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YOUR GUIDE TO EQUINE HEALTH CARE

Feeding Broodmares

Proper broodmare nutrition is one of the most important contributors to a successful breeding program

Overview

Broodmares are the cornerstones of the equine industry. They are the only source of new stock and often are expected to produce a healthy foal year after year. Proper nutrition is widely considered to be one of the most important contributors to a successful breeding program.[1] Over the past several years, research studies have greatly contributed to our knowledge regarding proper and optimal nutrition in broodmares.[2] Broodmare nutrition must be consciously considered and revised throughout the season. In addition, the mare's breed, age, stage of pregnancy, and the nutrient content of the feed all need to be taken into account.[3]

From breeding to weaning, the nutritional demands of any broodmare are divided into three key time intervals: During early pregnancy, the last two trimesters of pregnancy, and early lactation.[4]

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During the last trimester, the mare needs about 15% more dietary energy for the growing foal.

Feeding During Early Pregnancy: Open and Maiden Mares

A mare's gestation lasts approximately 11 months (foaling usually occurs 338 to 345 days from the last breeding date). During the first two trimesters of gestation, from conception to the end of the sixth month, the foal's growth rate is not particularly remarkable. In fact, by month seven the foal is still only 20% of its birth weight and weighs only 2% of the mare's weight. Thus, a mare's nutrient requirements throughout this period do not differ greatly from those of an adult horse at maintenance.[4,5] Mature, idle horses and many mares in early pregnancy require only good-quality hay fed at 1.5% to 2% body weight (approximately 20 pounds of hay per day for an average 1000-pound horse).[6] Free-choice grazing is also sufficient for most mares in early pregnancy.

To circumvent excessive weight gain, avoid overfeeding a mare during early pregnancy.[4] Overweight or obese mares can have trouble foaling.

Feeding During Late Pregnancy

Late pregnancy, also called the last trimester, is from about seven months gestation until foaling. During this period, the foal's growth is phenomenal: He grows from 20% to 100% of his birth weight—about 0.75 to 1 pound per day. While a mare's digestible energy requirements increase only by about 15% during this period, her protein and mineral requirements increase more dramatically. It is therefore important to not overfeed energy (i.e., do not simply feed larger amounts of hay, pasture, or grain). These feeds are not high in protein, calcium, or phosphorus. The excess energy will not deliver enough nutrients to the foal, the mare will gain too much weight, and foaling problems could ensue.[4]

Instead, the goal is to provide slightly more energy but high amounts of protein (16% rather than 8% in non-pregnant mares), calcium (0.45%), and phosphorus (0.35%). Provide a concentrated feed specially formulated with the protein, calcium, and phosphorus needs of the mare in mind. The calcium to phosphorus ratios in these feeds are typically 1.8:1.[3]

Trace minerals (iron, zinc, copper, and manganese) are also an important consideration at this point in gestation. While the growing foal uses the protein, calcium, and phosphorus in utero, he stores the trace minerals to use during the first few months of life. These trace minerals are very important in growing foals and can help foals avoid such problems as developmental orthopedic disease. Minerals are included in most high-protein grain mixes designed for gestating mares. In addition, offer a trace mineral block for "free choice" access.

Feeding Lactating Mares

During early lactation, the mare's energy demands are very high. Milk yields range from 2 to 3% of the mare's body weight per day and are high in energy, protein, calcium, phosphorus, and vitamins.

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Forage is the basis of all equine feeding programs; however, typical lactating mares require an additional 10 to 14 pounds of grain along with the forage per day (depending on the quality of the forage). Like during the last trimester of pregnancy, the grain needs to be fortified with protein, calcium, and phosphorus. It is very important to start increasing the amount of grain in the mare's diet over the course of the last few weeks of gestation. Sudden increases in grain intake can result in laminitis and/or colic—two serious health conditions that should be avoided at all costs.

In early lactation, trace mineral supplementation is not as important as it is during the last few months of gestation. The foal already has trace mineral stores in his liver, and adding more trace minerals to the lactating mare's diet will not increase the concentration of them in her milk.[4]

If a mare is bred back during early lactation, surprisingly little needs to change in her diet at this point. Remember that the fetus is growing very slowly during the first two trimesters of pregnancy. Lactation, not pregnancy, is the major concern in terms of nutrition.

Foals are typically weaned at six months of age. Around the time of weaning, as the mare's milk production decreases, it is important to also decrease the amount of grain being fed to the mare to avoid obesity. If the mare is not bred back, then she can be managed like any mature healthy horse, with a hay-based diet fed at 1.5% to 2% of her body weight.

Ensuring Success

Experts recommend that all mares undergo a careful, veterinary-supervised nutritional assessment before the start of every breeding season.[7] Correct nutritional management will ensure that your mare's body condition is optimal every step of the way and that foals are getting the nutrients they need to grow and develop properly.[5]

Routinely (i.e., weekly) determine your mare's body condition score (BCS) to ensure she is properly conditioned.[8] Frequent BCS evaluations will allow plenty of time to alter the mare's condition during pregnancy and in preparation for foaling and lactation. Make dietary changes slowly and consult your veterinarian or equine nutritionist with any questions or concerns.

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