

Implementing soil health and regenerative ag practices in the most arid state in the U.S

Alfalfa, Corn, Hemp, and Cows



My Story

- Family farming conventionally in Nevada for 5 generations; 165 years
- Alfalfa, silage corn, small grains, hemp
- Primarily flood irrigation, but also sprinklers and drip.
- I am a farmer, former crop duster, corporate pilot, and soil health advocate.
- Began my conversion to regenerative agriculture out of necessity in 2015

Member of EOV

EOV is Ecological Outcomes Verification

It is a part of the Savory Institute

We have 25 short term and 5 long term monitoring sites

Short term we look at every year

Long term is every 5 years

Quantify diversity, ground cover, litter, dung decomposition, water infiltration rates, soil samples, soil biology, etc.

This is what I used to be proud of.





My Progression Into Regenerative Ag

Started with minimum tillage

Progressed to no-till

Incorporated cover crops

Allowed and encouraged diversity

Integrated Livestock

Progressed to No Till No Till Planting Hemp into alfalfa









Truly Integrated Cover Crops



Corn with winter cover crop roller crimped

Teff and Sorghum Interseeded into Alfalfa



The Kids Loved the Diversity in the Pastures

Grazing

- With prescriptive, adaptive, and intensive grazing we are able to do a lot of things:
- Control noxious weeds
- Increase soil health, which leads to increased water quality
- Increase animal health
- Protect riverbanks and manage riparian areas



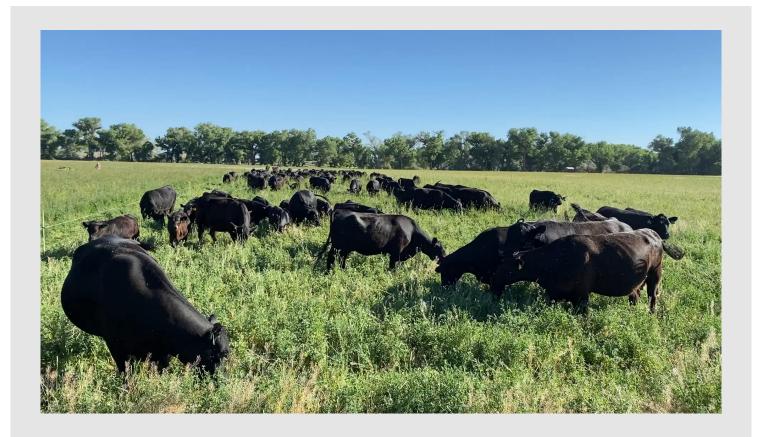
Strip Grazing and Haying Teff, Sorghum, and Alfalfa Blend







Future Plans



- Evolve from a hay and corn farmer to a diverse perennial species grower and grazer
- Add more pollinator strips
- Continue to eliminate fertilizer and pesticides
- Start a grass-fed beef operation
- Greatly expand the chicken operation
- Allow the beavers to flourish and see the benefits in the fields
- Start a vermicompost program to add biology to the land

"There is not enough water in Nevada to grow cover crops".

- This was a statement from the former Director of the Nevada Department of Agriculture last year
- Convincing growers that winter covers are possible has been a battle for us in Nevada
- To me this is like saying you don't have time to get the oil changed in your car...
- If we don't have enough water, it is because we have destroyed soil health and loose water to evaporation.
 The Carson Valley is a great example of this as are most remote Nevada ranches.
- In reality, cover crops conserve water and build soil health, and increase water quality
- I actually start cover crops without irrigation in the driest spot in Nevada, which is one of the dries spot in the United States.
- We need to change this mindset. Not only do cover crops do everything previously stated, they give the producer options.

what are your options here:

Marka Arta

Torner Strike



Producers Must Change Their Mindset Conventional Mindset

- What can this ground give me now with minimal inputs
- NPK is all I need
- The more inputs, the more yield
- Super size it. We need more tonnage

- Regenerative Mindset
- Not about quantity
- It's about quality
- Not a competition with neighbors
- It is about profit and longevity

Producers Point of View Needs a 180° Change

- No longer linear, straight edges, weed free, manicured, etc.
- Must learn to see beauty in diversity, this may mean welcoming "weeds" into your field.
- Not always look to a prescribed bottle or bag of something from the farm supply store to fix everything
- Best to integrate livestock into the operation.



Work With Nature, Not Against

- Constantly spraying field edges
- Spraying weeds out instead of letting them help
- Introduce other seeds to control what you don't want
- Something grown that is not intended is Mother Nature telling you something is wrong. Listen!



Producers and Educators Need to Keep An Open Mind

- If you don't think it will work, it won't
- Be intentional about how we teach, and recommendations we make.
- Baby steps are important in getting producers to change habits.
- They need to be successful on the first attempt.
- Throw out the old rulebook of "this is how we always do it"
- The calendar has no place in nature. We need to farm with the conditions instead of with the calendar.