

Small Pasture Management Guide



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USU Extension: <http://extension.usu.edu/agriculture>
Small Acreage Website: extension.usu.edu/smac

Using Our Land and Water Resources in a Productive, Environmentally Friendly Way

As more people select rural settings for their homes, traditional farms are being divided into small acreage home lots. Many small acreage owners would like to have lush green pastures where they can raise horses, cattle, or sheep. The purpose of this booklet is to provide the educational guidance these owners need to successfully establish and maintain a healthy grazing system.

Where to Start . . .

The first step in developing a management plan is to look around, make a sketch and take a few notes about your property. In your sketch, show or note:

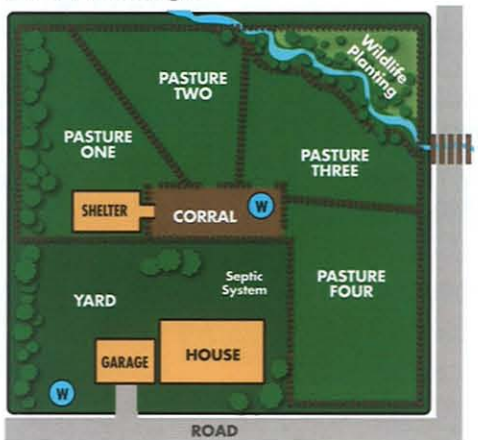
- Property boundaries
- Fences and corrals
- Buildings
- Wells (human or stock)
- Septic system
- Streams, wetlands, ponds
- Bare ground
- Weeds

Before Planning...



- Lawn, pasture or crop land
- Trees or shrubs
- Soil type (refer to your county soil survey available from the USDA Natural Resource Conservation Service)
- Depth to groundwater
- Neighboring land uses
- Flat or sloped ground

After Planning...



Make a Plan

Once you've looked at your property and identified your goals, develop a management plan for reaching them. Remember, even if you like things just the way they are, something needs to be done to keep it that way! With proper management your pasture will stay vigorous and productive for many years.

What are your goals?

What do you want and what can your land and resources support?

Animal grazing?
How many?

Hay production?

Wildlife habitat?

A fish pond?

A 4-H livestock project?

A riding arena?

Native plants?

Seclusion?

Attractive vistas?

Non-irrigated pasture?

Something else?

Are your goals realistic for your property?

Some Commonly Asked Questions About Pastures:

- Why is my pasture's productivity dropping, leaving bare ground and weeds?
- Are three horses too many for one acre?
- What type of grass should I plant?
- How do I fertilize for good production and also avoid contamination of waterways and ground water?
- How often and for how long should I irrigate my pasture?

The primary purpose of this booklet is to answer these questions and provide information and ideas for your own small pasture. With a little time, knowledge and not a lot of money, you can help your pasture achieve its potential

For more information, contact your local Extension Office or visit one of the following websites:

- extension.usu.edu/smac
- barnyardsandbackyards.com
- cals.arizona.edu/agnic/az/tips/tipsfencing.html
- www.ag.uidaho.edu/sustag/smallfarms
- animalrangeextension.montana.edu/articles/forage.main-grazing.htm
- smallfarms.wsu.edu/index.php
- www.ext.colostate.edu/pubs/livestk/01627.html
- tucumcarisc.nmsu.edu/documents/cr-585.pdf
- smallfarms.oregonstate.edu



How Much Feed and Forage Do You Need for Your Livestock?

Q. How much hay and forage do your animals need?

Q. How much hay and forage can your pasture produce?

Average Animal Feed Requirements

	Hay (tons/month)	Grazing (animal units/month)
1 horse	.5	1.25
1 cow	.4	1.2
1 llama	.15	.3
1 sheep	.1	.2
1 goat	.1	.2

Average Forage Production of Pasture in One Year

	Fertile Soils		Poor Soils	
	Hay (tons/acre)	Grazing (AUMs/acre)	Hay (tons/acre)	Grazing (AUMs/acre)
Irrigated	4-6	6-10	2-4	3-6
Non-irrigated	1-2	1-2	.5	.5

Q. Does your needed forage and hay requirement equal your production potential?

The following example operation consists of three acres of fertile irrigated land. One acre is used for hay production and two acres for grazing. Livestock consist of two horses. The pasture has a six month growing season.

Hay Requirement

2 horses x .5 tons/month x 6 months = **6 tons hay**

Hay Production

1 acre (fertile irrigated soil) x 5 ton/acre
= **5 tons hay**

Grazing Forage Requirement

2 horses x 1.25 AUMs/month x 6 months = **15 AUMs**

Grazing Forage Production

2 acres (fertile irrigated soil) x 8 AUM/acre
= **16 AUMs**

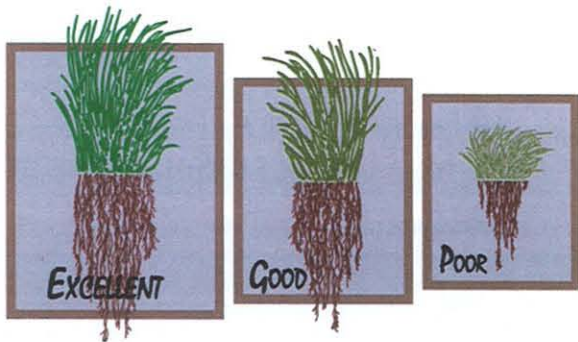
In this example, the two acres would produce enough forage to graze two horses for six months. However, there would not be enough hay production to meet the animals' needs during the winter. Some hay would need to be purchased.

Grazing is measured in **Animal Unit Months (AUM)**. One AUM is the amount of forage consumed by a 1,000-pound cow and her calf in one month.

The grazing season varies with the climate, but in much of the west livestock are grazed from mid-April through mid-October, and fed hay from November to April.

By **stockpiling** pasture grasses (leaving a part of the pasture ungrazed from mid-August to mid-October), the grazing season can often be extended into December.

How Grazing Affects Root Growth



Plants get the energy needed for growth from the sun through photosynthesis in their green leaves. The root system is in the dark and totally reliant on the leaves to supply the carbohydrates required for maintenance and growth. When grass plants are continuously grazed short, the root mass decreases to what the leaf area can support.

The general rule of thumb is to begin grazing when the pasture is 7 to 8 inches tall and stop grazing when the average height of the pasture is 3 inches.

Over grazing not only reduces the health and vigor of the plants, causing a decrease in the regrowth rate, but it pre-disposes the pasture to weed invasion.

Non-irrigated pastures are less resilient to grazing than irrigated pastures. They are slower to recover and often must wait for precipitation to be revitalized. Begin grazing when the forage is 8 to 12 inches tall, and stop grazing when the average height is 4 to 6 inches.

Over-grazing stops root growth and reduces grass production. It occurs when more than 50% of the leaf mass is removed. Grazing an additional 10%, removing 60% of the leaf area, reduces root growth by 50%.

Percent Leaf Mass Removed	Percent Root Growth Stopped
10%	0%
20%	0%
30%	0%
40%	0%
50%	2-4%
60%	50%
70%	78%
80%	100%
90%	100%

Soil Types—Know Your Soils

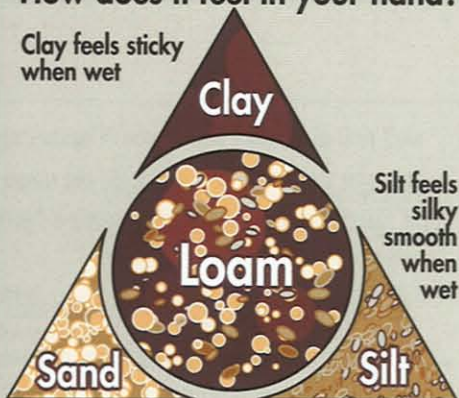
Soils vary widely, even across your backyard. The type of soil you have will influence:

- What type and how much forage your land can produce.
- How quickly water moves through the soil.
- If the soil will filter animal wastes before they reach ground water.
- How often you need to irrigate.
- How much water needs to be applied in each irrigation.
- How much fertilizer is needed.

For information about your soil type, refer to your county's soil survey available from the Natural Resources Conservation Service (NRCS) office (listed in your phone book under United States Government, Dept. of Agriculture). You can also find soil surveys at the County Extension Office and the public library.

How does it feel in your hand?

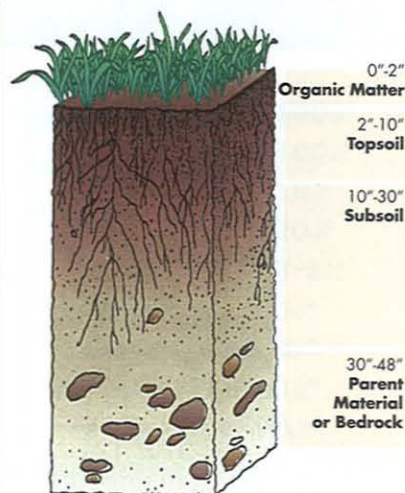
Clay feels sticky when wet



Sand feels coarse and gritty

Silt feels silky smooth when wet

Loam is a combination of all of these.



Typical Soil Profile

Irrigation Management

Nothing in your management efforts will affect production of your pasture more than providing adequate irrigation. Different soil types hold various amounts of water. As a general rule when plants have removed 50% of the water available in the soil, it is time to irrigate and refill the rooting zone. For established pasture grasses the rooting zone is about two feet.



Testing a soil ball for moisture

Determining when to irrigate. In all but sandy textured soils, do a rough check on soil moisture by using the soil ball method. Dig a 6" to 12" hole and remove a handful of soil. Squeeze the soil into a ball. If the soil remains in a stable shape when you open your hand and bounce the ball in your palm, then it contains more than 50% of its available water. If it crumbles, it needs irrigation.

Am I applying too much water? Using too much water washes away plant nutrients. This causes grasses to turn yellow. Growth of aquatic weeds, such as sedge or rushes, are also indicators of too much water.

What if I don't have enough irrigation water? Pasture plants that don't receive adequate moisture stop growing, go dormant and may turn brown. When dormant plants receive adequate moisture it takes some time for them to break dormancy and begin to grow again. For this reason, if irrigation water is short the recommendation is to use it on the most productive pasture areas and let the remainder go dormant. Generally using the water to maintain a smaller area of unstressed grass will produce more than a large area of grass going in and out of dormancy. To avoid plant mortality in the dry areas try to provide irrigation to all areas at least once a month during hot/dry periods.

How long should I irrigate? While this depends on the irrigation supply rate, in general, irrigate sandy soils for short periods (2-3 hours) and clay soils for longer periods (9-12 hours). Before considering rain as a replacement for an irrigation turn, use a shovel to see how deep it has penetrated into the soil. Rarely does a rain storm provide enough water to fill the rooting zone.

Irrigation should be completed well in advance (three to five days) of the next grazing cycle to reduce animal compaction of the wetted soils.

Sprinkling is one of the best ways to efficiently irrigate your pasture, but it requires a significant monetary investment in equipment. There is little runoff with sprinklers and it is easy to measure how much water is being applied.

Graded Border Irrigation uses water to flood the field between two dikes. It works well, but the land should be leveled for best efficiency. It is difficult to know how much water soaked in and how much ran off at the bottom of the field.

Corrugations are closely spaced small furrows that carry water from the top of the field to the bottom. This approach doesn't require quite as level a field as border irrigation. However, it is very rough running hay harvesting equipment across the corrugations.

Wild Flood is just running water from the top of the field to the bottom with no mechanism for insuring an even distribution. For this method to work efficiently, the field must be very level with a uniform fall from top to bottom.

Pasture Irrigation: How much? How often?

Soil Texture	Water per irrigation*	Irrigation Interval**
Sand	1.25"	4-6 days
Loam	2.5"	9-11 days
Clay	2.5"	9-11 days

* Water to be replaced in a 2.5 foot rooting zone when the soil is at 50% of its water holding capacity

** Average July Irrigation Interval (Valid 4,000-5,000 feet elevation)

With flood irrigation systems it is essential that provisions be made to drain excess tail water off the bottom of the field. This water may carry fertilizers and sediment and thus be a source of contamination to streams.

Fertilization

Irrigated pasture requires frequent fertilization for top production. Drag pastures to spread manure that may remain after grazing. Animals avoid grazing areas fouled by fresh manure for about three weeks. By dragging the pasture, you not only avoid having ungrazed, fouled areas, but also more efficiently distribute the nutrient value of the manure.

Soil Testing A soil test is the best way to develop a fertilizer program. It will tell you how much fertilizer you need to apply for the amount of forage you estimate will be produced. The University Extension agent can help you with a sample box and the instructions for having a soil analysis done. The routine test includes phosphorus, potassium, pH, salinity and texture. Tests for nitrogen and micro-nutrients are also available. Once you have completed a soil test and made the appropriate fertilizer applications, a follow up test every three or four years will indicate how your fertility program is progressing.

Fertilizer Selection

The three primary plant nutrients contained in commercial fertilizer are (N) nitrogen, (P) phosphorus and (K) potassium. These nutrients are represented by the three numbers on every fertilizer bag.



A fertilizer labeled "32-10-10" indicates that:

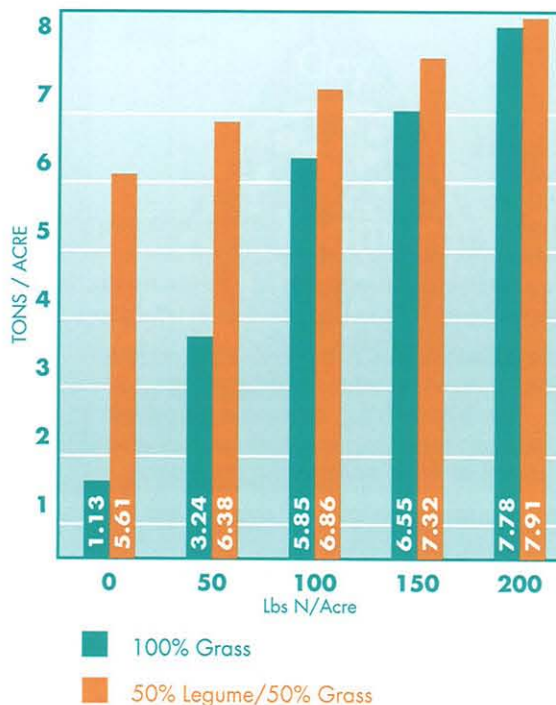
- 32% of the contents is nitrogen (N)
 - 10% of the contents is available phosphorus (P_2O_5)
 - 10% of the contents is soluble potassium (K_2O)
- (The other 48% is inert filler)

Example: Suppose that you wanted to apply 100 lbs of nitrogen per acre. Using the 32-10-10 fertilizer you would need to apply 312 pounds per acre. (100 lbs of nitrogen divided by 32% (.32) = 312 lbs of fertilizer.)

Most Limiting Factor

The **Most Limiting Factor** principle states that plant yield is limited by whichever factor is most deficient. This means that if potassium is severely deficient in a soil, adding more nitrogen will not be as efficient at increasing production. This helps us understand that we must provide for the balanced needs of the pasture if it is to reach its full potential.

NITROGEN EFFECT ON PRODUCTION OF GRASS vs. LEGUME-GRASS



Results from USU Extension Trial in Weber County, Utah.

GENERAL FERTILIZER RECOMMENDATIONS

(for an established grass pasture)

Nitrogen (N) - Nitrogen is the plant nutrient required in the largest amount by grass pastures. An application of nitrogen will usually have a profound effect on pasture production. Soil applied nitrogen is effective for about 8 weeks, therefore it needs to be re-applied several times throughout the growing season. A suggested per acre application schedule for an irrigated pasture would be: 80 to 100 lbs of N/acre in the spring and 60 lbs of N every 8 to 10 weeks during the growing season.

Fertilization of **non irrigated** pastures is typically limited to nitrogen. An early spring application of 50 to 75 lbs./acre will often produce significant benefits

Legumes, like alfalfa and clover, have the ability to pull nitrogen from the air and make it available to plants. Pastures with a significant legume population require less commercial nitrogen fertilizer. A general rule is to reduce the nitrogen applied by the percentage of legume in the pasture mix.

Fertilizer Effect on Quality — Applying nitrogen fertilizer to pastures not only increases yield, but also improves the quality of the forage produced. The results of a grass pasture trial showed that the addition of 100 lbs of nitrogen/acre in the spring increased the protein content of the grass from 11.3% to 14.9%.



MOST LIMITING FACTOR

The most limiting factor determines the yield potential.

Phosphorus (P) - Phosphorus is particularly important for seedling growth in a new pasture. Legumes require higher levels of phosphorus than grasses. Work phosphorus into the soil before seeding a new pasture or broadcast it over the top of an established pasture. Where pasture forages are consumed by grazing and the manure is distributed evenly across the field, phosphorus levels tend to remain constant. Thus once adequate levels are established, further applications may not be needed for several years.

Potassium (K) - The need for potassium varies widely. A soil test is very useful in knowing whether to apply this nutrient. Many of our pastures receive sufficient potassium from the irrigation water. Like phosphorus, potassium in the soil remains relatively constant where forages are grazed and manure redeposited on the field.

Descriptions for Commonly Used Forage Species

GRASSES

Meadow Brome - Mildly sod forming, excellent palatability, strong seedlings, irrigated or non-irrigated with 15 inches or more of precipitation annually.

Smooth Brome - Sod forming, excellent palatability, weak seedlings, vigorous spreader, adapted to irrigated conditions.

Tall Fescue - Bunch grass, low palatability, high producing, tolerant of wet and salty conditions. Plant certified endophyte-free seed to avoid possible toxic effects.

Creeping Meadow Foxtail - Sod forming, highly palatable, well adapted to wet meadow conditions.

Orchardgrass - Bunch grass, highly palatable, high producing, shade tolerant, irrigated or non-irrigated with 16 inches or more of precipitation annually.

Perennial Ryegrass - Relatively short-lived bunch grass, excellent palatability, establishes rapidly, low winter hardiness, requires high fertility, adapted to irrigated conditions.

Timothy - Bunch grass, traditional feed for horses, moderate palatability, moderate to high production on wet meadows. It is poor for grazing during moist conditions as many plants will be pulled out thus thinning the stand.

Crested Wheatgrass - Bunch to mildly sod forming, highly palatable, excellent on non-irrigated sites with 10 or more inches of annual precipitation. Best production is in the spring. Adapted to sandy soils, excellent seedling vigor, easy to establish and has the ability to compete with cheatgrass.

Intermediate Wheatgrass - Mildly sod forming, highly palatable, excellent on non-irrigated sites with 14 or more inches of annual precipitation.

Russian Wildrye - Bunchgrass, moderately palatable, excellent on non-irrigated sites that receive 8 or more inches of annual precipitation. Best growth in spring but remains green throughout summer. Slow germination and seedling growth.

LEGUMES

Alfalfa - Very productive, excellent palatability, short-lived, irrigated or non-irrigated.

Strawberry Clover - Spreading, moderate production, tolerant of wet and salty conditions.

White Clover - Spreading, high productivity, long-lived, adapted to irrigated pastures.

Sainfoin - Non-bloating, less productive and shorter lived than alfalfa. Irrigated or non-irrigated with 13 or more inches of annual precipitation.

Birdsfoot Trefoil - Non-bloating, moderate production, excellent palatability. Tolerant of wet or mildly saline conditions. Short-lived. Adapted to irrigated pastures.

Weed and Pest Control

A shovel can be used to dig out widely scattered weeds. Clipping weeds before they go to seed will help prevent existing problems from getting worse. When using herbicides, remember that most weeds are better controlled when they are small. Owners of small pastures generally need to use products based on 2,4-D, dicamba, or aminopyralid (Milestone) for broadleaf weeds and glyphosate (Roundup) for spot treatment of grassy weeds. Keep in mind that Roundup-type herbicides are non-

selective and will kill desirable plants. Always read herbicide labels carefully and follow directions. Animals may need to be removed for a number of days after spraying.

For best results team up with your neighbors in a joint control effort to prevent weeds from returning from across the property line.

Insects and diseases are rarely a problem in pastures, but rodents can be a real

concern. Gophers create hazardous holes and build tunnels that can cause ditches to wash out. Control can be achieved by using baits or traps available at most farm supply stores. Protected by winter snow, voles may leave a web of surface tunnels in pastures. This problem disappears later in the spring as lack of cover exposes the voles to natural predators.

Know Your Weeds Before They...

- Choke out desirable forage.
- Compete for limited moisture.
- Poison your animals.
- Spread RAPIDLY!



Burdock



Canada Thistle



Cocklebur



Curly Dock



Foxtail Barley



White Top



Teasel

Weeds in small pastures can significantly reduce available forage. Most weed problems can be prevented with good grazing, fertilization and irrigation practices. Among the most common broad-leaf weeds in pastures are burdock, cocklebur, whitetop, curly dock, teasel and thistles. Foxtail barley is one of the most troublesome grassy weeds. Weed identification is the first step towards an effective control program.

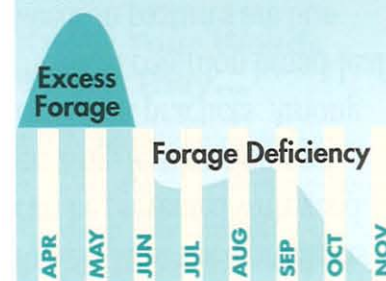
Pasture Growth Patterns

The cool season grasses grown in the West have a large flush of growth in the spring. This flush can be beneficial in providing the increased nutrient demands of lactating mother animals and their growing young. However, it frequently provides more grass than the animals can consume.

When this spring flush of growth is not used, the grass gets overly mature, animals avoid eating it, and new leaf growth is suppressed. If this occurs, mechanically clip the pasture to encourage uniform regrowth of young vigorous plants.

Options for utilizing the spring flush are to take one cutting of hay from half of the pasture, while the other half is being grazed, then graze the entire pasture through the rest of the season, or to vary the number of animals grazing the pasture to match its production. The spring flush can be minimized by delaying the first fertilizer application until the end of June. However, a large percentage of the season's growth occurs during May and June; without fertilization much of this forage potential will be lost.

Typical Pattern of Cool-Season Grass Production



Grazing Management Produces More Forage

Animals seek out the most palatable forages in a pasture. If livestock are allowed to continuously remain in one pasture too long, they will re-graze the succulent regrowth instead of eating the more mature plants. This continuous grazing can be very hard on plants, using up their root reserves and slowing their future recovery.

Rotational grazing involves confining animals in one section of pasture or paddock while the remainder of the pasture "rests" and regrows. These paddocks are small enough that all the forage is grazed to a uniform height in a relatively short period of time. The timing of rotations must be adjusted for the growth rate of the forage. Most irrigated paddocks are ready to be regrazed after 3 to 4 weeks of rest. A minimum of 4 paddocks is necessary to achieve the major advantages of a rotational grazing system. Efficiency is improved with additional paddocks. Be sure to design the system so that animals have access to water in each paddock.

Having access to a corral where animals can be fed hay greatly increases the flexibility of a rotational grazing system. The corral can be used as one or more of the paddocks rotated through, or used to limit the time animals spend grazing to a specific number of hours. For example, some horse owners let their animals into the pasture for a few hours in the morning and again each evening. This meets the nutritional needs of most horses

and eliminates excessive trampling.

The carrying capacity of non-irrigated pastures is extremely variable. Monitor grazing closely and move animals to a corral area before plants are damaged. Generally, a non-irrigated pasture paddock will only be grazed once or twice a year. It's beneficial to begin spring grazing on a different paddock each year. Hoof action on wet soils as well as early defoliation cause significant stress and damage to the pasture.

Fall is a critical time of year for perennial grasses. This is when they are storing energy to carry them through the winter and when the majority of the new tillers are being formed. A large portion of the energy reserves of grasses are stored in the lower stems. It is important that the pasture not be overgrazed or be deficient in essential nutrients such as phosphorus and potassium during the fall and winter months.



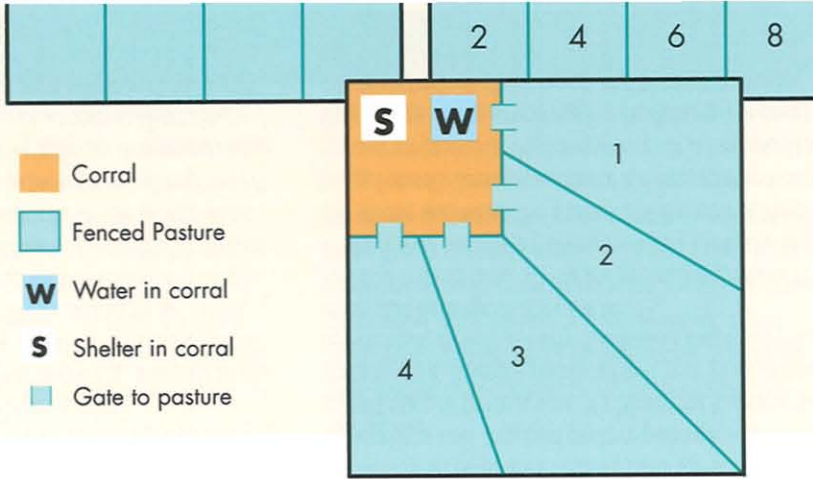
	APR	MAY	JUNE	JULY	AUG	SEP	WINTER
PASTURE 1	G	G	G	G	G	G	
PASTURE 2		G	G	G	G	G	
PASTURE 3			G	G	G	G	
PASTURE 4				G	G	G	

G Graze
 Rest
 Provide feed/hay

This example utilizes one week of grazing and three weeks of rest.



GRAZING SYSTEM



- Allow long rest periods to rejuvenate pastures in poor condition.
- Provide a water source for each pasture.
- Irrigate each pasture immediately after grazing to stimulate regrowth and avoid hoof compaction on wet soils.
- Horses do not need continuous access to pasture. Their nutritional needs can be met with only a few hours of grazing on good pasture. Corral animals for the remainder of the day to reduce over-grazing, excess trampling, and obesity.
- On limited acreage, you may only have enough pasture to supplement your animals and will need to feed hay year-round.

Pasture Establishment

Before replanting a run-down pasture, consider invigorating it with improved irrigation, fertilization, weed control, and grazing management. If poor management practices have created a run-down pasture, the management approach needs to change before investing a lot of resources into improving or replanting it.

Seed bed preparation - Best results come with a clean, firm seed bed. An herbicide application (broad-spectrum type such as Roundup) may be necessary prior to tillage for effective control of perennial weeds. To prepare the soil, cultivate with a plow or disk and use a cultipacker or roller to firm the seedbed so that your footprint leaves only a 1/4 inch depression. A firm seedbed helps control planting depth.

Species selection - Access to irrigation is the primary concern in determining which grass species to plant. Drought tolerant species are not as palatable or productive but are the only realistic option when sufficient irrigation water is not available. Another factor to consider is tolerance to salinity and standing water. If the site is free of these constraints, consider palatability and yield. Legumes such as alfalfa or clover are often included in pasture mixes. These broadleaf plants may be killed by herbicides if a broadleaf weed treatment is needed after establishment.

Planting considerations - Pasture planting is most successful when completed in the spring months of March and April or early fall months of August and September. The seeding rate for most species is 15 to 20 lbs/acre. Planting depth should be 1/4 inch. Seed planted deeper than 1/2 inch will have difficulty emerging. Either a drill or broadcast spreader can be used to distribute the seed. Rolling after planting assures good contact between the seed and the soil which aids in germination.

Non-irrigated pastures are generally planted in November and December. This is called dormant seeding, and increases the likelihood of proper moisture for early spring germination.

Grasses - A mixture of grass species is often desirable. However, mixtures that contain a large number of varieties tend to lose their more palatable species, because animals preferentially graze them. Many of these pastures end up being dominated by the least palatable species.

Legumes - A legume such as alfalfa or clover can be added to the mix at the rate of 1 to 2 lbs of seed per acre to increase forage protein and provide organic nitrogen.

Grazing - New seedlings should be protected from grazing and trampling until the plants are sufficiently

Many grass varieties have small light seeds and do not flow well through planters. To facilitate their smooth flow, they are normally mixed with a larger seed. A common ratio would be one pound of grass seed mixed with two to three pounds of carrier seed, such as oats, barley or rice hulls.

established so that they will resist being uprooted by grazing animals. This can be accomplished by taking one cutting of hay before allowing animals to graze. Non-irrigated pastures may require two summers without grazing.



two. After this adjustment period, it should be safe for them to remain in the pasture full-time.

The young growing calf, hard working horse, or pregnant mare may have higher nutritional requirements than pasture alone can provide and may necessitate the addition of a grain mixture. All animals should have access to free choice minerals and salt, and access to adequate quantities of fresh water. The average horse will consume 10-12 gallons of water each day.

accessible initially.

Bloating - Bloating is a concern for four-stomached animals (ruminants) such as cattle and sheep. Pastures that contain a large percentage of alfalfa or clover pose an increased risk for bloating. Make sure animals are not hungry when they enter these fields and watch them closely. It is recommended that they be filled with dry hay before turn-out, and the time allowed in the legume pasture be restricted initially. Providing bloat reducing supplements decreases the danger of bloat.



Bloating is a Concern

Environmental Concerns

Owners of any kind of livestock know that animals can affect neighbors. Some fairly general complaints livestock owners receive are concerning dust, flies, and odors.

Dust can be reduced in corrals by periodic wetting. If your pasture produces dust, it needs serious attention.

Flies hatch from maggots that grow in warm, wet manure. The most unpleasant odors also come from wet manure.

Some possible solutions:

- Feed dealers have feed supplements that stop flies from growing in manure.
- Drag manure to spread it over the field and dry it out.
- Keep manure dry by diverting runoff water away from corrals.

Save the trees! Trees and shrubs are an asset in most pasture settings. They work like an evaporative cooler in the summer and are a windbreak in cold weather. If animals are peeling bark or otherwise damaging trees, consider protecting the trees with a fence. Be aware that many ornamental plants are toxic to livestock.

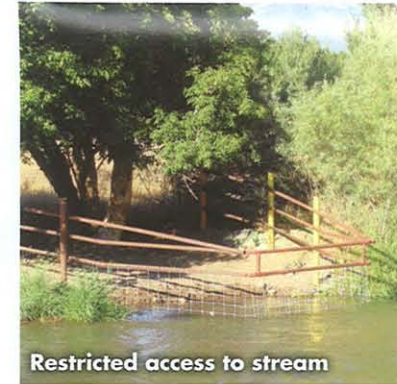
Stream Stewardship - Trees and shrubs protect stream banks and enhance wildlife habitat. If they are removed, the stream is likely to cut into the stream bank on your property. People downstream then have to deal with the sediment that

used to be your land. Sediment kills fish and fills canals, lakes and ponds. Having a pasture on a stream can be an advantage, however it carries increased responsibility.

Fencing livestock off the stream bank allows willows and trees to grow and protects the wetland area. You don't have to find another way to water the stock if you utilize proper fencing. Make a small stream access area with panels or fence. The access should be small enough to keep animals from wading into the stream. Putting gravel in the access area provides a firm base to keep animals from disturbing the stream bank.

Don't Make Me Drink It! Take a hard look at the lay of your land. When it storms, where does the water go? It is poor stream stewardship to let your runoff carry manure with it because most streams are somebody's drinking water source.

Spread manure on land that is away from the stream, and manage irrigation water so that it doesn't run through manure piles. When grass is well managed, it cleans and filters water and uses the nutrients in the manure for growth. If you have a well-managed pasture, you can actually improve the quality of water for everyone.



Restricted access to stream



Excellent bank protection



precious. Water rights on a given piece of land should be verified prior to purchasing that land. Water rights are verified through the State Division of Water Rights. A permit from the Division of Water Rights is also required to drill a well. Ground with water rights may be subject to local restraints on how much water is available and for how long the water may be diverted and used. Local ditch companies may also have varying rules and regulations. Speaking to the local water master or attending an irrigation company meeting will give insight into water issues in your area.

Burning Laws - In most areas, agricultural burning of ditches and field waste is accepted, but notification of local fire fighting units is required. Regulations vary from community to community. Call the local fire department to check on the legality of burning. Remember, every big fire starts out as a small fire.

Pet Constraints - Homeowners need to be aware of licensing and restraint laws affecting animals. A permit must be obtained to legally raise certain exotic animals. Dogs that are allowed to run free can become a general liability if they attack other animals and cause death or physical damage. Some pets and poultry are subject to attacks by natural predators if not well protected.



About this Publication...

PROJECT COORDINATORS:

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