Late Season Grazing:

What you need to know to extend your grazing season

Valley Stewardship Network

Arin Crooks

University of Wisconsin-Madison

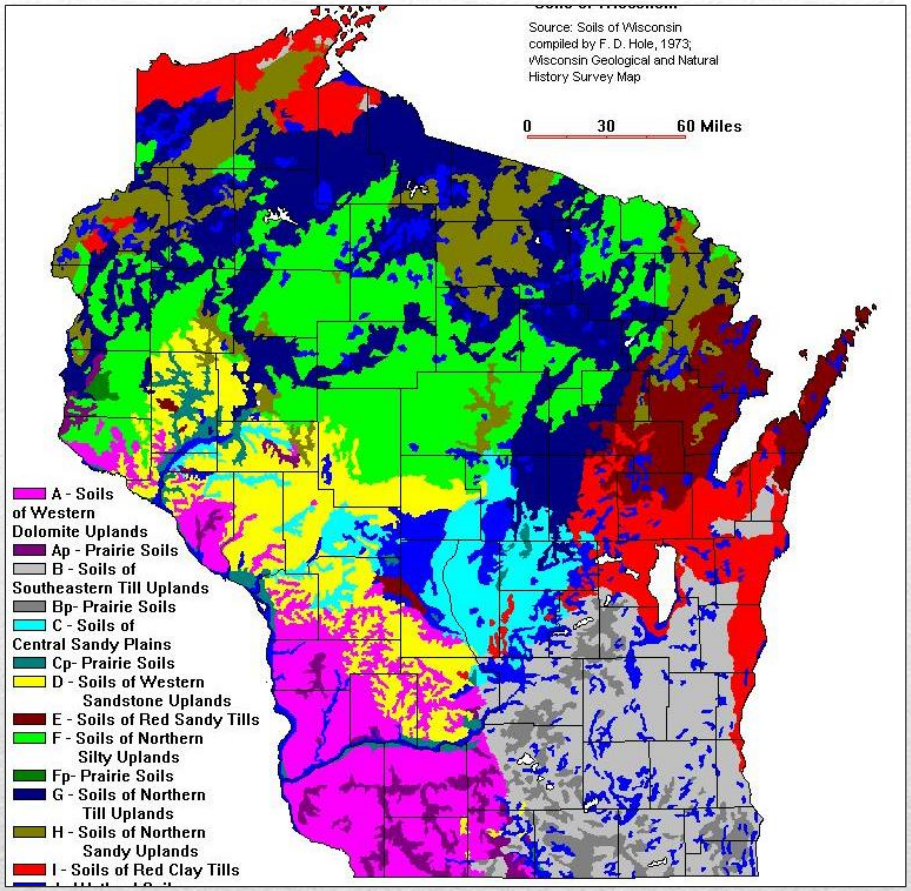
Lancaster Agricultural Research Station

Arin Crooks

- **We are a satellite facility of UW-Madison College of Agriculture & Life Sciences**
- **1 of 12 different Ag Research Stations across Wisconsin that serve CALS**
- **Carryout Research for UW-Madison Faculty in primarily beef, grazing & agronomy areas**
- **Provide specific information for SW WI**

Lancaster Agricultural Research Station (LARS)

UW ARS Locations



The Reason for Multiple Research Stations

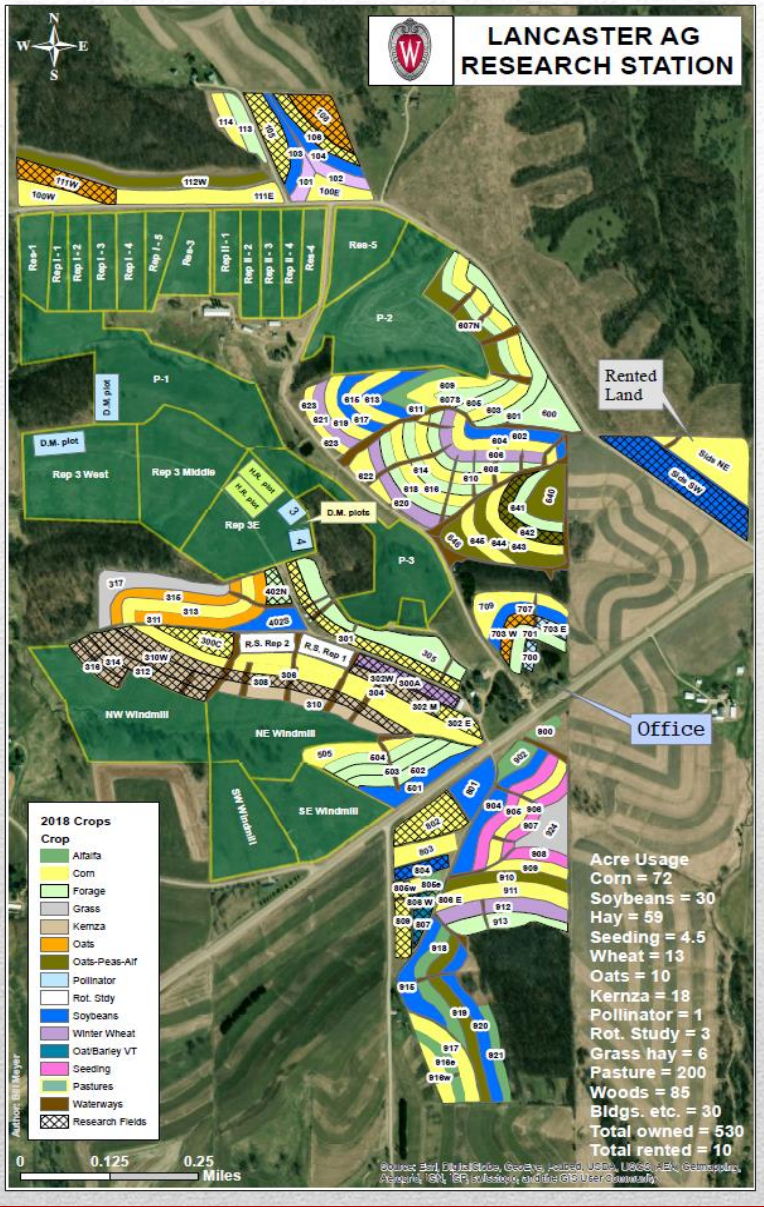
- Began in 1963 in cooperation with USDA-ARS
- Focus on conserving soil in steep terrains of area
- Only research station located in “Driftless Region”
- Continued interest from surrounding states

Lancaster ARS

- 40-50 different research projects annually
- 530 acres total including 220 crop acres & 200 acres pasture
- Research areas include: Agronomic Crops, Conservation, Beef, Grazing, etc.

Lancaster ARS

Lancaster ARS Map



- Also have Outreach as part of our mission
- Field Days, Trainings/Schools, Host Tours for Classes, Producers, Professionals, and all others
- Have been home for Regional & State UW Extension Agents
- Collect weather data for National Weather Service

Lancaster ARS

- Dual function performing research and production
- 1/3 of crop acres are in research
- Beef Cattle may only have one aspect for research such as nutrition, genetics, or reproduction

Lancaster ARS

LARS Virtual Tour

LARS Aerial View

Beef Barn & Lower Buildings

Inside Beef Barn

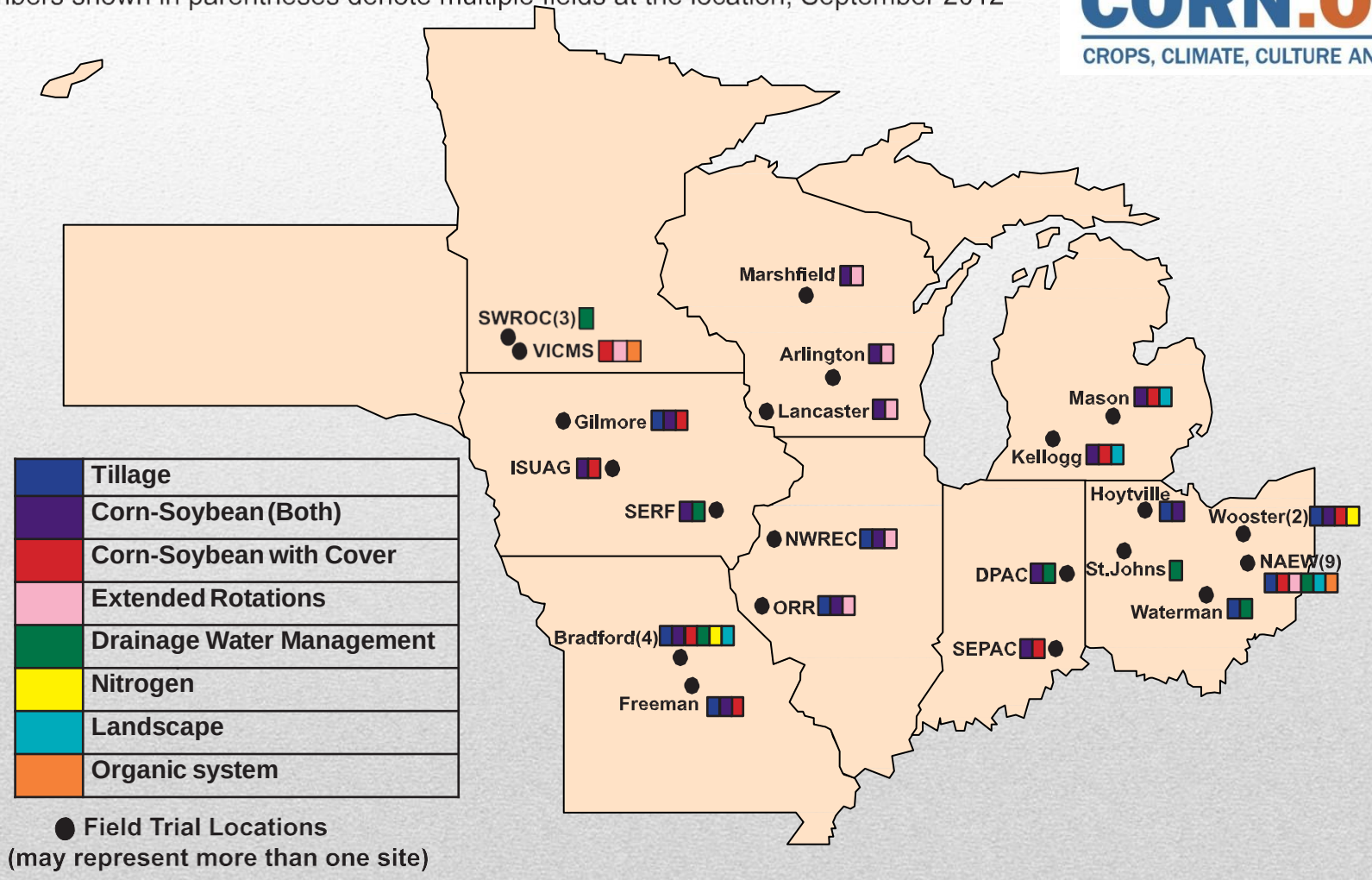
Crop Rotation Study

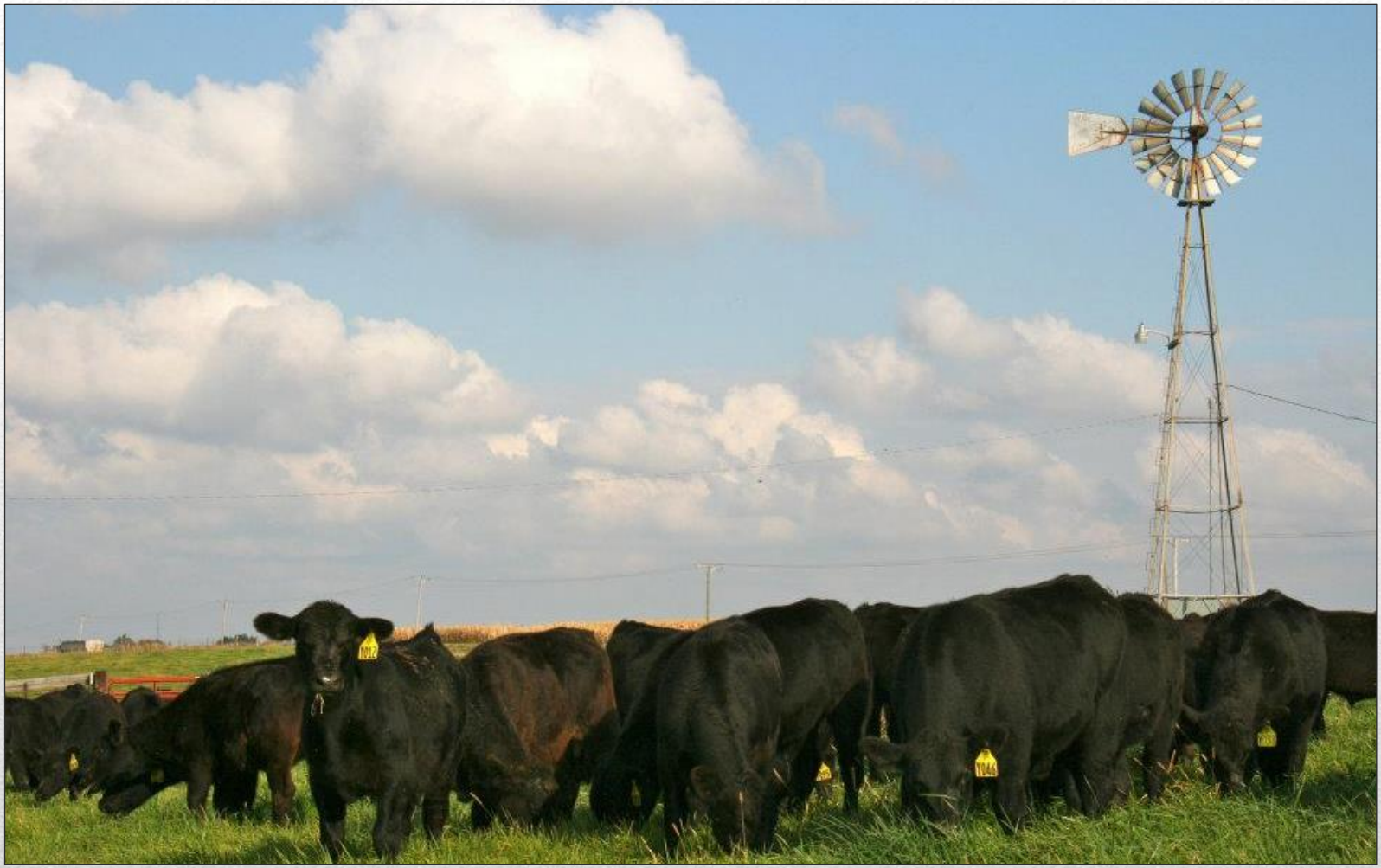
Current Rotation Study Project

Cropping Systems Coordinated Agricultural Project (CSCAP) Field Research Network

Numbers shown in parentheses denote multiple fields at the location, September 2012

SUSTAINABLE CORN.ORG
CROPS, CLIMATE, CULTURE AND CHANGE





The Windmill

Feedlot Mound

Cow Winter Area

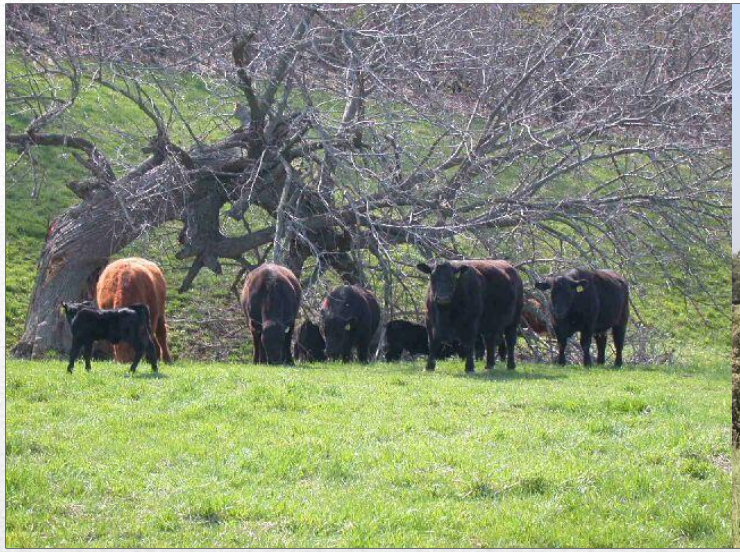
- Grow Corn, Soybeans, Small Grains, Alfalfa & Other Forages
- Site for Crop Variety Trials
- Home to Famous Long Term Crop Rotation Study
- Research with tillage, forages, herbicides, etc.

LARS Crops

Crop Research

More Crop Research

More Crop Research



- 120 head of Commercial Angus Beef Cows
- Calve in Spring – April through June
- Additional Replacement Heifers and Other Feeder Cattle
- Nutrition, Genetics, Reproduction, Management, Grazing

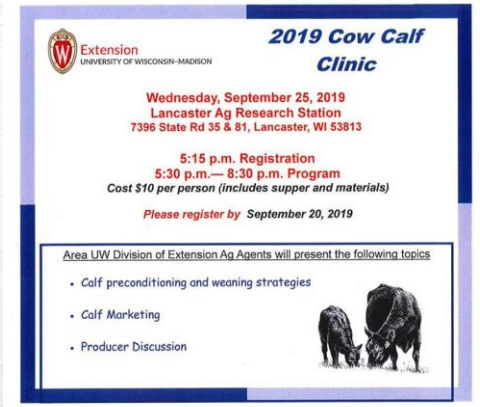
LARS Beef Cattle

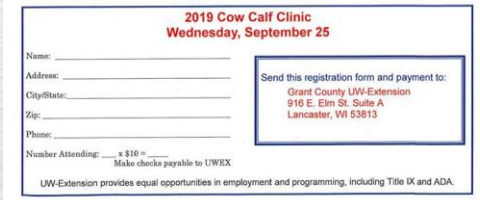
Beef Cattle

Calves and Calving

Cattle Work

Grazing Research



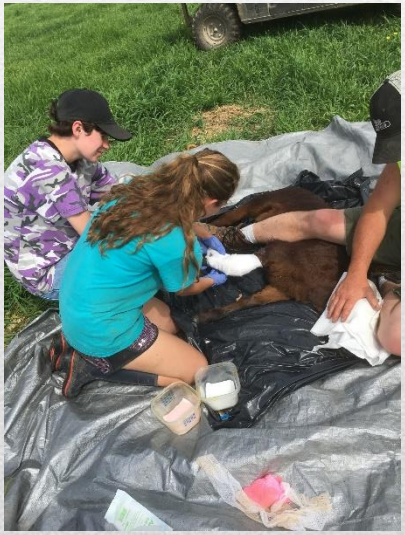


LARS Field Days

LARS Field Days

LANCASTER RESEARCH STATION
UNIVERSITY OF WISCONSIN-MADISON

- 3 Annual Summer Internships
- 2 Cattle and 1 Crop Related
- 1 position from SWTC
- Other 2 open to any student



Internship Opportunities

And on to the rest of the Presentation…

Late Season Grazing: What you need to know to extend your grazing season

Something we can probably all agree on in Spring!

Benefits of Extending Grazing Season

- Lower Feed Cost
- Less Need for Bedding and Housing
- Reduce Labor
- Make use of otherwise wasted resource (crop residue)
- Environmental Benefits
  - Reduce soil erosion
  - Build up soil fertility and structure
- Part of pasture renovation or another cropping system

Extending Grazing Season Forage Options

- Stockpile pastures
- Utilizing crop residues – stalks or stubble
- Dormant alfalfa or hay ground
- Annuals-
  - Brassicas – Turnips, Radishes, etc.
  - Small grains – Oats, etc.
  - Grasses - Annual Ryegrass, Teff grass, Corn, Sorghum Sudangrass, etc.
  - Legumes – Clovers, Vetch, etc.
- Biennial small grains – Winter Rye or Wheat, Triticale
- Perennial small grain – Intermediate Wheatgrass or Kernza

Timing to Add Extra Forages to Grazing Season

- Normal Grazing Season –May through October ?

- Add on the End – November and December?
- Add on the Beginning – April?
- Add to the Middle to rest regular pastures and allow for later grazing to finish season – ***July to October***?

Added Risks to Think About

- Need extra land - owned or rented
  - Can animals access extra land
  - Cost to use
- Timing sensitive – planting/grazing/frost
- Weather impact – cold and wet
- Extra effort for planning and grazing
  - Added seed purchase, equipment, custom hire, fertilizer, etc
- Added fencing and water access

Added Risks to Think About - continued

- Meeting nutritional needs of animals grazing
  - Protein, energy, fiber
- Added health concerns
  - Bloat, prussic acid, nitrates, etc.
- Added fencing and water access
  - Permanent vs. temporary, cold tolerant
- Potential risk for other grazing land
  - Compaction, killing out perennial crop
- Need for a back up plan in adverse conditions

Animal Impacts on Extended Grazing

- Size and Production Stage of Animal
  - Mature animals versus young stock
  - Dry versus nursing animal and its offspring
- Impacts:
  - Nutritional needs
  - Water requirements
  - Fencing durability

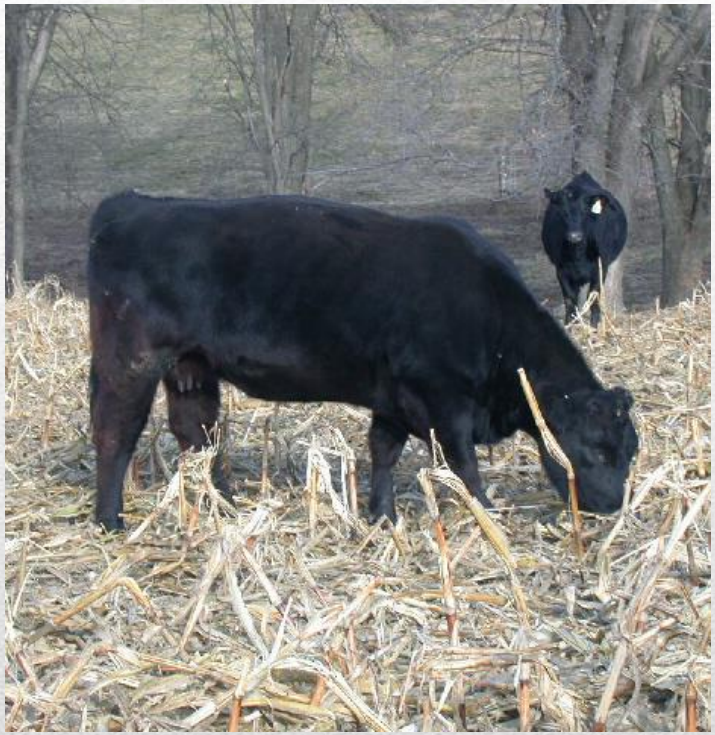
How Quickly Things Can Change!

Stockpile Additional Pasture

- May be the simplest option
- Is there additional pasture acres available?
- Most likely has fence and water access already
- Certain grasses hold quality better than others-
- Usually meet animal nutritional needs without worries of other detriments
- Perennial crop
- Benefit from added Nitrogen
- Can graze extra acreage anytime

UW Study on Stockpiled Grass – Dr. Dan Undersander & Lab

- 1996-1997 at Lancaster, Arlington & Marshfield
- Mechanical Harvest – October, December, and March
- 60lbs. Nitrogen in Aug. increased yield to 1.24 ton dm vs 0.72
- Yield decreased from Oct-Dec and Dec-March
  - Lost almost 50% of dm from Oct – March
- 7 Cool Season Grasses (Ordered in performance)
  - Tall Fescue, Early and Late Orchardgrass, Timothy, Reed Canarygrass, Smooth Bromegrass, and Quackgrass
- Risk with getting enough late season moisture and not too much snow/ice during winter
- Estimate need 0.4 ac. of pasture to graze mature cow 1 month



- Corn stalks are most common
- For every bu. corn, ~50 lbs. residue
  - Includes leftover grain, husks, leaves, cob, and stalk
- Cattle will selectively eat best quality and then work on down
- Cattle eat ~25% of total residue
- Low in protein & moderate in energy (5.5%CP & 55% TDN)
  - May not meet animal requirements

Crop Residues

Corn Stalks

- Strip grazing will increase efficiency
- Rain and mud will decrease utilization
- University of NE reports 1200 lb. cow should have 51 days grazing on 1 acre of corn stalks with 180 bu. Yield
- No differences found for genetically modified corn plants
- Cattle can graze through several inches of snow on stalks
- May need to supplement feed in extreme weather

Corn Stalks

- U of NE reports no effects on future yield when grazing dry conditions
- Could be issue in wet conditions w/compaction
- Does not remove enough cover for erosion concern
- Establishing value of nutrients removed?
- Fencing and watering

Dormant Alfalfa/Hay Fields

- Can provide high quality forage
- Concern of bloat with legumes if not wilted after hard frost
- Amount of residual concern for winter kill and erosion
- Wet conditions could damage roots and weaken stand
- Tighter window for grazing to utilize quality and yield
- More sensitive to wet conditions

Annuals

- Brassicas
  - Turnips, Radishes, Rape, etc.
- Small Grains
  - Oats, Rye, etc.
- Grasses
  - Annual Ryegrass, Teff Grass, Corn, Sorghum Sudan
- Legumes
  - Clovers, Cowpeas, Forage Soybean, etc.

Brassicas

- Have been grazed in Europe for over 600 years
- Fast growing – can graze in 45-60 days after planting
- Variable seeding dates- spring or late summer
- Animals can eat tops and bulbs
- Extremely high water content
- High in protein and digestible nutrients
  - May need to be “diluted” down
- Can be mixed with small grain for a good mix

Brassicas

- Can be a concern for Sulfur and Nitrates
  - Nitrates issue during drought conditions
  - Sulfur toxicity can cause polioencephalmalacia (polio)
  - Planting as part of mixture can reduce risks
- Added fiber can help increase utilization
- May need introduction period
- Can increase efficiency with strip grazing
- Benefits for soil conservation and regeneration
- Can be part of renovation or emergency forage plan

Small Grains

- Many similar growth qualities to Brassicas
  - Fast growing
  - Variable planting dates
  - Can be regrazed if needed
- Difference in growth patterns from spring to fall planted
  - Spring planted will decrease quality after heading out
- Will out produce biennial small grains in fall season
- Can be inexpensive option for grazing and can be made as harvested forage if needed
- Will benefit from additional Nitrogen

- Variety and “niche” applications
- Cool or warm season
- Some single and other multiple grazing
- Can work in renovation or emergency forage
- Some concerns for toxicity
- Some drought tolerance
- Some frost sensitivity

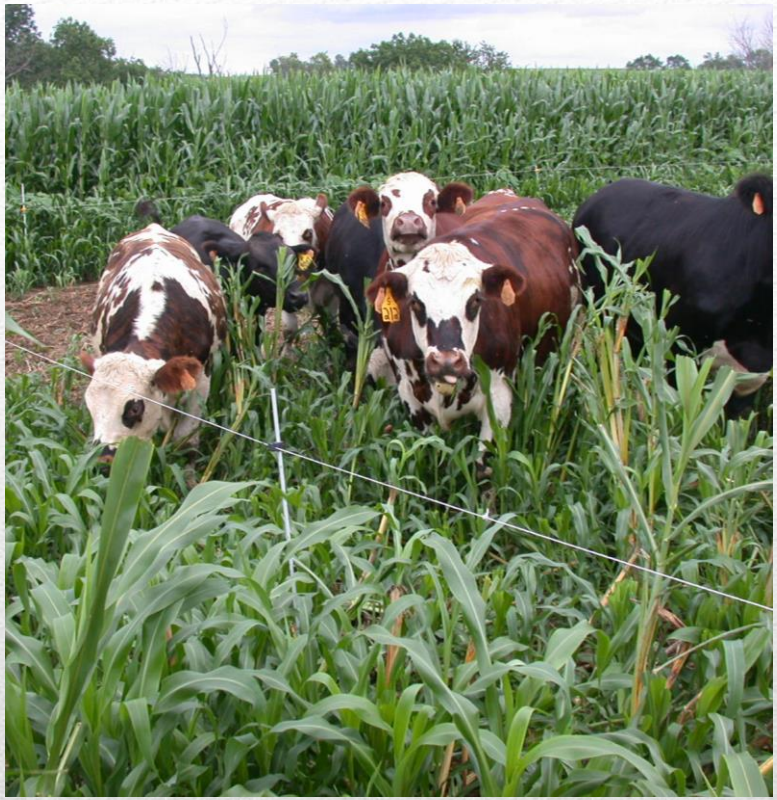
Annual Grasses

Annual Grasses-Ryegrass

- Annual or Italian Ryegrass
  - Easy seeding
  - Fast growing
  - Not drought tolerant
  - Needs Nitrogen
  - Good “quick” cover
  - Can be regrazed quickly
  - Not good for mechanical harvest

- Warm season grass
- Can be regrazed
- Plant early summer after frost
- Can be grazed or made as hay
- Good quality and palatibility
- Fine stem & can have lodging
- Needs Nitrogen
- Will not survive frost

Annual Grasses-Teff Grass



- Warm season
- Can grow really fast!
- Need Nitrogen
- Can be concern of Nitrates & Prussic Acid
- Variable amount of grazings

Annual Grasses – Corn & Sorghum Sudan

- Weather can make harvesting difficult!
- Quality and harvesting efficiency variable
- Benefit from strip grazing
- Grazing corn license restrictions

Annual Grasses – Corn & Sorghum Sudan

“Annual” Legumes

Clovers, Cowpeas, Forage Soybean, etc.

- Lots of options
- Some less common
- Can be part of mixtures
- Personal experience of using old red clover or alfalfa seed after oats crop in sacrifice area
  - Perennials, but utilized as annuals

Winter Wheat, Winter Rye, Triticale, etc.

- Utilized heavily in other parts of the US
- Higher quality forage
- Can provide late & early grazing
- Can be regrazed
- Can be made as harvested forage
- Benefits from added Nitrogen
- May require termination

Biennial Small Grains

Perennial Small Grain

- Intermediate Wheatgrass or Kernza
- Can be dual purpose for grain and forage
- Allowed for grazing and harvested residue forage
- Provided option for early and late season grazing
- Requires some Nitrogen

- Grain decreases in production after time
- Can be difficult to source seed
- Time sensitive on grazing in spring to not harm grain production
- Difficult grain harvest
- Not a common market for grain sales

Kernza

- Some research continuing at UW and other places
- May need more development and research to figure out best “niche”

Kernza

Conclusions

- Many different options
- No “silver bullets” for all
- Pro’s and con’s for all options
- Utilize your resources
- Evaluate options and find best fit for your operation
  - Match options to fit your strengths and avoid your weaknesses and dislikes
  - …and it may change from year to year

Thank You
and any Questions?