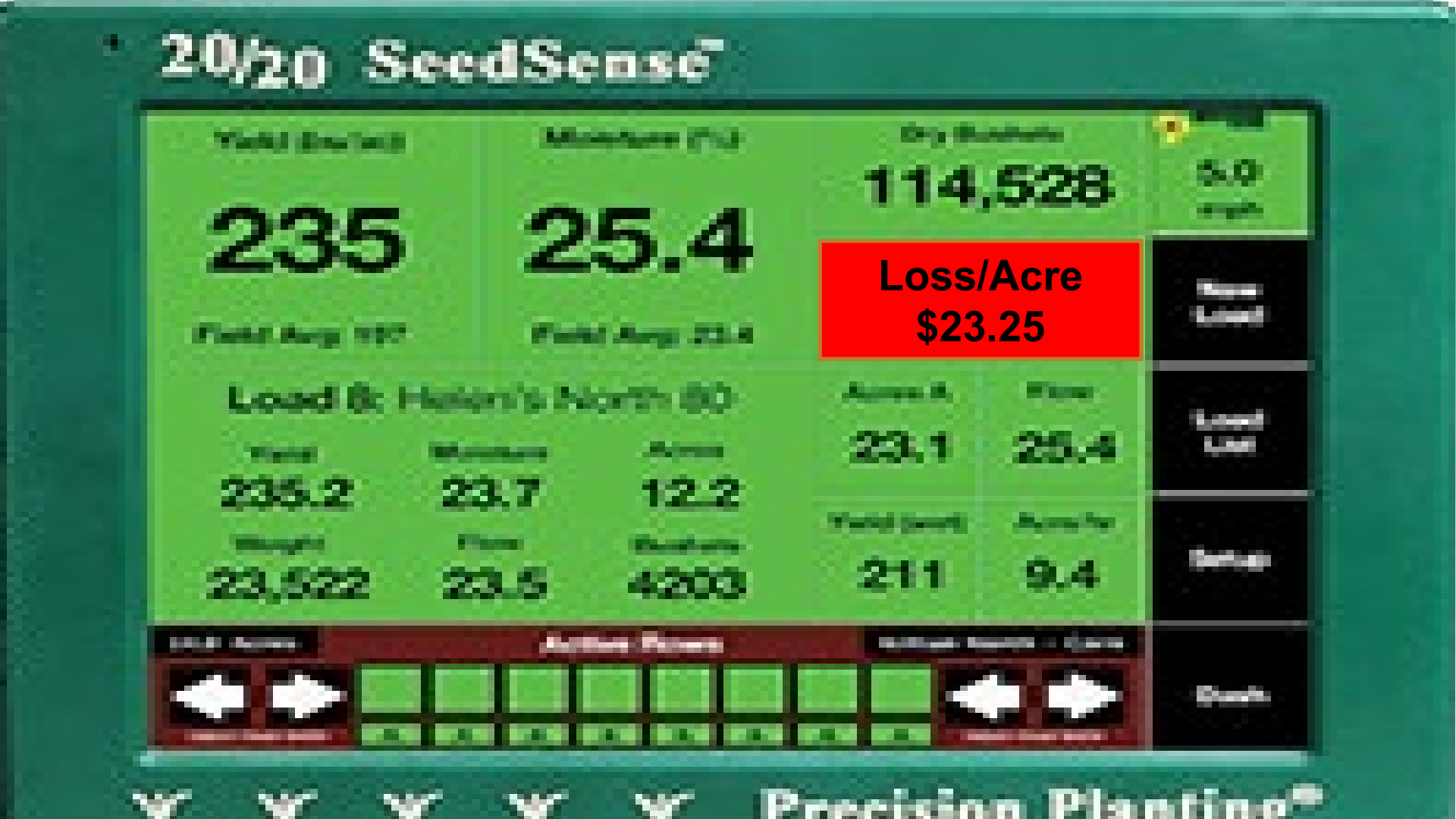
$1000 per ace for Land cost and Management

We as farmers get paid to run Equipment and Manage…..


@FLOLOfarms 2020 vision


20/20 SeedSense™
Population
32.9
30.0
32.9
34.0
Low 2
32.7
High 8
33.1
Singulation
99.8%
97%
98%
99%
Low 14
99.3%
High 1
100%
Skips
0.1%
Mult's
0.1%
Field
Acres
0.8
7.7
mph
Vacuum
L: 20.3
R: 18.2
Hex
Shaft
+3%
Hold
Down Force
Low 1
126 lbs
High 5
197 lbs
Margin
0 lbs
Ground
Contact
98%
Good Spacing
88.8%
79%
86%
93%
Low 2
87.6%
High 13
90.4%
Good
Ride
85%
Loss/
Acre
$23.25
Map
RowFlow
32000
Swath
AirForce
Standard
85 lbs
Setup
Mult's
1.5%
Singulation
1.5%
Skips
Dash
View
Precision Planting®


20/20 SeedSense
235
25.4
114,528
53.7
Load 6: Helen's North 80
235.2
23.7
12.2
23,522
23.5
4203
23.1
25.4
211
9.4
Precision Planting


20/20 SeedSense
235
25.4
114,528
Loss/Acre
$23.25
23.1
25.4
235.2
23.7
12.2
23,522
23.5
4203
211
9.4
Precision Planting

OK,so… what happens when MotherNature doesn’t cooperate? DELAYED TERMINATION or RELAY?


The fine line of testing
WE CAN GO TO FAR.....SOMETIMES
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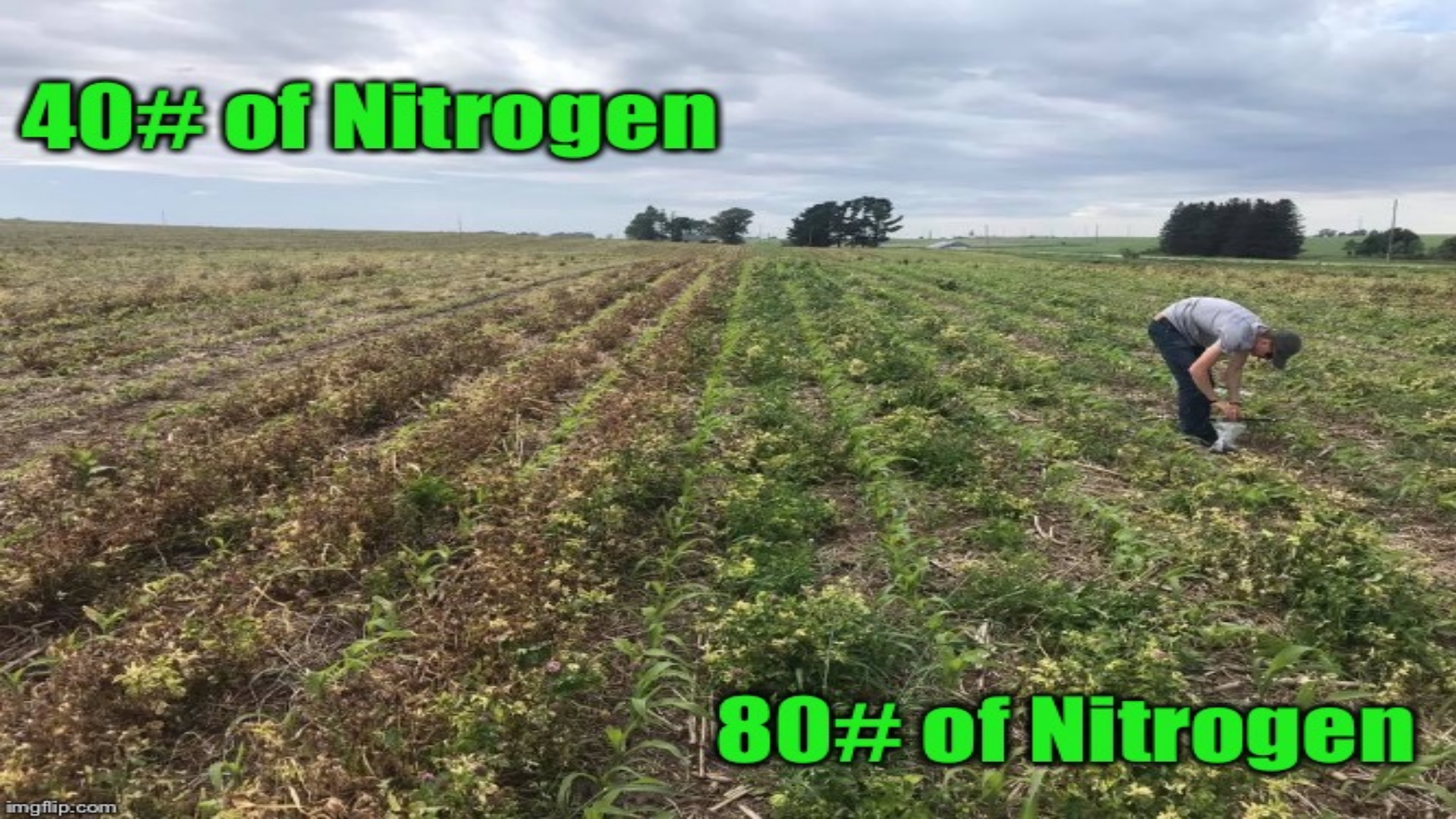
@FLOLOfarms 2020 vision

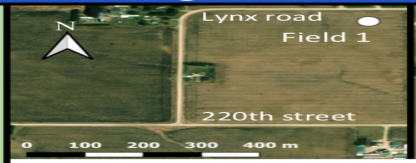

40# of Nitrogen
80# of Nitrogen
imgflip.com


About $8 acre herbicide program
AGAIN....EXTENDING THE CARBON SEQUESTRATION PERIOD
imgflip.com

Report Prepared for Loran Steinlage

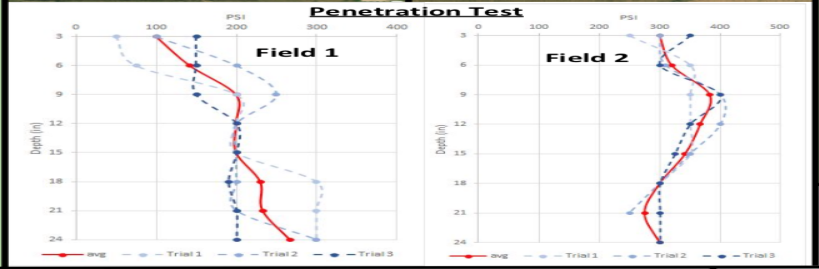
LUTHER COLLEGE

Field 1.
Date of Sampling: 6/14/19
Lat/Long: 42.954928, -91.834878
History: No till for 13 years. Cover for 5-7 years. Companion clover since 2017. Currently in corn/clover. Just had manure.
Soil Series: Kenyon loam
Topsoil Thickness: Greater than 30 cm
Topsoil Transition: -
Soil Organic Matter: 4.31%
Stable Aggregates: 88.68%
Dry Bulk Density: 1.07 g/cm³
Earthworm count: 4
Infiltration: 15 min for first inch of water
- Infiltration measurements are influenced by the amount of recent precipitation; Your fields were tested right after a rain event, so the times given may be higher than what is typical.

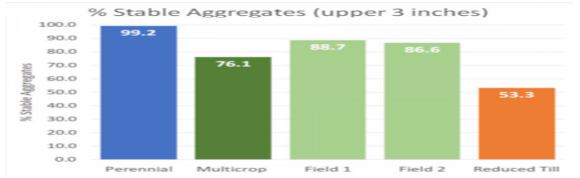


Field 2.
Date of Sampling: 6/14/19
Lat/Long: 42.945294, -91.823688
History: No till for 13 years. Cover for 5-7 years. Currently in oat. Will have manure later this summer.
Soil Series: Ostrander Loam
Topsoil Thickness: Greater than 30 cm
Topsoil Transition: -
Soil Organic Matter: 4.57%
Stable Aggregates: 86.64%
Dry Bulk Density: 1.23 g/cm³
Earthworm count: 1
Infiltration: 6:27 min for first inch of water
*In the field, both of these soils felt like sandy loams

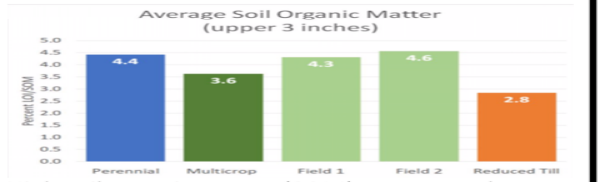
Penetration Test



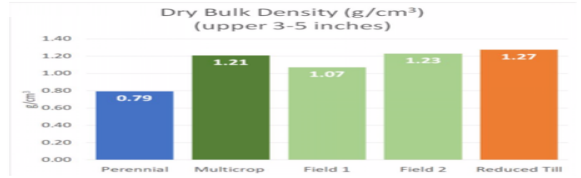
Penetration Test - Low Penetrometer values may indicate that soil has good pore space, while high penetrometer values may indicate clay or areas of compaction.



Soils with high aggregate stability will be more resistant to erosion and more porous, improving infiltration, root growth, and oxygenation which reduces the chance of pathogen development. High aggregate stability is promoted by reduced tillage, increased cover, and reduced inputs, because these practices support the healthy microorganism populations that secrete the organic glues that bind soil aggregates together.



High soil organic matter (SOM) promotes the growth of a healthy microbial community, improving pathogen resistance and aggregate stability (see left). The use of manure can increase SOM but may not lead to improved aggregation if the microbiome is not healthy. Managing soils to increase SOM helps remove carbon dioxide from the atmosphere and may soon become eligible for carbon credit payments.



Low dry bulk density indicates porous soil, which promotes infiltration, aeration, and root growth. Tillage can temporarily decrease density, but tilled soils will actually become more compacted over time as they lose their organic matter content and stable aggregates. Reduced tillage and cover crops improve dry bulk density by increasing soil organic matter, promoting microbial health, and improving soil aggregation.

Perennial system	This soil from an undisturbed hardwood forest on the Luther College campus represents a native perennial system for comparison to the agricultural systems in this study. The forest is on Fayette silt loam, a comparable soil type to many of those found in the study's agricultural field sites.
Multicrop system	The multicrop average in the graphs above is composed of 4 fields sampled in this study that have been under no till, crop rotation, and multi-cropping techniques for 4 years or more. (Fields 1 and 2 are part of this average.)
Reduced till system	This average is composed of 16 of the fields sampled in this study. The majority of the fields have been in no till beans and strip or vertical till corn for 5 years or more, with varying cover cropping practices. Soil health in the study farm average likely already exceeds that of conventional tillage systems.

These findings suggest that within as few as 4 years, multi-cropping systems can significantly close the soil health gap between agricultural and native perennial systems

The Triple Bottom Line:

Profitability, Sustainability, & Feeding the World:

Variable Sunlight Harvest Experiment

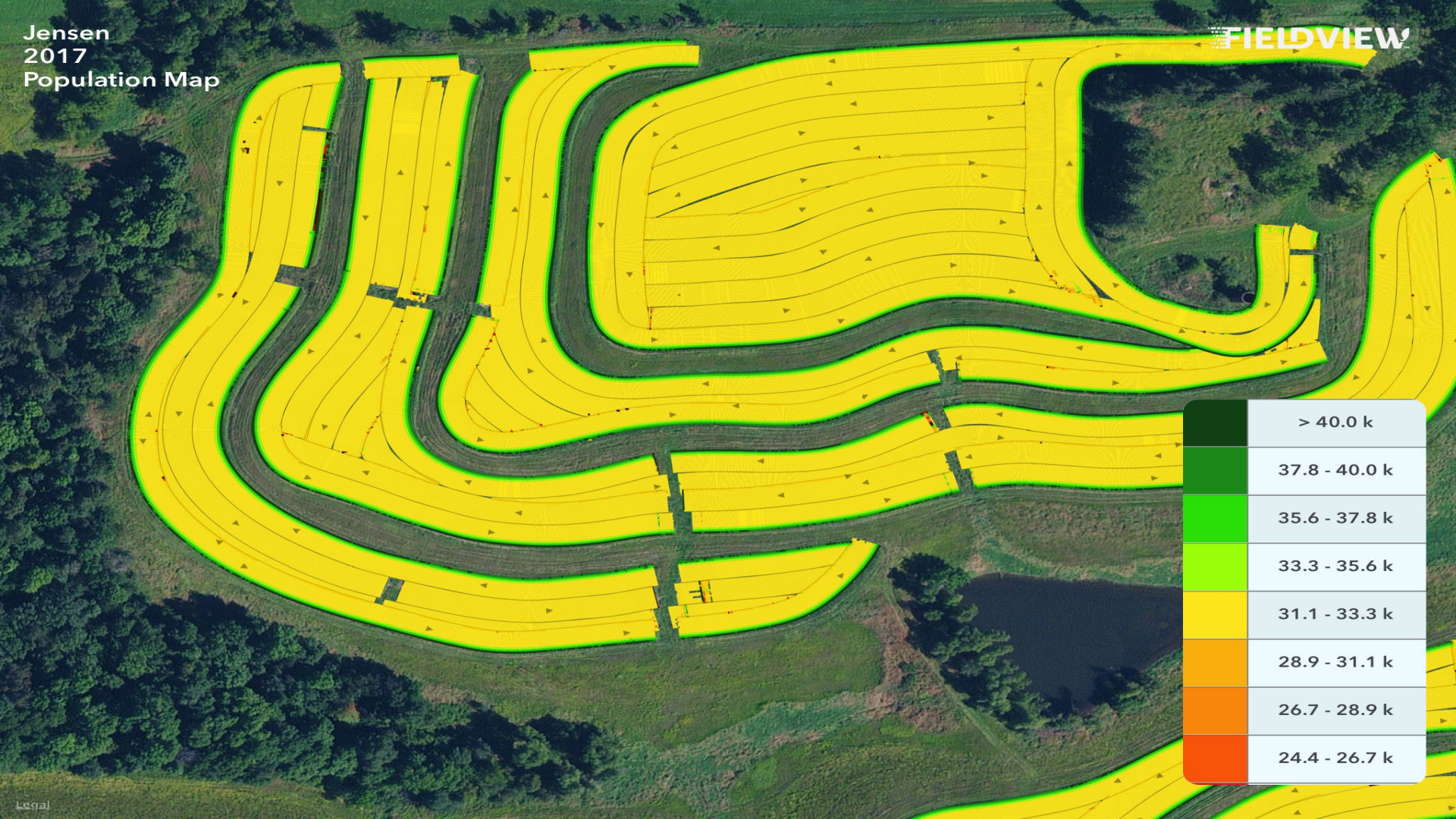
CVI

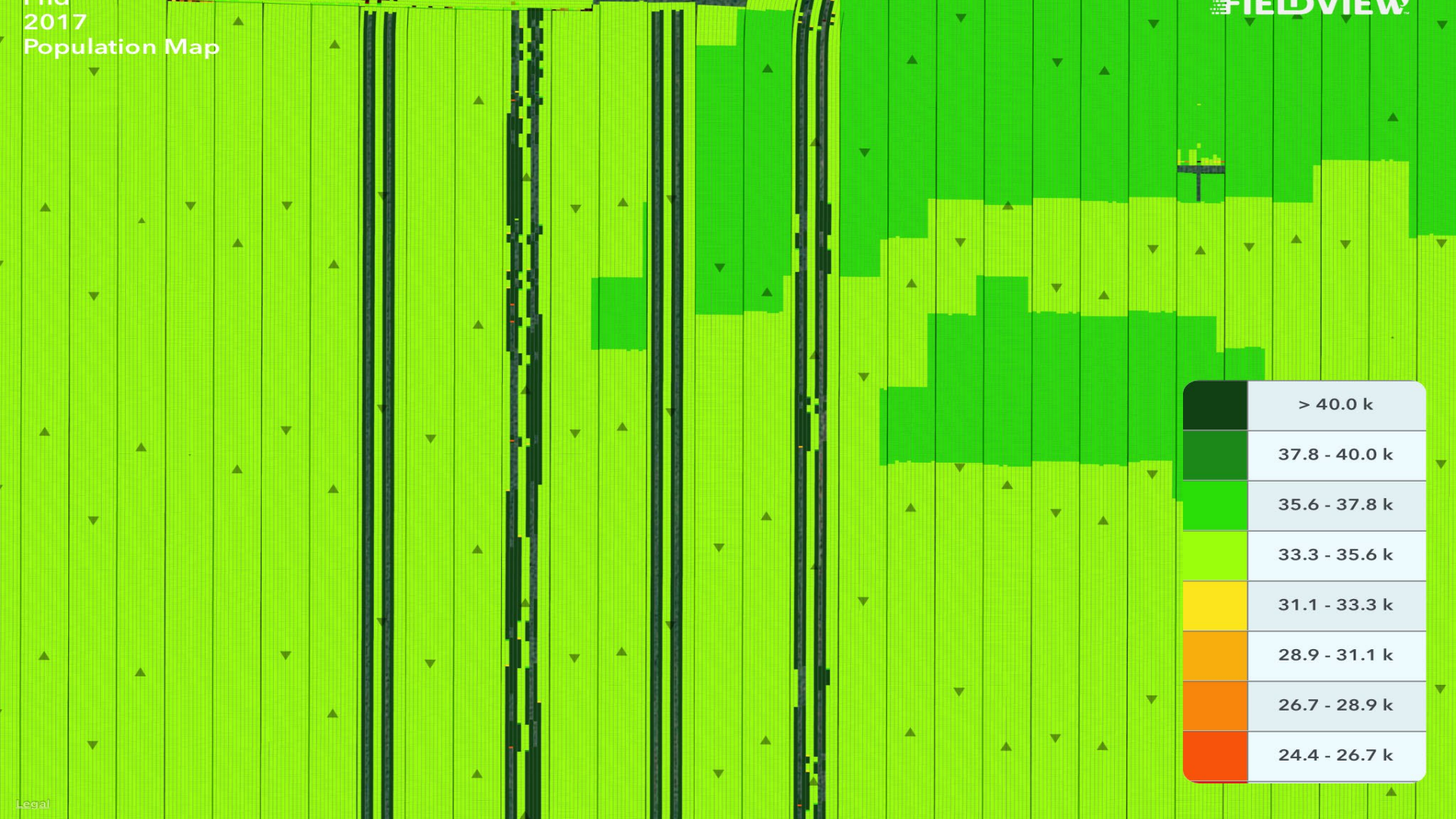
Bob Recker
116 W Schrock Rd
Waterloo, IA 50701 USA
Mobile: 319-240-2200

Cedar Valley Innovation LLC

What's in Your Field?

e-mail: cedarvalleyinnovation@gmail.com
cedarvalleyinnovation.com


Jensen
2017
Population Map
FIELDVIEW
> 40.0 k
37.8 - 40.0 k
35.6 - 37.8 k
33.3 - 35.6 k
31.1 - 33.3 k
28.9 - 31.1 k
26.7 - 28.9 k
24.4 - 26.7 k
Legal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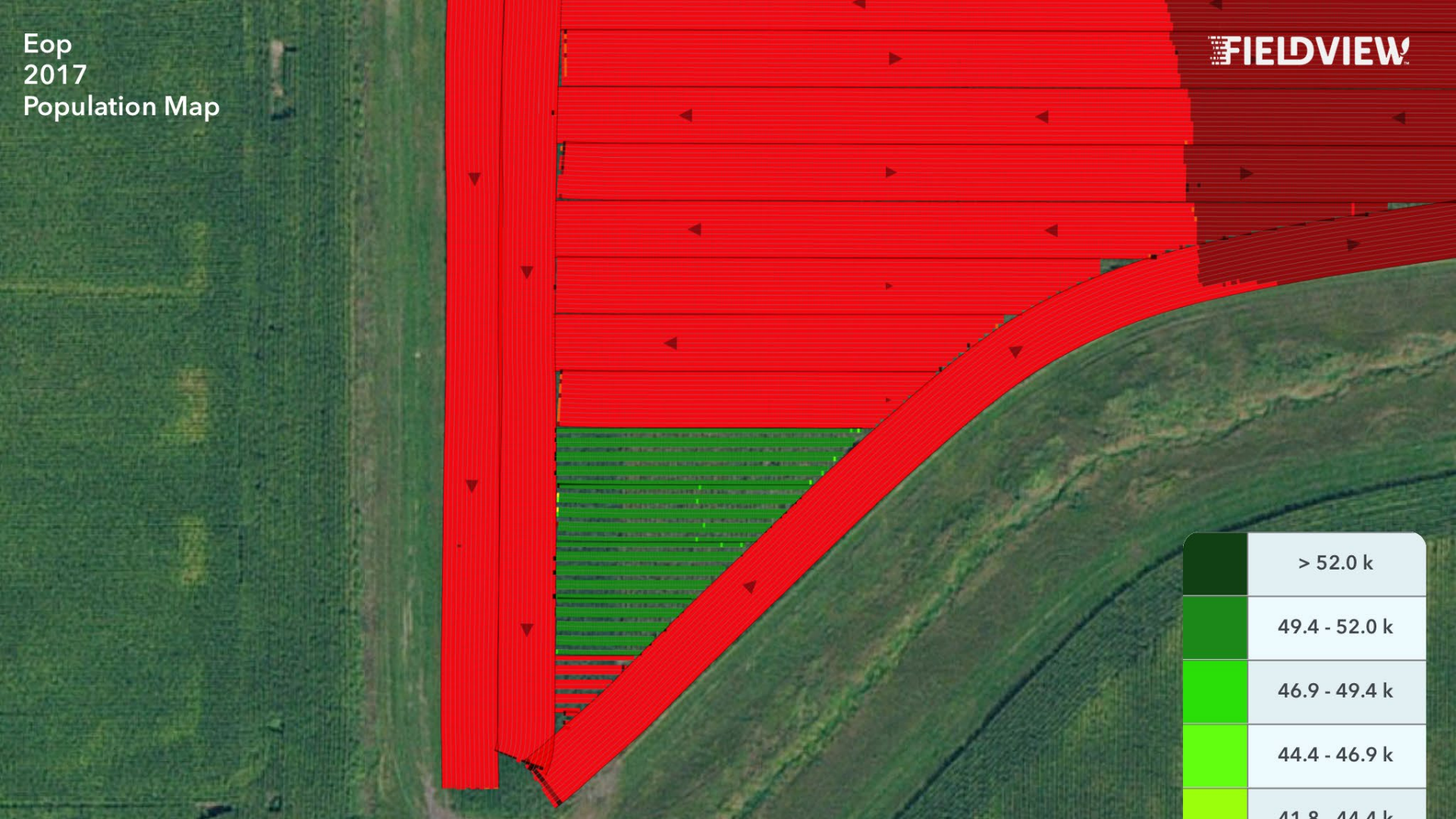
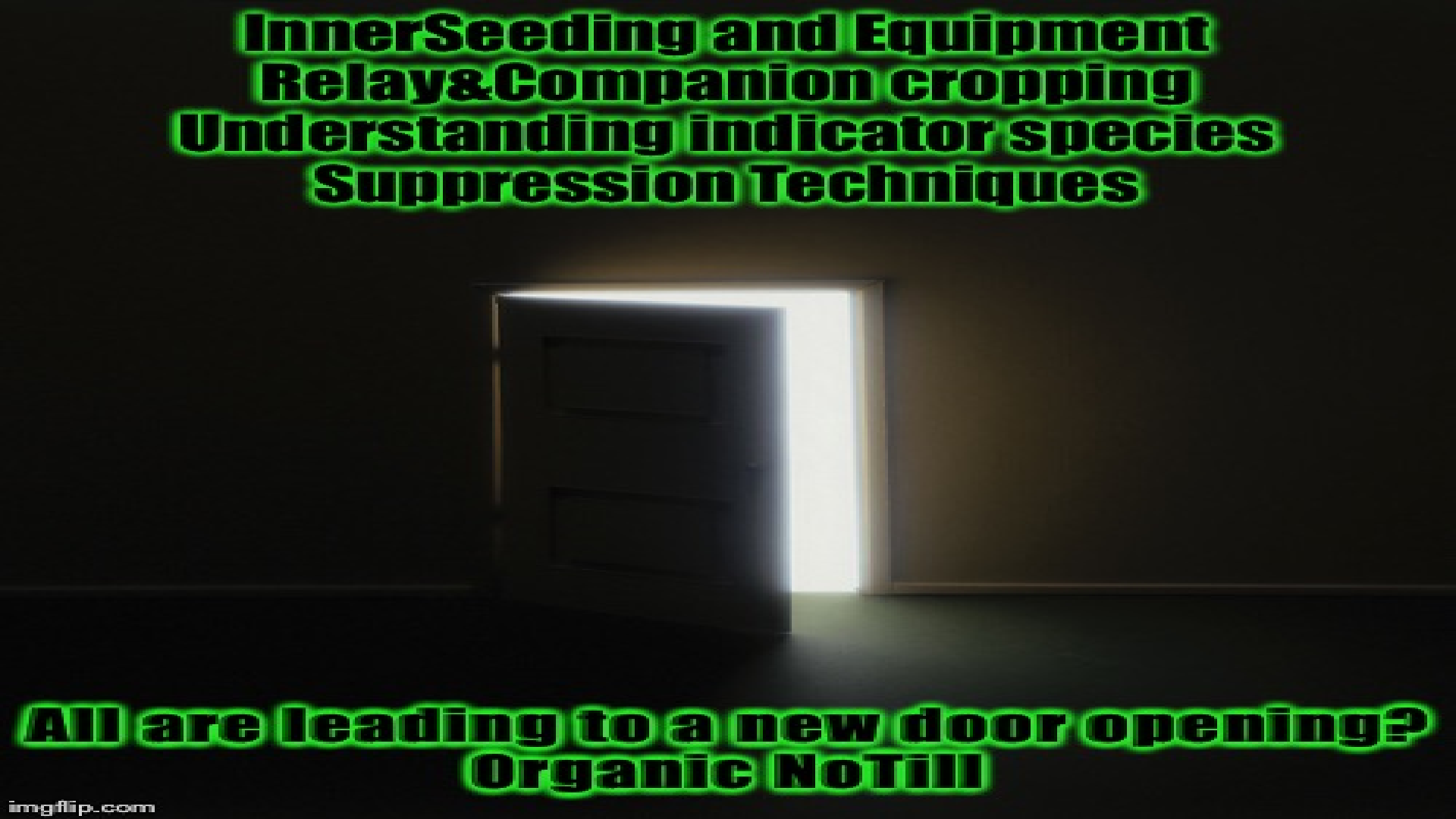

Eop
2017
Population Map
FIELDVIEW
> 52.0 k
49.4 - 52.0 k
46.9 - 49.4 k
44.4 - 46.9 k

Companion Crops Benefit from Additional Sunlight

Steinlage Plots, 60” opening
23 Sep 2017

Steinlage Plots, 30” opening
23 Sep 2017


InnerSeeding and Equipment
Relay&Companion cropping
Understanding indicator species
Suppression Techniques
All are leading to a new door opening?
Organic NoTill
imgflip.com


FLOLO


DAWN


B-429
A-429
B-428
A-428

Creating a sufficient nitrogen environment….yet starved enough to keep the system hungry via a living Legume?

Nitrogen to corn is like Crack…..once it gets a taste it wants more
How do we find Balance? Or do we need to?
Aka Quorum Sensing per Dr Christine Jones?

Simulated Organic Plot

Only expenses/inputs

Seed/donated PenPack Swine manure & equipment

Corn on Corn

147bpa @$10 organic corn
$1470 per acre?

Showing enough promise we're going for year 3 & starting plot at home if it overwinters


THEN IF WE'RE RESOURCEFUL
We will take it to the next level
imgflip.com


Managing a living Mulch system
SETTING UP FOR A
CONTINUOUS CARBON STREAM
imgflip.com

8:1

Water:Carbon

Every Gram of Carbon

In the soil

8 grams of water

Saturation test
100g of soil weighed out and saturated,then weighed

Held -- Practice

68g or 40% --Corn with 32 way Innerseed mix

59.5g or 37% --monocrop Barley w/ Covers

55g or 35% --Relay19 Corn w/delay terminate Clover

38g or 27% --notill corn into soy w/NH3

72.5g or 42% --current Relay Rye/Soybean

64g or 39% --delay terminated rye Soybean with InnerSeed

66g or 39.75% --delay terminated Corn with InnerSeed


COMMON DENOMINATOR
MANAGEMENT MAKES THE DIFFERENCE
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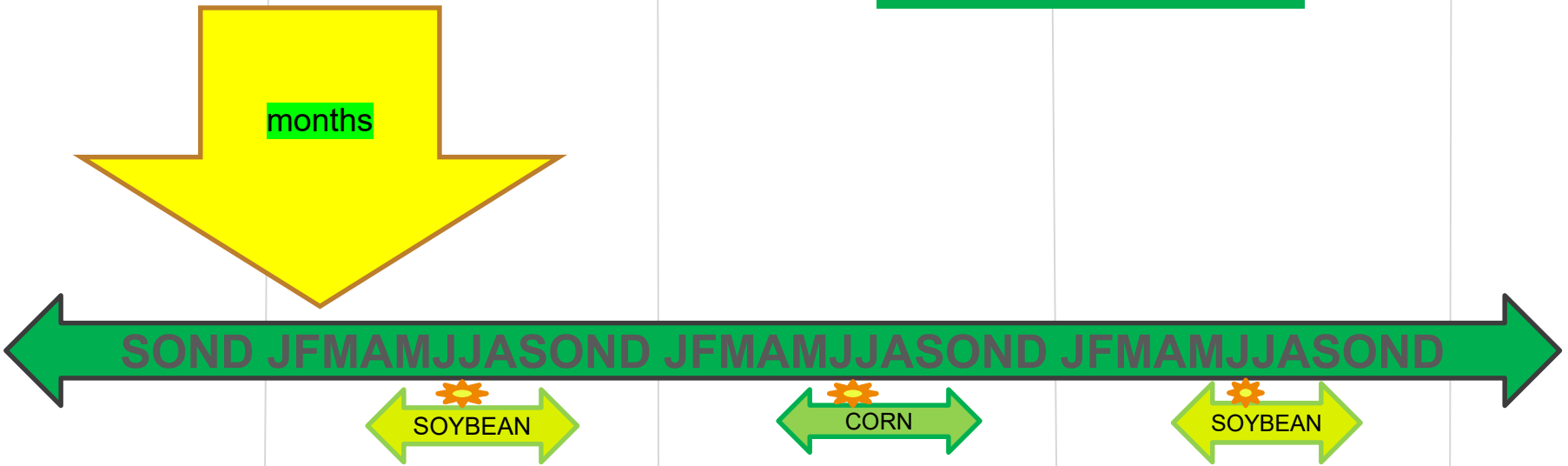
CARBON SINK TIMELINE

= PEAK CARBON SINK PERIOD

Special thanks to :
Dr Kris Nichols
For triggering this series



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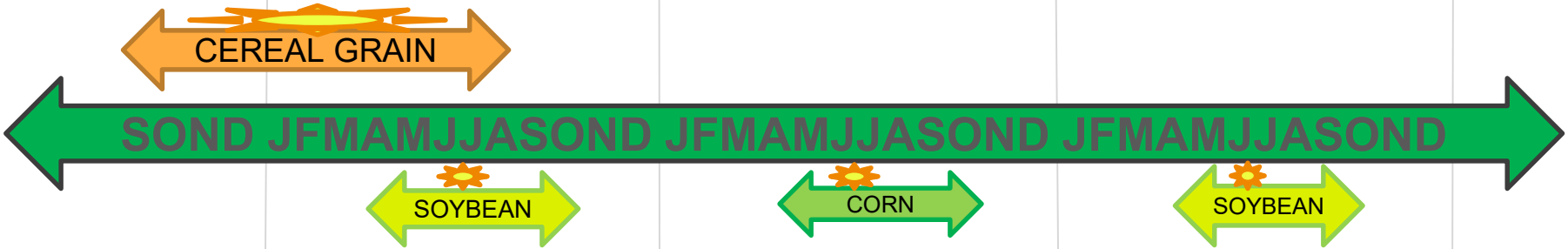

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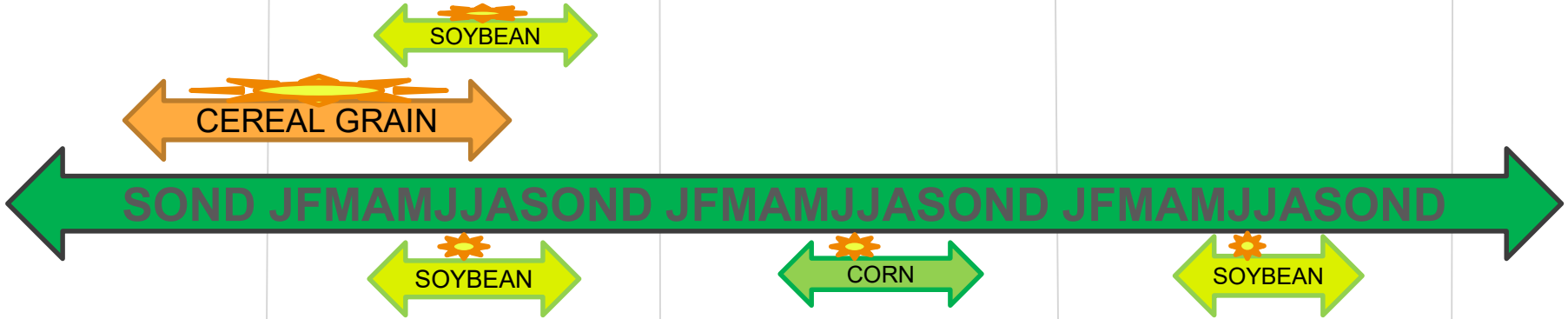

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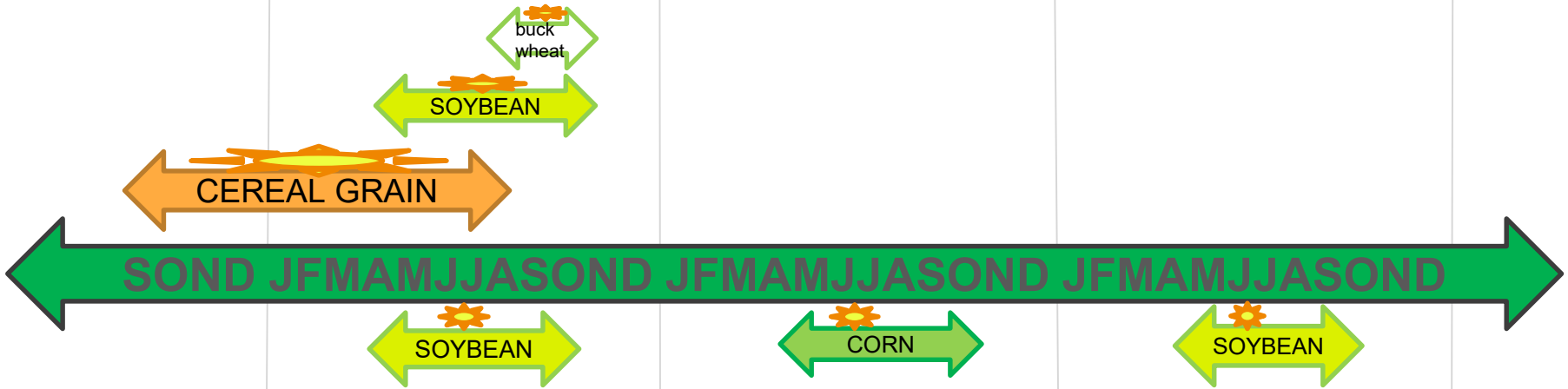

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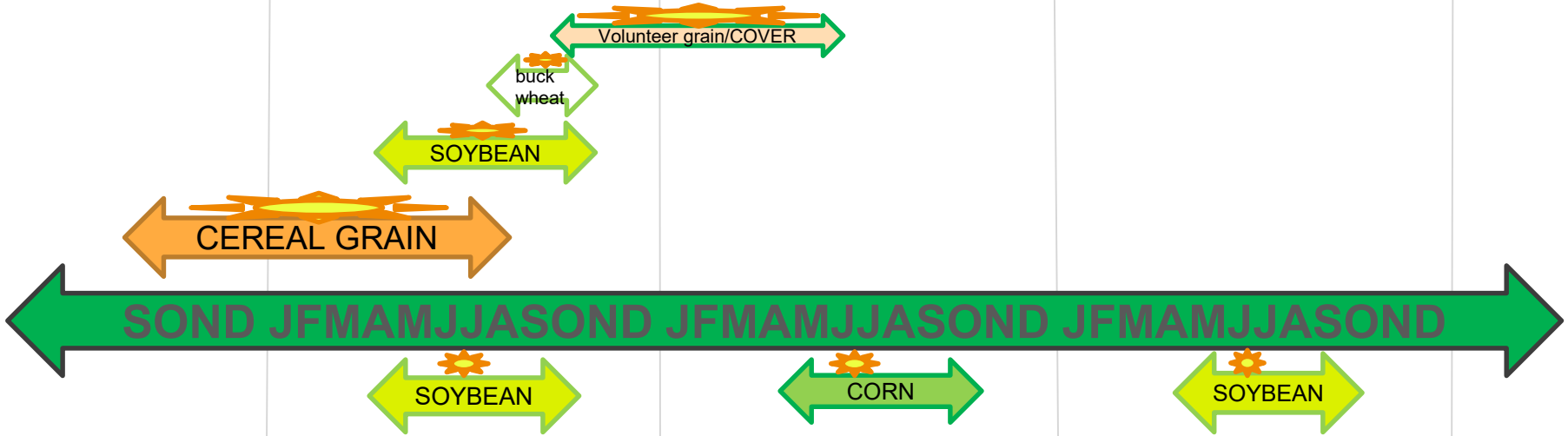

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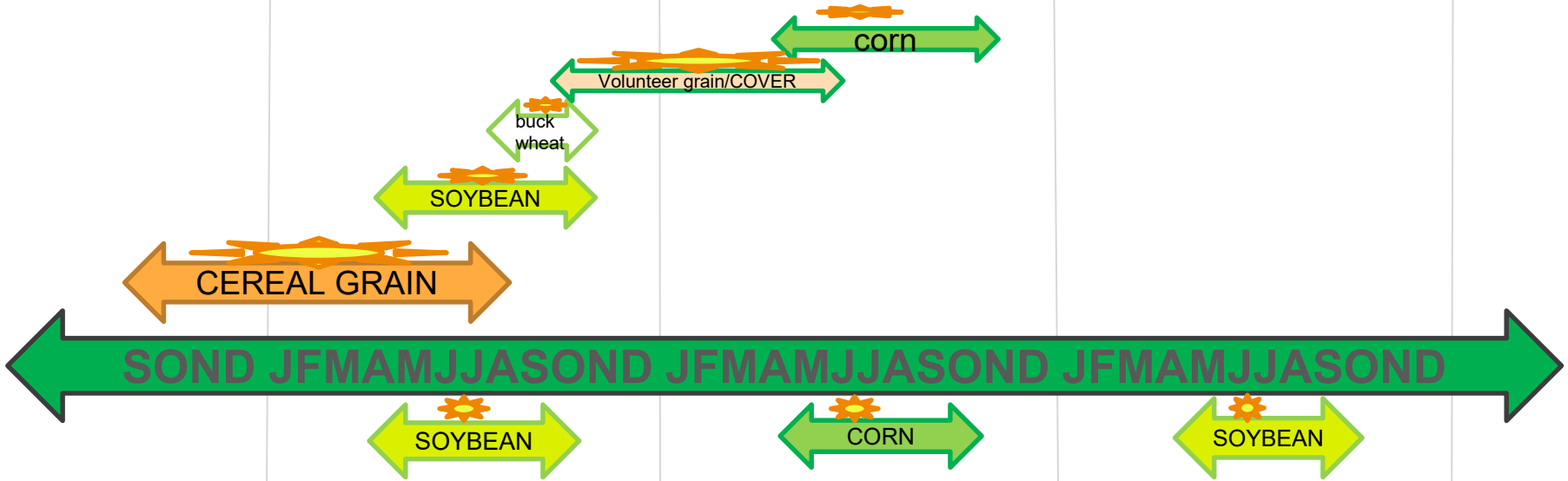

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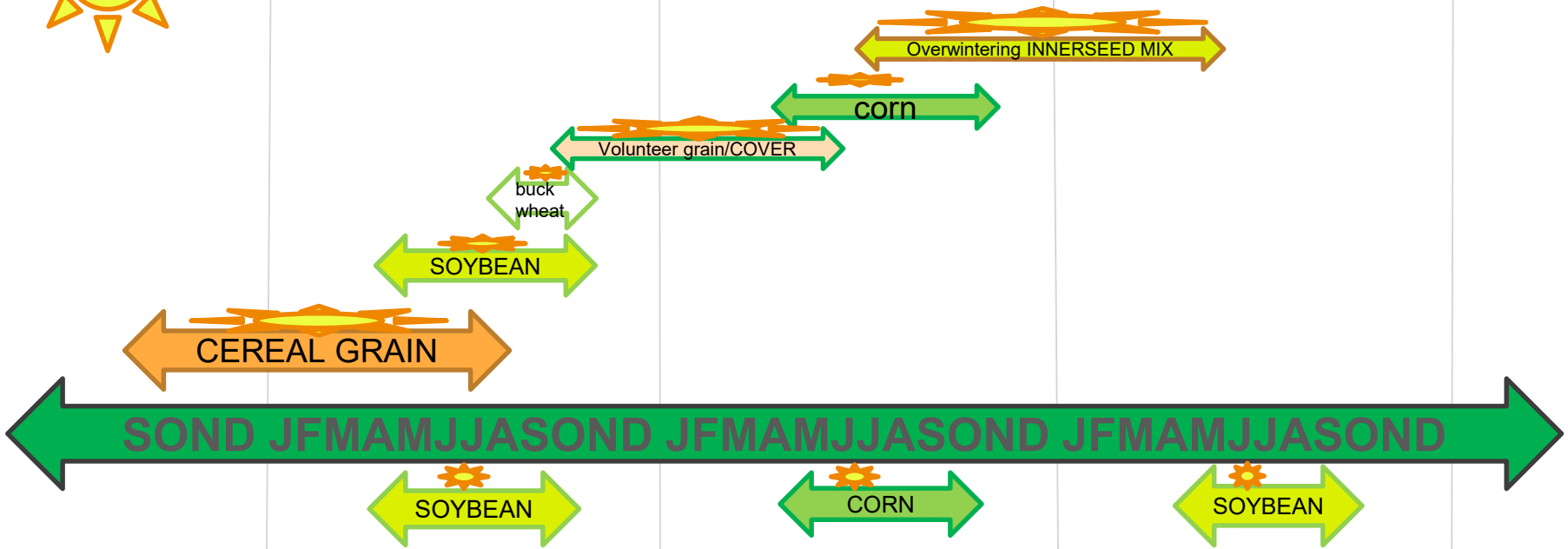

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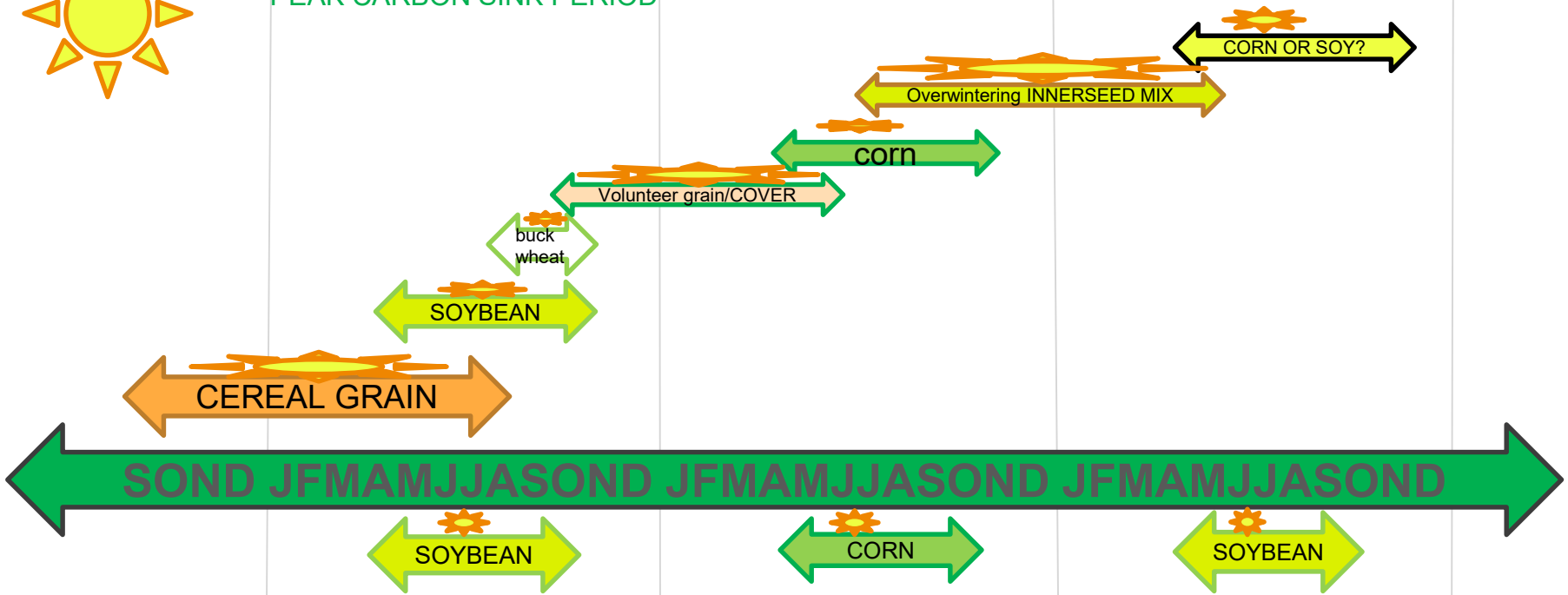

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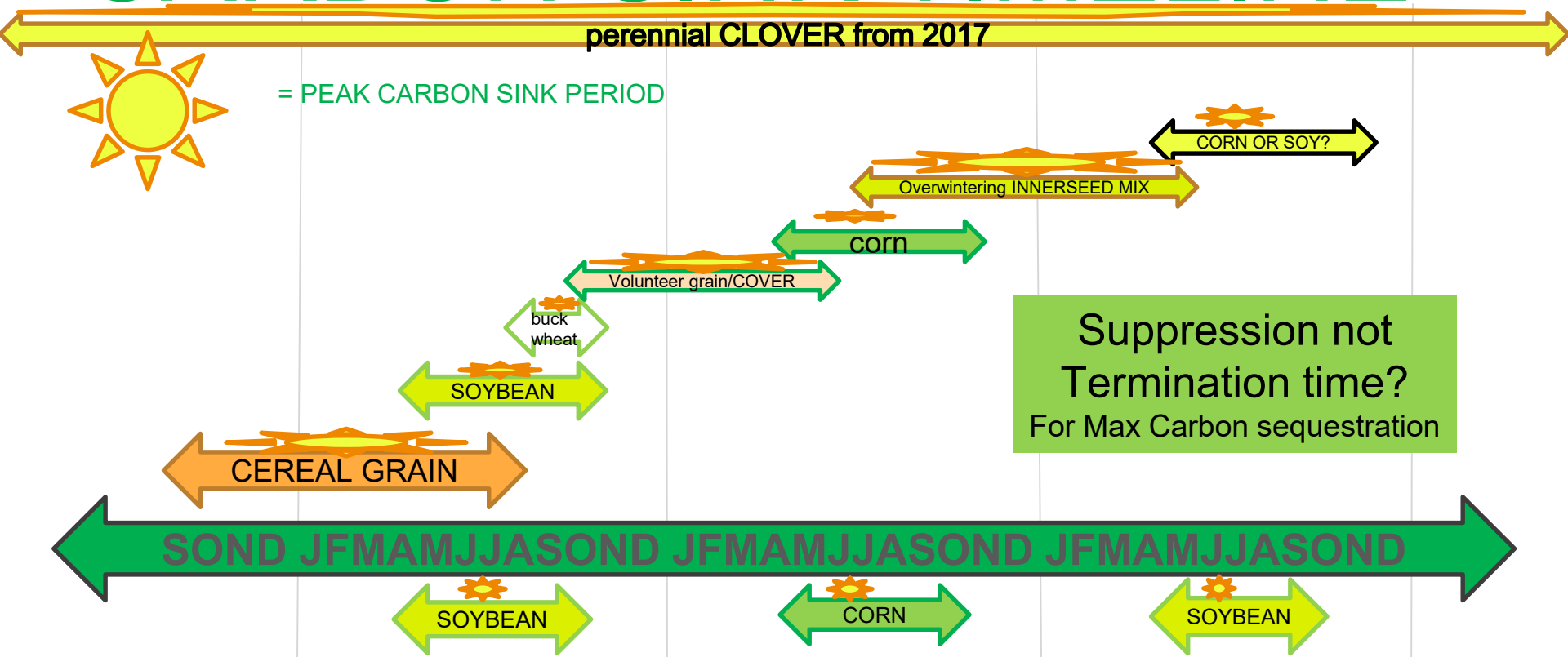



I'll leave you
with this thought
imgflip.com

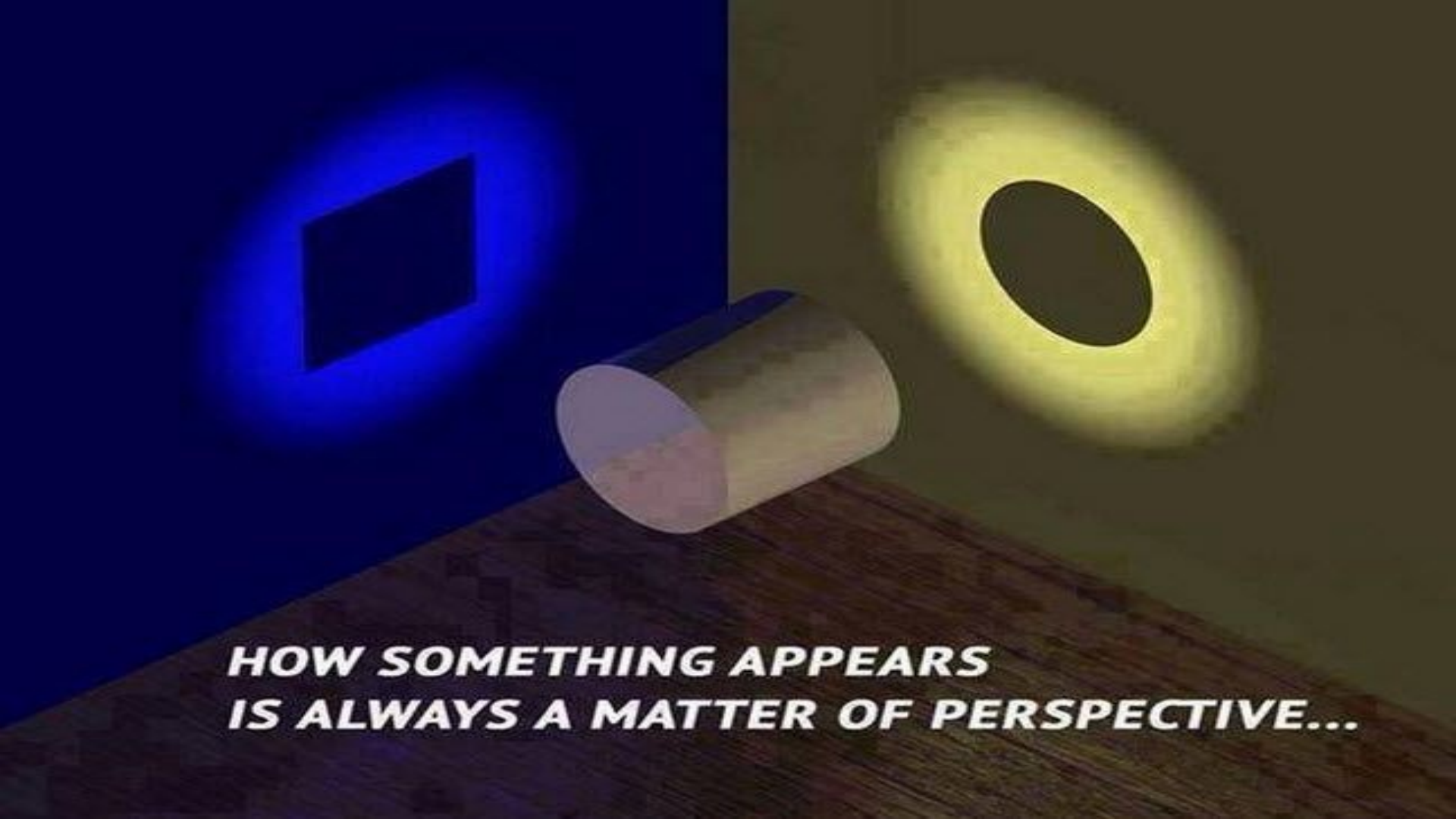
WHEN THINKING ABOUT

LAW OF THE MINIMUM

ARE YOU FOCUSED ON THE STAVES?


HOW'S THE CONDITION OF YOUR BARREL?
CARBON CAN PLUG THE LEAKY SYSTEM/BARREL
imgflip.com


WE HAVE A LEAKY SYSTEM
MAXIMIZING SUN/CARBON CAPTURE
HELPS US PLUG THE LEAKS
imgflip.com


HOW SOMETHING APPEARS
IS ALWAYS A MATTER OF PERSPECTIVE...

Loran Steinlage or @FLOLOfarms

(563)380-1149