

When Milk is Not Enough

Creep feeding your nursing foal provides nutrients milk cannot and promotes sound growth and a healthy foal.

by Lori K. Warren, PhD., PAS

We all remember the marketing slogan, "Milk. It does a body good," or the more recent campaign, "Got Milk?" which accompanies ads of famous people slathered with a milk mustache. Certainly, milk is a very nutritious food, particularly for babies and young animals. But, just as occurs with babies, there comes a time when the mare's milk no longer meets all of the nutritional needs of her nursing foal. Providing supplemental feed for the foal in the form of "creep feed" is one way to provide the nutrients missing in milk and to ensure steady, sound growth.

Nature's Not-So-Perfect Food

With nursing foals, we rely heavily on the mare and her milk to provide the foal with the nutrition it needs. The average broodmare can produce 3 gallons of milk each day, with peak production occurring when the foal is 1 or 2 months of age. The nutrient content of the milk also peaks during the first 30 days of lactation. However, both the amount of milk and the nutrients provided in the milk gradually start to decline. By the time the foal is 2 or 3 months of age, the milk may no longer be providing all the nutrients the foal needs. This may occur even sooner if the mare is a poor milker.

To ensure the foal receives the nutrients it needs to support growth and development, the milk they consume should be supplemented with solid feeds. Most foals show an interest in sharing their dam's grain as early as 2 weeks of age. However, many broodmare feeds do not contain adequate levels of protein, vitamins and minerals for foals. In addition, the foal cannot be expected to make up the nutrient deficit by consuming large quantities of pasture or hay, because their digestive system is still too small to process significant amounts of bulky feed.

Creep Feeding

To compensate for declining milk quality, the nursing foal should be provided with its own specially formulated grain mix. In addition, the feed should be provided in a manner that allows the foal to eat, but prevents the mare (and other adult horses) from interfering. By definition, this is "creep feeding" the foal.

There are numerous designs for creep feeders and endless ways to provide additional feed to your nursing foal. A simple creep feeder can be constructed in a pasture by using the corner of an existing fence on two sides, while the other two sides are built from a single board plank that can be adjusted to allow foals access while keeping out the mares (see

Entrances to a pasture creep feeder should be wide enough and high enough so that foals will not bump their heads or hips, but they must be short enough to keep out mares. For the average sized foal, an opening with a height of 4 feet and a minimum width of 2 feet works well.

Remember, as the foal grows, you may have to adjust the height of the creep feeder. If more than one foal will be using the feeder, it should possess multiple entrances so that foals will not get trapped by other foals in a crowded feeder. An 8 foot by 8 foot creep area is large enough for one foal. For each additional foal, increase the size of the feeder so that there are 45 - 50 square feet of space for each foal.

Creep feeders should be located in areas where mares frequently congregate, such as near water, shade, or feeding areas, so that foals will be encouraged to eat without moving far from their dams. In addition, foals can teach each other how to eat creep feed, so it is often more successful to creep feed foals as a group. Nonetheless, keep an eye out for overly dominant foals that prevent the more timid foals from accessing the creep area.

Creep feeding should begin at 2 to 3 months of age. Foals should be introduced to creep feed in small amounts (2 to 3 pounds per foal per day), and the amount fed should be gradually increased until feed is available free-choice to the foal. Free-choice feeding allows the foal to eat small, frequent meals, which naturally mimics the foal's nursing schedule. Free-choice feeding also gives timid foals a chance to eat when dominant foals are away from the feeder. Illustration by Dr. Lori Warren

Figure 2: Make sure the entrances to the creep feeder are wide enough and high enough to allow foals to enter, but short enough to keep the mares out.

In addition to pasture or group creep feeders, there are also special foal feeding tubs that can be placed in a stall. Most of these feed tubs have adjustable bars, which allow access to the foal's smaller sized muzzle. While these special foal feeders allow monitoring of feed intake by an individual foal, they limit supplementary feeding to only those times when the mare and foal are brought into a stall. In addition, a mare may distract the foal from finishing his meal because they usually finish their own meal first. As a result, consumption of creep feed will often be lower when foals

only have access to feed one or two times a day, compared to the free-choice access afforded by a pasture creep feeding system. Nonetheless, a stall feeder which provides some supplemental feed is better than providing no creep feed at all.

Selecting a Creep Feed

Creep feed should be formulated specifically for foals to provide the correct amounts of nutrients needed for proper growth and development. In general, a commercial feed containing at least 16% crude protein, 0.8% calcium, and 0.5% phosphorus should meet the foal's nutritional needs. High quality protein sources, such as soybean meal or milk protein should be included in the product.

Some foals tend to be very selective, often eating only the grain and leaving protein sources or vitamin and mineral premixes in the bottom of the feeder. If foals are sorting through the creep feed, use a pelleted feed to ensure that foals receive a balanced creep ration.

Photo by Tracy Williams When the foal starts to nibble its mother's meals, it might be time to start creep feeding to ensure the foal receives all the nutrients it needs for steady growth and health.

The feeder should be carefully monitored for spoilage and fresh feed should be provided daily. Although intake may vary between 0 - 3% of the foal's body weight, a good guideline is about 1 pound of feed per month of age per day. Ideally, enough feed should be provided so there is only a small amount of feed left in the feeder the next time feed is given. If the feeder has been empty for a long period, a hungry foal that is allowed access when the feeder is replenished could overeat and colic.

If creep feeding will not work with your management situation, feed the creep ration to the broodmare and have the foal eat with its dam. The creep feed might exceed the mare's nutritional requirements, but the excess nutrients will not harm her and will provide a balanced ration to the foal as it eats with its dam.

Reap the Benefits of Creep

In addition to balancing the nutrients in the mare's milk, creep feeding has several other benefits. Creep feeding allows foals to become accustomed to eating solid feeds before weaning time, which may help reduce the stress associated with weaning. In addition, creep feeding may facilitate earlier weaning of foals from mares that are poor milk producers or mares that are in poor body condition because of the demands of lactation.

Creep feeding the foal with a balanced ration may also allow owners to moderate or even increase the foal's growth rate while minimizing bone and joint disorders (developmental orthopedic disease, or DOD) sometimes found in large-framed, rapidly growing horses. Although there are many possible causes of DOD, nutrient imbalances resulting from inadequate protein, vitamin and mineral concentrations relative to the energy (calorie) concentration of the diet may promote DOD in foals. The purpose of creep feeding is to promote a steady growth rate by compensating for the nutritional deficiencies in the mare's milk. In contrast, maximal growth and overly fat foals are not goals of a creep feeding program and may contribute to bone and joint disorders in young horses.

Got Creep Feed?

While nature has certainly tried to create the perfect food for our foals, at some point, milk is just not enough. To keep up with the market demand for early-maturing horses, young foals need an additional source of nutrition. Creep feeding the nursing foal provides the nutrients that milk cannot, promoting a sound, steady rate of growth. Setting up a creep feeding system does not have to be complicated - any structure that is accessible to foals yet prevents entrance of the mares can serve as a creep feeder. So, wipe off that milk mustache and put a creep feed mustache on your foal!

GOT MILK? WE DO!

Choosing what's best for baby isn't always an easy task. Foals have very demanding nutritional needs and selecting the wrong diet can have a negative impact on the foal's health, growth rate and future soundness. Through extensive research, Seminole Feed has developed two scientifically advanced feeds that meet the high demands of the growing foal and the nursing mare. Seminole's Mare & Foal Formula and Mare & Foal Pellets are all-natural, fixed-formula feeds containing 16% protein and added lysine to support growth. Included exclusively in Seminole Mare & Foal Feeds is Foal Balancer®, a high quality milk protein supplement and soybean meal. In addition to balanced levels of calcium and phosphorus, chelated minerals, vitamins, antioxidants, yeast culture, yucca, mannan oligosaccharides and a mycotoxin binder are included.