SARE Webinar on integration of pasture management and nutrient management

Heavy Use Areas

Richard Meinert
Associate Extension Educator
richard.meinert@uconn.edu
Environmental Regulations

  - Became the model for the ...
- Federal Water Pollution Control Act of 1972
  - as amended in 1977 became known as the Clean Water Act (33 U.S.C.1251)
- CAFO General Permit, January 1, 2023
  - DEEP is currently targeting farms > 700 animal units to register & comply
  - Small farms can be designated to register and comply due to a complaint
What is a Heavy Use Area (HUA)?

• An area where too many animals, on too little land, results in total destruction of normal vegetation for extended periods of time /year
  • Animal walk ways
  • Congregation areas near feed or water
  • Congregation areas to escape harsh weather
  • Overstocking to achieve economies of scale

• Goals
  • Keep animals safe, comfortable and productive during inclement weather
  • Protect the resources of the farm & of the state, including pasture quality, air, surface water & ground water
Who documented the first HUA in the US?

• Daniel Boone
  • Where? Salt Lick, Kentucky
  • Species? American Bison
  • How? His diary states “the road was 2-3 feet lower than the surrounding terrain.” The road led the men to a salt lick. Lick meant stream in colonial times. The Bison wintered at the “lick” because the salt kept the water from freezing solid.
    • How salty? He estimated they boiled off 600 gallons of water for 25 lb of salt.

• Another example of a natural HUA
  • Bison over winter near the hot springs and geysers in Yellowstone for the same reason
What do livestock need to survive winter?

• Protection from wind
• Fresh clean water
• Food
• Clean dry hair coat
• Safe footing
• Pre winter animal care considerations
  • Adequate body condition
  • Acclimation period
Protection from wind

• Trees, shelter belts
• Terrain, such as valleys, rolling hills, cliffs, caves
• Constructed – walls, barricades, panels, piles of something
  • Wind protection extends approximately down wind 10 times the height of the barrier
• Wind comes from multiple directions in winter, plan to block the 2 most likely directions
• Provide adequate length, minimize wind coming around a corner
Water & Feed

• Fresh, clean, not frozen
  • Waterers
    • heated or unheated
    • hold some water, or drain back to below frost each time
  • Waterers & feeders
    • How many?
    • Where to locate them?
Clean dry hair coat

• Why clean dry hair?
  • Hair insulates by trapping air
  • Water and dirt reduce trapped air reducing r value

• How to keep animals clean & dry?
  • Bedding, bedding and more bedding
  • Shorter length better
    • Easier to clean wood chips, or leaves than long straw or hay
  • Minimum depth of a wood chip pad 10 inches
  • Natural composting occurs in deeper beds
HUA design considerations

• **Size - Area**
  • Cattle 100 – 150 square feet per head minimum

• **Rain water**
  • Divert surface runoff around the HUA
  • Collect, store and land apply contaminated water off HUA
  • Infiltrate as much rain falling on the HUA as possible – minimize runoff
  • Wood chips and other organic materials can trap nutrients for cleaner ground water
  • Drainage may need to be provided and effluent contained for future land application
HUA Design Considerations

• Temporary or permanent
  • Term of use influences the building materials
  • Longer use periods may require impervious surfaces

• To roof or not to roof?
  • No requirement to roof
  • May be cheaper to roof than to collect and contain runoff
Questions?

richard.meinert@uconn.edu
860-626-6240