



United States Department of Agriculture

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Winter Grazing Management

Victor Shelton, Indiana NRCS State Agronomist/Grazing Specialist

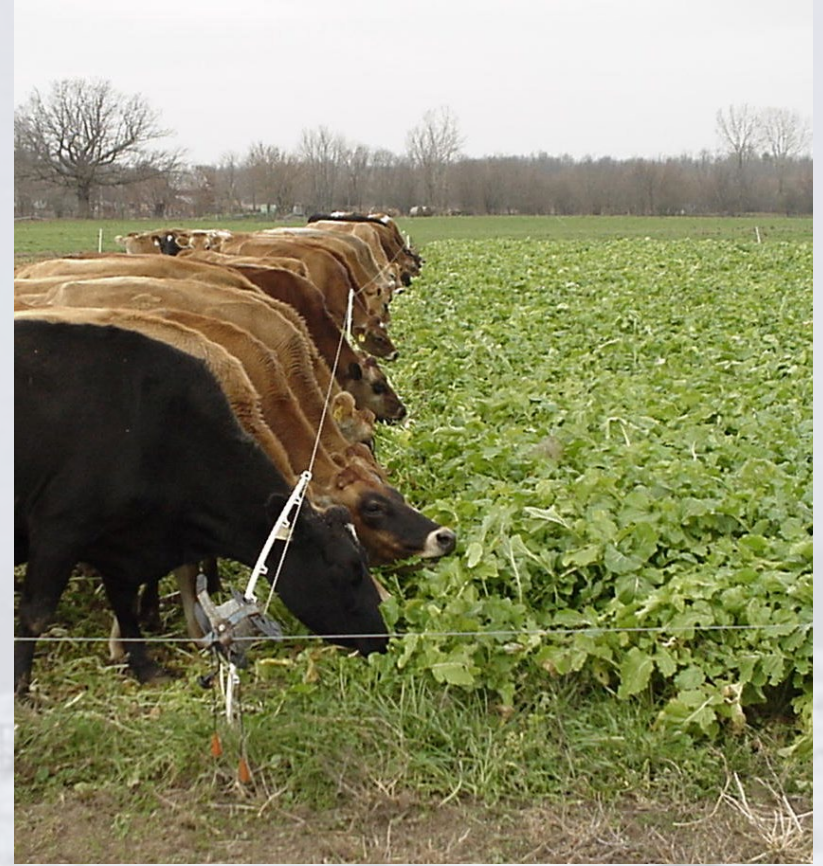




Graze if possible!

Graze Longer – Feed less





Graze every day that you can

How much is needed?



How long are you grazing now?



How much are they going to eat?

20 cows average weight of
1,100 pounds each
=22,000 total live weight
pounds

22,000 x .03 (3%) daily intake
= 660 pounds of dry matter
per day



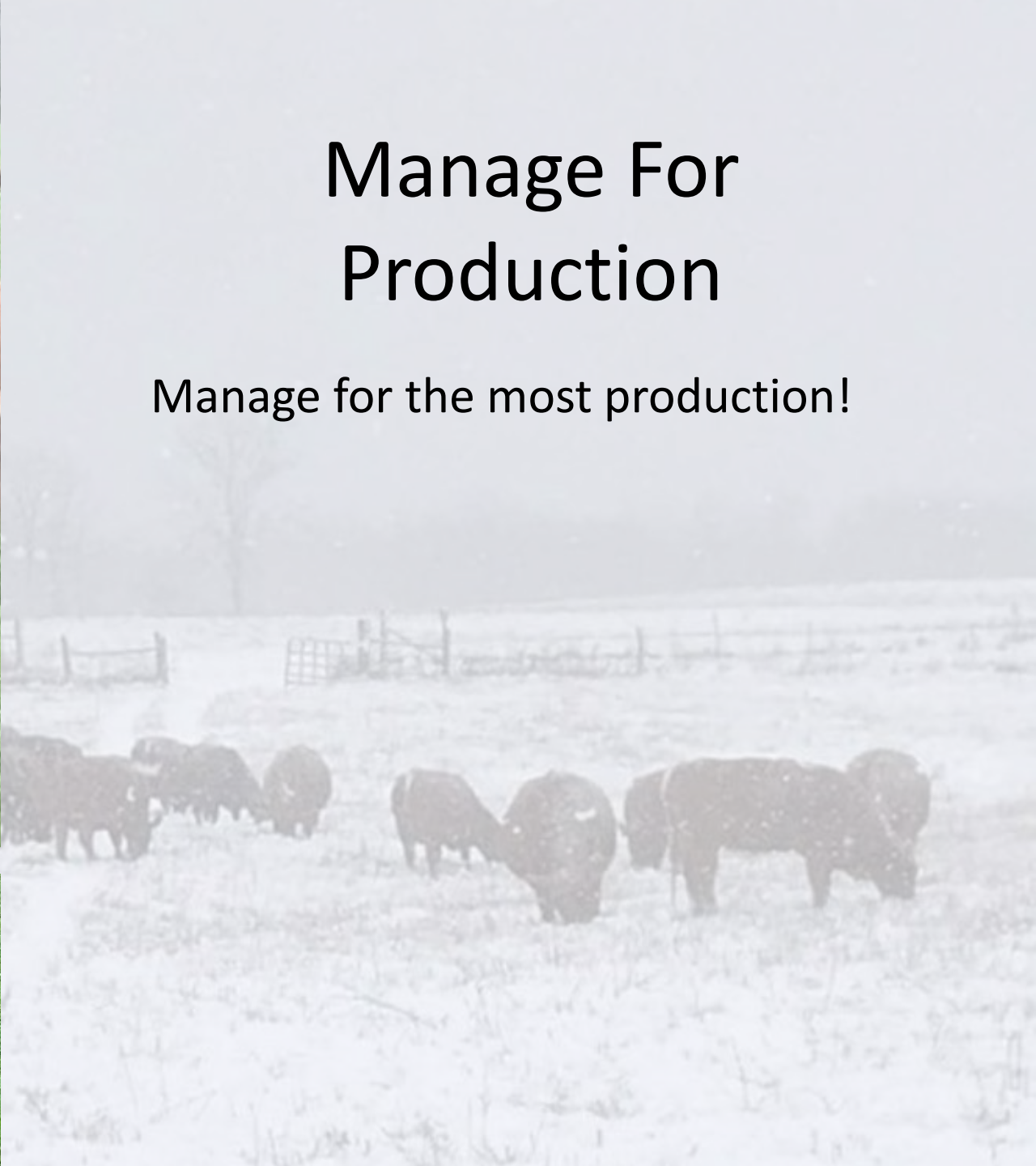
How much “feed” is available?

Hay – 50, 1,500-pound round bales on hand (about 1,300 pounds dry matter) = 65,000 pounds available.

$65,000 \times 85\% \text{ efficiency} =$
55,250 pounds

$55,250 \text{ pounds} / 660 \text{ pounds}$
needed per day = ~ 84 days





Manage For Production

Manage for the most production!

STOP grazing heights (residual) are important!

- 3 to 4 inches for cool season forages
- 6 to 12 inches for warm season forages



STOP grazing heights (residual)
are important!







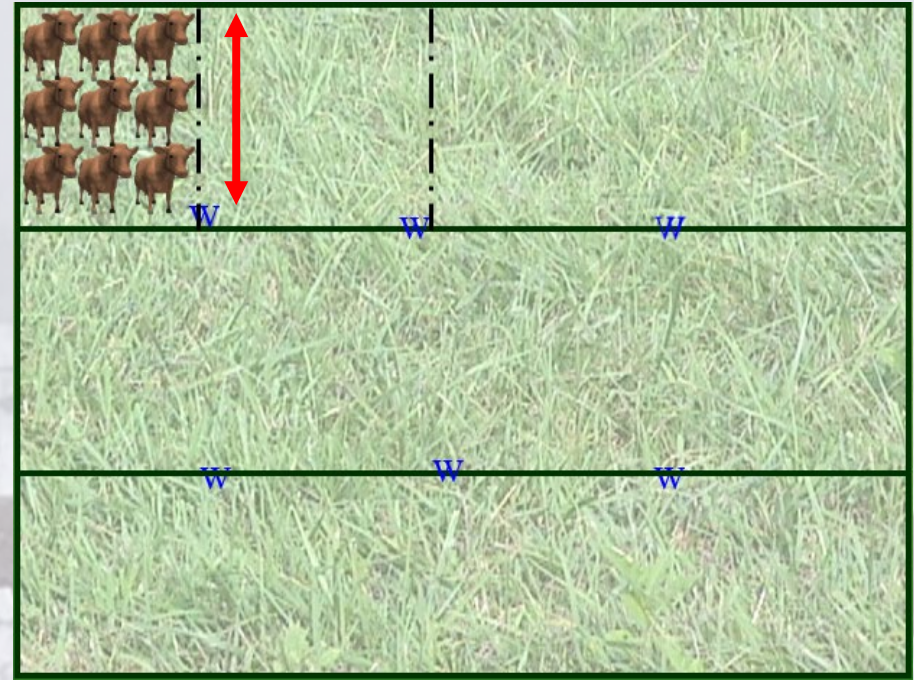


Soil Condition



Chris Hollen Photo

Allocate it Out Efficiently & Carefully



Minimize Disturbance



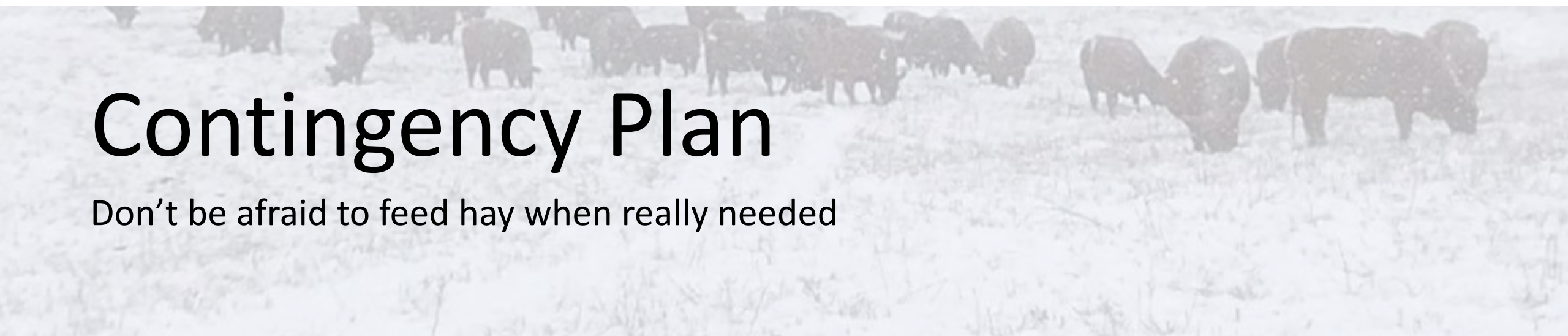
Minimize Disturbance





Contingency Plan

Don't be afraid to feed hay when really needed





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Victor R. Shelton

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“Keep on Grazing”

It's not about maximizing a grazing event but maximizing the grazing season!

Winter Feeding/Grazing



Winter Feeding

Think about.....

What are the resource concerns?

What can NRCS do when producers are not interested in 528?

What is our 1st, 2nd, 3rd, line of defense when offering solutions?

Should feeding sites be large or small?

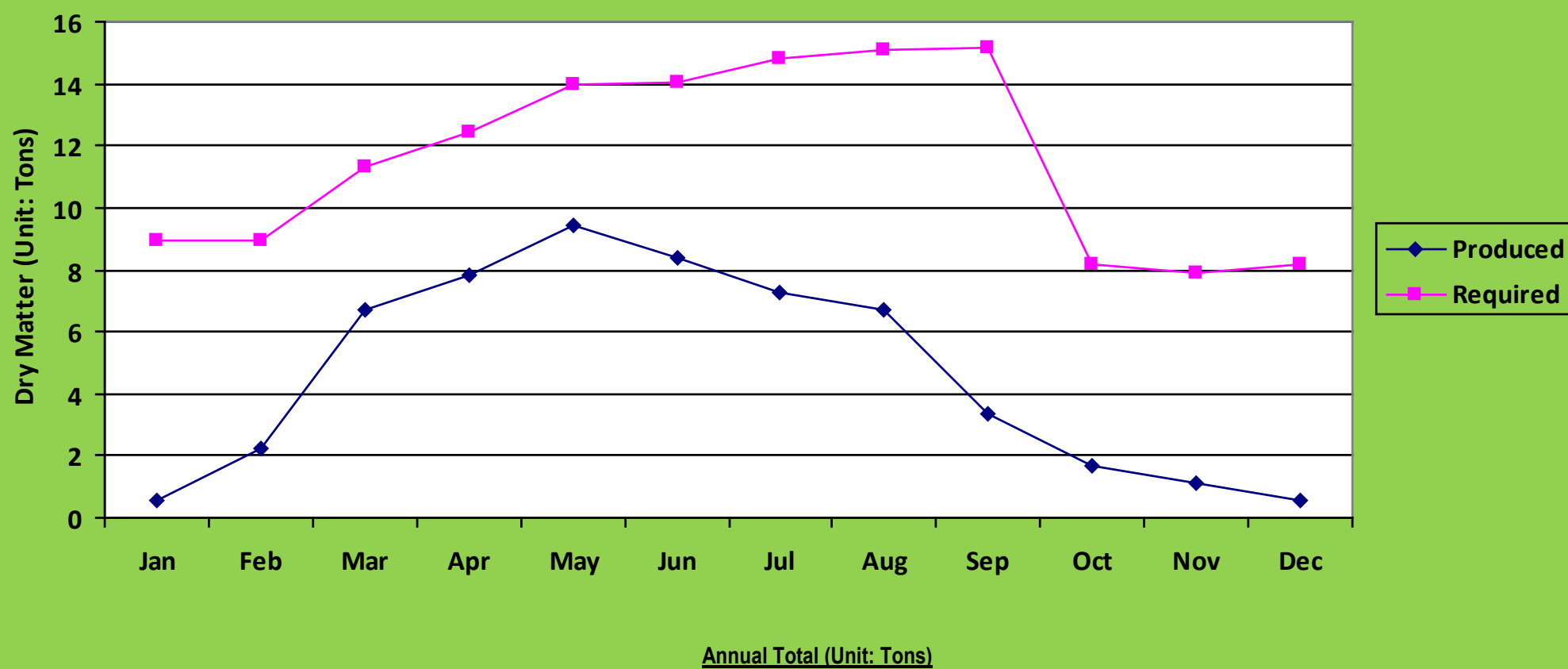
What are the goals (spreading nutrients, reducing mud, etc)

To what level of environmental protection do structure provide?

Winter Feeding



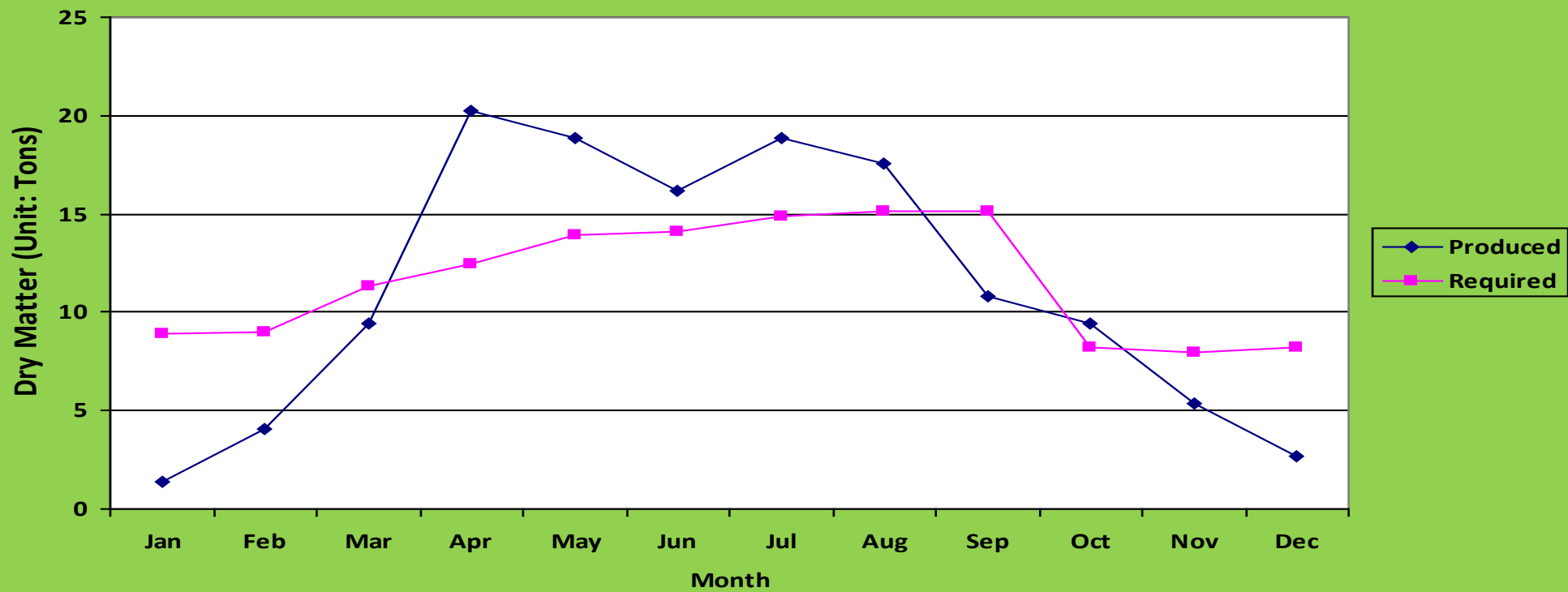




Annual Total (Unit: Tons)

Produced: 55.7 Required: 139.1 Balance: -83.4

- 45 acres – monthly moves, 2.5 tons yield
- 30 cow/calf



Annual Total (Unit: Tons)

Produced: 135 Required: 139.1 Balance: -4.1

- 60 acres – weekly moves, 3.5 tons yield
- 30 cow/calf

400 lbs P205

1100 lbs N







Impact of Manure and Urine recycling



90% N,P,K eaten is returned to soil

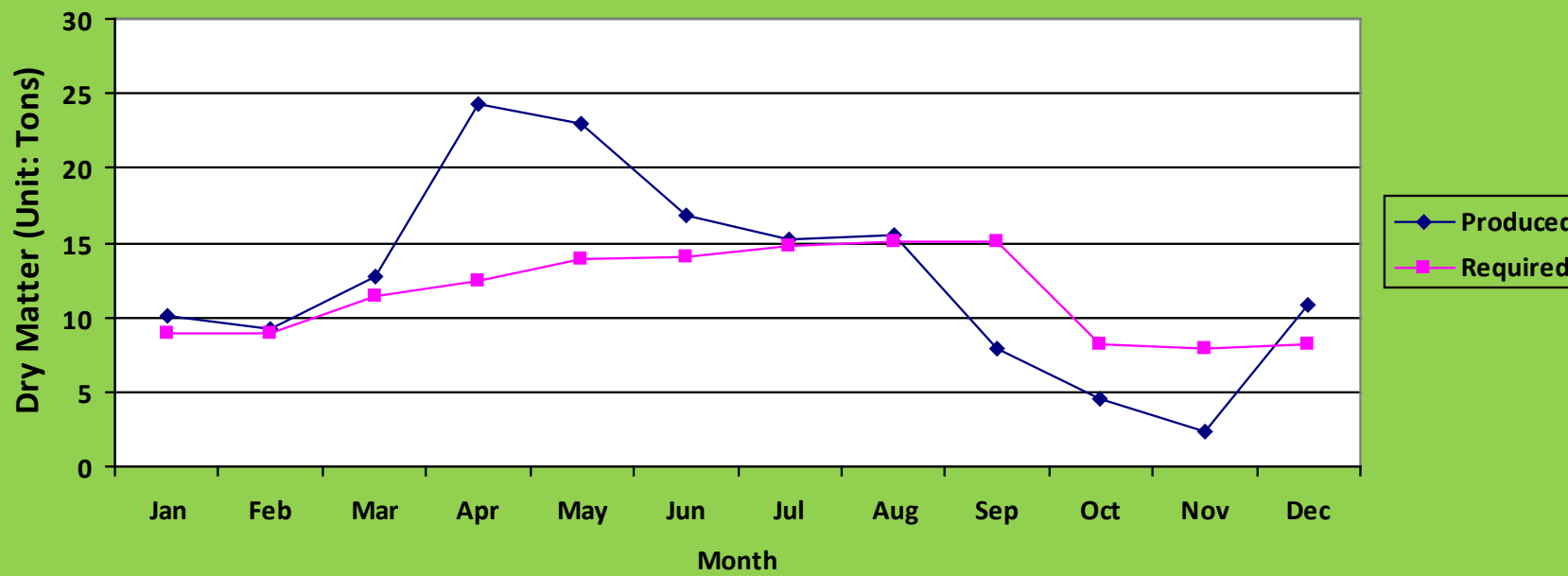


Urine

~75% of N and K in Urine
~75% of P in Manure



Manure



Annual Total (Unit: Tons)

Produced: 152.4 Required: 139.1 Balance: 13.3

- 60 acres total– weekly moves, 3.5 tons yield
- 30 of those acres stockpiled and stripgrazed
- 30 cow/calf



Can you make this move cheaper with less mud and frustration than you can delivering a bale or two of hay?



December 2, 2009 after 3 inches of rain.



Spread the hay and spread the manure and urine



**Very little waste when
one day supply is
distributed**

Move hay into feeding positions when soil is firm and weather is favorable; pay attention to length of time feeding in one field









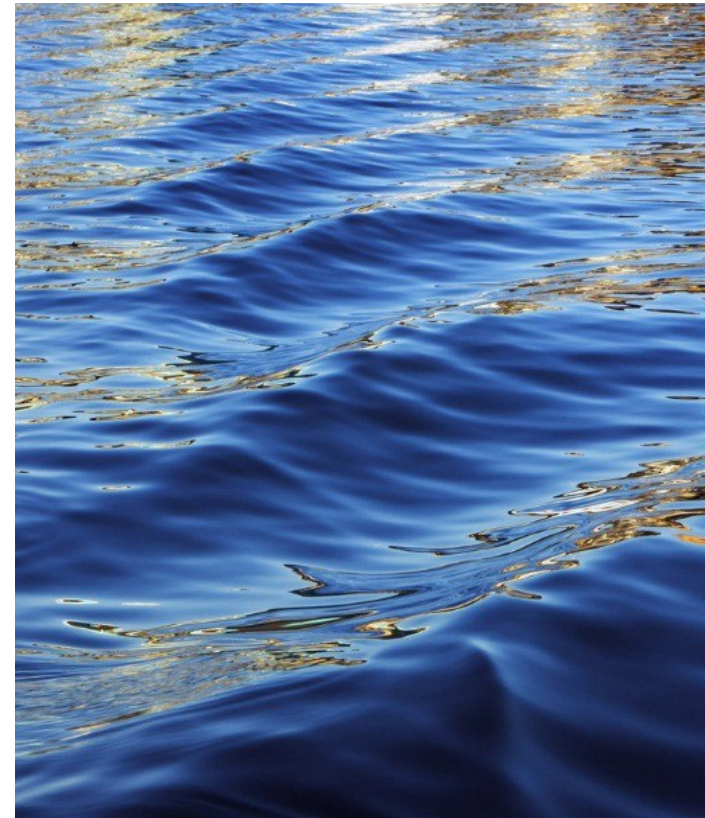


Any Questions?



When does a Grazing Plan become a Winter Feeding Plan?

Adam Jones
USDA-NRCS Kentucky Grazing Specialist



The contingency section of a Grazing Plan often includes drought or flood but what about winter?

- What does the forage / livestock balance sheet show for forage availability from November thru March?
- How much precipitation falls in the winter months and in what form does it fall?
- Latitude has a dramatic impact on the challenges and opportunities for winter feeding
- Stored forages are the most common method of winter feeding, but how are they fed?
- Are there any regulatory issues that we must be aware of?

We all want our Grazing Plans to look like this...

- Client has bought into the prescribed grazing system
- Adequate forage / livestock balance
- Laid out with the necessary infrastructure
- Forages meet the client's goals for their livestock
- Client is able to address adversity in the weather cycles or livestock health issues

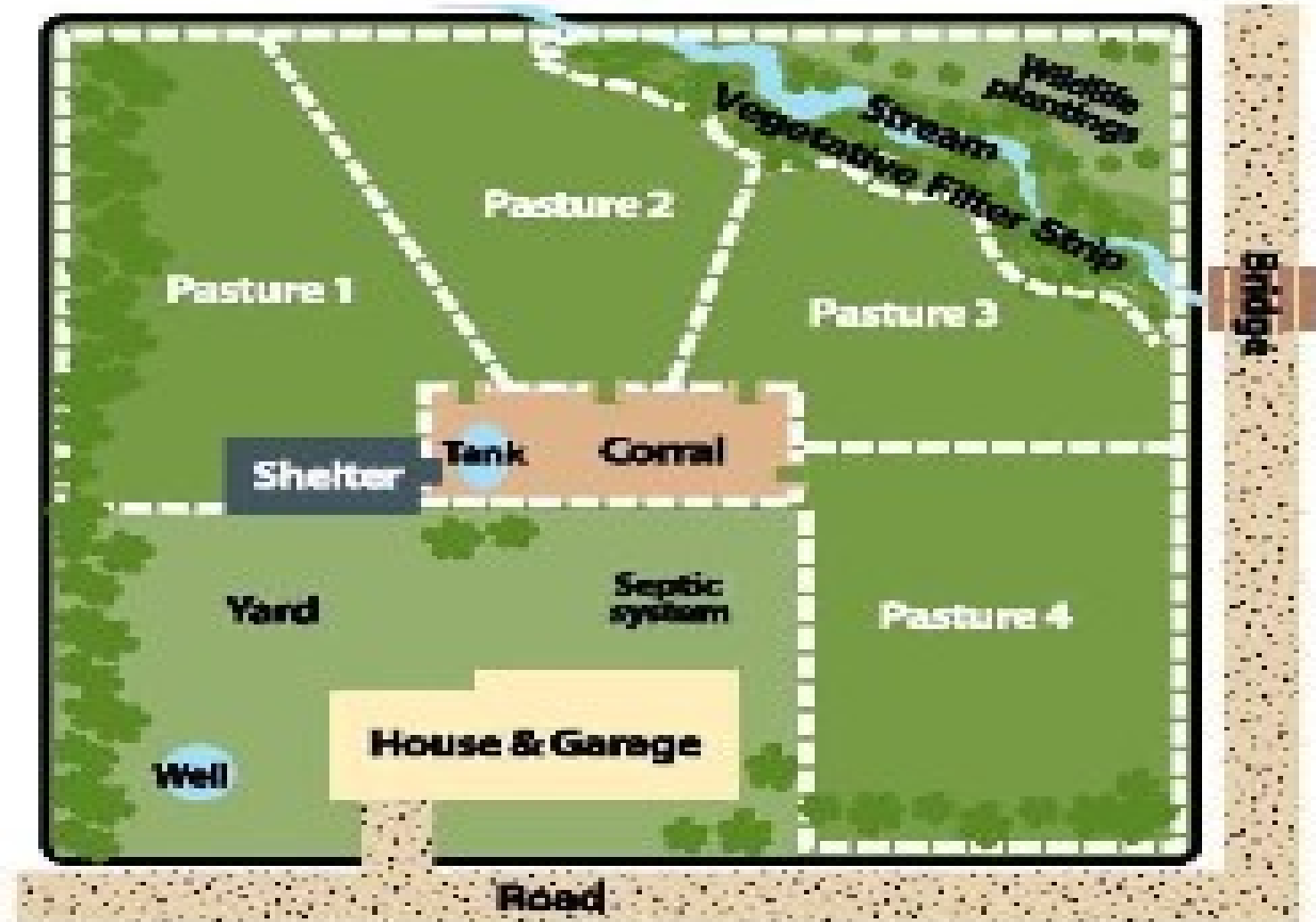


Illustration courtesy of NJ NRCS

But what do we do in March when it looks like this...

- This landowner believes he did the right thing by bringing all his livestock to one farm to feed for the winter
- This option met **HIS** goal of easier winter feeding and all the hay was stored in the barns on site
- While he did agree that the mud was a problem for his tractor, it wasn't until regulatory action that NRCS was contacted



Where does regulatory action begin?

- Each state will have different thresholds for action, but this is U.S. EPA's guidelines
- ***Animals have been fed for a total of 45 days or more in a 12 month period, and***
- ***Crops, vegetation, forage growth,...are not sustained in the normal growing season over any portion of the lot or facility.***
- **We'll put a pin in this until the end of the presentations**

National Pollutant Discharge Elimination System (NPDES)

- NPDES Home
- About NPDES
- All NPDES Program Areas
 - Animal Feeding Operations**
 - Aquaculture
 - Forest Roads
 - Industrial Wastewater
 - Municipal Wastewater
 - National Pretreatment Program
 - Pesticide Permitting
 - Stormwater
 - Vessels Incidental Discharge Permitting
 - Water Quality Trading
- NPDES Technical Resources

Animal Feeding Operations (AFOs) Overview

- [AFOs and Environmental Considerations](#)
- [Links to Other Resources](#)

Animal Feeding Operations (AFOs) are agricultural operations where animals are kept and raised in confined situations. An AFO is a lot or facility (other than an aquatic animal production facility) where the following conditions are met:

- animals have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and
- crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.

AFOs that meet the regulatory definition of a concentrated animal feeding operation (CAFO) are regulated under the NPDES permitting program. The NPDES program regulates the discharge of pollutants from point sources to waters of the United States. CAFOs are point sources, as defined by the [CWA \[Section 502\(14\)\] \(PDF\)](#) (3 pp, 132 KB, [About PDF](#)). To be considered a CAFO, a facility must first be defined as an AFO, and meet the criteria established in the [CAFO regulation](#).

CONTACT US
SHARE    

- Overview**
- NPDES CAFO Permitting
- Regulations and Guidance
- Compendium of State Permits and Programs
- Outreach and Education
- Uses of Manure
- Technology Innovation

What is your definition of “crops, vegetation, forages”?



Where does NRCS stand on Animal Feeding Operations?

- NRCS in each state may have different views on when to take action and whether that action is technical or financial or both
- Technical Service Providers?
- I would assume most grazing operations are not going to meet the CAFO definition so lets stick to the broad definition of AFO's
- "voluntary actions to minimize the impacts to air and water"

The screenshot shows the USDA Natural Resources Conservation Service website. The header includes the USDA logo, the text "Natural Resources Conservation Service" and "United States Department of Agriculture", and navigation links for "About NRCS", "Careers", "National Centers", and "State Websites". A search bar is located on the right. Below the header is a navigation menu with "Topics", "Programs", "Newsroom", "Blog", and "Contact Us". A breadcrumb trail reads "You are Here: Home / Plants & Animals / Livestock / Animal Feeding Operations". Social media icons for Facebook, Twitter, YouTube, and RSS are present. The main content area is titled "Animal Feeding Operations" and includes a sub-section "Animal Feeding Operations (AFO) and Concentrated Animal Feeding Operations (CAFO)". This section features a photograph of a long row of cattle in a feedlot. The text explains that the U.S. Environmental Protection Agency (EPA) defines AFOs as agricultural enterprises where animals are kept and raised in confined situations. It also defines CAFOs as large concentrated AFOs with more than 1000 animal units. The page concludes with a statement about USDA's goal for AFO/CAFO owners to take voluntary actions to minimize potential air and water pollutants.

Plants & Animals

- ▣ Fish & Wildlife
- ▣ Insects & Pollinators
- ▣ Invasive Species & Pests
- ▣ Livestock
 - ▣ **Animal Feeding Operations Publications**
- ▣ Manure & Nutrient Management
- Plants

I Want To...

- View rangeland health document

Related Centers

- East National Technology Support Center
- Central National Technology Support Center
- West National Technology Support Center

Animal Feeding Operations

Animal Feeding Operations (AFO) and Concentrated Animal Feeding Operations (CAFO)

The U.S. Environmental Protection Agency (EPA) defines AFOs as agricultural enterprises where animals are kept and raised in confined situations. AFOs congregate animals, feed, manure and urine, dead animals, and production operations on a small land area. Feed is brought to the animals rather than the animals grazing or otherwise seeking feed in pastures, fields, or on rangeland. There are approximately 450,000 AFOs in the United States.

A CAFO is another EPA term for a large concentrated AFO. A CAFO is an AFO with more than 1000 animal units (an animal unit is defined as an animal equivalent of 1000 pounds live weight and equates to 1000 head of beef cattle, 700 dairy cows, 2500 swine weighing more than 55 lbs, 125 thousand broiler chickens, or 82 thousand laying hens or pullets) confined on site for more than 45 days during the year. Any size AFO that discharges manure or wastewater into a natural or man-made ditch, stream or other waterway is defined as a CAFO, regardless of size. CAFOs are regulated by EPA under the Clean Water Act in both the 2003 and 2008 versions of the "CAFO" rule.

USDA's goal is for AFO/CAFO owners and operators to take voluntary actions to minimize potential air and water pollutants from storage facilities, confinement areas, and land application areas. NRCS can help landowners achieve this goal by providing technical and in many cases financial assistance, for the adoption of practices that will protect our natural resources.

Comprehensive Nutrient Management Plans (CNMP)

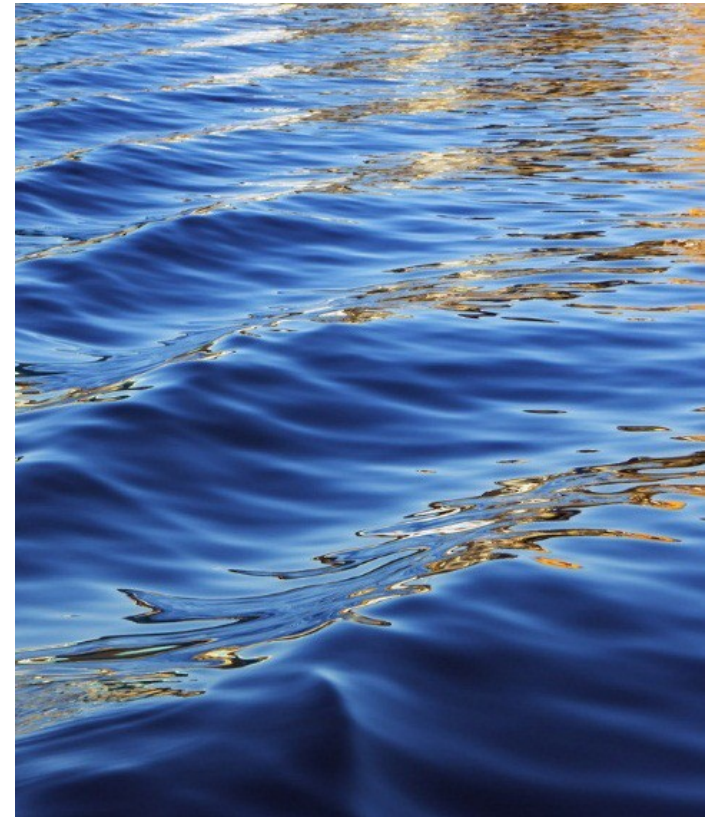
The objective of a CNMP is to provide AFO owners/operators with a plan to manage manure and organic by-products by combining conservation practices and management activities into a conservation system that, when implemented, will control soil erosion.

Tools in the Toolbox



So what can we do?

Not all solutions are conservation practices or meet NRCS standards.



Animal Trail and Walkway(575) Access Road (560)



- If the livestock can move between pastures and graze remaining forages or stockpiled forages or winter cover crops, the grazing plan is being followed and damage to muddy trails is reduced or eliminated.
- If the conditions require that feed is brought to the livestock, then compaction, erosion, and equipment wear is reduced on a rock / geotextile trail

Heavy Use Areas (561)

- In Kentucky we allow for several Heavy Use Areas (HUA) per operation to allow the fields that contain the HUA's to receive periods of rest during the winter. The farm manager feeds on one HUA for a month and then moves fields to feed on a different HUA.



Composting Facility (317)



Animal Waste Facility (313) Nutrient Management (590)



- As I have moved down the list of practices the cost and complexity has increased.
- If the resource concern to be addressed is severe enough to warrant structural practices, is the landowner capable of managing such a conservation practice?
- Is the landowner able to afford such a conservation practice?
- Would a simple hoop barn and dirt floor address the resource concern and better fit the landowners budget?

Bale Grazing is being championed by some extension specialist at University of Kentucky



Photos courtesy of University of Kentucky

Fence Line Feeders



Winter Feeding Facility



Consequences of Winter Feeding



What measures will be needed to recover from winter feeding?



Questions?

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