

Fails, Missteps and how to move into Regenerative Farming

Keith Thompson

- Osage City, Ks
- 1st attempted No-till 1974
- Continuous No-till since 1991
- Holistic/Systems thinking 1999



Learning Steps

- Seeders
 - Planter
 - Drill
- Weed Control
- Harvest

Poor & Uneven Seedling Emergence

Problem

- Lack of Good Down force Pressure
- Not closing seed trench
- Seed Tube Wear
- Running Opener blades to long

Cure

- More Springs, Air bags or Hydraulic
- Went to Spiked type wheels
- High wear Seed Tube Guards
- Change Sooner (1200 ac)

Maximizing Stands

- Cut the residue
- Placing the Seed
- Firming Seed
- Close seed slot with loose soil above the seed
 - "The soil to seed contact should be controlled with a seed firming device such as a seed firming wheel rather than by firming the covering soil..."
 - Lyle Carter USDA-ARS Ag Engineer published 1990





2000



2016



Live Roots

2000

2017



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Introduction to Natures System

- Rotations
 - Intensity
 - Diversity

Rotation Ideas

- Stack C or M - Soy
- C or M – Soy – Wheat – Soy
- Stack C or M – Soy – Wheat – Soy
- Stack C or M – Soy – Wheat (DC) – Soy
 - Double Crops (Corn – Milo- Soybeans - Sunflowers)
- Stack C or M (cover) Soy- (cover) – Wheat (cover, DC or forage) – Soy (cover)

Bare Soil – Residue moves around



Changing Step Arrangement

- Diversity
- Intensity
- Rotations

Diversity with Intensity – directs one's rotation's

- **Consider The Synergy Between**
 - Diversity
 - Intensity
 - Rotation

Covers

- Controls weeds
- Controls Insects
- Controls fungus
- Stops soil loss

Early Rotations

- Started out rye only
- Moved to multi mixes
 - Cool – warm season mix's
- Match to what you wanted to accomplish with them
 - Soil protection
 - Grazing
 - Nutrient recycling













Oat/Spring pea Cover Trials



Cocktail Effect

Starting out

- One Species
- Warm Season and Cool Season Mixes

Improving

- Mix of plants
- Combination of 5 Species
 - Grasses, Cereals, Brassicas, Chenopods and Legumes

Covers – Engineered Biodiversity

- Control Weeds
- Recycle Nutrients
- Control Nematodes & Fungal diseases
- Improve Soil Structure
- Reduce Erosion
- Beneficial Insects
- You Grow What You Want Or Nature Will Take Over

Covers and Livestock are The Bridge to soil health

- Stops soil loss
- Controls weeds
- Controls Insects
- Controls fungus
- More Grazing possibilities

Our 1st grazing mix - 2007









Grazing Thoughts

- Worried about Compaction
- Worried about Water
- No Fences
- Problem with Seeding
- Not a Problem
- U can Haul water
- Temporary Fences
- Drive Slower more Down Pressure







Set Up to Success

- Harvest
 - 1st Step to Seeding Success



Stuff to Consider

- Fix field concerns
 - Get field smooth
- Fertility
 - Cover Crops
- New Head – Natures System

Thanks

