



# Horse Pasture Establishment and Management

## Equine Water Quality Education Series

Horses and pastures seem to go together. Pastures provide exercise and a low-cost feed source, but unless productive, they provide only exercise. To achieve both goals, they must have a good start. The following steps will help.

### Test Soil

A soil test is the best guide for correcting soil pH and soil fertility needs. LSU AgCenter parish extension offices have soil sample kits and instructions. Soil pH should be between 5.8 and 6.5. Lime reacts slowly with soil and is best applied several months before seeding; therefore, test soil early. Lime applied in the right amount according to your soil test can raise the pH level of the soil and has the added benefit of allowing the applied fertilizer to be more effective.

### Apply Lime and Fertilizer

Apply according to the soil test. If large lime applications are needed, plow some down and disc some in. Disc the fertilizer into the soil after plowing. If using nutrient sources such as manure, apply before plowing or other soil preparation. To start a vigorous crop, correct lime and nutrient needs before seeding. Annual fertilizer applications are required for maintenance. Soil testing is recommended to perform about every 2 to 3 years.

### Prepare a Good Seedbed

Most forage seeds and seedlings are small and require a fine firm seedbed. Finely worked soil allows close seed-to-soil contact for germination and close root-to-soil contact for early growth. A firm seedbed allows close depth control for shallow seed placement. Loose and cloddy seedbeds waste seed and do not sustain early growth well.

### Buy High-Quality Seed

Use species and varieties adapted to the area. Your LSU AgCenter parish agent can supply appropriate information. Avoid shopping for “bargain” seed. The cost difference between bargain and high-quality seed is very small when the entire expense is considered.

### Select Forage Crop for Adaptation

It is extremely important to plant a forage crop only where it is adapted to be grown. Failure to do adhere to this concept results in many disappointments each year. Some forage crops that make excellent pastures or hay crops in some parts of the United States simply are not well-enough adapted to be grown in Louisiana. Examples include timothy, Kentucky bluegrass, alfalfa and smooth brome grass. Adaptation is determined primarily by soil moisture availability throughout the growing season and by temperatures, particularly temperature extremes. Thus, many factors, including soil type, topography and area of the state, greatly influence adaptation.

More than 40 species of forage crops are commonly grown in Louisiana. Each is normally distinguished as being (1) a grass or a legume, (2) an annual or a perennial and (3) a warm-season or cool-season plant.

### Use the Most Suitable Species

Most Louisiana horse enterprises use a warm-season perennial grass for grazing during the spring and summer months and a cool-season winter annual grass for the winter and early spring months. The most common warm-season perennial grasses used are Bermuda grass, bahiagrass and Dallis grass. The most popular winter annual grass used is annual ryegrass. Clovers such as white, crimson and berseem are sometimes planted in combination with annual ryegrass for winter grazing. Clovers are beneficial because they are high

in quality, are able to “fix” their own nitrogen and can extend the grazing season of cool- and warm-season grasses. Clovers, however, are more site-specific than are most grasses. Individuals may have to experiment with several species of clover to determine which one(s) perform well on their own particular farm or ranch.

## Warm-Season Perennial Grasses Options

**Bermuda grass:** can be grown throughout Louisiana and is one of the most widely used forage species in the state. It can be used for hay or pasture. Bermuda grass can be planted with seed or vegetatively propagated. For horse pasture, it is probably best to plant a seeded variety, such as common Bermuda grass. This grass produces a resilient sod that “heals” well when cut by horses hooves. Vegetative varieties such as Alicia, Russell and Jiggs are more suited for hay production.

**Bahiagrass:** is planted with seed and is adapted to many soil types in Louisiana. Individuals must be patient when attempting to establish bahiagrass because it contains a large percentage of dormant seed that germinate over a period of months. Once established, however, bahiagrass provides a very good sod for grazing. Bahiagrass is more adapted to sites of low soil fertility than Bermuda grass is.

**Dallis grass:** is an adapted grass that is very productive on alluvial soils and more fertile upland soils in Louisiana. It has good drought tolerance but does not do well on deep, sandy upland soils of northern Louisiana or soils with low fertility in other areas. It is noted for having good-to-excellent forage quality. Dallis grass also suffers from ergot problems in the seed head, which can be harmful to horses. This problem can be controlled in pastures by clipping to remove the seed heads.

## Cool-Season Annual Grass Options

**Annual ryegrass:** This is by far the most popular winter annual species for forage. Its high-yielding ability, ease of establishment, high-forage quality and tendency to form a dense sod make it a good choice. Its peak growth is in the spring, but it has good fall growth if planted early and the weather is suitable. Ryegrass can be planted in mid-September on a prepared seed-bed, or it can be over-seeded over the summer sod in mid-October.

**Small grains:** These include such species as wheat, oats or rye. They must be planted deeper than annual ryegrass and generally do not provide as much forage production as annual ryegrass does. Oats can be planted in early September to provide early grazing in the fall.

## Legume Options

**White clover:** More acres of white clover grow in Louisiana than any of the other forage legumes. It is best-suited for use as a companion species to annual ryegrass. It is particularly well-suited to be grown in pastures because it is quite tolerant of close defoliation.

**Crimson clover:** It is an upright-growing annual clover. It produces some fall and winter growth but produces most of its growth in early spring. Crimson clover is a very good re-seeder.

**Berseem clover:** This species is best-suited to be grown on heavy soils. It has an erect growth habit and can be damaged by close continuous grazing. Berseem clover is classified as a non-bloating clover.

**Other clovers:** Other species that can be grown in Louisiana include arrowleaf clover, red clover, subterranean clover and ball clover. These clovers act as annuals and will need to be seeded every fall.

### Suggested Pasture Seeding Rates

Species	Growth Type	Pounds/Acre	Seeding Dates
Bermuda grass	Warm-season	5	March 1 – June 1
Bahiagrass	Warm-season	15	March 1 – June 1
Dallis grass	Warm-season	5	March 1 – June 1
Annual ryegrass	Cool-season	30	Sept. 20 – Oct. 15
White clover	Cool-season	5	Oct. 1 – Nov. 15
Crimson clover	Cool-season	15	Oct. 1 – Nov. 15
Berseem clover	Cool-season	20	Oct. 1 – Nov. 15

## Establishment

The establishment process is critically important because mistakes made here will have long-lasting effects. Establishment is not a good time to cut corners or take shortcuts. In some situations where there is little or no existing competing vegetation, it is possible to use no-tillage drills to establish forage crops.

Control or suppression of existing vegetation, planting at the proper depth and possibly controlling

harmful insects are keys to successful no-tillage establishment. In many other cases, however, some amount of tillage is used to prepare a good seedbed for establishing the new forage stand.

Most forage seeds are small and therefore only need to be planted at a depth of one-fourth to one-half inch. Seeds can be broadcast on the top of the soil, and then a cultipacker or roller can be used to press the seed into the soil.

## Grazing Management

Horses graze selectively, often eating one kind of plant and passing over others. This leaves unutilized areas that become unpalatable and can eventually eliminate the most palatable species. Good management can reduce these problems and make the pasture more useful.

**Avoid early grazing:** A common cause of pasture failure is grazing too early. This can occur in the early life of new pasture or any pasture in early spring. Keep animals out of a pasture until there is at least 3 to 4 inches of growth. Young plants are easily damaged by horses' hooves earlier, and the root systems are not sufficiently developed to prevent the whole plant from being pulled out as horses graze. Avoid use of the pasture in early spring when soil is soft. Sod will be cut by hooves, and compacting of the soil will cause additional damage. Wait until soil is dry and firm before beginning spring grazing. Better yet, wait for 3 to 4 inches of growth.

**Fertilize annually:** To keep a pasture productive, fertilize it annually. Again, start with a soil test. LSU AgCenter parish extension offices have soil test kits and instructions. Base fertility applications on test results and retest every two to three years. Lime may be needed as well. The soil test will also provide this information. Take horses out of the pasture when liming or fertilizing and keep them out for several days or until after a rain. The most appropriate times for making these applications are in the spring before grazing begins. In pastures with only grasses, nitrogen can be applied just after a grazing period in a rotational system, or in continuously grazed pastures to stimulate growth for the next five to six weeks.

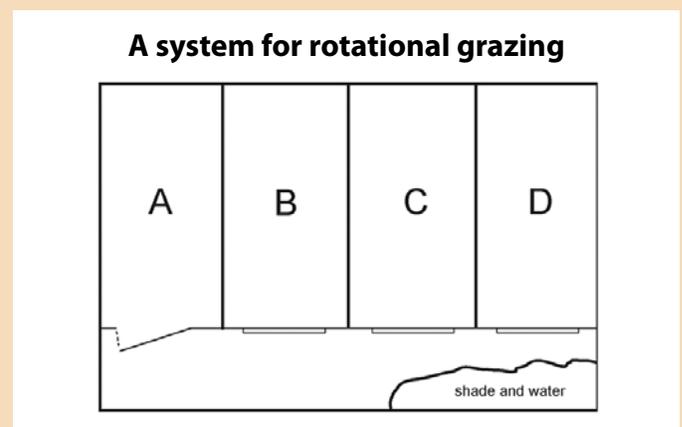
**Manage grazing:** Many pastures are over-grazed, but few are under-grazed. Either situation is undesirable. Unfortunately, seasonal growth variations also

contribute to these problems. Overgrazing is probably the more common problem for the owner of one or two horses and limited acreage. As a guideline, it takes about 2 acres of pasture to support one horse for an entire grazing season. Frequently, two or more horses graze on less than 1 acre. The available forage gets "eaten into the ground," and these areas become exercise lots. Not much can be done except to provide more space.

Under-grazing results from having too few animals in a pasture. Parts of the pasture are not eaten, and the grass becomes coarse and stemmy and is wasted. The solution is to force the animals to consume the feed while it is palatable. Confine the animals to a portion of the pasture; overgraze it for a short time. When the forage is consumed in that area, let the horses graze the rest of the pasture. This is a good time to clip the first area, spread the manure droppings so they will dry, apply fertilizer and allow the area to recover. This is called rotational grazing and is one of the most efficient ways to manage a pasture.

A series of small pasture or paddocks also may be used. In effect, each area is overgrazed for a short time and then allowed several weeks to recover. The last areas to be grazed may need early clipping to keep them palatable. The time for grazing any one paddock is determined by the amount of forage available, the size of the area and the number of horses.

The diagram below shows a system for rotational grazing. Put the animals in paddock A and allow them to graze until the forage is consumed to about 1 to 2 inches. Leave the gate to paddock A open so horses have access to shade and water. Some areas may not be eaten well, particularly around droppings.



When Area A is grazed down, move the horses to Area B, repeating the procedure as in Area A. While the horses are in Area B, clip and fertilize Area A, spread droppings and let Area A recover.

When Area B is grazed down, move all the horses to Area C. Continue to rotate the horses from one area to another throughout the grazing season. This system is much more efficient than constantly grazing the entire pasture for a whole season. This system does, however, require more labor and management than a continuous-grazing system.

**Clip the pasture:** Regular clipping is one of the least expensive (but most useful) practices in pasture management. Clipping an entire pasture after a period of grazing removes the unused forage and allows all of the plants to start new palatable growth. Previously under-grazed areas will be grazed after clippings. Many

weeds will be controlled, and droppings can be spread to dry. Clip several times during the grazing season.

**Control weeds:** Early weed growth can ruin a pasture. Either clip closely as often as needed or use herbicides. Clipping will help control weeds that appear in pastures; however, it will not remove all weeds. Those that persist in spite of clipping may need to be controlled by using herbicides.

Louisiana LSU AgCenter parish extension agents have information about herbicides to be used in these cases. Remove animals from the pasture when herbicides are used and keep them out for the time specified on the herbicide container. Whenever using any pesticide, read and follow instructions on the label.

For more information on using forages in your horse enterprise, contact your parish LSU AgCenter extension agent.

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Pub. 3128-A (500) 7-09



Issued in furtherance of Cooperative Extension work, Acts of Congress of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture. The Louisiana Cooperative Extension Service provides equal opportunities in programs and employment.