



## ***Feeding the Orphan or Rejected Foal***

Progressive Nutrition's Equine Guide # 101

### **Decision Making: Foals First Milk Replacer vs. Nurse Mare**

Orphaned or rejected foals can be raised either on a Nurse Mare or on a mares' milk replacer. Evaluating several factors will help you make the correct decision:

- **Pro Nurse Mare**: You can turn a nurse mare with grafted foal out with the other mares and foals in the pasture and spend less time managing the orphan or rejected foal.
- **Con Nurse Mare**: Current cost for nurse mare rental is \$1,500.00, plus transportation to and from your farm, plus returning the mare back in foal. Nurse mares must be in the same stage of lactation as the mare she is replacing because of the natural mineral density decline in her milk. The longer the mare has been lactating the more difficult it is to "switch" foals onto her. The possibility of infectious disease transmission is greater to the privately owned broodmare stock.
- **Pro Milk Replacer**: Currently approximately \$100.00/50 lb. bag of powered Foals First Milk Replacer with an average of 3 to 4 bags needed to weaning time, which means the cost will average \$300.00 to \$400.00 for the milk replacer powder. The nurse mares' milk mineral density question is ruled out because of the guaranteed analysis in the Foals First Milk Replacer powder. Foals can be turned out with a quiet gelding or mare until weaning.
- **Con Milk Replacer**: Management must: oversee feeding and cleaning of the milk buckets, teach the foal to drink from a bucket in its stall, teach acceptable behavior and have the orphan interact with other foals or horses as soon as possible. The management must follow the companies prescribed feeding directions because one company's feeding directions should not be used with another company's milk replacer.

### **Other Milk Replacer Powder's Available**

Several milk replacers are currently available in today's market, however the calf, lamb, and kid milk replacers are not nutritionally adequate or balanced for foals. Whole cow's milk and goat's milk have been

advocated, but poor weight gains and metabolic acidosis were recently reported in neonatal foals consuming the required amount per day. Milk replacers containing maltodextrins, corn syrups, and glucose polymers are not recommended for foals less than 3 weeks old. Also, milk replacers with a Crude Fiber of over 0.15% is an indication that the formula is not all milk, therefore is not recommended for foals less than 30 days old.

### **If Orphaned Over 3 Weeks of Age**

If the foal is over 3 weeks old when orphaned, forget the liquid milk replacer and provide only Foals First Milk Pellets. At this age their molars are in, and they can easily chew and swallow the milk pellets. Provide only the Foals First Milk Pellets for them to eat free choice until they are 2 months old. Then make a gradual change to Foals First Starter and Creep feed. Provide the Starter and Creep feed free choice from 2 to 4 months of age. At 4 months of age, mix equal amounts of Foals First Starter and Creep with your selected weanling diet for one week. Your weanling diet should complement the forage they are now eating and be fortified to supply the higher level of nutrients needed to support the young growing weanling's skeletal development.

### **Our Program From Birth**

Each foaling season, a number of foals are orphaned or rejected. The following is a highly successful program for raising orphan foals that has been implemented in several universities and veterinary neonatal hospitals. Foals raised with this method grow just as well as non-orphans and will attain their normal size. In fact, when orphans are raised according to the following recommendations, it is very hard to tell the difference between them and those raised with the mare. The program is also very easy to implement and manage.

Research was completed in 1999, comparing the different growth rates of foals: 1) remaining on the mare and provided a milk-based pellet in a creep, and 2) foals weaned at three days and raised on the following feeding program. Researchers recorded weekly measurements of their body weight, heart girth, body length, wither height, hip height, and cannon bone circumference. Results showed that foals developed similarly in skeletal size. Although the Control Group foals (remaining on the mare) were a little heavier, all foals received similar body condition scores and were healthy. Foals were not negatively affected by early weaning and did not develop unacceptable habits.

Raising foals on the Foals First Milk Replacer Program will be helpful to those who are managing orphaned, rejected or early-weaned foals. It is also a successful alternative if the mare is to be put back into competition, or she is over 20 years old and you want to reduce her stress level and breed her back.

## **Colostrum First**

Colostrum, or the mare's first milk, contains high levels of antibodies to protect the foal from disease. After foaling, the mare secretes colostrum for 24 to 48 hours. Foals will absorb colostrum for 12 to 24 hours after birth, or until an adequate amount of whole protein antibodies are absorbed through the small intestine. The quicker we can get the colostrum into the foals, the faster the large openings in the small intestine will close. All foals, whether on the mare or orphaned, need colostrum. After birth, preferably within the first hour, the foal should begin to receive colostrum. A 100 lb. foal should receive 250 ml. (approx. 1 cup) of colostrum each hour for the first six hours after birth. This is a total of 1500 ml, or about 3 pints of colostrum per 100 lbs. of body weight. All breeding farms should have a minimum of 3 pints of frozen colostrum in storage. When needed, it should be removed from the freezer and thawed at room temperature or in warm water. Pour the colostrum into a bottle, which has a nipple opening of at least ½ inch wide, and let the foal suckle. **NEVER microwave the colostrum** because that will destroy the whole protein antibodies.

## **Foals First Milk Replacer Powder in Solution is Next**

After the colostrum has been consumed, introduce the early-weaned foal to Foals First Milk Replacer powder mixed into liquid solution. You may start them drinking from a plastic bowl or with a lamb nipple, depending on how aggressive they are. (NOTE: If a nipple is used, make sure the opening is a least 1/2" wide). However, a nipple is not necessary, and the foal will learn to drink from a shallow bowl or bucket shortly after birth. Foals will learn to drink quite readily if you place your finger in their mouths to stimulate the suckle reflex. Then while they are sucking, raise the small bowl containing the liquid milk replacer up to their muzzle. Slowly remove your finger from the foal's mouth while he is drinking. If he stops, repeat the above steps until he is drinking by himself. Always bring the milk up to the foal; **do not force the foal's head into a bucket**. The first day you can warm the liquid milk replacer to encourage consumption. When the foal drinks without assistance, hang a bucket from the stable wall at shoulder height. This will allow the foal to drink whenever it wants. The bucket should be a contrasting color to the wall to make it easy for the foal to find.

The following management program is successful using Progressive Nutrition's Foals First Milk Replacer Powder and Pellets. The selected ingredients will also help maintain the natural pH level in the foal's digestive system. Make sure to follow these mixing directions.

## Mixing Amounts

**Use the following chart to mix Foals First Milk Replacer powder and water to insure the correct amount of milk solids (10%):**

| Water | Foals First Milk Replacer Powder |           |
|-------|----------------------------------|-----------|
|       | Enclosed Receptacle              | or Pounds |
| 1.0   | 2.0                              | 1.0       |
| 2.5   | 5.0                              | 2.5       |
| 5.0   | 10.0                             | 5.0       |

When fed at room temperature, the liquid milk replacer will have a tart taste. This tartness discourages a foal from drinking too much at one time, even when offered free choice. Foals less than 30 days old will average drinking from their dam seven to ten times per hour. Feeding Foals First Milk Replacer Powder in solution free choice will also allow the foal to drink this natural way, seven to ten times per hour. Free choice feeding greatly reduces the chance of digestive upsets in newborn foals, because it prevents them from becoming too hungry.

## How Much to Feed/Day?

The average mare will produce 3.0%-3.5% of her body weight in milk per day. This means a 1,000 lb. (454 Kg.) mare will produce 30 pounds (14 Kg) or about 4 gallons (18 liters) of milk per day. Use the following chart to determine the size of the dam and the amount of milk replacer to provide each day:

| Mare's Body Weight |        | Foals First Liquid Mixture Per Day |            |
|--------------------|--------|------------------------------------|------------|
| 250 lbs.           | 113 Kg | 1 gal.                             | 4.5 liter  |
| 500 lbs.           | 227 Kg | 2 gal.                             | 9.0 liter  |
| 1,000 lbs.         | 454 Kg | 4 gal.                             | 18.0 liter |
| 1,500 lbs.         | 681 Kg | 6 gal.                             | 27.0 liter |
| 2,000 lbs.         | 909 Kg | 8 gal.                             | 36.0 liter |

Start feeding the foal just like the mare would --- slowly. Begin by providing ½ of the recommended amount on the above chart on the first day, according to the size of the dam. Then gradually increase over the next week to 10 days, but no faster than one-half gallon or 2 liters per day, until the recommended amount is being consumed by the suckling. If the stools become loose, slow down, you could be increasing it too fast. But remember, even orphan foals go through “foal heat” scours. Mix the amount a foal should

consume in 12 hours (one half of the recommended daily amount), and make it available free choice.

Giving a foal access to milk at all times is feeding the natural way, on demand. Allowing a foal to drink a little at a time, as often as it wants, will result in fewer digestive upsets, improved milk digestibility, optimal increases in weight gains and improved overall foal health. Each time new formula is mixed, discard any milk not yet consumed and thoroughly clean the bucket before adding fresh milk replacer.

### **How Many 50 lb. Bags Are Needed?**

From birth to weaning, a foal weighing 100 lbs. at birth should consume up to 4 gallons per day and will need three bags of Foals First Milk Replacer powder until weaned at 30 days old. Four bags of Foals First Milk Pellets will be needed to carry the foal to 60 days old and 8 bags of Foals First Starter and Creep will be needed to feed the foal to 4 months old, when he should weigh about 350 lbs. (If they are to mature about 1,000 lbs in body weight)

After the foal is drinking the recommended daily amount of Foals First Milk Replacer powder in solution, provide clean water in another bucket free choice, along side the milk replacer bucket.

When the foal consumes the recommended amount of the liquid milk replacer before the next feeding, add a handful of Foals First Milk Pellet into the same bucket. Foals are creatures of habit, so we must teach them it's OK to eat dry feed. When it's time for the next feeding of liquid milk replacer, empty any milk pellets left in the bucket and provide the liquid Foals First Milk Replacer powder as usual. Once they begin to eat Foals First Milk Pellets from the bucket, provide them in a separate feed tub, free choice. Because of the milk based formula it to can be offered free choice also. A cereal grain based weanling ration is not recommended at this age due to the low maltase activity in the foals intestinal tract, which can cause acid gut syndrome and lead to loose stools if a cereal grain based feed is eaten. This digestive upset from too much cereal grain (starch) can decrease the absorption of nutrients fed, predisposing them to nutritional deficiencies that could lead to Developmental Orthopedic Disease's (DOD).

## Weaning Time

When the foal is four weeks old, begin weaning by reducing the liquid Foals First Milk Replacer, one gallon (4.5 liters) the first day and replace it by adding one additional pound of Foals First Milk Pellet. Once the foal consumes the added milk pellets, reduce an additional gallon/day of liquid and provide another pound of milk pellets. Continue until the pellets replace all the liquid solution. This transition should take 7 to 10 days. By slowly reducing the liquid milk, the foal will slowly increase the amount of Foals First Milk Pellets consumed per day.

### Example: Feed Selection Chart from Birth to 4 Months

| <b>Days of age</b>                     | <b>1-30</b> | <b>30-60</b> | <b>60-120</b> | <b>Over 120</b> |
|--|-------------|--------------|---------------|-----------------|
| <b>Foals First Powder in Solution</b>  | <b>x</b>    |              |               |                 |
| <b>Foals First Milk Pellet</b>         | <b>x</b>    | <b>x</b>     |               |                 |
| <b>Foals First Starter &amp; Creep</b> |             |              | <b>x</b>      |                 |
| <b>Weanling Diet</b>                   |             |              |               | <b>x</b>        |

The Foals First Starter & Creep feed is a milk-based feed, formulated for the young foal with a monogastric digestive system. Let the foal eat as much of the Starter & Creep, pellet or texturized feed, as it wants until the foal is 4 months old or their Body Condition Score exceeds 6. (On a 1 to 9 Scale)

### Age to Remove All Milk?

When the foal is 4 months old select a high quality weanling grain mixture, formulated to be fed with forages, and mix it 50/50 with Foals First Starter & Creep feed for one week. After this, it is not necessary to feed milk to the weanling. This feeding program allows the manager to follow the normal changes in the growing foal's digestive system. It will also promote optimal growth, health and maximum nutrient absorption, while reducing the chance of digestive upsets. (5/06)