INTRODUCING McCAULEY’S EQUIPAGE

Welcome to the first issue of our new publication, EquiPage. Within these pages, we will provide findings, as well as commentary, on topics ranging from the latest nutrition research to various aspects of the science and art of horse care, horsemanship, the horse industry and, of course, horse feed.

Whenever we highlight work from the scientific community, we will maintain a practical perspective; how the information provided may affect the management and care strategies employed by the horse owner, professional and enthusiast. On occasion, we may spotlight some not-so-cutting edge technologies that are as beneficial today as they were in days of old. In addition, we will provide seasonal, regional and timely information on new and existing McCauley's products and their best application as well as what may be happening with our company and our customers.

Founded in 1938, McCauley Bros. has ‘grown up’ in, arguably, one of the most ‘horse rich’ areas in the world- the Bluegrass Region of Central Kentucky. Central Kentucky, the horse industry and McCauley Bros. have changed considerably since 1938.

As a horse-only feed mill, we still earn our living based on what goes in the horse’s mouth. However, the years spent in our very specialized vocation have allowed us to become something more than the feed company my grandfather started 65 years ago. The fact is, over the years, we have evolved into a NUTRITION company. As a result, another ingredient has been added to our inventory—Information. EquiPage is simply the newest vehicle by which we are able to deliver this ingredient to our customer.

Communication, at its best, is a dialogue, a two way street so to speak. With that in mind, we welcome your opinions, comments or suggestions. Please let us know what you like or dislike, how we may improve, and any topics of interest for future editions.

This newsletter is dedicated to our customers, friends and the horses they own, care for, earn a living with and/or simply love.

Mac McCauley
President
No More Growing Pains
Key Nutrients for the Growing Horse
Amy Parker, M.S.

Several nutrients are particularly important in bone growth and development of the horse. Supply and balance of these nutrients is key to optimizing growth and minimizing nutritionally associated orthopedic problems.

Energy and protein
Optimal energy and protein balance are needed to support growth. As the horse grows, the growth rate changes; therefore, energy and protein requirements will also change. Energy is essential to growth and development. The quality of protein in the diet is also important. Crude protein in the diet is a measure of nitrogen and not an indication of protein quality. Protein quality is determined by the amino acid composition of the diet and the digestibility of the amino acids. Thus, the amino acid composition of the diet, rather than the crude protein content, is important to the growing horse. (In the following discussions, the mention of protein means high quality protein.) A steady growth rate can be obtained by avoiding excesses or deficiencies in either energy or protein and will help to reduce the incidence or severity of developmental orthopedic diseases (DOD).

Excess dietary energy and protein
Increases in growth rate due to excess energy and protein such that other nutrients in the diet (vitamins and minerals) cannot support that growth rate may result in physitis, weak or brittle bones, increased risk for bucked shins, osteochondritis dissecans and flexural deformities. Excess energy will result in a fat horse. Excess dietary protein alone has not been found to cause bone development problems in horses; however, in practical situations, excess protein usually means excess energy also. Distinguishing between getting fat (body condition) and growing (growth rate) is essential. Both body weight and body condition should be monitored at least monthly and the feeding program adjusted as needed.

Deficient dietary energy and protein
Feeding deficient protein and energy will decrease growth rate and may lead to compensatory growth later when sufficient nutrients are available. If insufficient energy and protein are provided in the winter months (due to lack of feeding, poor quality hay, etc.), the growth rate will slow. In the spring, when pastures are lush and rich in calories and protein, a rapid increase in growth rate occurs. This rapid increase in growth is compensatory growth. It usually occurs post-weaning and may predispose the growing horse to DOD. In addition to decreased growth, protein deficiency may result in decreased feed intake (thus, possible deficiencies in other nutrients) and decreased protein digestibility. Energy deficiency will also slow growth and may result in DOD.

Minerals: calcium and phosphorus
Besides energy and protein, several minerals are important for proper bone and cartilage formation and development. Bone is approximately 35% calcium (Ca) and 14 to 17% phosphorus (P). Deficiencies in calcium and/or phosphorus can cause cartilage thickening, decreased growth rate and decreased bone density. While meeting calcium and phosphorus requirements is critical, the ratio in the diet is equally important. The safest ratio range should be maintained between 1:1 and 4:1 (Ca:P). A ratio above 4:1 (excess Ca) may decrease the absorption of other minerals, including iron, magnesium, manganese, phosphorus, and zinc, and cause DOD. A ratio below 1:1 (excess P) may result in poor bone development, problems with cartilage growth and decrease calcium absorption (possibly leading to chronic calcium deficiency and secondary hyperparathyroidism).

Minerals: copper and zinc
Copper (Cu) and zinc (Zn) are also essential for proper bone growth. Copper is necessary for synthesis of connective tissue, while bone contains intermediate concentrations of zinc. Deficiencies in copper result in DOD, and deficient dietary zinc decreases growth rate. In general, most forages and grains are slightly below horse's requirements in copper, but have only half a horse's requirement of zinc. Knowledgeable feed manufacturers will fortify their feeds such that they will meet copper and zinc requirements when fed under average feeding practices. In practical terms, a horse's diet should have a Zn:Cu ratio ranging from 3:1 to 5:1. Excess zinc (>500 ppm dry matter) may interfere with absorption of calcium and phosphorus and proper copper utilization, resulting in physitis, lameness and stiffness.

Vitamins: A
Vitamins, particularly A and D, are essential for normal growth and development. Beta-carotene, a precursor of vitamin A, is high in green forages, such as pastures and well-cured hays. Horses must convert beta-carotene to vitamin A. Well-cured hays retain most vitamin A activity, but poor curing conditions (e.g., rain damage, long exposure to drying, etc.) will destroy beta-carotene. Vitamin A has many functions, including bone remodeling. Among other symptoms, excesses in vitamin A (> 7000 IU/lb. dry matter) may cause weak bones. Excessively high intake can result when multiple supplements containing substantial amounts of vitamin A are fed. Vitamin A deficiency is not likely for horses consuming adequate green forage. However, horses given old or poor quality hay and/or with very little grazing time may need vitamin A supplementation. Most commercial feeds and supplements contain more than adequate amounts of this vitamin. Deficiency in vitamin A will result in poor growth, but has not been directly shown to cause bone problems in horses. In other species, severe vitamin A deficiency has resulted in decreased bone growth and abnormal bone remodeling.
In the 1980’s Glenda started working at Hagyard Davidson McGee Veterinarian Clinic. During her career at the clinic she was exposed to the reality that some owners could not afford long term care for critical care horses. Because of her love of horses she would take these horses to a farm nearby to nurse them back to health. At times she would do this at a reduced cost or no cost for the sake of saving the horse.

In 1999, Glenda started her own farm, Meoldies, devoted to critical care horses. Some notable examples have been a horse with liver problems, Cushing’s disease horse, 4 month old wobbler, wild mustang post colic surgery, 25 year old mare with an inoperable mass in the abdomen, and a 46 year old pony. In some cases she will take care of geriatric horses just to keep them comfortable for the remainder of their life. Due to the wide range of care needed for each horse Glenda depends on McCauley Bros. to supply products & programs for the need of every horse.

Her clients vary from local breeding operations to individuals who may own only 1 horse. In most cases the client does not have the background, time, or personnel needed to nurse these horses back to health. It is not uncommon for Glenda and Mike (Glenda’s husband) to spend 4 to 5 hours per day or work around the clock on one horse. When Glenda is asked why she does this type of work she simply smiles and says “it’s the reward of sending the horse home alive and the smile on the owner’s face.”

Meet... Glenda Meadows

Meoldies Farm, Equine Critical Care
Lexington, KY
Owners, Mike & Glenda Meadows
859-321-0568

Words of Wisdom

Don’t squat with your spurs on!

Contributed by:
Jim Miller, Owl Creek Farm
Versailles, KY

Vitamins: D

Vitamin D promotes calcium and phosphorus absorption from the intestine, resorption of calcium from bone and re-absorption of calcium by the kidneys. Deficiencies are not likely under normal circumstances. Under sunlight, a substance in the skin, 7-dehydrocholesterol, is converted to a pre-vitamin form and eventually to the active vitamin D form by the liver and kidneys. Vitamin D is also present in sufficient amounts in most sun-cured hays. Although extremely unlikely, deficiencies in vitamin D could occur if horses are not exposed to direct sunlight and receiving poorly cured hay. Bone abnormalities, including weak bones, osteosclerosis, rickets or osteomalacia can develop. While also unlikely, excess vitamin D intake can occur if an overdose of vitamin D is injected or certain members of the nightshade plant family (e.g., Wild Jasmine, Cestrum diurnum) are ingested. Excess vitamin D intake can cause bone abnormalities and calcification of blood vessels, the heart and other soft tissues. Other symptoms of excess vitamin D include decreased feed intake (thus, possible deficiencies in other nutrients), weight loss, poor growth, stiffness and joint pain.

Summary

- The ultimate goal for growing horses is to achieve a steady growth rate and avoid orthopedic problems. This can be accomplished by supplying sufficient nutrients in the proper balance.
- Seasonal changes in pasture quality and individual body condition make it necessary to adjust the feeding program accordingly.
- If feed (grain) is reduced, mineral supplementation may be needed to make up for deficiencies.

Words of Wisdom

Don’t squat with your spurs on!

Contributed by:
Jim Miller, Owl Creek Farm
Versailles, KY

“After 40 years of owning 50 Shetland ponies, Arabian and Russian horses I discovered McCauley Bros. feed and special supplements, Alam and M30. Their feeds furnish all the nutrition and vitamins for the horses to maintain good health and quality of life at a reasonable cost.”

Mr. Stewart greets Steve Baker, McCauley’s VP of Sales & Marketing

We trust you will enjoy our newsletter. Please let us know your suggestions for article topics. We also welcome your letters and words of wisdom.

Lexington, KY
There is only one!

McCauley's® Rice Bran Oil
Please be aware that all rice bran oils are not created equal.

McCauley's Rice Bran Oil is the crude, unrefined oil, which contains naturally high levels of gamma-oryzanol, multiple forms of vitamin E, other antioxidants and lecithins. When these natural components are removed from McCauley's Rice Bran Oil, the remaining product is rice bran cooking oil, which is now being sold in the horse market. This is not a comparable product to McCauley's Rice Bran Oil. For the horse, there is very little difference between refined vegetable cooking oils, such as corn oil, soy oil and rice bran oil. There is a great deal of difference between McCauley's Rice Bran Oil and rice bran cooking oil.

The nutritional components extracted from the crude oil to produce refined rice bran oil are sold at very high prices. These costly nutrients are natural components of McCauley's Rice Bran Oil. Our product may be more expensive than the refined oil, but the cost and nutritional difference are mainly in the precipitate found in McCauley's Rice Bran Oil.

Visually, McCauley's Rice Bran Oil is easily distinguished from the refined oil. McCauley's Rice Bran Oil has a rich dark color and precipitate containing gamma-oryzanol and lecithins among other nutrients. On the other hand, the refined oil is clear yellow, with no precipitate, the same as other vegetable cooking oils (i.e., corn oil, soy oil, etc.).

Service Tips

Our McCauley technical experts are on call to answer questions regarding equine nutritional matters M-F, 8 to 5. If a horse owner being served by a dealer has a question, our experts are available to them also. We suggest to our dealers that if a customer needs to talk to a McCauley expert, they do so with the dealer on a conference line. If the need arises both parties can call our WATS line (800-222-8635) simultaneously and we will tie them both into a conference in Versailles. It is best that our dealers know what their customer’s questions and/or problems are and what has been recommended.

May 29, 1999—After eating 6 quarts of McCauley’s Finisher and 8 fluid ounces of McCauley’s Rice Bran Oil per day. Won a blue ribbon in New Castle, IN.

Two-year old registered Paint/Palomino horse
Before—Maintained on pasture until April 25, 1999.