

Protein Needs of Broodmares

One of the most important nutrients to consider when feeding the broodmare is protein. During pregnancy and lactation, the broodmare uses a large amount of protein for either fetal growth or milk production.

Besides supplying the demand for fetal growth, the mare needs additional protein for other body functions and for the growth of the placenta and amniotic tissues surrounding the fetus. This protein must also be of high quality.

During pregnancy, fetal growth is very slow through the early months. By the end of the seventh month of pregnancy, the fetus has deposited only 10% of the protein it will have when it is born. In the last four months of pregnancy, the fetus will deposit a great deal more protein as it grows to a birth weight of around 120 lb (55 kg). Since birth weight is dependent to a large degree on protein deposition, it is critically important that the pregnant mare be fed so that she can supply the growing fetus with an ample supply of protein.

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Usually a 13 to 16% concentrate feed is offered to pregnant mares. When this type of feed is fed at rates of 6 to 10 lb (2.5 to 4.5 kg)/day, it supplies plenty of protein for fetal growth, providing that it is made using quality sources of protein. Sometimes, however, pregnant mares don't need this much calorie-laden grain. In this case, it is best to feed the mare a more concentrated source of both protein and minerals. A 25 to 30% protein supplement pellet is excellent for this type of application. It should contain quality sources of protein along with plenty of vitamins and minerals to ensure optimal fetal growth and the birth of a big, strong foal. About 2 lb (1 kg) of this type of supplement can be fed in place of a regular broodmare feed when the mare doesn't need extra calories.

Some people worry that a 25 to 30% protein supplement supplies too much protein for the mare. In reality, 2 lb (1 kg) of this type of supplement supplies the same amount of protein as 4 lb (1.8 kg) of a 15% protein feed. The protein from the supplement is of higher quality since about 2/3 of the protein in the 15% concentrate comes from cereal and this protein is low in lysine. Substituting 2 lb (1 kg) of supplement for 6 to 8 lb (3 to 3.5 kg) of a grain mix actually supplies less total protein, but a similar amount of quality protein.

Lactating mares also require large amount of quality protein. A lactating mare needs twice as much protein as a barren or early pregnant mare. She needs this much protein because mare's milk is high in protein, typically containing about 20 to 25% protein on a dry basis. A mare during peak lactation will secrete over 1 lb (0.5 kg)/day of protein in her milk. This milk protein is very high in lysine and the mare requires high quality protein in her diet to produce it. In fact, the surest way to decrease milk production in a mare is to restrict her protein intake. If energy only is restricted, the mare will use her body fat reserves to produce milk. Restricting protein in the diet will cause a decrease in milk production and foal growth.