



# Prescribed Grazing Fact Sheet

Applicable to conservation practice Prescribed Grazing – 528

USDA Natural Resources Conservation Service - North Dakota

February 2012



## What is Prescribed Grazing?

Prescribed grazing is the controlled harvest of vegetation, with grazing or browsing animals, managed with the intent to achieve one or more of the following purposes.

- ✓ To improve or maintain the health and vigor of selected plant(s)
- ✓ To maintain a stable and desired plant community
- ✓ To provide or maintain food, cover and shelter for animals of concern
- ✓ To improve or maintain animal health and productivity
- ✓ To maintain or improve water quality and quantity
- ✓ To reduce accelerated soil erosion and maintain or improve soil condition for sustainability of the resource

## How Prescribed Grazing helps.

When properly applied, this practice has the potential to maintain or improve:

- ✓ Forage quantity and quality
- ✓ Plant diversity
- ✓ Grazing animal health and condition
- ✓ Water quality and quantity
- ✓ Economic viability
- ✓ Wildlife habitat

In addition to these benefits, soil erosion may be reduced and the short term impacts of drought on forage production may be reduced due to an increased moisture infiltration, healthier and deeper plant root systems and reduced evapotranspiration rates.

**To apply this practice:**

Simply put, prescribed grazing management is balancing the needs of the key forage producing plants (adequate leaf area and healthy root systems) with the needs of the grazing animal (adequate quantity and quality of forage). To achieve this balance and meet the goals of the grazing operation, a prescribed grazing system involving two or more pastures is necessary. The following criteria should be considered when developing the grazing management plan.

***Degree of Use***

The most important factor to consider is the amount of leaf area removed from the key forage plants within your pastures. The degree of use that is proper for your pastures varies somewhat by which plants are grazed and the time of the year they are grazed. However, the adage "take half and leave half" probably best describes the degree of use that will meet most management goals.

Adequate soil moisture for plant growth is the most limiting factor for forage production in North Dakota. Plant litter is critical to soil moisture management. Leaving at least 50 percent of the current year's production is important for reducing moisture loss due to run-off during rain events and cooling the soil surface to reduce losses from evaporation and transpiration. Rotating animals and leaving at least half of a plant's leaf area after each grazing event helps insure adequate leaf surface for photosynthesis and continued plant growth for recovery.

Determining proper stocking rates is critical to insure that proper use of your pastures is met. When drought conditions occur, timely reductions to stocking rates are critical to maintain the long-term productivity and health of the grazing resource.

***Changing Deferral Periods***

When grazing two or more pastures during the growing season, plan the grazing sequence to avoid grazing the same pasture during the same portion of the growing season in consecutive years.

***Adequate Recovery Periods***

Grazing removes leaf area from plants and reduces the plants' ability to manufacture food. Once this leaf area is removed, the plant needs adequate recovery time to re-grow this leaf area and replace any stored food reserves it used to regrow leaf area. The amount of time it takes for a plant to recover varies depending upon how much leaf area was removed, soil moisture, and the time of year. Generally under normal climatic conditions, less recovery time is needed during the fast growth period and more time is needed to recover from a grazing event during the slow growth period. The following guidance can give the manager an estimated recovery period for developing the prescribed grazing schedule. To be most effective, these recovery periods should be adjusted in response to changes in actual growing conditions.

<b>Fast Growth Minimums – Cool-Season/Tame Pastures:</b>	15 days Eastern ND/25 for Western ND.
<b>Rangeland Pastures:</b>	30 days Eastern ND/45 for Western ND.
<b>Slow Growth Minimums – Cool-Season/Tame Pastures:</b>	25 days Eastern ND/35 for Western ND.
<b>Rangeland Pastures:</b>	45 days Eastern ND/65 for Western ND.

The time grazing animals are in a pasture should be kept as short as practical provided adequate recovery periods are maintained. This will minimize the opportunity for the animals to graze plant regrowth prior to plant recovery.

**Grazing Readiness**

Grazing pastures before the plants are ready has been shown to reduce forage production by as much as 75 percent. Leaf stage and plant height should primarily determine grazing readiness. Calendar dates should be used only as a guide. Growing conditions and plant health may alter plant height but will not generally affect plant phenology (leaf stage). On rangeland, the 3 1/2-leaf stage is recommended key forage grasses while the 3-leaf stage is recommended for introduced (tame) grasses. The table at right gives recommended heights and **approximate** dates for determining grazing readiness of selected species.

Species	Minimum - Optimum Height of Vegetative Growth (in inches)	Approximate Date
Alfalfa	6 - 10	May 15
Big bluestem	8 - 14	July 1
Crested wheatgrass	4 - 6	April 20
Green needlegrass	6 - 8	May 15
Intermediate/Pubescent wheatgrass	8 - 14	May 15
Kentucky bluegrass	4 - 6	May 7
Reed canarygrass	8 - 8	May 7
Sideoats grama	4 - 6	June 20
Smooth bromegrass	8 - 14	May 7
Switchgrass	12 - 20	June 20
Western wheatgrass	6 - 10	May 15

**Monitoring**

Good documentation of observations and establishing photo points can provide valuable information to help you determine if you are meeting your objectives. An evaluation of all grazing units should be made periodically to determine if an adjustment to the grazing schedule or animal numbers is needed. This should be done often during the first few years and less often once a good understanding of the grazing management is achieved.

<http://www.ag.ndsu.edu/HettingerREC/range-wildlife>      <http://www.youtube.com/watch?v=2PD548sW6OU>

**Other Considerations:**

**Forage Inventory** – Determine the type, production, key forage species, key grazing locations, best season of use, location of noxious weeds, locate where grazing distribution problems occur on each grazing unit.

**Physical Inventory** - Determine grazing distribution patterns, water sources, fence locations, mineral, salt, supplements, heavy impact areas, soil erosion concerns and insect control device locations.

**Animal Inventory** - Determine the numbers, breeding dates, calving dates, turn in/out dates of each type of livestock for each grazing unit.

**Water Resources** – Insure that the livestock have both adequate quality and quantity of water for the number of livestock, time, and duration they will be in each grazing unit.

**Wildlife and other enterprises** – Insure the grazing will improve or maintain these systems.

**Contingency plan** – Have a detailed backup plan in case of disasters such as drought, hail storms, and/or wild fires that will affect your original grazing strategies.

**Maintaining Prescribed Grazing:**

Control all noxious weeds, protect high impact areas from erosion, determine degree of use and grazing patterns on all grazing units, inspect and maintain all water developments and fences, determine if rest periods were adequate, change season of use and develop next years grazing plan.

**Contacts:**

For more information or site specific assistance on prescribed grazing, grazing land inventory, and other technical assistance, please contact you local Natural Resources Conservation Service Field Office, Soil Conservation District Office, or local NDSU County Extension Service.