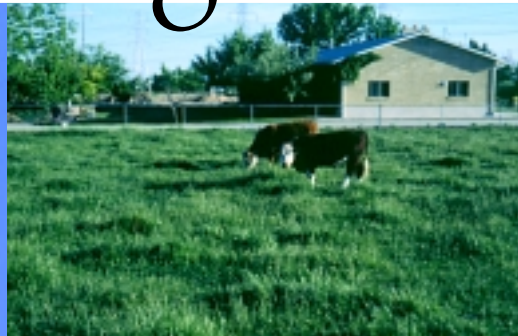


Small Pasture Management Guide *for Utah*



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

As more people make Utah their home, more of our large traditional farms are being divided into small acreage home lots. Many of these small acreage owners would like to have verdant green pastures where they can raise horses, calves, or sheep. However, many of them lack the experience and training to successfully establish and maintain a healthy grazing system.

Evaluate What You Have . . .

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

Lawn, pasture or crop land

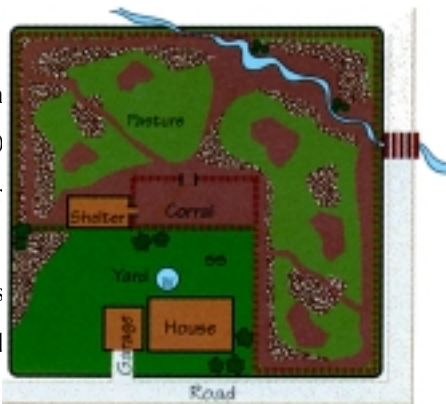
Trees or shrubs

Soil type (refer to your county soil survey available from the USDA Soil Conservation Service)

Depth to groundwater (check with well drillers)

Neighboring land uses

Flat or sloped ground



What are your goals?

What do you want?

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?

Pretty vistas?

Non-irrigated pasture?

Something else?

Are your goals realistic for your property?

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, you will need to do something to keep weeds from coming in and to keep the water clean! With some basic maintenance your pasture will stay vigorous and productive for many years.

Utah is a great place to live, and we each need to do our part to keep it that way!

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?

This booklet will 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 have a "picture perfect" pasture that provides abundant grazing while protecting the environment. Remember, we're all part of a neighborhood and our actions can affect others.

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

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

Average Animal Feed Requirements		
	Hay (tons/month)	Forage (AUMs/month)
1 horse	.5	1.25
1 cow	.4	1.2
1 sheep	.1	.2
1 llama	.15	.3
1 goat	.1	.2

Q. How much forage or hay does your pasture produce?

Average Forage Production of Pasture in One Year				
	Fertile Soils		Poor Soils	
	Hay (tons)	Forage (AUMs)	Hay (tons)	Forage (AUMs)
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?

To find out, do your own calculations. *This example operation has 20 acres of fertile non-irrigated land. Ten acres is used for hay production and ten acres for grazing. Livestock consist of three horses.*

Hay Requirement 3 horses x .5 tons/month x 6 months = 9 tons hay	Forage Requirement 3 horses x 1.25 AUMs/month x 6 months = 22.4 AUMs
Hay Production 10 acres (fertile non-irrigated soil) x 1 ton/acre = 10 tons hay	Forage Production 10 acres (fertile non-irrigated soil) x 1 AUM/acre = 10 AUMs

In this example, your land would produce enough hay to feed your animals for 6 months. However, you would not have enough forage (grazing) to meet your animals' needs during the grazing period. To avoid overgrazing your pasture, you can do some of the following...

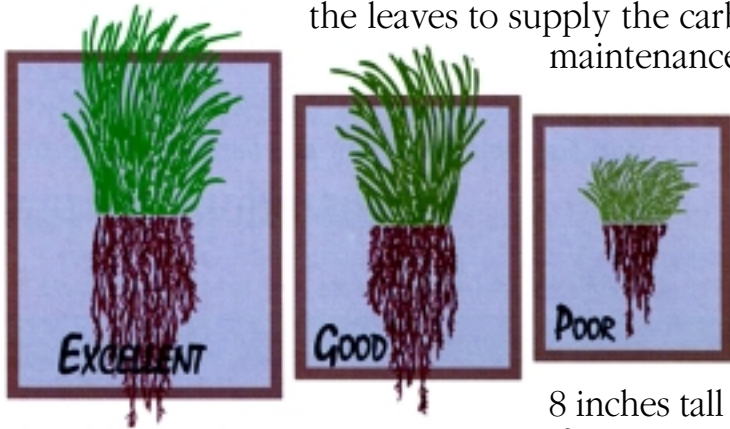
- Buy additional feed or rent pasture
- Increase pasture production
- Improve grazing management
- Reduce number of animals

In Utah, livestock are usually grazed from May through October and fed hay from November through 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.

Grazing is measured in **Animal Unit Months (AUM)**. One AUM is the amount of forage consumed by a 1000-pound animal in one month.

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.

Overgrazing stops root growth and reduces grass production. It occurs when more than 50% of the grass plant is removed.

Look what happens when you try to sneak in another 10% "harvest", 50% of the roots stop growing!

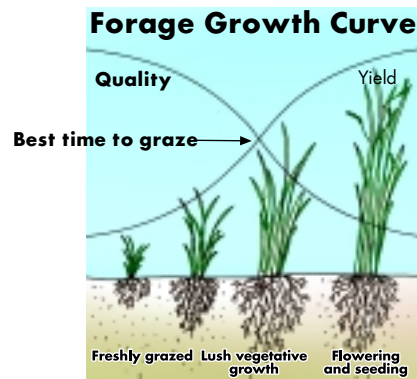
Percent Grass Plant Removed	Percent Root Growth Stopped
10%	0%
20%	0%
30%	0%
40%	0%
50%	2-4%
60%	50%
70%	78%
80%	100%
90%	100%



Forage Quality

As plants grow older, their forage quality decreases. This occurs because, as plants get larger, more of their cells become fibrous in order to support a more massive structure. This less digestible fiber lowers the forage quality and makes the plants less palatable to animals.

Fertilization can also have a major influence on forage quality. (See Fertilization page 7)



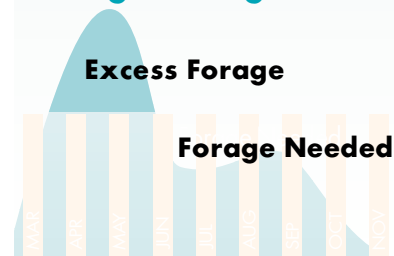
Pasture Growth Patterns

The cool season grasses grown in Utah 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 isn't used, the grass gets overly mature, animals avoid eating it, and new leaf growth is suppressed. If this happens, the pasture should be mechanically clipped to encourage uniform regrowth of young vigorous grass plants.

Options for utilizing the spring flush are to take one cutting of hay from half of the pasture then graze all of the 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 partially avoided by delaying the first fertilizer application until the end of June. However, a large percent of the season's growth occurs in May through June, without fertilization much of this forage potential will be lost.

Typical Pattern of Pasture Production During Grazing Season



Monthly forage needs shown as bar graph. The pasture yield is represented as the curve.

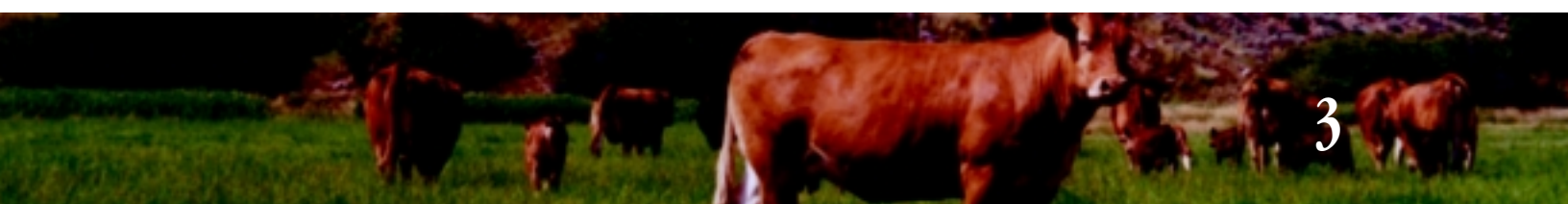
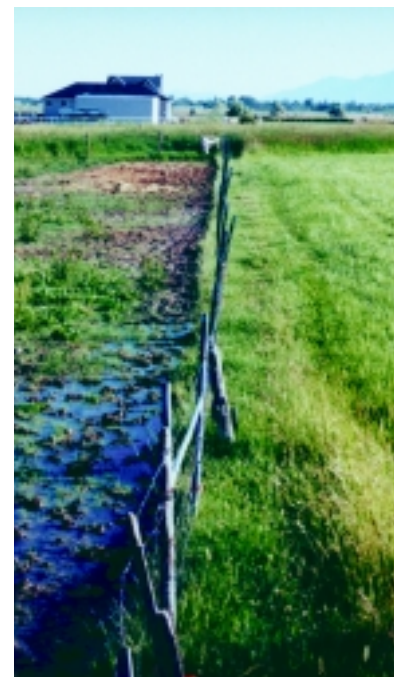
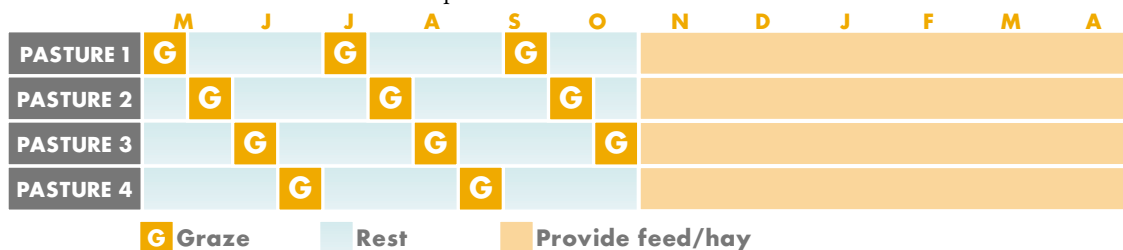
Grazing Management Produces More Forage

Animals will 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 more mature plants. This continuous grazing is 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." 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. However, most irrigated paddocks are ready to be regrazed after 3 to 4 weeks of rest. A minimum of four paddocks

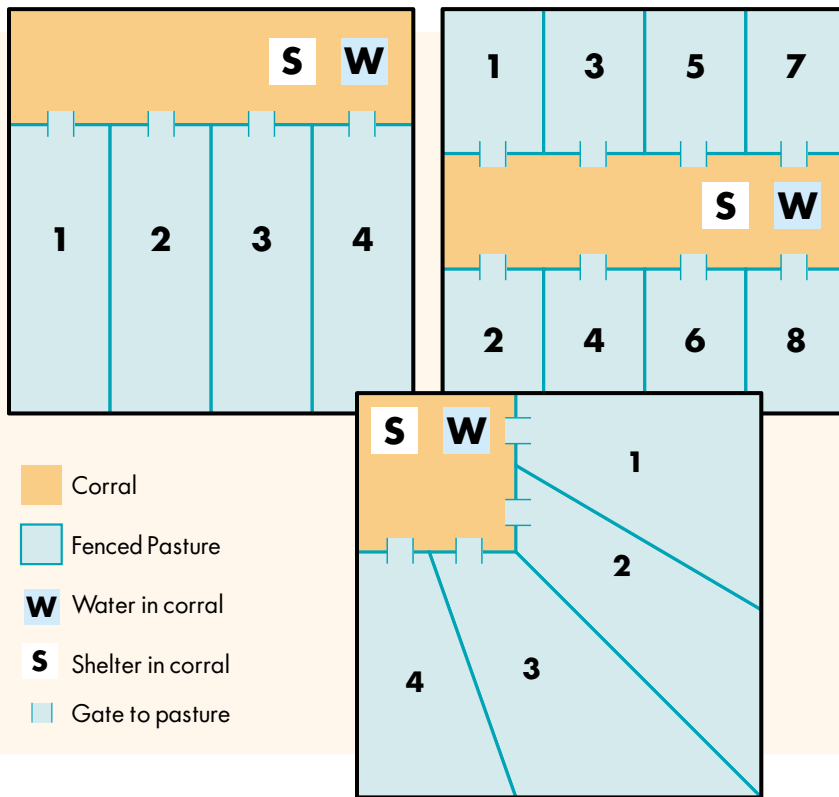
is necessary to achieve the major advantages of a rotational grazing system. For maximum animal growth, more paddocks will be needed. Be sure to design the system so that animals have access to water in each paddock.

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 animals grazing to a specific number of hours. For example, some horse owners will let their animals into the pasture for a few hours in the morning and evening. This meets the nutritional needs of most horses and eliminates excessive trampling.



Tips for a Successful Grazing Program

SAMPLE DESIGNS FOR A ROTATIONAL GRAZING SYSTEM



- Eliminate continuous season-long grazing.
- Corral livestock and feed them hay until your pasture grasses are 6" to 8" high. Remove animals when 50% of the available forage has been eaten (3" height remains).
- Do not regaze until grasses are at least 6" tall (will take 3 to 4 weeks on irrigated pasture).
- During the winter non-grazing period, hold animals in a corral.
- Allow long rest periods to rejuvenate pastures in poor conditions.
- 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 prevent over grazing of plants and avoid excess trampling of vegetation.
- On limited acreage, you may have only enough pasture to exercise your animals and will need to feed year-round.

Pasture Establishment

Before starting over on a run down pasture, consider invigorating it with improved irrigation, fertilization, weed control, and grazing management. If replanting is necessary or when establishing a new pasture, consider:

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 weed control.

Species selection - Access to irrigation is the primary concern in determining which grass species to plant. Drought tolerant species are not as palatable nor 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 these conditions exist. If the site is free of these constraints, consider palatability and yield. Legumes such as alfalfa or clover are often included in pasture mixes. They may be killed by herbicides if weed treatments are needed after establishment.

Planting considerations - Pasture planting is most successful when completed from March 15 through May 1 or from August 15 through September

15. Seeding rates 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. Many small pasture owners broadcast the seed and then lightly drag the field to establish adequate soil contact. It is recommended that single grass species or a bunch and sod forming type grass mix be planted. Mixtures that contain a large number of varieties tend to lose their more palatable species, because the animals preferentially graze them. Many of these pastures end up being dominated by Tall Fescue because it is frequently the least palatable.

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 seedings should be protected from grazing and trampling until the plants are established enough so that they will not be pulled up 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.

Before starting over on a run down pasture, consider invigorating it with improved irrigation, fertilization, weed control, and grazing management.

Pasture Establishment Forage Descriptions for Commonly Used Species

GRASSES

Meadow Brome - 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, fair palatability, high producing, tolerant of wet and salty conditions. For grazing, plant certified endophyte-free seed.

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

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

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

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

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.

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, irrigated or non-irrigated.

Weed and Pest Control



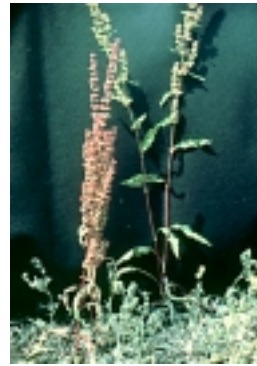
Burdock



Canada Thistle



Cocklebur



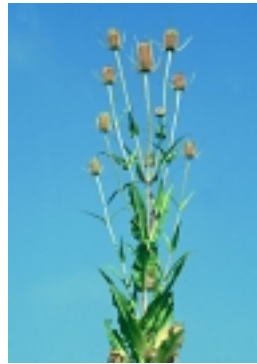
Curly Dock



Foxtail Barley



White Top



Teasel

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 will generally need to use products based on 2,4-D or dicamba (Banvel) for broadleaf weeds and glyphosate (Roundup) for spot treatment of grassy weeds.

Keep in mind that Roundup is non-selective and will kill desirable plants as well.

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 so weeds are less likely to return from across the fence.

Insects and diseases are rarely problems in pastures, but rodents can be a real concern. The fan-shaped mounds of dirt left by gophers reduce yield, while the tunnels can damage irrigation systems. 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 for livestock and wildlife.
- Reduce the productivity of your pasture and land.
- Spread RAPIDLY!

Weeds in small pastures can significantly reduce available forage. Most weed problems can be prevented with good grazing, fertilization and irrigation practices, but continually watch for new weed invasions. 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.

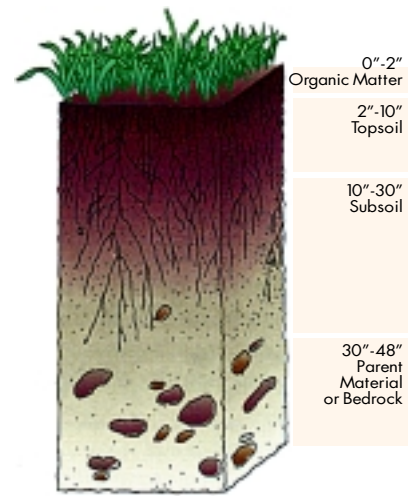
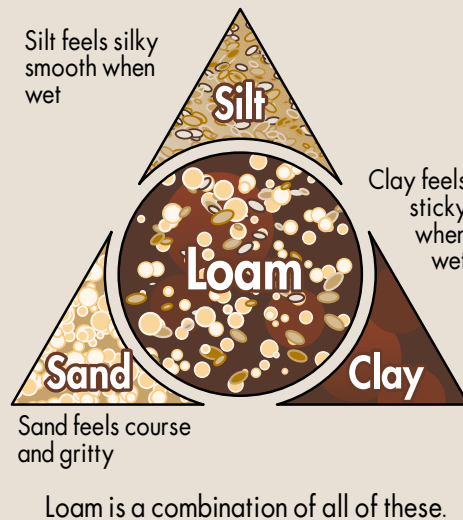
Soil Types—Know Your Soils

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?



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. If all of the water held by the soil was removed, the plants would die. A general rule is that when the plants have removed 50% of the water held by the soil, it is time to irrigate and refill the rooting zone. For established pasture grasses, the rooting zone is 2-3 feet.



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

rooting zone.

Am I applying too much water? Using too much water washes away plant nutrients. When this happens grasses appear yellow. Growth of aquatic weeds, such as sedge or rushes, are also indicators of too much water.

What if I'm short on water? If your grass is going dry and dormant between irrigation turns in the hottest part of the summer, it is time to sacrifice some pasture. Let some land dry up in July and August, the grass will green up again in the fall. In the meantime, keep your most productive areas green and unstressed by focusing your irrigation here. You will get more production from a smaller area of unstressed grass than a larger area of grass going in and out of dormancy.

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. Not often does a rain storm provide enough water to fill the

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.

Flood Irrigation Methods - *With all 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.*

Graded Border Irrigation is when water is flooded down 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 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, but still doesn't provide for easy monitoring of the water actually retained by the soil. It is also 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.

Irrigation How Much and How Often?

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

* Water to be replaced in the 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 in Utah)

Fertilization

An irrigated pasture requires frequent fertilization for top production. In the spring, drag pastures to spread any manure left by grazing animals. 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 local **Utah State 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, lime 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 (P₂O₅)**
10% of the contents is soluble **potassium (K₂O)**

(The other 48% is inert filler)

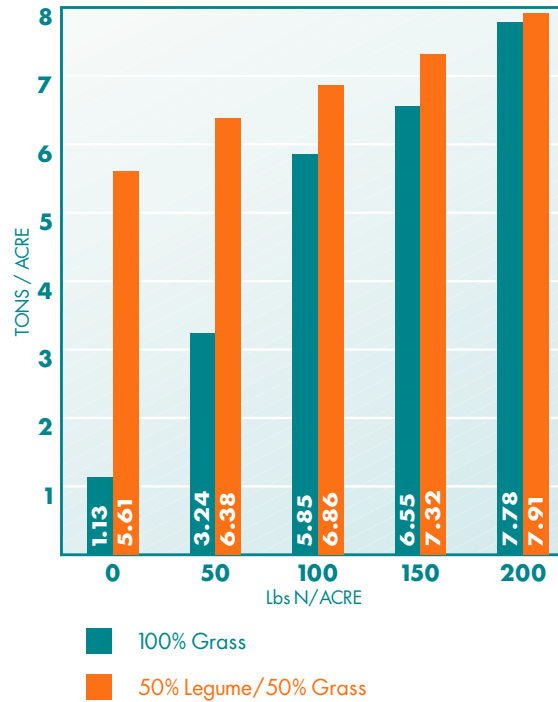
Example: Suppose the soil test recommended that you apply 100 lbs of nitrogen per acre. Using the 32-10-10 fertilizer, you would need to apply 312 pounds per acre. (100 lbs of nitrogen divided by 32% (.32) = 312 lbs of fertilizer.

Most Limiting Factor

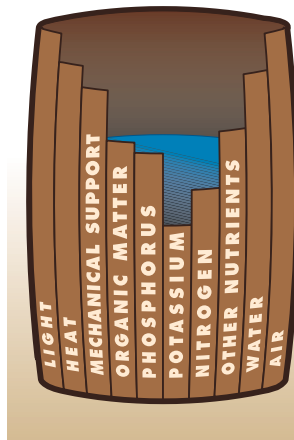
The **Most Limiting Factor** principle states that plant yield is limited by which ever factor is most deficient. This means that if phosphorus is severely deficient in a soil, adding more nitrogen will not increase production. This helps us understand that we must provide for the balanced needs of the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

NITROGEN EFFECT ON PRODUCTION OF LEGUME GRASS vs. GRASS

Weber County



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 in Weber County showed that the addition of 150 lbs of nitrogen in the spring increased the protein content of the grass by 36% (from 11.3% to 17.7%).



MOST LIMITING FACTOR

The most limiting factor determines the yield potential.

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 through the growing season. A suggested *per acre* application schedule for a well managed irrigated pasture would be: 100 lbs of N in April; 60 lbs of N in late June; and another 60 lbs of N in late August.

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.

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 established pastures. 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 through Utah. 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.

Livestock Concerns

Pasture Management - Animals on pasture should have access to a windbreak or other shelter to protect them from cold winter winds, hot summer sun, and wet, rainy weather. When introducing livestock to pasture in the spring, it is wise to limit access for a few days to decrease the chances of colic or founder from an abrupt change in diet. Begin by turning animals out for two hours the first day. Increase this gradually over a week or two. After this adjustment period, it should be safe for them to remain in 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 free choice access to trace-mineralized salt. Also, all animals need access to adequate quantities of fresh water. The average horse will consume 10-12 gallons of water each day.

Parasite control - This is a vital part of every health care program. Manure is the primary means through which parasites spread. Manure often contaminates the feed, water supplies, pastures, paddocks, and stalls. Proper manure disposal will help prevent this contamination. The manure should be composted or spread on unoccupied pastures to sun cure. Harrowing or dragging pastures during hot dry weather helps disperse manure deposits and kills parasite larva by exposing them to the sun. Dragging should not be done where animals are grazing because it distributes the larvae across the grass making it more accessible initially. There is little advantage to grazing cows and sheep with horses. However, horses following ruminants (cows) or vice versa is beneficial. The parasites that are specific to horses do not reproduce in cows so the parasite population is reduced.

Bloating - Pastures that contain a large percentage of alfalfa or clover pose an increased risk for bloating animals. Make sure animals are not hungry when they enter these fields and watch them closely.



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 is producing 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 mineral supplements that stop flies from growing in manure.
- Drag manure to spread it over the field and dry it out.
- Divert 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. They also increase the value of your property. If animals are peeling bark or otherwise damaging trees, consider protecting the trees with a fence.

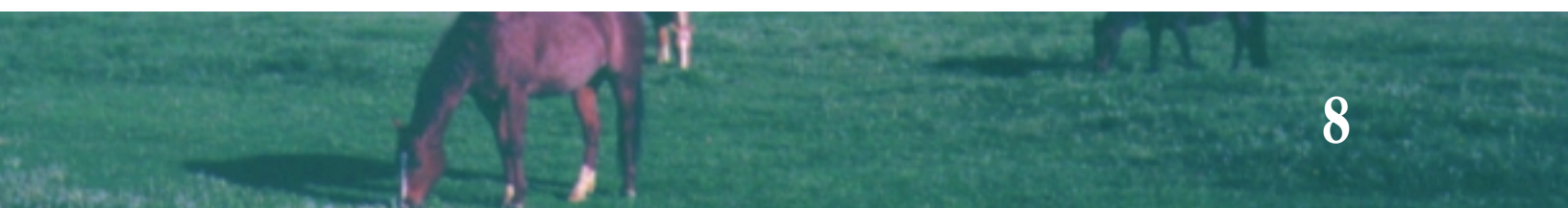
Stream Stewardship - Trees and shrubs protect stream banks and enhance wildlife habitat. If they are removed, the stream is likely to cut into the stream bank on your property. People downstream then have

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 protect the soil. 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 will provide a firm base to keep animals from disturbing the stream soil.

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 not good stream stewardship to let your runoff carry manure with it because most Utah streams are somebody's drinking water source. Even people using well water know that often their water source is the ground water from pastures.

Spread manure on land that is away from the stream, and manage irrigation water. 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.



Landowner Responsibilities

Land owners need to be aware of land and ownership issues and requirements that may vary from jurisdiction to jurisdiction. The following are some issues that may require a landowners attention and some research to verify compliance:

Zoning - Zoning laws vary in each community. The number or type of animals that can be located on a property may be restricted. Some restrictions may be recorded on a deed while other requirements may only be verified by a visit to the local planning and zoning office.

Water Rights - Utah is located in a desert and water is precious. Water rights on a given piece of land should be verified prior to purchasing that land. Water rights are verified through the *State of Utah Division of Water Rights* in Salt Lake City. 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 a ditch company meeting will give insight into water issues in your area.

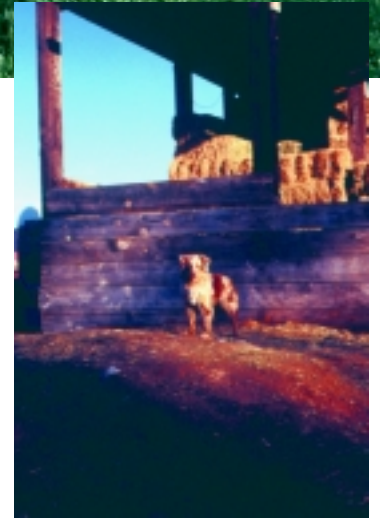
Burning Laws - In most areas, agricultural burning of ditches and field waste is accepted, but notification of local fire fighting units is required. Regulations vary from community to community. Call the local fire department in your area to check on the legality of

burning. Remember, every big fire starts out as a small fire.

Fencing Laws - Fencing requirements may be set by zoning laws or deed restrictions (*See zoning above.*) Care should be taken to make fences secure and safe for your animals.

Weed Control - Utah has a *Noxious Weed Law*. Landowners are required to make all efforts to control noxious weeds on their property. Control may be achieved through various methods which include the use of chemicals, cutting, burning, and tillage. Weed control requires proper identification. Help with identification of weeds is available through the *USU Extension Service* or *Natural Resource Conservation Service*.

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.



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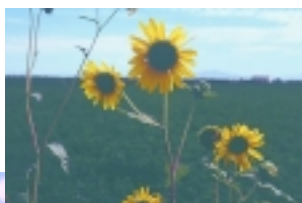
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Primary source for information in this guide is "Tips on Land & Water Management for Small Farms & Ranches in Montana," Montana Department of Natural Resources and Conservation

"Pastures for Profit, A Guide to Rotational Grazing", University of Wisconsin-Extension A3529

"Interagency Forage and Conservation Planting Guide for Utah," USU Extension EC 433



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