



# Restoring Soils With Plants and Bison

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Sunset Bison Ranch  
@sunsetbisonsask



# Sunset Bison Ranch

**No history of soil conservation**

**Grey wooded soil zone**

**Tillage and low chemical use**

**Previously sowed with a one way  
disc drill**

**1-3% organic matter starting point**









# Restoration Agriculture





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# Soil Armour



# Plant Diversity





**Starting Point**





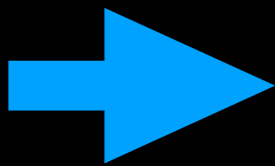
# Field #1

## Field history

2015 spring termination, broke up grass, sowed oats, swath grazed

2016 spring desiccation, cultivate, sowed a 7 species blend, swath grazed

**SPRING 2017**







June 2017







November 2017





April 2018





**June 2018**  
**Planting perennials with an oat**  
**cover crop**









## 2 Years Without Tillage





November 2018







**Fed about 110000lbs of animal/acre  
Minimal fertility added**





**Spring 2019**





**Spring 2019**







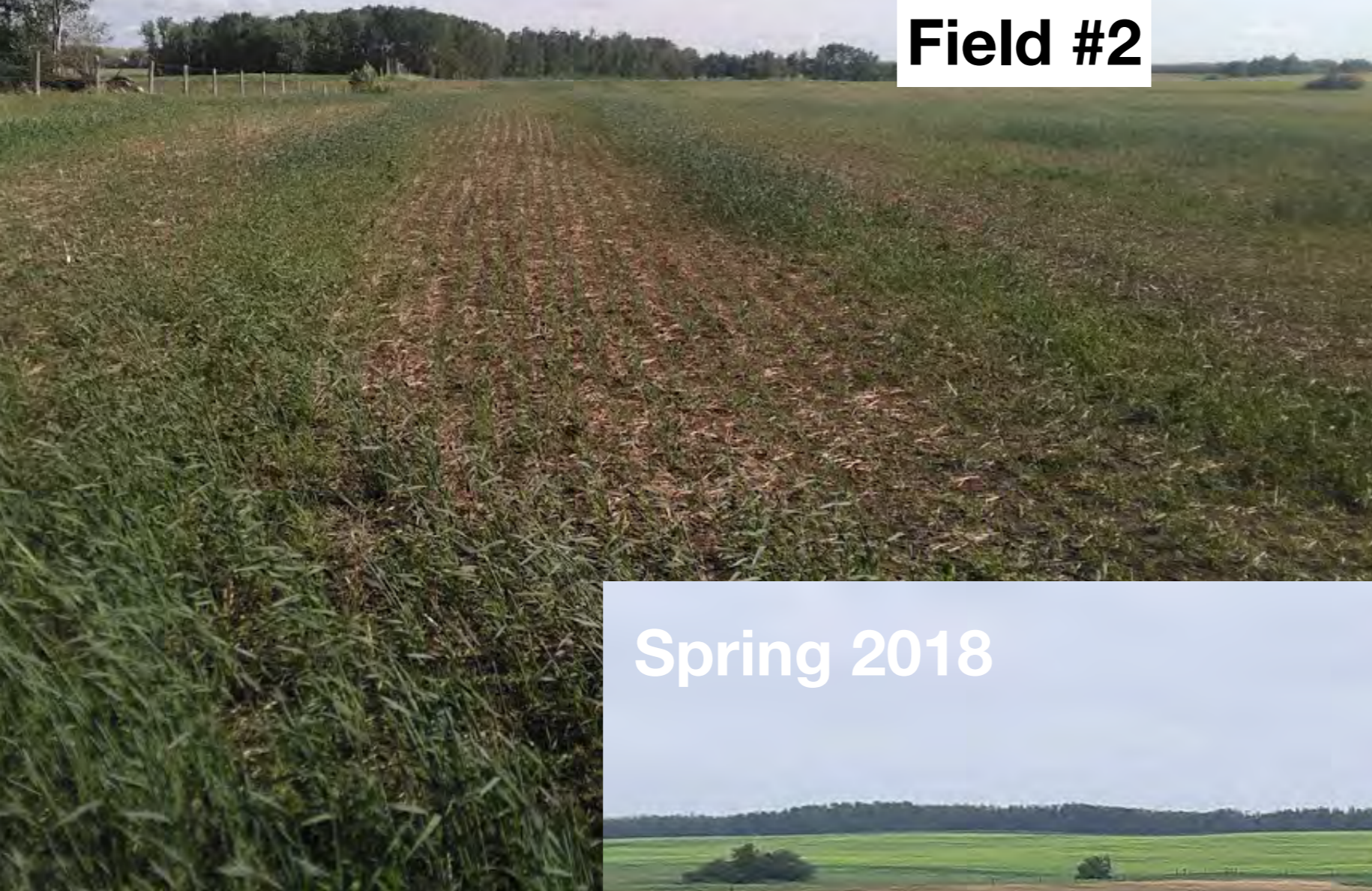




July 25, 2019



## Field #2



### History:

- `14 Alfalfa/fall kill
- `15 Canola after tillage
- `16 Green feed blend, no till
- `17 Green feed blend/  
winter triticale

Spring 2018



**Problems:**  
**Under 2% organic matter**  
**Poor water infiltration**  
**Bacterial**  
**Compaction**

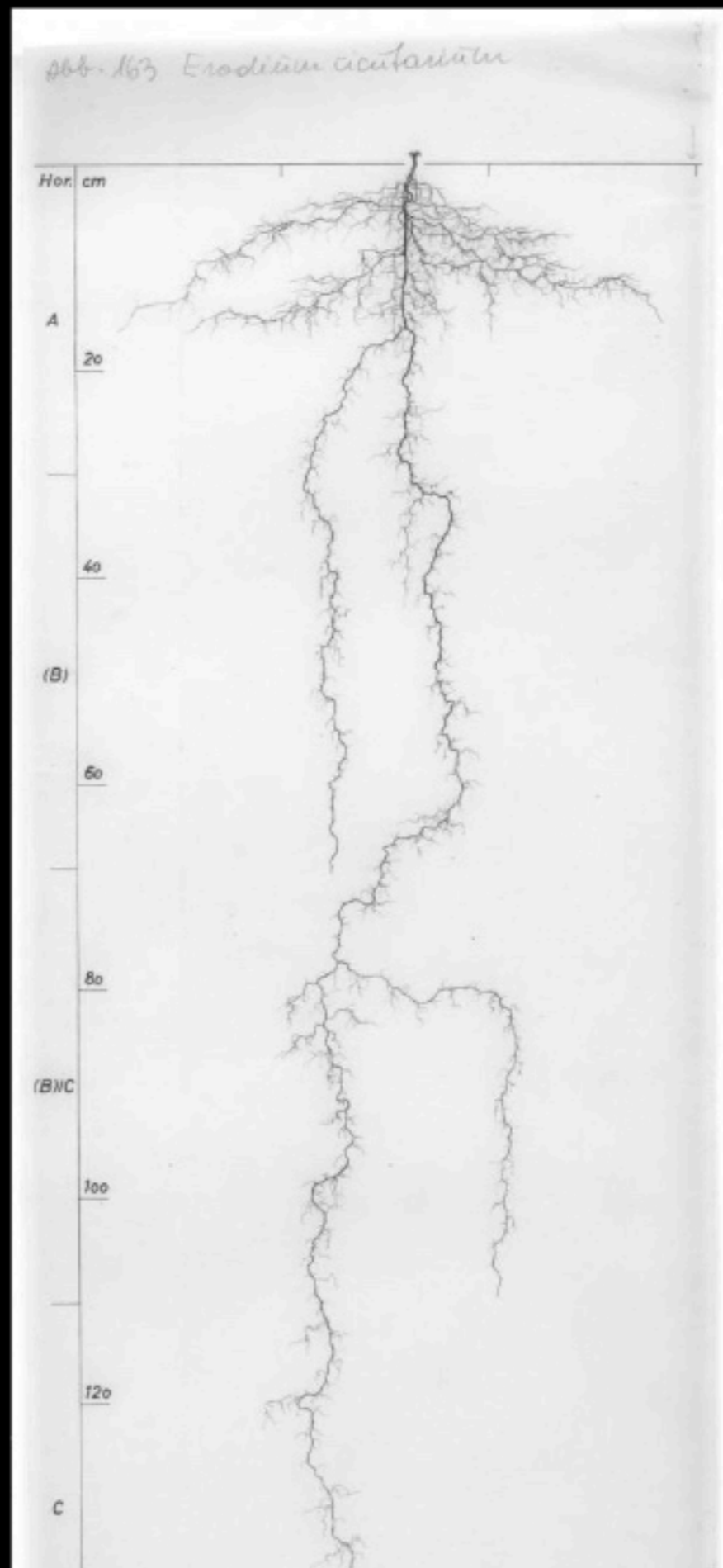


Spring 2018  
After 2 years of no till





# Storksbill

























**Field #3  
Pasture Rejuvenation**





Year one  
Sprayed then sowed 3 days later







**Year two  
sowed, sprayed 5 days later**



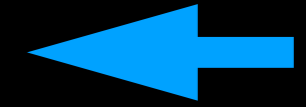








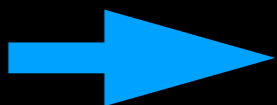




**June 16 with  
regrowth  
from the previous  
year**

**Plantain  
Chicory  
Red clover  
Winter triticale  
Some perennial  
grasses**

**Aug 21**















**Herbal Ley = forb, legume, grass blend**  
[cotswoldseeds.com](http://cotswoldseeds.com)







**Fun Field  
11 acres**













**Fed about 45000lbs animal/acre  
3.7 dry bales/acre**





**Fed about 45000lbs animal/acre  
3.7 dry bales/acre**





















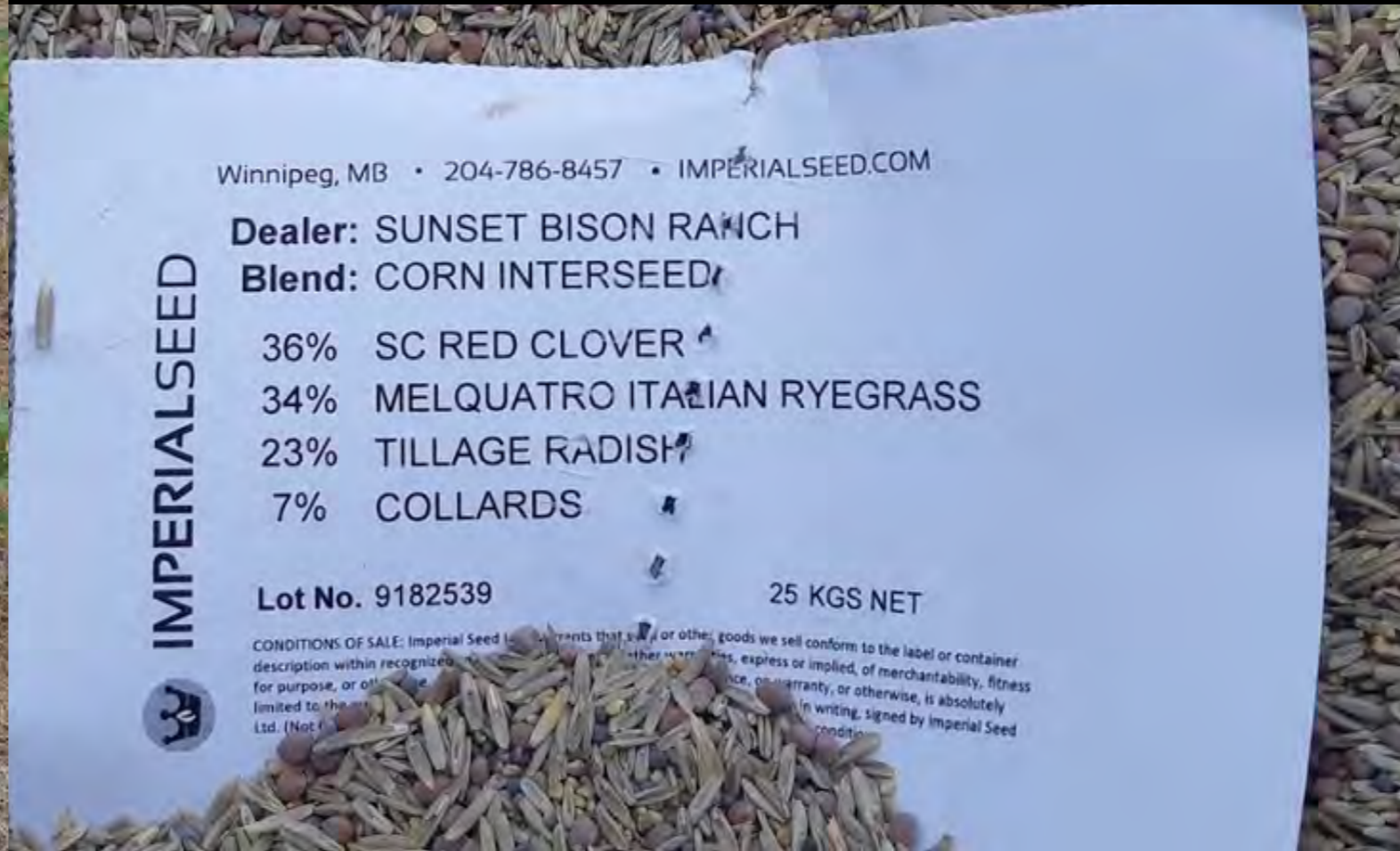
# Corn grazing

## Root benefits of corn





# Corn grazing Root benefits of corn



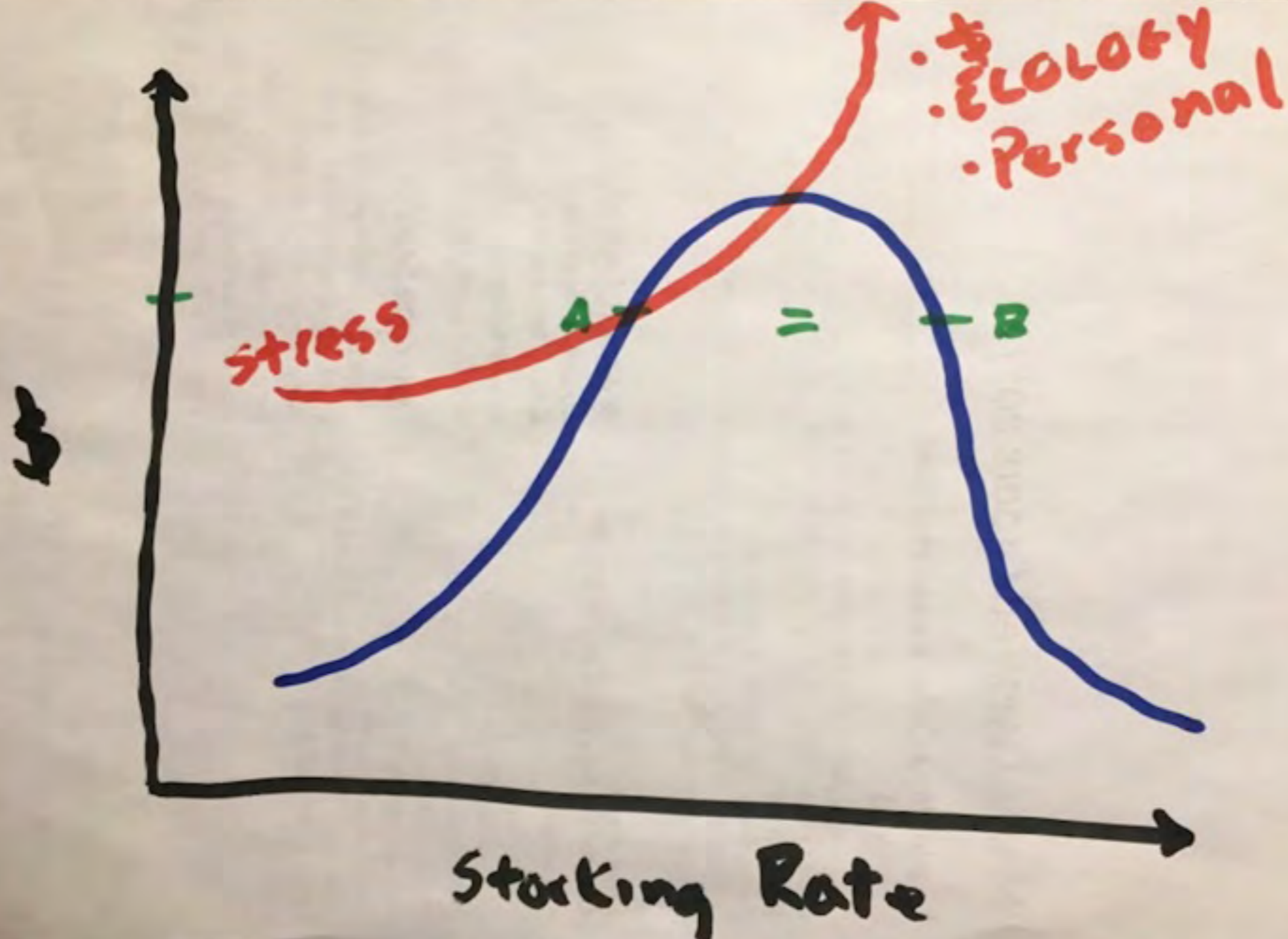














**“Study nature and  
read books, when  
the two don’t  
agree, throw out  
the books”**

**Dr. William Allbright**









Questions???





















“If you have more carbon entering your soil than leaving, your kids will likely farm your land. If you have more leaving than entering, then it is likely that they won’t.”  
Jay Fuhrer

**Questions???**









Fed about 140000lbs of animal/acre





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**STRESS**  
Ecological  
Personal

**Stocking rate + profit/acre**

