

# Cover Crops and Cattlemen

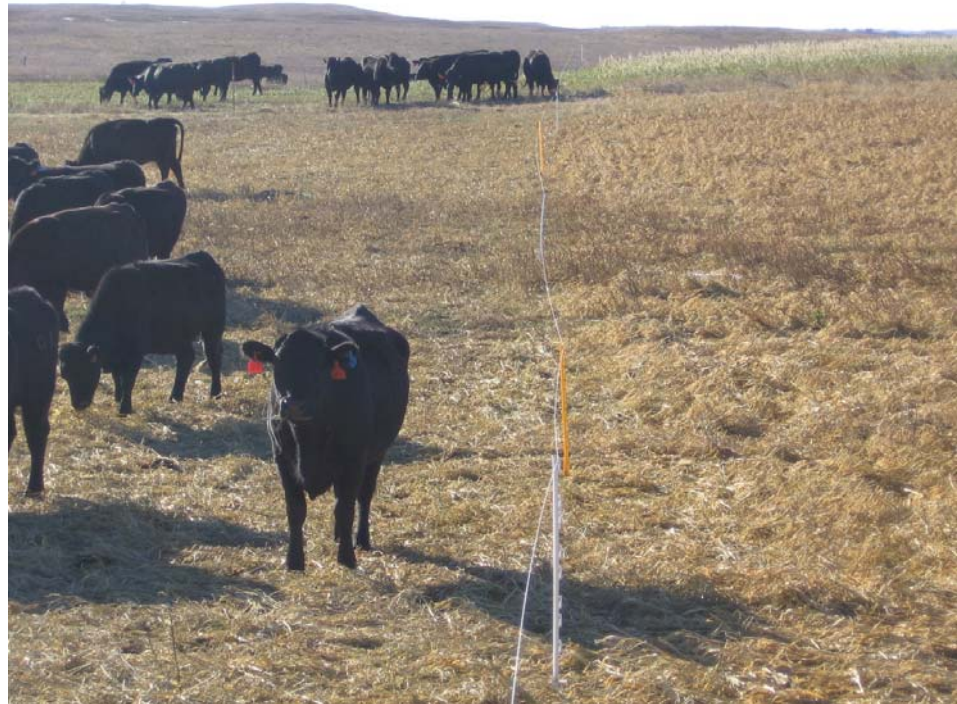
John Dhuyvetter

NDSU - NCREC

Minot, ND

## Steps to Soil Health

- Least disturbance
- Cover/litter
- Diversity
- Active roots
- Livestock



# Resource Concerns

## Soil Protection

water wind erosion

## Soil Structure

Aggregate stability/bulk density

## Soil Fertility

Organic matter/microbial life

## Water Management

infiltration – use – salinity

## Wildlife Enhancement

habitat/food

## Cattle Feed

cost competitive/performance



# Cow Feeding Costs

## Summer Pasture

$\$25\text{-}35/\text{AUM} = \$0.83 \text{ to } \$1.16/\text{day}$

## Stalk/Aftermath Grazing

$\$15/\text{AUM} + \text{Supplement} = \$0.67/\text{day}$

## Winter Hay

$40\text{lbs} \times \$0.03/\text{lb} + \text{yardage} = \$1.45/\text{day}$

## Annuals for Grazing

land	50
spray	10
seed	40
fence, fertilizer, opportunity	??

Total Cost \$50 - 100/acre+

Breakeven relay crop 33-44 days

Breakeven primary crop 66-88 days





# Cover Cropping Opportunities

**Full Season** – planted in late spring/early summer as primary use

Diversity - warm season grasses – sudan, sorghum, millet, corn

warm season broadleaves – soybean, sunflower, sun hemp, cowpeas

cool season grasses – winter cereals, annual ryegrass, oats, barley

cool season broadleaves – peas, clovers, radishes, turnips, vetch

Use - late summer, fall, winter grazing - potential swath graze or hay  
3000-8000 lb production

Limitation- competing with cash crop, late graze cereals with grain set, frost and freeze precautions, quality

“no brainer” for cattlemen on PP with fence(able) acres



# Cover Cropping Opportunities

**Fall Seeded Winter Annuals** – Seeded early fall post harvest for next season use

Diversity – winter cereals – rye, triticale , wheat

biennial legume – hairy vetch, sweet clover

Uses – very limited fall grazing, spring pasture, hay or haylage , followed by a second forage/cover crop  
4000-6000 lb production

Limitations- drop in quality with cereal heading, high production in short window, competes with cash grain crops

facilitates latter turnout on native pastures, high quality lactation ration





# Cover Cropping Opportunities

**Fall Relay** – seeded post harvest in early fall following early harvested crop as hay, barley peas, canola

Diversity – cool seasons grasses – late maturing oat, barley, winter cereal, annual rye grass

brassicas – turnip, radish, canola, sugar beet

cool season legume – peas, lentils, crimson red clover

Use – extended fall early winter grazing production highly variable 0 to 5000 lbs

Limitations – short growing period with emergence dependent on fall moisture, immediate at harvest

extends growing season with high quality feed for late weaned cows



	Hay Feeding	Spring Pasture	Summer Pasture	Residue Waste	Stockpile Pasture	Cover Crop	Swath Graze
JAN							
FEB							
MAR							
APR							
MAY							
JUN							
JUL							
AUG							
SEP							
OCT							
NOV							
DEC							



## Beauty of Brassicas



## Limitations of Warm Season Grasses



## Swath Grazing an Option

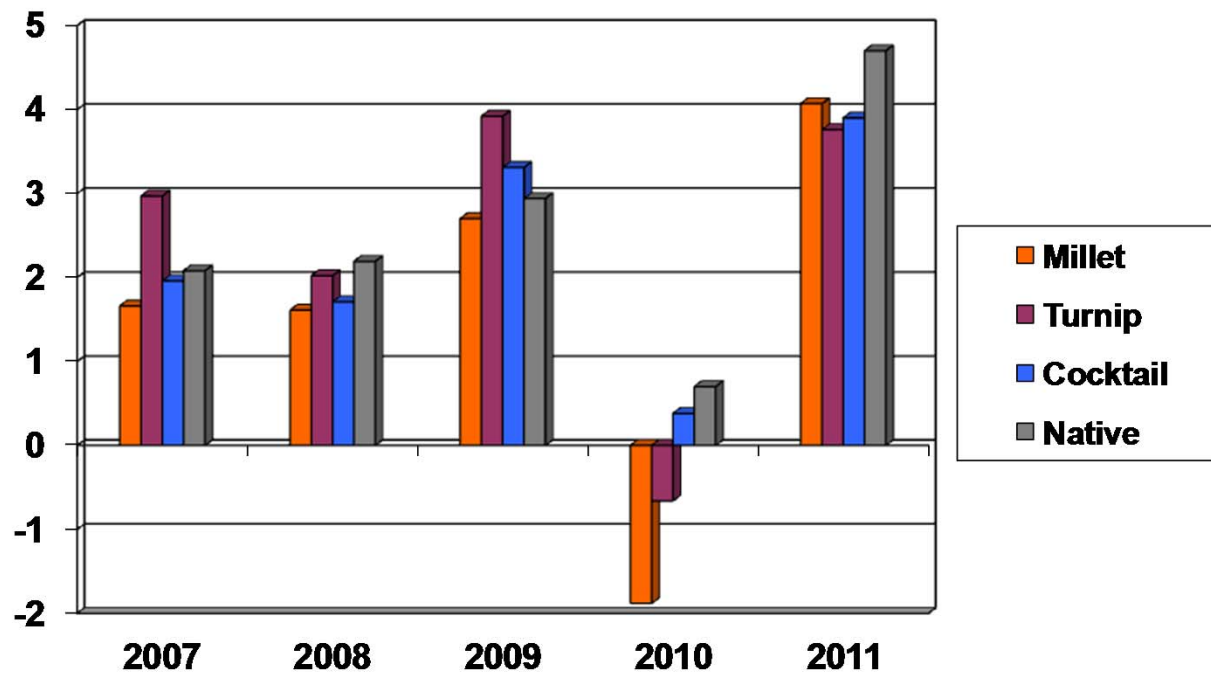


## Corn Grazing an Option





## Animal Performance



Grazing Efficiency ?



## Some Animal Health concerns and Risks





## Diversity vs Monoculture





## Crop Choices A Seeding Mix



# Other

Volunteers and weeds going to seed

Herbicide residual

Planting depth - establishment

“pugging” and compaction

Excessive residue for planting

Seed cost and availability

Crop insurance regulations



Cover cropping can provide agronomic and soil benefits  
The biomass produced can both feed the soil and cattle

Cover cropping and livestock go together  
It's a win-win for cattlemen