Managing Horse Pastures

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Horse paddocks and pastures are often like golf courses. The horses over graze some areas so that they are golf-green height while defecating in others, creating roughs of ungrazed plants. Over grazing, compaction and tearing of the ground by hoofs, forms a surface where only the hardiest of plants can survive. Horse owners often do not manage horse paddocks and pastures to maximize forage output due to a lack of awareness and, often, a lack of equipment. The persistence of a productive pasture is dependent on selecting the right seed mixture; establishing a good stand; proper fertilization and grazing management.

Fertilizer

The plant (forage) species in most paddocks/pastures usually consist of 50% or more of grass species. Grasses may require up to 300 kg of nitrogen per hectare to obtain the potential maximum economic yield. A minimum of 75 kg of actual nitrogen per hectare is needed to see a yield response. Under grazing conditions, a valuable indicator of the need for nitrogen is the appearance of better and greener growth around urine and manure spots. These spots will not be visible in a pasture receiving sufficient nitrogen. Yearly nitrogen application should be split into 1/2 in the early spring, 1/4 in late June and 1/4 in early September. Nitrogen is not the whole story. If plants are lacking nitrogen, they won't respond to phosphorous and potassium. All plants need phosphorous and potassium. The best recommendation would be to soil test your paddocks and pastures to determine the fertility level of these nutrients. Your local OMAFRA office or fertilizer supplier can help provide information in this regard.

Often the lack of fertilizer is because of the lack of equipment. Paddocks may have been built with small gates which limit access by tractors and fertilizer spreaders. For larger pastures, it may be economical to have a fertilizer supplier bring bulk fertilizer to the farm and spread it on the fields. For smaller properties, power take-off fertilizer spreaders on the back of the tractor work well. For those without access to a tractor and with small acreage, a hand cyclone fertilizer spreader can be used.

Rotational Grazing

Often horse pastures are grazed too early in the spring. The first grazing should occur once the plants are 3 to 4 inches high and the horses are not punching holes in the soil. Horses should be rotated to a new paddock every 5 - 6 days to prevent them from grazing too close to the ground. The plants should not be grazed below 2 - 3 inches. This will require the availability of a large number of temporary or permanent paddocks. These can be created by using temporary electrical fence.

After the first grazing, pastures should be allowed to regrow until the plants are 8 - 10 inches high. Bluegrass can be grazed at 4 to 6 inches and alfalfa at 12 to 16 inches. The number of days

required for rest differs over the grazing period. In the spring forages grow at twice the rate than during the summer. If the pastures get ahead of the horses, they can be used for hay production.

Weed Control

Many horse owners complain that their pastures are being overrun by buttercups, horse tail and other poisonous and non productive plants. The most environmentally friendly weed-control system is to have the natural competition, obtained from a vigorous growth of forage, prevent the invasion of weeds. The proliferation of weeds is often the result of poor management which stresses the desirable forage plants. Horse owners often feel that pastures and paddocks should last a life time. Such is not the case. Weeds are often a sign that the pasture has reached an old age and requires ploughing and re-seeding.

Rejuvenating Pastures

There are several methods to rejuvenate pastures. These are listed below from the least expensive and most convenient (1) to the most expensive and least convenient (4).

1) Pastures can often be rejuvenated by simply applying the appropriate fertilizer, as previously discussed. In addition to stimulating the growth of existing plants, fertilizer will stimulate dormant seed that is already present in the ground. These dormant plant seeds are waiting for the right conditions for germination and growth.

2) Paddocks can be greatly improved by frost seeding. Frost seeding requires that you spread a legume mixture onto the frozen ground in March. As the frost comes out of the ground, the ground opens and closes allowing the seed to be incorporated into the soil. Legumes such as red and white clover (not alsike) and alfalfa work better than grasses. (Don’t use alsike clover due to a liver toxicity.) Alfalfa seed will only germinate when little or no alfalfa exists (plants are greater than 1 yard apart). The cool, wet weather of spring will allow for germination and growth of the seed. You can expect a 20% improvement in forage production by this method. Do not graze these paddocks until later in the spring or summer or, better yet, use them for hay production the first year.

3) In the late summer, choose the paddocks which are run down. Graze the paddock(s) very heavily, clip the tall grass in the rough areas and harrow the manure to spread it out. Do this when the weather is hot and dry to ensure that parasite larvae contained in the manure are killed by the sun. Harrowing on cool, wet days only spreads out the infestation. If the equipment is available, direct seed, with no-till equipment, a good pasture mix into the broken sod. If you do not have the equipment, disc the paddock(s) so that the sod is 50% open. Use the hand cyclone spreader to distribute the pasture seed mix evenly over the pasture, then harrow the land to cover the seed. Fertilize the paddocks according to the recommendations from a soil sample. (Your local OMAFRA office or fertilizer supplier can help provide information in this regard). Pastures which have been worked will also have an abundance of annual weed seeds germinate. These can be controlled by mowing and preventing them from going to seed.

4) Conventional plowing and tillage followed by seeding of a cereal nurse crop along with the forage seed will give the best germination and resultant forage production. However, conventional tillage destroys the sod and reduces the usefulness of paddocks until the sod becomes re-established in 2 - 3 years

Suggestions for Horse Paddocks (from OMAFRA Publication 19)

Soil Drainage	Components	Seeding Rate kg/ha
Well Drained	Tall Fescue	6
	Kentucky Bluegrass	10
	White Clover	2
Moderately Well Drained	Tall Fescue	10
	White Clover	2
	Timothy	5
	Kentucky Bluegrass	8
	White Clover	2
	Timothy	2
	Creeping Red Fescue	6
	Kentucky Blue	3
	White Clover	2

References:

Sheard R. W., Fertility Demands of Forages, Pasture Review, May 1992

Robinson S., Clare S., Leahy M., Pasture Production, Publication 19, Ontario Ministry of Agriculture and Food.