

Horse Grazing Management

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NDSU

EXTENSION

Topics We Will Cover Today

- Types of grasses in ND horse pastures
- Fertilizing pasture
 - Why, when and how
- Plants toxic to horses found in ND pastures
- Where to source grass seed
 - Seeding rates for “new pasture” vs over-seeding current pasture

Commons Grasses in Horse Pastures in North Dakota

- Smooth brome
 - High quality, high production, very palatable
 - Common in planted pastures, ditches
 - When mature, becomes less palatable and low quality



Commons Grasses in Horse Pastures in North Dakota

- Kentucky bluegrass
 - High quality, moderate production, and palatable when immature
 - Common invader in planted pastures
 - When mature, becomes less palatable and low quality



Commons Grasses in Horse Pastures in North Dakota

- Crested wheatgrass
 - Common perennial in drier regions
 - Palatable when immature, high producing
 - Wolfy when mature, poor palatability



Commons Grasses in Horse Pastures in North Dakota

- Quackgrass
 - Palatable when immature, moderate to high production
 - Common invading grass in pasture – especially salty areas
 - When mature, becomes less palatable and low quality



Commons Grasses in Horse Pastures in North Dakota

- Native pasture
 - Good year-round grazing, palatability varies by species and time
 - Low to high production, dependent on soils
 - Greatest aesthetic value
 - Expensive to establish



Fertilizing Horse Pastures

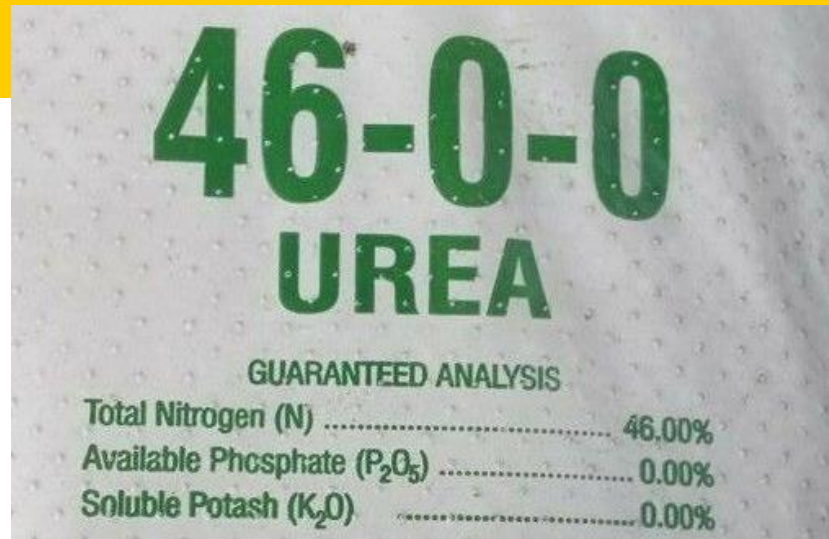


Fertilizing Horse Pastures

- Only fertilize seeded pastures (not range)
 - Brome, crested wheatgrass, intermediate wheatgrass, timothy, orchardgrass
 - NO on native pastures
- Fertilizer increases forage production and quality
- What to Fertilizer with?
 - Nitrogen is the limiting nutrient on planted pastures
 - 40-60 lb/ac of actual N in western ½ ND
 - 60-80 lb/ac of actual N in eastern ½ ND

Fertilizing Horse Pastures

- When to fertilize?
 - Late April through mid May
- Most common option is Urea
- Spread by top dressing on the pasture
 - Becomes volatile when temperatures above 70° F



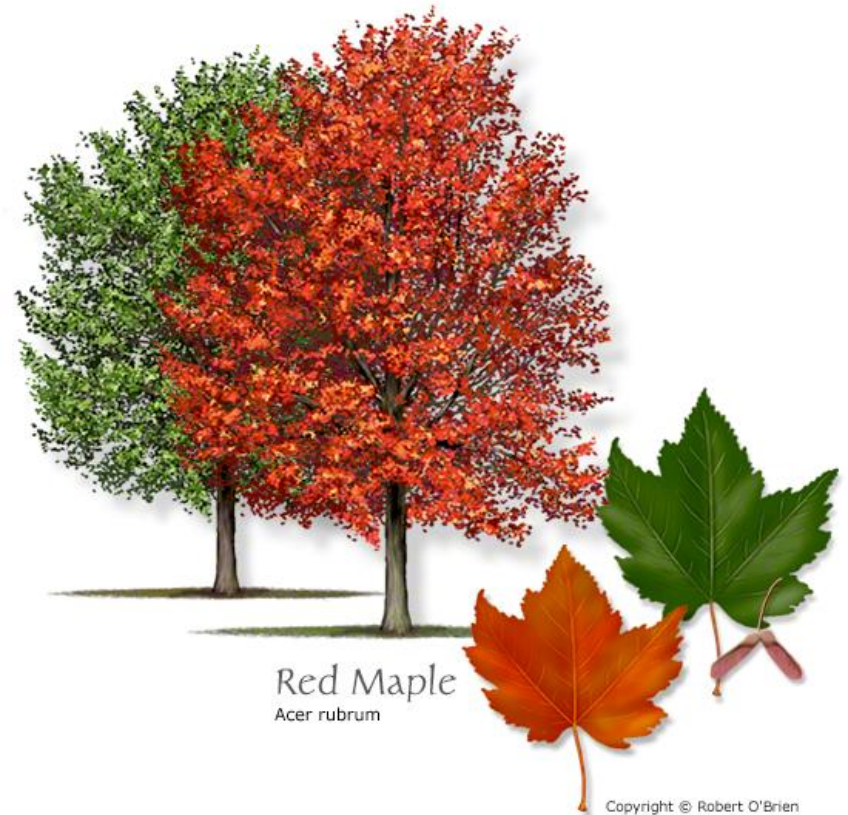
Weeds?

- Annual weeds
- Invasive weeds
- Noxious weeds
- Toxic weeds



Toxic Plants

- ***Red Maple Tree***
 - (Box elder tree, other maples)
- Leaves most toxic
 - 3 lb ingested / 1000 lb horse can be deadly
- Severe anemia
- Depression
- Increased breathing



Toxic Plants

- ***Chokecherry***
 - Stressed or wilted leaves most toxic
 - Bark somewhat toxic
 - Cyanide poisoning
- Death usually occurs before found
 - Flared nostril
 - Labored breathing
 - Lack of coordination
 - Trembling and agitation



Toxic Plants

- ***Other Plants (not palatable)***
 - Horsetail
 - Locoweed
 - Milkweed
 - Oak
 - Poison hemlock
 - Ragworts

Toxic Plants

- ***Nitrogen accumulator plants***
 - Annual broadleaf
 - Kochia
 - Russian Thistle
 - Lambsquarter
 - Usually causes high fever, death can follow!

Where to Source Grass Seed?

- Seeding a new pasture
- Over-seeding an existing pasture
- Local seed dealer
 - (i.e. CHS)
- Larger seed companies
 - (i.e. Agassiz Seed)

My Favorite Horse Pasture Mixtures!

- 1) Meadow brome
 - Meadow brome + Alfalfa
 - Meadow brome + Orchardgrass
 - SE North Dakota
- 2) Intermediate wheatgrass + pubescent wheatgrass + slender wheatgrass
- 3) Crested wheatgrass + Alfalfa
 - SW ND

Seeding Horse Pasture!

- Seeding Date
 - 1: Early April – late May
 - 2: Mid October – early November
 - Dormant seeding



Over-seeding a Pasture

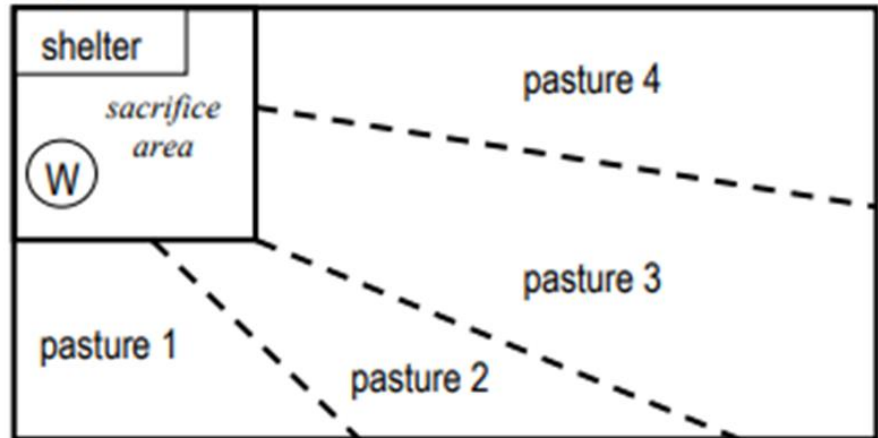
- Usually not successful unless bare areas are common
 - This usually occurs due to overgrazing
 - Need to fix overgrazing problem
 - Seed with like species in the pasture
 - Drilling in the seed is most successful technique

Grazing Strategies

- Grazing strategies
 - Continuous grazing
 - Limiting turnout time
 - Rotational grazing

- Rotational grazing

Figure 1



Rotational Grazing

Grazing Strategies for Horse Pastures – Publication by Extension Equine Specialist at Colorado State University by Lori K. Warren, PhD
[https://www.whatcomcd.org/sites/default/files/farm_assist/smallfarm/Grazing%20Strategies%20\(Extension%20Colorado\).pdf](https://www.whatcomcd.org/sites/default/files/farm_assist/smallfarm/Grazing%20Strategies%20(Extension%20Colorado).pdf)

Rotational Grazing

Table 1 provides an example of rotational grazing in a midwestern, cool season grass pasture system.

Number of paddocks	Spring		Summer		Fall	
	Days of grazing /paddock	Days rested per paddock	Days of grazing per paddock	Days rested per paddock	Days grazing per paddock	Days rested per paddock
2	14	14	42	42	28	28
3	7	14	21	42	14	28
4	5	15	14	42	10	30
5	4	16	11	44	7	28

Table 1. Rotational grazing paddock designs (at recommended stocking rates) for horses based on 2, 3, 4, or 5 paddocks in the Northern U.S.

eXtension
<https://horses.extension.org/grazing-systems-for-horses/>

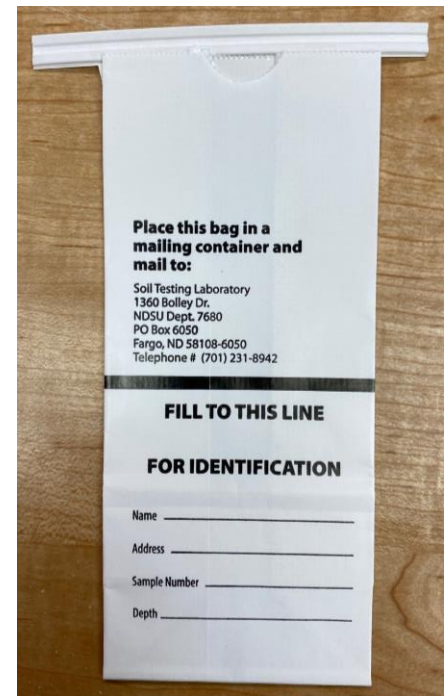
Weed Management for Pastures

- Ways to control
 - Cultural
 - Chemical
 - Mechanical
- ID the weeds
- Weed management starts with pasture management



Soil Testing for Pasture Fertility

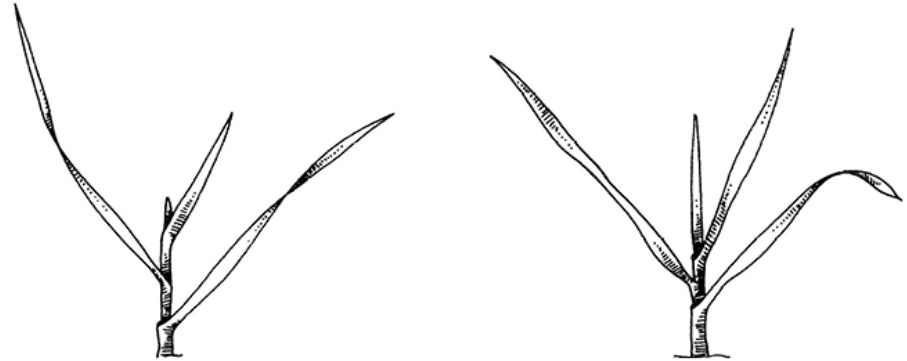
- Normally test for:
 - Nitrogen
 - Phosphorus
 - Potassium
 - pH
 - Organic Matter
- Depth of 0-6"
- Collect samples in a zigzag pattern and from multiple spots.



When to Initiate and Cease Grazing

- Leaf growth stage

- Most accurate
- 3-3.5 leaf stage



- Height

- Doesn't consider specie differences
 - Start when majority of grasses are 6-8" tall
 - Stop grazing when majority of grasses are 4" tall
- "Take Half, Leave Half"
 - By weight, not height

- NDSU publication R1061, Determining Grazing Readiness for Native and Tame Pastures

Grazing Too Early

- Reduces plant leaf area needed for photosynthesis
 - Reduced plant vigor
 - Thinner stands
 - Lowered total forage production
 - Increased risk of weed, disease, and insect infestation
- May take several years to regain productivity
- Can also graze too late
 - Reduced palatability and waste

Overgrazing

Percent leaf of volume removed	Percent of root growth stoppage
10	0
20	0
30	0
40	0
50	2-4
60	50
70	78
80	100
90	100

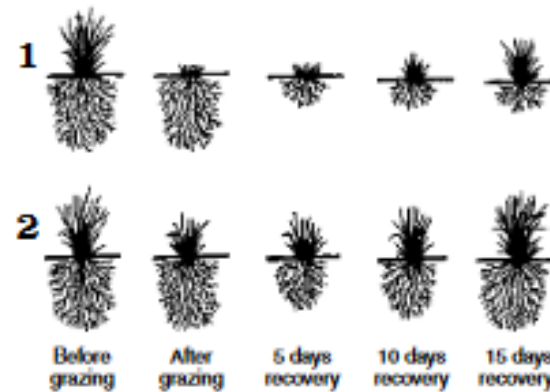


Figure 5. Plant regrowth rates depend on the amount of leaf removed by a grazing event. Plant 2 regrows more quickly because it can fix more energy through photosynthesis than Plant 1, which must draw on its root reserves for energy to regrow. (Reprinted with permission from "Pasture Vegetation – The Monitoring Tool Box" Land Stewardship Project, June 2000.)

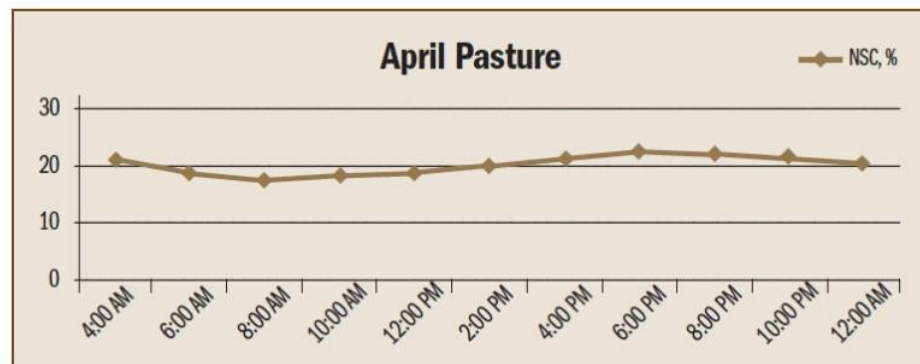
Transitioning Your Horse to Spring Grass

- Spring, cool season grasses (also fall regrowth)
 - Rapid growth and NSC production (sugars, starches, and fructans)
- Increased laminitis risk
 - Even higher risk in horses with IR, Cushing's, or high BCS
- Adapt to spring grass slowly
 - Start with 15-30 minutes of grazing
 - Increase by 15-30 minutes every day until 4+ hours reached
- Monitor closely



Managing High Risk Horses

- Use grazing muzzles
- Avoid grazing on sunny afternoons
- Turnout overnight
- Even at lowest NSC levels in the early a.m. can still exceed intake for at-risk horses



Total NSC content is highest on sunny days in the late afternoon and lowest during the overnight hours. McIntosh suggests turning horses out during the overnight hours (10:00 p.m. to 6:00 a.m.) and avoiding afternoon turnout (12:00-8:00 p.m.).

Review

- What kind of plants is your horse grazing?
- Do you have a grazing fertility plan?
- When should you seed your pasture?
- Which grazing strategy works for your lifestyle, your pastures and the health of your horse?
- Using a dry lot gives you a place to keep the horses when you need to keep them off the pasture.

Resources

- **eXtension Horse Learning Community**
 - <https://horses.extension.org/horsequest-learning-lesson-horseexploration/>
- **Determining Grazing Readiness for Native and Tame Pastures**
 - <https://www.ag.ndsu.edu/publications/environment-natural-resources/determining-grazing-readiness-for-native-and-tame-pastures>
- **The North Dakota Grazing Monitoring Stick: A Way to Measure Range and Pasture Utilization**
 - <https://www.ag.ndsu.edu/publications/livestock/the-north-dakota-grazing-monitoring-stick-a-way-to-measure-range-and-pasture-utilization>
- **Ranchers Guide to Grassland Management IV**
 - <https://www.ag.ndsu.edu/publications/livestock/ranchers-guide-to-grassland-management-iv#section-89>