

Nutrition of the Growing Horse

Early growth and development are important factors, especially in halter futurity prospects and foals that will enter race training as yearlings. Most horsemen realize that significant early development is crucial to the marketing potential of these young horses.

A horse's mature size and weight is determined by genetics and will be reached at some point when the horse reaches a certain age, given that nutrient requirements are met. However, the amount of time it takes to get to mature weight and size varies, depending on the nutritional status of the growing horse.

A decision regarding your foal's growth rate needs to be made early. There are four growth patterns for horses that horse owners can use.

- A slow growth rate borders on malnutrition and is referred to as "stunting" growth. Unless a severe medical condition exists, such as wobbler's syndrome, that demands the horse's body weight be minimized, a slow growth rate is not recommended.
- A moderate growth rate is acceptable for most performance horse prospects such as cutting, reining, dressage horses, etc. These horses are not pushed quite as hard at yearling and two-year-old stages as racehorse prospects are.
- An optimal growth rate is the ideal rate of growth for most horses, including racehorses. Growth is boosted above normal rates, but not to the extent that growth-related bone problems are significantly increased.
- A fast rate of growth can be achieved by using feeding practices that should not be recommended for most growing horses. Usually a fast rate of growth involves providing concentrate in excess of 16% crude protein feed and very high levels of concentrate intake, resulting in early daily gains exceeding 3 pounds.

Energy feeds such as oats, corn, and barley can be used in formulating a balanced concentrate. Rations should include only the highest quality ingredients available to ensure maximum safety and performance. When commercially available feeds are mixed with other cereal grains (for example, oats or corn), the nutrient-to-energy balance is altered. This practice could contribute to growth abnormalities and is not recommended.

Fats and oils are added to grain concentrates to increase energy density. High-quality vegetable oils, such as soy oil, should be used in horse feeds. Top dressing too much fat or oil onto a balanced diet dilutes and changes the nutrient balance.

High-quality protein, and especially the amino acid lysine, is very important to the proper development of the growing horse. While the level of crude protein is high in diets containing alfalfa or high-quality grass along with a concentrate made of cereal grains, the lysine content of such a diet will probably be inadequate to support proper growth. Look for premium commercial feeds such as Triple Crown Growth and Triple Crown 14% with high quality protein sources and optimal, guaranteed levels of lysine to ensure proper development.

Although broodmares can produce large amounts of milk, the nutritional value of the milk declines from birth to weaning. Nursing foals will show an interest in eating soon after birth, often consuming small amounts of feed from the mare's trough. A creep ration should be provided for the foal at one month of age. Foals can gain 2½ to 3 pounds daily, and with a premium feeds like Triple Crown Growth and Triple Crown 14% Performance, breeders can take advantage of this early growth potential. Creep feeders can be placed in a pasture or corral and should be built in a fashion that will not allow mares access or foals can be fed individually by tying the mare and allowing the foal its own feed.

Several research studies have shown better growth, heavier body weights, and less weaning stress of weanlings if they have been creep fed as foals. The weaned foal that weighs 1,100 pounds at maturity is expected to gain 1½ to 2 pounds daily at six months of age. Total daily intake of hay and concentrate will range from 2½ to 3% of body weight.

At weaning, many young horses are placed in confinement to facilitate a fitting program. Young horses that are stalled and given forced exercise need the correct nutrient balance to minimize joint disorders and allow for the increased skeletal remodeling that occurs in response to loading caused by exercise. Because the young horse must deposit bone in support of both growth and exercise, an inadequate nutrient supply can produce weak, fibrous bone instead of strong, dense bone.

An exclusive diet of oats and alfalfa hay or good-quality grass hay continues to be popular with many horsemen. While both are excellent feedstuffs, a 70:30 oats-to-hay ratio provides only 86% of the lysine and 81% of the calcium needed for a weanling. A 50:50 ratio still does not provide the recommended level of lysine.

This does not mean that oats and alfalfa hay should not be fed as part of a daily diet, but that the diet is unbalanced and supplemental nutrients are needed to help prevent swollen physes, joints and other skeletal problems. In one study, horses fed only oats and alfalfa hay were compared to horses fed a balanced concentrate along with alfalfa hay. Horses eating only oats and alfalfa got fatter, while those eating the balanced concentrate gained more height.

Young horses can be developed equally well with either grass or legume roughage. The type and quality of hay or pasture available will influence the nutrient concentration needed in the concentrate mix.

High-quality alfalfa is more digestible than grass hay, but good quality grass hay is more digestible than average-quality alfalfa. The added "bloom" that some horse owners recognize when feeding alfalfa is due to the additional calories in alfalfa compared with many grass hays. The same appearance can be achieved when grass hay is fed along with a high-quality fat-supplemented feed such as Triple Crown.

Some of the best formulated rations do not yield desirable results simply because of the manner in which they are fed. Hay and grain intake varies according to the individual foal and is influenced by exercise. Body condition should be monitored closely, and the growing horse must be fed according to its appearance as well as feeding directions provided by the feed manufacturer.

Epiphysitis, osteochondrosis and contracted tendons may result from nutrient imbalances in young horses receiving excessive forced exercise in deep footing. Intense, hard work should be introduced gradually to encourage proper bone remodeling. Sudden changes in stress will cause the skeletal system to remodel bone, and it takes time to develop the needed strength. Your horse's conditioning program should provide adequate free exercise, if possible.

An effective conditioning program alternates intense work with free exercise and less intense work on a weekly basis to provide time for bone remodeling to occur. It is crucial to keep in mind that the skeletal system must develop first, followed by development of the musculature. Development of the skeletal system is best stimulated by very short work periods on firm footing, followed by free exercise on softer footing; however, excessive forced or free exercise on firm footing may cause trauma to the juvenile skeleton.

Raising young horses that are sound and competitive in today's horse industry requires a carefully planned feeding and management program. Some horses have a genetic predisposition for development orthopedic disease (DOD), and such problems may appear when these horses are fed for fast, early development. In many cases, however, DOD disorders are the result of nutrient imbalances, which can result in abnormal bone metabolism. When such nutrient imbalances are combined with confinement and forced exercise in deep footing, skeletal problems can occur. There is no reason to expect that rapid early growth itself will cause skeletal disease and lameness if horses are free of genetic defects. Horse owners who are willing to invest in premium quality horse feeds will be more successful growing young horses at a moderate or rapid rate and ensuring that they are sound at maturity.