

Rick Clark Steward

Change is Good!

1



**The future
looks bright.
It takes the
support
from
everyone.
Life is good.**

2



- **Clark Land and Cattle**
- **No till soybeans for 19 yrs**
- **No till corn for 14 yrs**
- **Cover crops for 14 yrs**
- **Farming green for 12 yrs**
- **Epigenetics for 4 yrs**
- **Bio stimulants for 1 yr**
- **On site bio reactors for 1 yr**

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- **9 crop system / plus 1**
- **5600 acres certified organic**
- **Remainder of acres in transition**
- **No starter fertilizer in 9 years**
- **No fungicide in 9 years**
- **No seed treatment in 9 years**
- **No insecticide in 9 years**
- **No P or K in 9 years**
- **No ag lime applied in 9 years**
- **No Nitrogen applied in 4 years**
- **Organic with no tillage**

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The 6 principles of soil health

1. Minimize disturbance
 2. Maximize diversity
 3. Living roots
 4. Armor the soil
 5. Context
 6. Livestock
7. Commitment (maybe add one more)

5

Balance

A symbiotic relationship with mother nature.

6

Take advantage of the free stuff !!



The energy from the sun is powerful and it is free.

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Nutrient Sequestration Cereal Rye

	N	P2O5	0-46-0	K2O	0-0-60	Sulfur	Mg	Ca	Biomass
12" rye	82	15	32	76	133	5	4	11	2000
18" rye	120	20	44	128	213	6	6	18	4000
28" rye	134	30	64	169	281	10	12	31	6800
Dead rye	84	29	64	39	65	3	11	29	3500

Note: Dead rye sample was taken 2 months after termination.

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The Power of Cereal Rye

	N	\$ N	18-46-0	\$ P	0-0-60	\$ K	Total \$\$
12" rye	82	\$91.02	32	\$36.48	133	\$101.06	\$228.56
18" rye	120	\$133.20	44	\$50.16	213	\$161.88	\$345.24
28" rye	134	\$148.74	64	\$72.96	281	\$213.56	\$435.26
Dead rye	84	\$93.24	64	\$72.96	65	\$49.40	\$215.60

100 lbs of rye @ .29/lb = \$29/a N = \$1.11/lb P = \$1.14/lb K = \$0.76/lb

August 1, 2022

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Nitrogen is all around us and it is free.

The air we breathe contains 78.1% N₂

Capture some of that N with legumes

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The power of Balansa Fixation clover

	N	P2O5	K2O	Ca	Mg	S	B	Mn	Zn	Biomass
May 20, 2020	75	30	138	28	6	6	11	95	26	3,800
June 4, 2020	114	56	213	61	12	9	15	80	26	6,800
June 8, 2020	262	87	444	228	40	33	35	46	28	12,700
July 24, 2020	52	15	24	46	7	4	9	40	19	5,400

June 8th sample:

Organic carbon 5200 lbs/a
C:N 20:1

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The Power of Legume Cocktails

	N	\$ N	18-46-0	\$ P	0-0-60	\$ K	Total \$\$
May 20	75	\$83.25	65	\$74.10	177	\$134.52	\$291.87
June 4	114	\$126.54	122	\$139.08	267	\$202.92	\$468.54
June 8	262	\$290.82	189	\$215.46	610	\$463.60	\$969.88
July 24	52	\$57.72	33	\$37.62	32	\$24.32	\$119.66

Cocktail cost = \$33/a N = \$1.11/lb P = \$1.14/lb K = \$0.76/lb

August 1, 2022

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Frost Seeding March 11th 2019

- **30 lbs Haywire Oats**
- **8 lbs Balansa Fixation clover**
- **2 lbs tillage radish**
- **2 lbs Canola**
- **2 lbs Chicory**
- **2 lbs Hairy Vetch**

- **Note: Broadcast with Case IH Air max 70' boom.**
- **Note: This can not be terminated mechanically.**

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Nutrient analysis of frost seeding June 10th 2019

N	P2O5	0-46-0	K2O	0-0-60	Ca	Mg	S
110	55	147	177	295	73	16	23

Note: 5538 lbs DM biomass per acre

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Input Reductions

Input	2011	2022	% change
Diesel fuel	30,011 gal	15,460 gal	48.5
Horsepower	3350	1200	64.2
Synthetic N	220 lbs/A	0	WOW!
MAP	330 tons	0	WOW!
Potash	400 tons	0	WOW!
Lime	2100 tons	0	WOW!
Chemistry	\$74/A	0	WOW!

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Money in your pocket!

Diesel fuel	\$ 62,000
Synthetic N	\$ 605,000
MAP	\$ 334,000
Potash	\$ 347,000
Lime	\$ 126,000
Chemistry	\$ 483,000
Seed	\$ 105,000

Total \$ 2,062,000

Note: The total dollar amount is repeated every year.

August 1, 2022

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Good Data



Good Decisions



Position of Strength

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Continuum Ag

TopSoil Tool

Mitchell Hora

Continuum.Ag

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**Rick Haney
and Jason
Snaveley.**

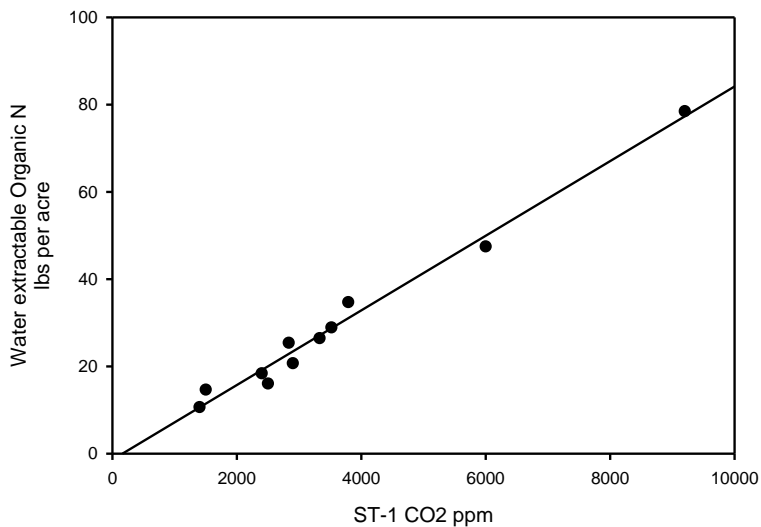
[Jason@dropti
newwildlife.com](mailto:Jason@dropti.newwildlife.com)

**C: 570 204
4064**

**Permission from Dr. Rick
Haney. The Legend.**

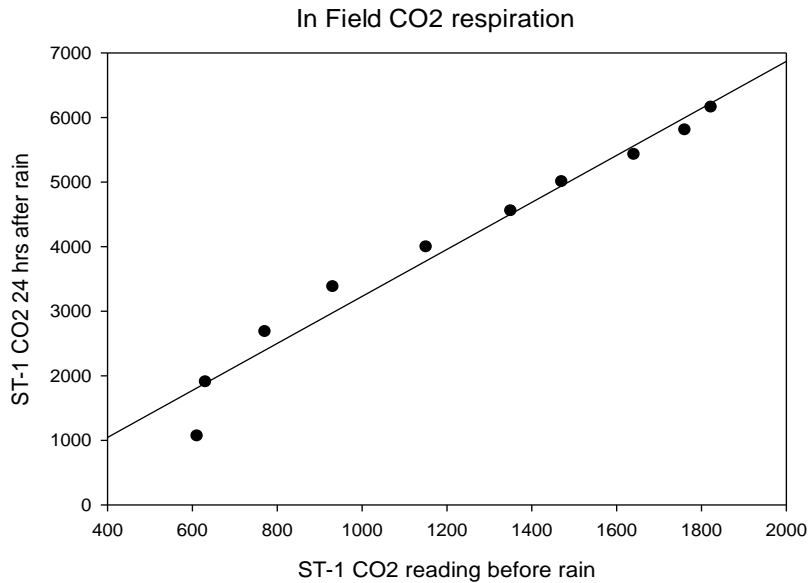
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Preliminary ST-1 CO2 vs Organic N



**Permission from Dr. Rick
Haney. The Legend.**

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Permission from Dr. Rick Haney. The Legend.

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Epigenetics

Heritable phenotype changes that do not involve alterations in the DNA sequence. These phenotypic trait changes may result from external or environmental factors or be part of normal development.

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Maslin

A mixture composed of different species of grains. We are doing this with rye, barley, and wheat. This is a 3,000 year old tradition.

23



Johnson Su bio reactor. This is the beginning of our biology journey.

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**No till
soybeans into
cereal rye at
boot stage.**

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**Rolling rye at
anthesis,
while
soybeans are
V2 growth
stage.**

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June 2nd

Rolling cereal rye ahead of the soybean planter. We did this because the rye was 72" tall and it lodged. Again, constantly being flexible to change plans.

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July 16th

Absolutely amazing. No inputs of any kind.

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No till planting corn into standing alfalfa. This is the 2nd pass of the 3 pass system. This is much more difficult than it looks. You need corn with good vigor to handle this challenge.

29



Roll crimping the alfalfa when corn is at growth stage v2. We know this will not terminate the alfalfa, but we are trying to give the corn every competitive advantage we can. This is also the 3rd pass of the system.

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August 2nd



This is the final product of the 3 pass corn system. I am hopeful of this system for corn production.

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If you are not uncomfortable with what you are doing, then you are not trying hard enough to change.

I challenge everyone here today to get a little uncomfortable. I think you will like how it feels.

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I am proud to be a farmer.

But, I am more proud of the way I farm.

Regenerative Organic Stewardship
With no tillage

Thank you.

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Farm Green Podcast

Live Thursdays 7:30 ET

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Thoughts

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