

Preventing or Addressing Weight Loss in Horses

Clients often bring horses to our veterinary practice with a complaint of weight loss. In my approach, I start by determining whether the horse is really underweight. Whenever I think about changes in body weight, there is a specific thought process I use to identify the reasons for it. This approach is based on an understanding of the balance between a given horse's energy intake and energy output. Keeping this in mind, I look at all of the factors that contribute to nutrition and intake on one hand, and energy expenditure on the other.

By understanding this important balance and the factors that affect it, keeping horses at optimal weight and health is easier and more intuitive and, in cases of weight loss, can be better understood and resolved.

BODY CONDITION SCORING (BCS)

In order to determine whether a horse is underweight or not, it is first important to know what their optimal weight should be. This is a very subjective assessment. The closest we can come to making an objective judgment is through an established *Body Condition Score System*, which rates horses on a scale of 1-9. On this scale, 1 is emaciated and 9 is obese. Body condition scores of 5 to 6 are considered optimal. This system is based on assessment of the muscle and fat that cover of the bony landmarks of the body, especially of the top-line and ribs.

Information on body condition scoring is readily available on the Internet, and I recommend that horse owners familiarize themselves with it and use it. Scales for horses are generally not easily accessible. Weight tapes measure the circumference of the girth and relate that to weight. They are a cheap and practical alternative to a scale and are

especially valuable for tracking change. For the purposes of this article, I consider significant weight loss to be a state where horses fall out of the optimum range (5-6) of Body Condition Score System.

WEIGHT LOSS

Weight loss results from an imbalance between caloric intake and expenditure of energy. Factors that affect either or both intake and outflow will change the balance and affects a horse's weight. If there is more energy expenditure than caloric intake, then a horse will lose weight.

Let's first discuss expenditure of energy. How much energy a horse expends depends first upon the amount of energy needed for maintenance. This depends on body weight and metabolic rate. Different breeds and individuals have varying basic nutritional needs for maintenance. The amount of feed necessary for maintenance of a typical "hotblood" like an Arabian or Thoroughbred tends to be greater (per unit body weight) than that for a typical "coldblood" like a draft or pony breed. Beyond energy for maintenance is that needed for additional body functions including:

- Late term pregnant and lactating mares require maintenance plus the additional energy needed for growth of the fetus or the production of milk.
- Horses in work expend additional energy in proportion to how much work they do.
- Growing foals require the energy for maintenance plus the energy needed for growth.

Weight loss results from the breakdown and conversion to energy of complex sugars, muscle, and fat from the body. This breakdown is intricately controlled by a complex system of chemical messengers responding to the body's perceived needs.

Expenditure of energy must be balanced by energy intake in the form of nutrition, or signals are sent to start to break down the body's stores of complex sugars, muscle, and fat to

account for the difference in needed energy, resulting in loss of these tissues and weight loss.

Nutritional intake is how much nutrition is brought into the circulation from the intestine, and this relates to what is taken into the body from the diet. There are several steps that are critical for a horse to achieve necessary nutritional intake. A horse must have access to and ingest an adequate amount of high quality feed of the appropriate type. He must be able to process this by proper grinding of feed by the teeth. Poor dental function results in poorly processed feed, which is not well digested and absorbed in the intestine. A healthy gut assimilates the needed nutrients into the bloodstream.

Healthy body systems and metabolism results in the nutrients in the bloodstream being processed, with the necessary energy used and the remainder put into body stores in the form of complex sugars, muscle and fat. Anything that decreases nutritional intake, with all else being equal, will result in weight loss. Therefore, the most common reasons for weight loss in horses are:

- Inadequate feed intake or feed quality mismatched to nutritional needs.
- Inadequate processing of feed resulting from dental problems.
- Parasite infestation. Parasites compete for nutrition and cause damage to the intestinal tract, which decreases absorption of nutrients.
- Aside from dental abnormalities, older horses simply have more difficulty assimilating nutrients from their intestinal tract. For that reason, they require more easily digestible and absorbable feeds.
- Disease and chronic pain. Sick animals lose weight because energy is needed to heal or fight infection, this is often made worse because they tend not to eat as

much.

- Animals that are in chronic pain also lose weight. Tumors are a common cause of weight loss in older horses. Many tumors secrete substances that directly cause weight loss by breaking down body stores of energy.

MANAGEMENT & FEEDING SUGGESTIONS

Start by being able to define your horse's body condition using the Body Condition Scoring System. Keep in mind that it is more difficult to assess body condition in the winter, when hair-coats are long. Feel your horse's body, especially his top-line and ribs, through the thick coat to get a better assessment.

When designing a feeding program, keep in mind the basic metabolic differences among breeds and individuals. A young Thoroughbred race horse will be a much "harder keeper" than a 10 year old Pony gelding. Within breeds, certain individuals will be harder keepers than others. The basis of most equine feeding programs is good quality forage or hay. Many idle horses without special needs maintain their weight well on grass hay alone. For others, it will be necessary to account for extra needs when calculating the feed necessary for a given horse.

Think of the feed needed for maintenance, then add in additional feed to account for these additional factors. For horses that have needs beyond maintenance, additional energy rich concentrates (grains) and other special feeds may also need to be added. Calorie-rich supplements like corn oil or rice bran may be added as recommended by your veterinarian. There are now many commercial diets available for horses with almost any special need.

- Horses in work usually require more energy rich feeds (concentrates) to keep their weight.
- Old horses often need to be fed special easily

assimilated “senior” feeds.

- Foals must be fed more to account for growth.
- Breeding stallions, late term pregnant mares and lactating mares are all fed to account for their additional energy expenditures.
- If horses are fed in a group, be sure that each horse gets the feed he needs. Submissive horses in a group are often driven off of feed. These horses lose weight while others in the group become fat. The way to handle this is to segregate compatible horses and horses with similar nutritional needs into groups. Observe individual horses for weight changes carefully so that any management changes can be made early. Certain hard keepers may need to be fed separately.
- In all cases, make all feeding changes slowly to avoid digestive upset and other health problems.
- It is advisable to lower carbohydrate and increase fat as a source of energy in the diet whenever possible.
- Continually monitor your horse’s weight, and make changes to feed and management as needed.
- It takes very cold weather to change the amount of feed necessary for a healthy horse. This is usually not a big consideration in our area. See *Winter Health Care Basics for Horses* for more information.
- Maintain all horses on an appropriate parasite control program.
- Keep all horses in good dental health. I recommend an annual or semiannual dental exam by an equine veterinarian.
- Work with your veterinarian to identify and treat underlying health problems causing weight loss.

CONCLUSION

Maintaining optimal weight and preventing weight loss in horses requires a balanced approach. Your veterinarian can help you take into account all of the factors we have discussed to arrive at an effective management program for your horses. I feel that the best way to accomplish this is through annual or semi-annual veterinary visits and consultation.

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