

Managing and Caring for Horses Affected by Fires

Part 1. Provided by Dr. Bill Moyer

Horses with burns - For the most part, has to do with those that are severely burned - much the same as with people. The hard part is that often the degree of damage is under estimated (probably a function of skin pigment, etc.) and thus they 'appear' to be doing reasonably well and then start to fail (usually 3 - 4 days into the situation). Simply put the depth of the thermal injury is difficult to assess in horses.

Anyway- the basics of caring for such injured horses are:

1. 2+/day examinations (temperature, pulse, resp. rate, and palpate the legs (looking for fluid swelling/skin sloughing/focal pain). Frequent examinations are very important – we have seen horses 'crash' (renal failure, septicemia, etc.) in relatively short time frames.
2. Pain is best managed using non-steroidal drugs such as Bute and Banamine.
3. As areas either begin to ooze/slough, etc.- Aloe vera gel is useful early in the course of the problem (1st few days) followed by the use of water soluble antibiotic ointments as areas open or start to ooze. Ointment preparations like silver sulfadiazine are well regarded (can be expensive). I have used (using spray bottles) a 0.1 percent povidone (Betadyne) solution. This helps control the surface bacteria and has value in loosening eschar - thus debriding the area.
4. Extensive burns are realistically a function of intensive nursing and careful debridement - something that should be done by a professional.
5. Recommendations on hoof care are difficult to make as those are literally on a case by case basis. We have seen laminitis as a sequela to intense tissue damage. Laminitis is also a case by case situation.

Part 2. Provided by Dr. Peggy Marsh

Dr. Marsh has handled several equine burn cases and has presented on the subject.

- After horses have been exposed to fires there are 2 major areas of concern – thermal injury to both the external skin and internal airways as well as smoke causing damage to the airways and/or creating toxins.
- Smoke injury tends to be more of a problem when fire victims are in an enclosed area, therefore not sure how much of a problem this would be with wild fire injury to livestock.
- Things to watch for would include nasal discharge, increased respiratory rate and fever. It would be ideal for horses showing such signs to receive advance care.
- It is important to realize that it can be very difficult to determine the extent of damage or the depth of the damage. In general, time will tell and it can be frustrating to treat for several days and then realize the extent of the problem, but there will be individuals with obvious lesions that can be ok
- Topical injury can cause secondary systemic injury and horses may have problems with infection and/or dysfunction of various body systems.
- In general thermal skin injury will increase the risk of developing extensive infections, however prophylactic use of antibiotic medication is controversial and is thought in some instances with human victims to lead to super-infections that can't be stopped. So good topical hygiene is critical. There are lots of various treatments, however the 2 most commonly used ointments are silver sulfadiazine or triple antibiotic ointment. Other topical treatment frequently used includes aloe vera, unpasturized honey, and sugar. Daily cleansing with water and a dilute solution of Nolvasan or Betadine is recommended.
- Extensive thermal injury will lead to fluid and protein loss. Some patients will need intravenous fluids, while others can manage to eat and drink enough to maintain themselves. Such injury will increase metabolic needs. The use of a complete feed and high quality hay can be very helpful. Some individuals will need to increase their intake by 50 to 100 percent.

- Once again it can be very difficult to determine the extent of injury initially. Extensive and/or deep injury to the skin can be very frustrating to treat even if the patient is stabilized through the initial phases.

Part 3. Provided by Pete G. Gibbs

Feeding Management of Horses in Fire-Affected Counties of Texas

Horses that were involved in and survived the recent fires in Texas have likely been stressed even further by several abrupt changes to routine. Changes in habitat, diet, transport and co-mingling with other animals are significant when added together. Recent research has identified multiple changes to a horse's lifestyle as contributors to digestive problems such as colic. In normal conditions, changes to two or more things in a horse's daily routine can cause problems with digestive health. So, while horses may have survived the devastation caused by these wildfires, they need to be watched closely and fed carefully to minimize problems associated with this major disruption in daily living.

Roughage, either grazing or hay, typically serves as the foundation for horse feeding. A general rule of thumb is to provide at least 1 percent of horse body weight per day in long stem hay. So, a horse that weighs 1,000 – 1,200 lbs ought to get about 10-12 pounds of hay per day. That amount meets some of a horse's daily nutrient requirements and helps prevent vices such as wood chewing and eating of manes and tails. Never let daily hay intake drop below 3/4 percent of body weight per day. Mature horses that are not being worked, and mares that are not nursing or about to foal, can maintain condition by eating between 1.5 percent and 2.25 percent of body weight in hay per day. A grass hay will be needed in larger amounts than compared to alfalfa.

Efforts to secure donations of feed come at a time when Texas, in general, is experiencing some significant shortages in horse quality hay. With hay supplies already stretched thin, the chances for feeding a potentially harmful hay to horses are increased. Two research trials conducted during previous drought years singled out changes in batch or type of hay as the single most significant change hays carefully and to be certain that hays contain no mold. In addition, several grasses are known to be potentially harmful to horses. Owners should avoid the following: hybrid sorghum-sudans, (haygrazers), Johnsongrass, Russian, Foxtail and German millets, and Kleingrass. For broodmare owners who have mares that are about to foal, avoid Fescue. More information on problems associated with these forages can be found in publication #B-5033, 'Selection and use of Hay and Processed Roughage in Horse Feeding', which is available on line at <http://animalscience.tamu.edu>. Many horse owners in west Texas choose to provide good quality alfalfa hay for horses, and it takes less alfalfa to meet a horse's daily nutrient needs than compared to typical quality grass hays.

However, keep in mind that a horse can get sick if abruptly switched to alfalfa hay, or if allowed free access without a gradual transition period. Beyond that, the major concern with alfalfa is the potential for feeding hay that contains blister beetles. Round bales are used in horse feeding all across Texas, and have been for years. With hay supplies already short, owners might want to consider limit-feeding a round bale by simply restricting the access time to a round bale. This can be accomplished by using portable fencing to regulate the hours per day that a horse can stand and graze from a round bale. Particularly in fire-affected counties where owners are trying to maintain their horses, round bales can help get through this tough situation. Keep in mind that moldy hay is not tolerated well at all by horses, but they will eat it if they are hungry. Therefore, it is a good idea to expose a good portion of a round bale that might have some outer mold, so that horses can selectively eat the good hay and avoid the spoiled portion of a big bale.

Some horse owners whose facilities were ruined by these fires may need to consider feeding a processed forage of some kind. In the short term, horses can usually do fine on processed roughage such as hay cubes. While normally much more expensive than baled hay, these cubes can satisfy a horse's urge to chew and provide some gut fill in the aftermath of these fires. Some horse owners have

found prairie hay that appears to be clean, however, it is usually quite low in crude protein and digestible fiber. One recommendation is to feed prairie hay about half and half with a higher quality forage such as alfalfa hay or alfalfa cubes. Alfalfa pellets will also provide some needed fiber, but horses in confinement may be more prone to chew wood when fed alfalfa pellets, simply because they consume it more quickly compared to long-stem hays. For more information on cubes, pellets and chopped-bagged hay, refer to the publication listed above.

The recent fires likely placed some horse owners in a situation of just not having access to any kind of forage at all. If that is the case, look for feeds that are manufactured with the fiber in the bag, in other words, the higher fiber feeds. The easiest to identify are the senior-type feeds, designed for old horses that have begun to process less hay. These feeds usually have 14 percent or more crude fiber, and can be fed without any hay if absolutely necessary. Still, it is best to provide some additional forage with these feeds. Such concentrates will decrease the need for long roughage. There are even higher fiber feeds, with 20 percent or more crude fiber, that can easily be fed to horses without any additional hay at all. Some of these feeds have been extruded, which also causes horses to eat more slowly.

Horses that eat a concentrate feed will usually be getting some salt and additional minerals that they need. Well balanced horse feeds from reputable companies will contain a vitamin/mineral package. For horses not receiving any grain-based feeds, those just eating hay, be sure to put out a trace-mineralized salt block or loose mix for these horses. If horses normally accustomed to running out on the plains have been penned up because of the fires, keep a close eye on salt intake. Pure boredom will cause some horses to consume more salt than necessary, which is most often noticed when horses are confined to stalls. That's why a well-balanced feed with salt already in it, is a good idea. All natural range cubes can be fed to horses, and this is actually a somewhat routine practice in certain areas. Primarily, make sure that range cubes do not contain cattle additives that could be harmful to horses. If the feed happens to have some urea in it, horses can tolerate urea at levels comparable to cattle. However, urea is of almost no benefit to a horse, and is best avoided in horses' diets.

The above mentioned options are going to involve some fairly significant changes in the normal diet for horses that survived the recent fires. So, it is important to introduce new feeds slowly. Try and provide individual feeders for horses to minimize problems with aggressive horses over-eating, and timid horses not getting to eat at all. Putting hay in a group feeder is normally not a big concern, but with grain-based feeds, spread feeders out as far as possible, a minimum of 24 feet apart, if space permits. And, to be as safe as possible, keep meals to no more than 1/2 percent of body weight, just to lessen the chances for rapid consumption that might contribute to colic or laminitis (founder) in horses.

While horses can recover from some of the conditions brought about by the fires that swept across t Texas, they are sensitive to changes in daily diet. Owners can practice good feeding management to take care of horses during these stressful times.