Feeding Broodmares

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The broodmare goes through three phases of reproduction--early gestation, late gestation, and lactation. Mares in good body condition cycle earlier in the year, require fewer cycles per conception, have a higher pregnancy rate, and are able to maintain pregnancies better than thin mares. Management of the mare's body condition should be supported by careful selection of feedstuffs and accurate ration formulation.

Total daily feed intake (hay and concentrate) ranges from 1.5-3.0% of body weight and depends on the type and quality of forage, the crude fiber level of the diet, and the energy density of the concentrate. Daily feed intake can vary among horses. For example, hard keepers or heavy milkers might need increased rations.

Early and Mid-Gestation

In the first eight months of gestation, a mare has nutrient requirements similar to those of any mature, idle horse. The developing fetus gains only 0.2 pounds/day on average during this time and does not place a significant nutritional demand on the mare. By providing free-choice grazing of quality pasture, the mare's nutrient requirements for maintenance can be sufficiently met. In this situation, mares might consume 2-3% of their body weight in forage, which alone can meet their needs for protein and energy. However, you should provide supplemental minerals.

High-quality hays can be excellent for maintaining mares in early pregnancy. On average, mares will require from 1.5-1.75% of their body weight in high-quality hay. Although high-quality forage will usually maintain a mare already in acceptable body condition, it will not put weight on a mare in marginal condition.

Some grasses can be potential health hazards for broodmares. Certain hybrid sorghum/sudan grasses have been reported to cause cystitis syndrome or prussic acid poisoning, which can cause death. Fescue can be a good roughage for horses, but it is harmful to pregnant mares if it contains endophyte fungus. Fescue should be

tested for endophyte fungus and mares removed from infected pastures at least 90 days before foaling or treated appropriately by a veterinarian.

When forage quality declines, mares need supplemental concentrate to maintain body weight and condition. Feed a quality concentrate at 0.5-0.75% of body weight.

Late Gestation

In late pregnancy, nutrient requirements increase because the unborn foal is growing more rapidly, averaging one pound of gain per day. The mare's intake of protein, energy, calcium, phosphorus, and vitamin A should be increased. Even in situations where forage is sufficiently maintaining mares, it is important that they receive quality concentrate supplementation to provide the protein, vitamin, and mineral balance necessary to properly support the growth and development of the fetus.

Nutrient balance is of major importance because most fetal growth occurs during the last three months of gestation. During the tenth month, the greatest amount of mineral retention occurs in the fetus. Mare's milk is practically devoid of trace minerals essential for proper bone development; therefore, adequate nutrition of the mare is crucial for normal fetal development and to provide sufficient mineral reserves for the foal after birth.

Lactation

At foaling, a mare's daily nutrient requirements increase significantly. The protein and energy requirements almost double from early gestation to lactation, as do requirements for calcium, phosphorus, and vitamin A. The requirements must be met so the mare can recover from foaling stress, produce enough quality milk, and rebreed without losing body condition. Underfeeding will lower milk production and cause weight loss, and might even affect the mare's ability to raise her foal and become pregnant again.

A lactating mare will usually consume 2-3% of her body weight in total feed daily. Because of the significant difference in nutrient requirements from gestation to lactation, it is important to plan for a gradual increase in grain intake prior to foaling to boost nutrient intake and to decrease the risk of digestive disorders. Providing the total daily feed in two or more equal feedings allows mares to more safely consume the amounts needed. Mares fed in groups should be sorted according to feed intake or body condition to insure that each mare receives the

appropriate amount of concentrate. Your veterinarian can recommend feeding strategies to help you accomplish this.

Nutrient content of mare's milk decreases drastically during lactation. By the fourth month, milk provides less than 30% of the total energy the foal needs. Providing lactating mares with a concentrate that includes added fats or oils and high-quality protein can help slow the decline in milk production and improve its nutrient content. This will translate into an early growth advantage for the nursing foal.

In the fourth, fifth, and sixth months of lactation, the mare's daily nutrition requirements decline. By this time, it is common to have foals on a good creep feed to prepare them for weaning. Once the foal is weaned and lactation has ceased, the pregnant mare can be managed as an early-gestating mare once again.

Further information on this subject can be found in the Nutrition category on the Horse Health page at **www.myHorseMatters.com**.
