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Horse Pastures

Do you want to establish a new pasture or improve an old one? If so, you should recognize what is involved and decide whether a change will contribute more to your horse program than it will cost to accomplish.

Regardless of the kind of pasture you have or where it is located, a successful pasture program that contributes to your operation requires sound horse and pasture management.

ADVANTAGES OF PASTURES

1. The major advantage of pasturing is that it provides a natural environment that assures exercise and a healthier foot and reduces boredom. This last point is exceedingly important, since many horses confined to small areas may become psychotic due to lack of exercise and plain boredom.
2. A good pasture should provide nutritious, dust-free feed at a lower cost than drylotting with hay and grain.
3. It reduces labor.
4. It reduces or eliminates the problem of manure disposal for 3-4 months.

DISADVANTAGES OF PASTURES

1. The paramount disadvantage is the element of risk. Horses can get wire cut, escape out onto a road and cause an accident, consume toxic weeds (bracken fern in wooded areas is particularly bad), or, on occasion, be struck by lightning.
2. When on pastures, horses are more accessible to disease-carrying insects, particularly mosquitoes and ticks.
3. Internal parasites can become a problem when many horses must graze on a close-cropped pasture.
4. There is a tendency to overestimate the nutritional value of the pasture, particularly in late summer when the protein content has declined, the fiber portion has increased, and the digestibility or availability of the nutrients has decreased. Unless the pasture is productive (adequate fertilizer, proper plant species, and correct horse and pasture management), it can cost more than it's worth.
5. The possibility of neglecting or not observing horses frequently enough can be a problem. They may actually be losing weight, have serious injuries, or even be stolen before the owner is aware of it.
6. Horses may kill the grass by poaching (eating and trampling vegetation into the ground during late winter and spring). Besides reducing forage production, poaching may cause erosion problems on hillsides.
7. Horses may kill the trees you count on to provide shade. During late winter and spring, horses almost invariably girdle and strip the bark from many trees. This destruction is usually caused by boredom. Adding calcium, phosphorus, or trace minerals to feed will seldom cause horses to break this bad habit.

FENCING THE PASTURE AREA

Besides providing a labor-free source of nutritious feed, a good pasture should provide a secure confinement area. This calls for good fences. A 5-foot rail fence is ideal, but usually is too expensive for anything other than corrals or small paddocks. The next safest fence is a 4-foot woven wire fence with a barbed wire on top. Many would choose a smooth five strand wire fence next, but actually horses tend to "ride" smooth wire. They have far more respect for a tight barbed wire fence. Use a minimum of four barbed wires with the bottom one about 18 inches off the ground and the top one 48-52 inches high. Horses may get a scratch or two from a barbed wire fence but, unless horses are frightened, this type of fence will cause little trouble. In areas where horses congregate, such as in shady corners, you can use a rail or hot wire to keep them away from the fence. Small paddocks require the best fences. If there is ample room, timid horses can get away or stay away from the boss horse and are not apt to be crowded into a fence.

What about electric fences? They can be satisfactory if they are constructed properly, if there is adequate forage available, and if they are never permitted to ground out. They are less well-suited for small areas but are frequently used for keeping horses off and away from an

existing wire fence. If you use an electric fence as the sole means of confining horses, use two hot wires, one 20 inches off the ground and one 40 inches high. If the vegetation is particularly tall, you must mow under the fence to prevent grounding out.

PASTURE IMPROVEMENT METHODS

Pastures may be unproductive for three main reasons: low soil fertility, presence of weeds and brush, and lack of suitable forage species. If there is a good stand of bluegrass or other forage grasses on the area or if the land is not tillable, the pasture can be improved by applying a commercial fertilizer and using a weed spray to kill undesirable broad-leaved weeds. If a suitable stand of grass is lacking and the pasture area is tillable, the pasture can be improved by renovation. Renovation means replacing poor stands of shallow-rooted grasses or a heavy growth of weeds with deep-rooted, productive legumes and grasses. Pasture renovation can be started any time. However, Minnesota research has shown that best results occur with periodic tillage as needed during the fall to kill out the existing sod, followed by early spring seedbed preparation and seeding. Summer tillage with late summer or early fall seeding is also effective.

IMPROVING SOIL FERTILITY

The first step in pasture improvement is to determine the fertility level and the pH or acidity level of the soil. Add lime and fertilizer according to need. In a pasture area to be renovated, apply needed lime as soon as possible after renovation is started and preferably 6 months before seeding. Needed nitrogen, phosphate, and potash can be broadcast before final seedbed preparation so they can be worked into the soil. For improvement of an existing grass stand, nitrogen will probably be the main fertilizing element needed. Early in the spring (April or early May), broadcast 50 pounds of nitrogen per acre (150 pounds of ammonium nitrate or equivalent). If late spring rainfall and soil moisture are adequate, repeat this application in mid- to late June to encourage additional summer grass growth. A third application could be made in mid-summer to encourage early fall growth if the grass is needed.

If a soil test is not taken, a general recommendation can be followed. On sandy soils, steep slopes, or areas of low rainfall, apply 250 pounds of 20-10-10 fertilizer (20 percent nitrogen, 10 percent phosphate, 10 percent potash) or equivalent per acre. In areas of moderate rainfall, apply 400-500 pounds per acre, half in early spring and half in mid-summer. A rate of 200 pounds per acre of 0-15-30 fertilizer or equivalent should be used on organic peat or muck soils.



An improved legume-grass pasture.



An unimproved, weedy pasture.

WEED AND BRUSH CONTROL

Good weed control in the horse pasture will increase both the quantity and quality of the forage and will also eliminate many troublesome poisonous plants. When fertilizer is added to the soil, weed growth also is stimulated. Weeds compete vigorously for nutrients and moisture, particularly during dry seasons. Broad-leaved weeds and small brush can be controlled in grass pastures by periodic mowing, the use of chemicals, or a combination of the two. Several herbicides are available for broad-leaved weed control in grass pastures. The most commonly used herbicide is 2,4-D, but others like MCPA, dicamba, 2,4,5-T, and silvex can be used for certain problem weeds. These materials are safe and effective if used according to directions. In general, weed control chemicals should be applied when perennial weeds are 6-8 inches tall and growing rapidly. This is usually about the first week in June in most of Minnesota. Brush is most effectively controlled when it is fully leaved out. Horses should be excluded from the pasture during application of the chemicals and for at least 10 days afterwards. The herbicides are not particularly harmful to horses, but if the pasture contains poisonous plants the herbicide may make these plants attractive to horses for a few days after application. You can obtain detailed suggestions for the use of herbicides on product labels or from your county or state university extension service.

On pasture areas to be renovated and seeded to a legume-grass mixture, perennial broad-leaved weeds should be controlled with herbicides and tillage prior to seeding. This is necessary because alfalfa-grass mixtures cannot be sprayed after establishment with most herbicides, as the alfalfa will be severely injured or killed.

SEEDING MIXTURES

When reseeding a new or renovated pasture area, it is important to use an adapted mixture of legumes and grasses. Legumes improve the pasture mixture because they provide nitrogen for the grasses, they are more productive in mid-summer, and they increase the protein content of the pasture feed. Alfalfa is the preferred legume for horses. White or ladino clover is also favored by horses and can be included in the mixture if desired. Grasses are also important in horse pastures. Grasses in the mixture provide a durable turf that will resist trampling and erosion. Grasses also start growth earlier in the spring and persist later in the fall and provide a less laxative, more balanced forage ration than do legumes alone.

A mixture of 8 pounds alfalfa, 6 pounds smooth bromegrass, and 2 pounds orchard grass per acre is suitable for most pasture areas in Minnesota. If white clover is desired, include it at ½ pound per acre. On poorly drained soils, substitute 4 pounds of red clover and 2 pounds of alsike clover for the alfalfa and 2 pounds of timothy for the orchard grass. On wet soils, use 6 pounds of reed canary grass and 2 pounds of timothy as the seeding mixture. When the pasture is seeded in early spring, you can seed 1-1½ bushels of oats as a companion crop to aid in weed control. Select an early, stiffstrawed oat variety so lodging will not be a problem. When oats are 8-10 inches tall, they may be grazed off to reduce competition for the forage seeding. Or the oat companion crop can be removed early as hay. If oats are harvested as grain for additional feed for horses, clip the stubble and weeds and remove the straw as soon after harvest as possible. Don't graze the new seeding regularly until the following summer.

If the pasture area is summer- or early-fall-seeded, no companion crop is needed, because annual weeds are not normally a serious problem at this time. Do not graze the pasture area heavily until legumes and grasses are well-established. Do not graze a legume-grass pasture heavily

after September 1st; legumes need a fall regrowth period to replenish food reserves in the crown and roots to insure winter survival.

Alfalfa and grass seed should be seeded shallow (about ¼-½ inch deep) in a firm seedbed with a cultipacker seeder or similar implement. The bromegrass may be mixed with the oats to facilitate seeding this light, chaffy seed. Spring seeding should be done as early as the land can be worked. Fall seeding should be completed by August 10 to insure good alfalfa growth before a killing frost occurs.

TEMPORARY PASTURES

Oats will provide good temporary pasture for a month or more. The crop should be seeded as early as the land can be worked at the rate of 2 bushels per acre to provide pasture during June. Early-fall-sown winter rye will provide late fall and early spring pasture for limited periods, depending on the planting date and the moisture supply. Seed rye with a grain drill from August 25th to September 30th. Plow and prepare a good seedbed for best results. Do not graze these temporary pastures until plants have grown to a height of 6-8 inches.

OTHER PASTURE REQUISITES

A minimum requirement of any good pasture program is a small enclosure where horses can be confined for inspection, treatment, saddling, etc. In addition, if the pasture is to retain stands of productive, nutritious grasses and legumes, grazing must be rotated between two or more different areas. This calls for additional fencing to divide your pasture into a minimum of two areas. Dividing it will help maintain the legumes, will increase forage production, and will provide more uniform grazing and a higher quality feed. Horses like a "fresh bite," and this can be best provided by putting them into a fresh ungrazed area periodically. A normal regrowth period of 3-4 weeks should be allowed for each pasture area.

Pasture forage does not remain attractive, palatable, or nutritious unless some other management practices are followed. Horses like young tender grass that is uncontaminated by feces and urine. Additional practices that will pay off include:

Clipping several times during the summer. Raise the sickle bar 5-6 inches off the ground. This will cut the flowering head off most weeds to prevent reseeding and will encourage fresh forage growth.

Harrowing or dragging the pasture to spread manure droppings will reduce parasite contamination due to drying out by the sun and will minimize the excessive concentration of manure in certain areas.

Clipping and spreading droppings can best be accomplished right after taking the horses out of each pasture area. The brood farms in Kentucky, Ohio, and Pennsylvania that rely on pasture for a good portion of the feed for their mare bands religiously keep their pastures clipped to about 8 inches and spread the droppings several times during the summer.

CARRYING CAPACITY

How much pasture area do you need for your horses? The answer obviously depends on the amount of moisture, soil fertility, the plant species, the slope and water runoff potential of the land, and the competition from trees, etc., for moisture, fertility, and sunlight.

A mature horse will consume 18-20 pounds of dry matter per day from the pasture. A mare and foal will consume up to 30 pounds. A horse that is ridden considerably will eat somewhat more but will lose weight on an all-forage ration. An acre of improved grass pasture should provide at least 2 tons of hay equivalent per acre. However, the horse should not be expected to eat more than about 75 percent of the forage produced, since trampling, contamination, mowing, etc., will waste part of it. When converted to a grazing basis, pasture of this type should provide about 150 days of grazing for one horse. Unfortunately, much of this forage is produced in May and June, so there is an excess at that time but an inadequate amount during July and August.

On the other hand, an acre of renovated legume-grass pasture will normally provide 3-4 tons of hay equivalent and good grazing during July and August. For better utilization of renovated pastures, cut part of the first flush of growth in early June for hay. For most horse owners with restricted land areas, supplemental feeding of the horse on pasture with grain and/or hay can lengthen the grazing season and still provide the other advantages afforded by a pasture program. Pasturing on productive pastures makes for happy horses that are fun to ride.

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