



## Feeding the Orphaned or Rejected Foal

No matter the size of the breeding operation, once foaling season commences the probability of raising an orphaned or rejected foal is great. Foals are orphaned or rejected for a number of reasons: illness of either the mare or foal, death of the mare, decreased milk production, injury/disease of the mare's udder, or a decrease or lack of maternal instincts by the mare. Horsemen have often thought that orphaned or rejected foals will not be as viable or productive as foals raised by the mare. With today's advancements in equine nutrition, it is possible to raise a normal foal from a nutritional standpoint.

Adequate consumption of colostrum is a must for all foals, especially foals that are orphaned or rejected at birth. Colostrum, or first milk, contains high levels of antibodies that provide the foal with immunity protection. Mares typically secrete colostrum 24 to 48 hours postpartum; however, the foal's ability to passively absorb those antibodies from the mare is confined to the first 24 hours post-foaling.

Once satisfactory serum antibody levels (IgG) have been determined, the foal may be placed either on a nurse mare or a mare's milk replacer. Many horse owners would prefer the nurse mare option to the more labor and time consuming hand rearing. Finding a nurse mare to lease in the area can be extremely difficult and very costly. If a nurse mare is available, convincing her to accept the foal is another concern. From a nutritional standpoint, it is imperative to find a nurse mare that can meet the nutrient demands of the growing foal. As mares progress through their lactation period, the nutrient profile of the milk changes. Nurse mares in the later months of lactation may not be able to adequately meet the nutrient requirements of a foal during the first 30 to 60 days of age. Due to these challenges, many breeders choose to place foals on mare's milk replacer for at least the first 6 weeks or until the foal is consuming milk replacer pellets at a rate of 1 pound per 100 pounds of body weight per day.

Not all milk replacers are created equal. Horse owners should choose a milk replacer that is formulated specifically for foals rather than a multi-species replacer. Growing foals have different nutrient requirements than growing calves or lambs. Most commercial mare's milk replacers are formulated to simulate the mare's own milk with regard to protein, carbohydrate, fat and mineral content. Foals generally perform very well on milk replacer and studies have shown growth rates similar to those of mare nursed foals with regard to body weight and other growth parameters such as wither and hip heights. Growth rates may initially be somewhat slower, but foals generally catch up with their peers by weaning time.

Once a milk replacer has been chosen, the next decision is bottle or bucket? Bottle-feeding an orphaned foal is very time consuming and labor intensive. It is important to realize that a young foal will nurse frequently, as often as 7-10 times an hour, during the first week of life and decreases with age. Most foals are placed on a feeding schedule of one feeding every 1 to 2 hours for the first week and then gradually changed to once every four to six hours after the first 14 days of age. The foal should be consuming around 10% of its body weight (approximately 10 lbs for a 100 lb foal) and will gradually increase to approximately 25% of its body weight by 10 days of age until the foal is weaned around 4 to 6 months of age.

Due to the frequency and volume of feeding, many breeders teach foals to drink from a bucket. There is no benefit from bottle-feeding as seen with ruminants, such as the calf. The foal does not have an esophageal groove (reticular groove) as seen in ruminants, which allows for the bypass of milk directly into the abomasum to prevent the milk from being fermented in the rumen. Foals will learn to drink quite readily from a bucket.

This method is more practical from a management standpoint and allows the foal to feed in a more natural manner, as often as it wants. To encourage the foal to drink from a bucket, dip your fingers in the bucket and place your fingers in its mouth. While the foal is suckling your fingers, slowly lower them into the bucket of milk replacer. Patience is a must! If at any point the foal stops, repeat the above steps until the foal is drinking by itself. To encourage the foal to drink, especially the first day, milk replacer may be warmed up, but it isn't necessary. If the foal is being switched from bottle-fed to bucket fed, decreases have been reported as much as 15-20% of total intake the first day. Intake quickly returns back to normal thereafter.

When the foal is drinking without assistance, a bucket of milk replacer can be placed at shoulder height and left for up to 12 hours. This essentially allows the foal to "graze" on the milk replacer, consuming small meals throughout the day rather than large meals a couple of times a day. Consuming small meals more frequently results in fewer digestive upsets, improves milk digestibility, and average daily gains, as well as the overall health of the foal. Foals will work their way up to consuming 4 to 5 gallons of milk replacer a day, which is equivalent to a mare's milk production during peak lactation. Feeding roughly half the daily ration every 12 hours will help ensure the milk replacer stays fresh and encourages consumption of the product. It is also important to supply fresh water along with the milk replacer and to clean the milk replacer bucket frequently, discarding any replacer not consumed prior to adding fresh. Occasionally diarrhea, due to foal heat or increase/decrease in total solids concentration, may occur in foals fed milk replacers. If the foal's vital signs are normal, reduce the amount of milk replacer by 25% and then increase the amount fed more gradually until the foal is consuming the recommended amount.

In addition to milk replacer and fresh water, the foal should have access to small amounts of creep feed around 10-14 days of age. The young foal's digestive system is more readily able to consume milk based products and horse owners should choose a product that is formulated for that type of growing animal rather than grain mixes formulated for older, more mature horses. Grain mixes will not be detrimental to the foal, but the nutrients will be less available and utilized. A highly palatable, milk-based pellet formulated for foals is ideal creep feed to offer foals during this time. Placing creep feed in containers roughly knee high will often stimulate curiosity and exploration of the feed by the foal which, in turn, encourages consistent creep feed consumption. High quality legume forage may also be offered free choice at this time as well.

Foals can be weaned from milk replacer once the foal is consuming at least 1 lb/100 lbs body weight in milk replacer pellet creep per day, usually around 3 to 4 months of age. The digestive enzymes in the foal's gastrointestinal tract are changing and the cecum is starting to ferment forage for nutrient utilization. The foal can be transitioned from the milk-based pellet to a grain mix formulated for growing horses. Remember to make all dietary changes, amount fed and type of feedstuffs utilized, gradually to avoid digestive upsets and help promote optimal growth of the foal.

Managing an orphaned or rejected foal can be a complex and labor-intensive process. Breeders, working closely with veterinarians and equine nutritionists, can tailor a nutritional program to meet the nutrient requirements of the rapidly growing foal. Utilizing today's advancements in equine nutrition along with proper veterinary care and management practices, it is possible for breeders and horse owners to raise a viable and highly productive foal.



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