

MB Nutritional Sciences Calf Program

Calf Product Line

FORTIFY & BARRIER

1. FORTIFY (#5009 & 5010) – Added to colostrum and can be used as a prophylactic treatment for high risk calves or scours.
 - a. Blend of bovine plasma, IgG rich whey, EXCELL-M, Beta-glucan, vitamins and minerals.
 - b. Available in a 4 gallon pail (#5009; approx. 100 feedings) or 40 pound bag (#5010; approx. 242 feedings).
2. BARRIER Calf (#5008) – Added to colostrum and used as a treatment for scours.
 - a. Blend of hyperimmunized egg protein, EXCELL-M, Beta-glucan, vitamins and minerals.
 - b. Available in a 128 oz jar (#5008; 350 feedings).

PROVIDA

3. Provida Calf (#2002 & 2003) – Blend of live microbials (*Lactobacillus casei*, *Enterococcus faecium*, and *Saccharomyces cerevisiae*). Improved starter intake and average daily gain.
 - a. Available in a 32 oz jar (#2002; 5,000 feedings) or 4 gallon pail (#2003; 100,000 feedings for a calf ranch).
4. Provida Total Calf IG (#2006) – Formulated to be added to milk or milk replacer for the first 2-3 weeks of life.
 - a. Same blend as Provida Total Calf VTM, but with added bovine plasma & IgG-rich whey to supplement bovine immunoglobulins for extra intestinal protections.
 - b. Available in 40 pound bag (#2006; 400 feedings).
5. Provida Total Calf (#2005) – Formulated to be added to milk replacer based liquid diets.
 - a. Blend of EXCELL-M, live yeast, *Enterococcus faecium*, B-vitamins, fat soluble vitamins, minerals, methionine, and lysine.
 - b. Available in 50 pound bag (#2005; 3,775 feedings).
6. Provida Total Calf VTM (#2007) – Formulated to be added to pasteurized milk or blends of pasteurized milk and milk replacer.
 - a. Blend of EXCELL-M, live yeast, *Enterococcus faecium*, B-vitamins, fat soluble vitamins, minerals, methionine, and lysine.
 - b. Available in 50 pound bag (#2007; 2,500 feedings).

CEREVIDA

7. EXCELL-M (#3011 & 3012) – A blend of yeast extracts (MOS) with a high binding affinity for gram negative bacteria binding (*E. coli* & *Salmonella*).
 - a. Available in a 4 gallon pail (#3011; 4,000 feedings) or 50 pound bag (#3012; 9080 feedings).

ELECTROLIFE

8. ELECTROLIFE RENEW (#4001, 4011, 4002) – A concentrated liquid oral electrolyte using acetate as the buffering agent. Formulated to supply the correct balance of lost electrolytes in calves with scours. Strong buffering capacity.
 - a. Available in 5 gallon jug (#4011; 250 feedings), 55 gallon drum (#4002; 2750 feedings) or 250 gallon tote (#4001; 12,500 feedings)
9. ELECTROLIFE REHYDRATE (#4008, 4009, 4010) – A less concentrated liquid oral electrolyte using acetate as the buffering agent. Good option for prophylactic use at regular dose and then add a higher dose for treatments. Formulated to supply the correct balance of lost electrolytes in calves with scours. Strong buffering capacity.
 - a. Available in 5 gallon jug (#4010; 250 feedings), 55 gallon drum (#4009; 2750 feedings) or 250 gallon tote (#4008; 12,500 feedings)
10. ELECTROLIFE CALF (#4004) – An economical bicarbonate based buffer oral electrolyte. Formulated to supply the correct balance of lost electrolytes in calves with scours. Strong buffering capacity. We prefer to sell our Liquid concentrates based on the acetate buffer, but if an operation only wants a less expensive electrolyte we have this one available in powder form.
 - a. Available in a 50 pound bag (#4004; 400 feedings).

Calf Starter and Grower

11. MBNS Calf Starter – A texturized complete balanced calf starter to be fed from day 1 of life through approximately 80 to 90 days of life.
 - a. Formulated at 22% CP, >52% NFC, and <18% NDF.
 - b. Supplies all vitamins and minerals.
 - c. Purchased bulk or sacked through a local feed mill.
12. MBNS Grower Pellet – A micronutrient balanced protein pellet that can be purchased to be blended with grain and a source of NDF to create a balanced TMR for calves between 3 and 6 months of life.
 - a. Work with nutritionist to formulate the complete grower or supply them with the macro-nutrient specifications of the pellet.
 - b. Purchased bulk through a local feed mill.
13. MBNS Complete Grower – A completely balanced feed for growing calves between 3 and 6 months of life.

- a. Formulated at 18% CP, >46% NFC, and <28% NDF.
- b. Supplies all vitamins and minerals
- c. Purchased bulk through a local feed mill.

Colostrum & Milk Supplementation

1. Adjust Colostrum to greater than 24% solids (22% Brix) using **FORTIFY**
 - a. Add 75 - 150 grams to 4 quarts of colostrum and mix well. Increases solids by 2 - 4%
 - i. Colostrum less than 22% Brix do not feed as first feeding
 - ii. 20-22% Brix add 100 - 150 g of Fortify per gallon of colostrum.
 - iii. Greater than 22% Brix add 75 g of Fortify per gallon of colostrum.
 - b. Feed 4 quarts (Holstein) or 3 quarts (Jersey) within the first 2 hours of birth.
 - i. We recommend training staff to use an esophageal feeder.
 - c. Feed an additional 2 quarts (Holstein and Jersey) of fortified colostrum/transition milk 12 hours later.

2. Supplement the milk or milk replacer for the first 2-3 weeks of life with **PROVIDA Total Calf IG**.
 - a. Add 45.4 grams (0.1 lbs) per calf per day. Divide equally among feedings.
 - i. Add 1 pound of PROVIDA Total Calf IG per 20 calves at each feeding if feeding twice a day.
 - ii. PROVIDA Total Calf IG is PROVIDA Total Calf (See information below under #3) with supplemental bovine plasma.

3. Supplement the milk (especially important) or milk replacer for the remainder of the pre-weaning period with **PROVIDA Total Calf or PROVIDA Total Calf VTM**.
 - a. PROVIDA Total Calf is for calves fed predominantly milk replacer.
 - i. Add 6 grams per calf per day. Divide equally among feedings.
 - ii. Add 1 pound of PROVIDA Total Calf per 150 calves at each feeding if feeding twice a day.
 - b. PROVIDA Total Calf VTM is for calves fed pasteurized milk or blends of pasteurized milk and milk replacer.
 - i. Add 9 grams per calf per day. Divide equally among feedings.
 - ii. Add 1 pound of PROVIDA Total Calf per 100 calves at each feeding if feeding twice a day.
 - c. PROVIDA Total Calf and PROVIDA Total Calf VTM are balanced to supplement all vitamins and minerals, provide PROVIDA probiotics, CEREVIDA EXCELL-M, and balance for the first 2 limiting amino acids Lysine and Methionine. Hospital milk and tank milk are deficient in many of the essential minerals and vitamins. Further, supplementing the amino acids to a milk replacer program can allow you to feed a commercial milk replacer with about 2-4% points less crude protein while maintaining average daily gains.

4. Alternatives to supplementing with PROVIDA Total Calf line (Our strategy is to supplement with PROVIDA Total Calf, but if they only want Probiotics or MOS)
 - a. **PROVIDA Calf** Probiotics
 - i. Add 0.1 gram per calf per day. Divide equally among feedings. Add 5 grams for 100 calves at each feeding if feeding twice daily.
 - ii. Improved calf starter intake and weaning weights.
 - b. **CEREVIDA EXCELL-M**
 - i. Add 2.5 grams per calf per day. Divide equally among feedings. Add 1 pound for 365 calves at each feeding if feeding twice daily.
 - ii. Added to bind gram negative bacteria (such as: E. coli and Salmonella).
 - iii. Can be added with PROVIDA Calf Probiotics or on top of PROVIDA Total Calf if calves are having a major challenge with E. coli and/or Salmonella).

Milk and/or Milk Replacer Program

1. Feed either a balanced commercial milk replacer or pasteurized milk.
 - a. Some dairies will feed a combination of both. For example feed milk replacer for the first 28 days and switch to blend of pasteurized hospital milk and milk replacer for the last 28 days or vice versa. If they struggle with calf scours and/or don't have the best pasteurizing protocols we would encourage to feed milk replacer during the first 28 days and then switching to pasteurized milk or continuing on the commercial milk replacer. Some dairies will feed a blend of pasteurized milk and milk replacer. Cleanliness & Consistency are the main goals.
2. MB milk replacers
 - a. We can formulate any percent protein and fat milk replacer; however, our standard recommendation is to feed a 22% to 24% CP and 20% fat milk replacer if you are feeding 6 quarts or less per day supplemented with **PROVIDA Total Calf IG then PROVIDA Total Calf** (Applies both to Holstein and Jersey calves).
 - i. Consider feeding a milk replacer with 5% of the CP from plasma. Especially if the operation struggles with health issues.
 - b. Feed milk solids between 12 and 13.5%.
 - i. If they are feeding 8 – 10 quarts per day they should be feeding 3 times a day, and should consider feeding a 26 - 28% CP and 20% fat milk replacer.
 - ii. If daily temperatures are consistently below 50 degrees you could also consider bumping up the milk solids by a percentage point. Recommend limiting the solids content to 14%.

1. An additional tenth (0.1) of pound per gallon increases the milk solids by 1.2%.
 2. Also put a focus on a lot of bedding. Studies showed that a lot of bedding had more of an impact than the total solids fed when feeding calves in cold weather. Lots of Straw!!! Shouldn't be able to see their legs when they are laying.
3. Pasteurized Hospital Milk
- a. Option to fortify pasteurized milk (especially hospital) to 13.5% solids.
 - i. Use a brix refractometer to determine milk solids (approximate by adding 2% to the brix reading)
 1. Add 56 grams per gallon to increase milk solids by 1.5% (or 38 grams per gallon increases by 1%).
 - b. Important to supplement Hospital Milk and Bulk Tank Milk with **PROVIDA Total Calf** to supply essential minerals, vitamins, probiotics, MOS, and limiting amino acids (and additional plasma & immunoglobulins for the first few weeks of life with **PROVIDA Total Calf IG**).

Oral Electrolyte Program(s)

1. High risk stressed calves (Calf Ranch)
 - a. Feed 2.5 oz of **ELECTROLIFE Renew or ELECTROLIFE Rehydrate** mixed in 2 quarts of warm water for the first feeding at the calf ranch. Begin regular milk (replacer) feeding thereafter.
 - b. Consider supplementing 75 g of **FORTIFY** or 6 g of **BARRIER Calf** with the Electrolyte for additional intestinal protection (This can also be added directly to the milk of calves with scours or high-risk).
 - i. FORTIFY supplies additional bovine immunoglobulins, MOS, Beta glucan, Vitamins and Minerals.
 - ii. BARRIER Calf supplies additional Immunized egg protein, MOS, Beta glucan, Vitamins and Minerals.
 - c. Also consider feeding all afternoon feedings for the first 2 days with an electrolyte rather than milk (replacer). Need to do more research in this area, but could be useful for helping train large number of calves to bottles without really affecting overall health or performance.
2. Prophylactic use
 - a. During the period of high incidence of scours (e.g. 5 to 15 days of life) feed all calves an additional bottle of oral electrolytes either soon after the morning or afternoon feeding.
 - i. Add 2 – 2.5 oz of **ELECTROLIFE Rehydrate** to 2 quarts of warm water [1 gallon into 24 to 32 gallons of warm water].

- ii. Add 2.0 to 2.5 oz of **ELECTROLIFE Renew** to 2 quarts of warm water. [1 gallon into 24 to 32 gallons of warm water].
 - iii. Add 2 oz (56 grams) or **ELECTROLIFE Calf** to 2 quarts of warm water. [1 pound into 8 gallons of warm water].
 - b. During freezing weather
 - i. Important to feed that additional liquid feeding for scouring calves.
- 3. Treatment use
 - a. Calves that are at risk of dehydration (fecal score consistent with watery, pulpy orange juice, slight skin tenting, or sunken eyes). Supplement 2 additional bottles of electrolytes in addition to regular milk feeding.
 - i. Add 2.5 - 4 oz of **ELECTROLIFE Rehydrate** to 2 quarter of warm water. [1 gallon into 15 to 24 gallons of warm water].
 - ii. Add 2.5 - 3 oz of **ELECTROLIFE Renew** to 2 quarts of warm water. [1 gallon into 24 gallons of warm water].
 - iii. Add 2 oz (56 grams) or **ELECTROLIFE Calf** to 2 quarts of warm water. [1 pound into 8 gallons of warm water].
 - b. Option: Add either 75 g of **FORTIFY IG** or 6 g of **Barrier Calf** to treatment electrolytes for additional intestinal protection.

Calf Starter & Grower

1. Calf Starter - Feed a balanced calf starter from day 1 through weaning and transition to group housing. **MBNS Calf Starter** is formulated as texturized feed at 22% CP; 54% NFC; 16.5%NDF; 0.90 Mcal/lb; Monensin 25 mg/lb. Formulated to meet or exceed all nutrient requirements for young calves.
 - a. Offer fresh calf starter at least once per day (prefer twice daily, especially after 4 weeks of life).
 - b. During the first week offer approximately 100 grams per day. Replace daily if it becomes wet or not fresh.
 - c. Starter intake should double about every week.
 - i. Benchmarks are 0.25 lbs at 21 days; 2.25 lbs at 60 days; and 8-10 lbs at 90 days.
 1. When calves consume about 10 pounds of starter per day consider switching them to a grower diet.
 - d. Offer fresh water ad libitum. Clean buckets regularly.
2. Calf Grower - Feed a balanced Grower from approximately 80 – 100 days through 6 months of life. **MBNS Grower** is offered either as a protein pellet to to be made into a TMR on farm or as a complete feed. The **MBNS Complete Grower** is formulated at 18% CP; 47% NFC; 27.5%NDF; 0.80 Mcal/lb; Monensin 23 mg/lb. Formulated to meet or exceed all nutrient requirements for growing calves.