

Agronomy #33

Date: July 2014

Subject: CREATING A GRAZING PLAN

A grazing system includes all of the land area where livestock are grazed, all of the livestock that graze within the system and at least the following conservation practices: prescribed grazing, fence, and a livestock watering system that includes a source and, if needed, a conveyance and delivery point.

Prescribed grazing is the conservation practice that details the appropriate management of a grazing system with caveats for differing management and conservation objectives. The prescribed grazing standard is met on pasturelands if the leaves of the forage meet at least the minimum stubble height for the majority of the pasture. The prescribed grazing standard is met for prairies, rangelands or forests if the key forage species has no more than 50% utilization, ecological site descriptions and forage suitability groups should be used when available for guidance. The prescribed grazing standard is met on cropland if livestock maintain adequate body condition.

In Iowa, grazing plans are quite often a part of an overall conservation plan for the farm. This technical note addresses creating a Grazing Plan on the acres to be used for a system.

Note: When referring to “producer” in this technical note, it may also mean landowner or both landowner and producer, depending on individual circumstances.

Initial Inventory

The Grazing Plan Checklist is a good source to use as a reminder for information needed. Provide the producer an aerial photograph with the pasture acres outlined, include the number of acres on the map.

Encourage the producer to think about how he/she would like to divide up the pasture and to mark on the map the location of potential fences. While the final plan may look quite different from this original map, it can help get the producer to take “ownership” of the plan.

Prior to going to the farm the planner needs to get acquainted with the farm using aerial photos, soils map, and a topographic. Make a note of exiting water sources and fences if known.

View the farm, preferably by walking. As much of this as possible should be done with the producer. It is unrealistic to try and “get to know the land” while driving by it. You need to determine the producer’s goals and objectives, and this can be a good time to get this information. It is also a good idea to ask about their vision for the property, “What do you want this to look like in 5 years?” On rented land you may need to know the goals and objectives of both the landowner and producer.

Soils are the foundation upon which life is built. Ask about the last time that soils were tested, fertilizer or lime were applied. No or few legumes in forages can be an indication of low Ph. Building or rebuilding soil health keeps any soil attribute from becoming a limiting factor in forage production.

Observations While Viewing the Property

Determine what type of pasture vegetation is present. This is a good time to conduct the Pasture Condition Score required by policy for the property and to discuss your findings with the producer.

Is there good plant density, diversity, and vigor? These can be used as indicators of past management, good or bad. Utilize the livestock forage balance sheet, eFOTG or clipping samples to determine potential biomass production for the grazing system.

Are there weeds present and are they noxious weeds? Many annual weeds can be an indication of past mismanagement. Help the producer understand that management must be done correctly for the supporting and facilitating conservation practices applied to be effective. What type of treatment will be needed to reduce them to a manageable level? Will it require herbicides, better grazing management, a different kind of livestock, or a combination of these? Will some of the weeds be eaten by the livestock? High stock density, especially in the spring, will result in grazing animals eating many weeds such as rag weed and Queen Anne’s lace.

Are there legumes? What type and what percent of the stand? Remember that NRCS recommends 40% by weight or about 50% visually to add nitrogen to the soil and increase protein in the diet of livestock. Birdsfoot trefoil is non-bloating and will help counteract the alkaloids in tall fescue and other grasses.

What is the average forage height? Look at the forage quality and availability, especially in periods of the year with more stress. Forage that is grazed below the minimum stubble height produces less biomass than properly grazed forages. Additionally, livestock may not be able to achieve stomach fill when grazing very short forage.

Make some estimate of efficiency of utilization by the grazing animals. The Table included in Iowa Agronomy Technical Note #32 will help with assessing season long utilization. Utilization for each grazing event should be targeted at take half – leave half. Look for spot grazing, severe overgrazing and/or mosaic grazing pattern to assess problems. Spot grazing or a mosaic grazing pattern typically indicate stock densities that are too low and paddocks that are too large. Severe overgrazing,

unless used as a tool to damage the stand, typically indicates too many livestock for too long in a paddock.

Pasture Condition Score. This is best done with the producer so that he/she could do this in the future to monitor changes in the system due to improvements in the system. Try to do the score around the same date on the same spot annually to help track changes in pasture health.

Pay attention to the condition of the livestock. Look at their health and estimate body condition score. Ask if the livestock have problems with birthing, weight gain, breed back or other issues. Some issues are caused by disease but poor grazing management, noxious plants and other forage related issues can cause livestock problems and you can help.

Get an estimate from the producer of the average weight of the livestock. This is important when determining the forage needs of the grazing animals. It helps to spend a day at a livestock auction about once per year to calibrate your own eyeballs and learn to estimate livestock weights. Iowa Agronomy Technical Notes #30 and #32 both contain lists of average weights for Iowa livestock by kind and class.

Find out from the producer the dates of the breeding and calving season and when he/she typically weans the livestock. It is also important to know if the calves are weaned on grass or taken to a drylot. Remember that livestock that are not grazing within the system should not be counted when doing a livestock-forage balance or carrying capacity determination.

Look for soil erosion problems. If there are problems, will it require structural practices, seeding, or will better management be adequate?

Look at manure piles to estimate the quality of forage being consumed. The Forage Quality Photo Guide from Texas A&M at the following link can be very useful: <http://animalscience.tamu.edu/wp-content/uploads/sites/14/2012/04/beef-forage-quality-photo-guide.pdf>. Also look for the presence of dung beetles, as they are an indication of a healthy system.

Note any obvious fertility differences in the pasture. Is there a large contrast between the colors of the grass around a urine spot or is the difference more subtle?

Observe the soil tilth in the pasture for compaction or water holding capacity.

Get a feel from the producer as to how often he/she is willing to move the grazing animals. Use this information to help determine the number of paddocks. Note how paddocks might be divided easily.

Is there a need for managed access to streams and/or ponds?

Are livestock concentration areas in a location that could affect water quality? Shade should be as consistent as possible. Trees that are alone may be damaged or killed when livestock concentrate around them.

Is the location of mineral feeders, watering facilities, and any supplemental feeding areas resulting in lower or higher pasture utilization and/or water quality? Suggest ideas like moving supplements away from water to get livestock to graze all areas of the paddocks.

Are there other tracts, adjacent easement lands or other properties available to be grazed?

How much hay, distillers dried grains, cover crops, cropland gleaned or other sources of feed does the producer use? In many cases reducing supplemental feed can be a way to increase profit.

What type of flood gaps for fences is the producer using? There are multiple options for lower maintenance flood gates than can help build credibility and our reputation with producers.

Conservation Points After Viewing the Farm

In the beginning, if the farm has multiple pastures and livestock have access to all pastures, try to get the producer to shut the gates to better manage the system and give some pastures a rest.

Using the producer's ideas (hopefully they started a design on the map you gave him/her originally), encourage him/her to begin subdividing the pasture. Also, encourage him/her to monitor any changes in the system.

Encourage the producer to have a soil test completed. This will establish a baseline for the fertility and pH will be particularly important if the intention is to interseed legumes in the future.

If weeds are a problem herbicides will need to be broadcast sprayed to reduce weeds to a manageable level, it should be done prior to doing any interseeding.

Discuss ways to start a grazing program by installing some temporary fencing. Permanent fencing is necessary for perimeter and boundary fences but is expensive. Temporary electric fences are easy to install and change. They are far less expensive than permanent fences and give the producer much higher management flexibility.

Discuss the installation or improvement of the watering system. Don't overlook using multiple sources such as ponds, creeks, wells, and rural water. When talking about allowing livestock access to creeks or ponds, talk about the benefit of having managed access areas because of safety to the livestock and improvement to water quality.

Look for ways to improve water availability such as pipeline systems, rural water, ponds, spring development, or limited access points to streams.

Talk about a logical timetable for making improvements and implementing the grazing

system. The system needs to meet the management desire and ability of the producer and not what the planner thinks is the best. It is also important to remember that a very small improvement may not be noticed by the producer and they are less likely to continue adoption of better grazing management. Have the producer consider at least a weekly rotation for a beef cow herd and 2-3 days for a stocker or dairy operation with an appropriate rest interval to allow the forage to recover. Ultimately, a daily move would be preferable. Key here is to match forage available – management ability and livestock needs.

Determine what conservation practices are needed to implement the system. Then try to evaluate them by cost and what will benefit the system the most to help in determining a priority for installation. Ensuring least cost and feasible for both the tax payer and producer can increase profit and prevent “buyer’s remorse” versus planning and elaborate and expensive grazing system. It is often best to start with management and those practices that are absolutely required to meet the producer’s goals than progress forward from there.

Look “down the road” when planning fence and water system layouts so that if the producer wants to increase the number of paddocks it can be done with the least cost and change to the existing system. This often looks like placing dividing fences so that temporarily fenced paddocks radiate out from each side. Then watering facility placement can be used to facilitate more subdivisions if desired.

Talk to the producer about how and when he/she should monitor the system to evaluate the improvements and see if things are “headed in the right direction”.

Plan Development

The Prescribed Grazing (528) Standard specifies what needs to be included in a grazing plan. As a minimum prescribed grazing, fence, and a water source must be present or provided for a grazing system to exist. When working with the producer, it is important for them to understand the kind of forage present in the system.

Learning some plant identification is beneficial to the producer. He/she also needs to know the expected quantity and quality of this forage. In most situations, both the quantity and quality of forage will improve as the grazing plan is implemented. It is important for the producer to understand this will take a period of years, maybe three to five or more, for this to happen.

Just as most producers want to know how many bushels of corn a field will produce, he/she needs to have an idea of how many grazing animals the grazing system will support. Provide him/her a livestock/forage balance that will show if there will be any expected forage surpluses and/or deficiencies. Providing options for varying graze/rest periods and number of paddocks can convince some producers to increase management based on the additional number of livestock that can be carried by the system. Also provide some alternatives of how to manage any forage surpluses or deficiencies.

Some producers will only want a grazing plan that covers the growing season, while others may want a plan and forage/livestock balance that would show the entire calendar year. At a minimum, provide them what they want.

Provide information to the producer so they understand how to use forage heights to help manage the system. They need to understand that different plants have different needs for maintaining minimum forage heights. Grazing below 1000 – 1200 pounds of forage (typically 3-4” height depending upon forage) will reduce intake by the grazing animal, which reduces production.

Evaluation of the Grazing plan

There are many things to consider in evaluating the plan and the system implemented by the producer. Forage heights are generally referenced as a primary tool. But this can be hard to show year-round management. A more comprehensive approach is to use Pasture Condition Scoring. This can more effectively show the effectiveness of the entire grazing system and the response to the improvements. It also provides direction for further improvements that might be necessary in the system to reach the goals and objectives of the producer and his/her grazing plan.

The producer should also help manage the grazing system and monitor improvements by keeping grazing records. The producer needs to record what kind and how many animals grazed the system. They need to document the date the animals entered a pasture (paddock) and the date they left the pasture (paddock plus the height of the forage going into the pasture and the height when leaving the pasture. They need to keep a record of fertilizer and/or manure applied, beyond what the grazing animals defecated, and any herbicide treatments.

Information from the following publication was used to develop this technical note.
Creating a Prescribed Grazing Plan - Arkansas NRCS Technical Note September 2006.

http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1044239.pdf.