

## Feeding and Management Considerations for Horses

**D**rought results in poor growing conditions for pastures, hay and grain crops. As a result, pastures often become overgrazed and feed prices skyrocket.

A drought can definitely affect your feeding and management choices. The following are some management and feeding guidelines to help get you and your horses through a dry spell.

### Pasture management considerations

Poor growing conditions during a drought present several problems for horse owners who rely on pasture grasses to supply some or all of their horse's nutrition.

Here are some important considerations for managing your pastures during a drought.

#### 1. Reduce the stocking rate of your pasture

Basic biology tells us that plants need water to grow. A drought-stricken pasture will produce less forage, which means fewer horses can be supported by a particular pasture. To avoid overgrazing and permanent damage to pasture plants, reduce the number of horses grazing on your pastures.

#### 2. Avoid overgrazing your pastures

Overgrazed pastures are a common occurrence during a drought. The scarcity of adequate forage causes horses to eat the available grasses down to the dirt. Continued heavy grazing depletes the plant's root system, reducing its energy reserves and affecting its ability to re-grow.

In extremely dry periods, overgrazing compromises the plant's ability to survive and may eventually lead to loss of the pasture stand. Overgrazing also increases the potential for erosion and pollution of surface and ground water from contaminated run-off.

To avoid overgrazing, remove horses from the pasture when the grass has been grazed down to 3 to 4 inches in height. Also, consider supplemental feeding or reducing pasture turnout time.

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#### 3. Give pastures longer rest periods

Pasture plants need to be provided with a rest from grazing to allow energy reserves to be restored. Further grazing without a rest is likely to kill the perennial grasses. Reduced plant growth caused by drought means rest periods will have to be lengthened. As a guide, do not return your horses to a pasture until grass has grown to a height of 6 to 8 inches.

#### 4. Create a "sacrifice" area

Horse hooves can wreak havoc on dry pastures, so consider supplemental feeding in a barn or "sacrifice" area to avoid physical damage to your pasture. A sacrifice area is simply a small paddock or designated dry lot where you aren't worried about losing the grass cover. In effect, this area is "sacrificed" to spare your pasture, leaving you the flexibility to ensure the growth and survival of the grass in your pasture.

Choose a site that is fairly level for your sacrifice area to avoid erosion. Remove manure daily to avoid potential run-off contamination of surface and ground water. An area centrally located relative to all your pastures will allow easier turnout, as well as provide a convenient, accessible location for your water source.

## 5. Weed invasions and poisonous plants

Weeds are exceptionally hardy and can still thrive in drought conditions. If allowed, weeds can out-compete desirable pasture species for soil nutrients. In a drought year, this situation is even more evident as pastures become overgrazed. Most weeds are not harmful to horses, but some are. Hungry horses are more willing to eat poisonous plants if something better is not available.

Maintaining healthy pastures is the best defense against weed infestations. Mowing and/or chemical eradication of weeds may be appropriate. If you are not familiar with a particular weed or plant, seek help for identification before it causes problems. Above all, make sure your horses have adequate forage or supplemental feed available, so they avoid the temptation of sampling harmful weeds and plants.

## 6. Be aware of plant-related toxicities

Some plants that are normally safe may form toxic compounds when stressed by drought. Ironically, drought makes plants more susceptible to moulds. Some moulds produce mycotoxins that may be harmful to horses.

A more common plant-related toxicity results from nitrates that have accumulated in drought-stressed plants. Suspect forages should be tested, particularly if you purchase green feed (oat or barley hay) or graze drought-damaged crops. Although horses are thought to be more tolerant of high nitrate levels in feed, the level of nitrate in the horse's total diet should not exceed 1 per cent.

## Alternative feed sources

The most significant health problem seen during drought is malnutrition and starvation. Young horses and pregnant or lactating mares have higher energy and protein requirements and are therefore most susceptible to the effects of malnutrition. Older horses are also at greater risk. Allowing horses to starve is not acceptable. Supplemental feed, in the form of hay, grain or another feed alternative, will likely need to be provided to horses on pasture.

One of the most important things to remember about meeting your horse's nutritional requirements is that they need a source of fibre to maintain healthy gut function. To meet this fibre requirement, **horses should receive a minimum of 1 per cent of their body weight per day as hay, pasture or some other alternative fibre source.** At a bare minimum, most light breed horses need 7 to 10 pounds of forage.

Suggestions of feeds that can be used to replace some or all of the hay in your horse's diet:

### 1. Last year's hay crop

Some producers may still have a surplus of hay left over from last year's hay crop. If properly stored, last year's hay should retain most of the nutrients it started with.

### 2. Hay cubes

Often made of alfalfa, grass hay, peas and/or corn, hay cubes are an excellent alternative to hay. Hay cubes can be used to replace some or all of the hay. If replacing alfalfa hay with alfalfa cubes, feed on an equal weight basis (14 lbs of alfalfa = 14 lbs of alfalfa cubes). If you are switching from grass hay, you will be feeding fewer alfalfa cubes (22 lbs timothy = 14 lbs of alfalfa cubes).

### 3. Alfalfa pellets

Pellets can serve as the only forage source if the horse is slowly adapted from hay to pellets over two or more weeks. However, a small amount (5 to 7 pounds) of long-stemmed hay or straw should also be provided to prevent boredom.

### 4. Beet pulp

As a byproduct of sugar beet processing, beet pulp is a very digestible source of fibre. Beet pulp can be used to replace up to half of the normal hay ration (7 to 10 pounds).

### 5. Haylage or silage

Properly prepared haylage can be used to replace some or all of the hay in the diet. Good quality silage can replace one-third to one-half of the hay ration for horses. Do not feed spoiled haylage or silage to horses because they are very sensitive to moulds.

### 6. Green feed

Oat and barley crops make excellent quality hay if the grains are harvested in the early-dough stage. However, quite often these crops are harvested for hay at a more mature stage because the grain crops failed. Harvesting at a more mature stage decreases the nutrient content. And in a drought year, green feed may have high nitrate levels. Do not use feeds with more than 1 per cent nitrate.

### 7. Swath or crop aftermath grazing

Many horse owners may be able to take advantage of swath grazing or allowing their horses to graze on crop aftermath. However, horses may not be able to gain as much nutrition from these sources as cattle, and they will likely have to be supplemented.

## 8. Straw

Straw can be used to replace all of the hay if the diet is properly supplemented with extra protein and minerals: for example, free-choice straw supplemented with 5 to 7 pounds (2.2 to 3.2 kg) of a 16 per cent protein grain mix or 5 to 7 pounds (2.2 to 3.2 kg) of alfalfa. However, straw is best used to replace only a portion of the hay, which still significantly extends your hay supply. Oat straw is softer and tends to be more palatable to horses than wheat or barley straw.

When feeding straw, always make sure your horse has an adequate source of water available to reduce the risk of impaction colic. In addition, give the horse's digestive system time to adjust to the fibrous straw by gradually increasing the amount of straw in the diet over two weeks. Straw should not be fed to weanlings or yearlings because they do not have the digestive capacity or ability to utilize straw as well as mature, adult horses.

## 9. Pea straw

Pea straw has received a lot of attention this season because it contains more protein and calcium than other straws. However, this extra protein may be bound by fibre, making it unavailable to the horse. Therefore, the nutrient content of pea straw should be considered to be similar that of oat or wheat straw despite the higher protein content. Also, the coarse texture of pea straw may discourage some horses from eating it.

## 10. Grain

In general, grains are poor sources of fibre. However, when hay is scarce, we have the option of feeding more grain to replace some of the nutrition normally found in hay. As long as the horse receives at least 1 per cent of its body weight as forage, the rest can be replaced by grain. To reduce the risk of colic and laminitis, increase the level of grain slowly over 2 weeks, and never feed more than 5 pounds (2.2 kg) of grain at a single feeding.

## 11. Any combination of the above

# Provide a safe, adequate water supply

Horses require more water in a drought because they are forced to select more fibrous and less digestible feed. This extra water is used to maintain the movement of the coarse feed in the gut. Always make sure your horse has an adequate, easily accessible water supply.

A source of clean, unfrozen water is especially important in the winter because horses tend to drink less when the weather turns cold. Less water coupled with a high fibre diet (hay, straw) may quickly lead to impaction of the intestines and colic.

Although horses eat snow, they are not as efficient as cattle at obtaining the water they need from snow alone. Do NOT rely on snow to provide your horse with the water it needs.

Drought conditions may also severely affect water quality. Water provided naturally from dug-outs or sloughs or water in troughs may become unsuitable because the evaporation of water leads to higher concentrations of minerals and contaminants. In addition, blue-green algae are likely to form in stagnant water in hot conditions. Toxins released from the death of the algal bloom may be poisonous. Water troughs should be drained and cleaned regularly. Consider fencing off access to run-offs and sloughs.

## Other management considerations

Many producers creep feed their foals. This management tool is especially effective during a drought. Creep-fed foals can be weaned earlier and with less stress, which is particularly important if your mares are doing poorly and not producing much milk. Early weaning of foals at three to four months of age will not hurt their growth if they are prepared to eat on their own. However, keep in mind that foals are generally active for a time after weaning, no matter what their age. Excessive running on drought-hardened ground may lead to excessive concussion on developing bones.

Be alert to any health problems with your horses. Lack of grass in a dry field may force your horse to graze nearer to manure piles than normal. Ensure your worming program is adequate. Also, dusty, dry conditions may increase the risk for your horse to develop heaves. Foal pneumonia (caused by *Rhodococcus equi*) has also been observed to be more common in drought years.

# Conclusions

A drought can affect all crops, so be prepared for higher feed costs beyond your hay. Do not attempt to save money by buying mouldy or poor quality feeds. This practice may be harmful to your horses and cost you more in vet bills in the long run. Buy the best quality forage you can afford and supplement accordingly.

With just a few adjustments in feeding and management practices, your horses and your pastures can be maintained in good health during a drought.

## Prepared by

Alberta Agriculture and Rural Development  
and

Lori K. Warren, PhD  
Assistant Professor, Equine Nutrition  
Department of Animal Science  
University of Florida  
PO Box 110910  
Gainesville FL 32611-0910  
Telephone: 352-392-1957  
Email: LKWarren@ufl.edu

## Reviewed by

Les Burwash  
Alberta Agriculture and Rural Development

## For more information

Alberta Ag-Info Centre call toll-free 310-FARM (3276)

Website: [www.agriculture.alberta.ca](http://www.agriculture.alberta.ca)