

We take care of calves, naturally!

GETTING THE MOST OUT OF HERD MILK REPLACERS



All of our milk replacers are formulated, tested, and produced with the goal of *Maximizing* calf performance. Once a milk replacer has been produced in our state-of-the-art plant, it still needs to be mixed properly and fed properly to *Maximize* calf performance... That's where you come in!

MIX IT UP RIGHT...

Properly mixed milk replacer is a creamy liquid, that calves readily consume and use for growth. It stays in suspension, leaves little or no residue on mixing or feeding equipment, and provides calves with an excellent source of nutrition. Whether you are mixing in a stainless steel power mixer or in a 5 gallon bucket, is just as easy to mix properly as to mix improperly. This document was developed to help you mix milk replacer properly to *Maximize* calf performance.

MIXING AND FEEDING DIRECTIONS

1. Add 60-65% of required hot water to mixer. Water temperature should be 135-150° F.
2. If using a power mixer, turn on the mixer. If mixing by hand with a wire whisk, stir the water to get it circulating in the pail.
3. Weigh proper amount of milk replacer powder and sprinkle into hot water while agitating the water.
4. Check water temperature after all milk replacer powder has been added. It should be 125-135°F after all powder has been added.
5. Mix for 2-5 minutes. Remember that all fat emulsification occurs on your farm - not in a milk replacer plant. Mixing for 2-5 minutes ensures that fats are properly emulsified.
6. Add additional water needed to meet the required volume and adjust temperature to 115-120°F.
7. Fill calf bottles and deliver to calves or deliver milk replacer to calves in buckets. Milk replacer feeding temperature should be 110-115°F.
8. Make adjustments in temperatures based on your conditions. In summer one might start with water at 135°F before adding milk replacer powder that is in the barn at 74°F, but in winter when the milk replacer powder is

in the barn at a temperature of 34°F, the starting water 150°F. Use a thermometer to your conditions.

TROUBLE SHOOTING MIXING AND FEEDING PROBLEMS

When milk replacer is not properly mixed, we can spot several possible conditions that tell us to re-visit our mixing and feeding procedures:

- **Greasy Bottles or Pails** - We use harder fats (higher melting point) than many milk replacer companies because we formulate based on the calf's fatty acid requirements to *Maximize* calf performance. Milk Replacer is best mixed at 125°F and delivered to the calves at a temperature higher than 110°F. Greasy bottles may occur if milk replacer temperatures are dropping below 100°F before the calves eat it. To correct this problem, use a thermometer to check and make sure that milk replacer is mixed at a temperature of 125-135°F and feeding temperature is 110-115°F.



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Trouble shooting continued

- **Residue on Mixing or Feeding Equipment** - We make easy mixing milk replacers with protein-encapsulated fats and easy-mixing ingredients. Residues on mixing or feeding equipment is indicative of mixing for too short a time or with too gentle agitation. Mix for 2-4 minutes with good agitation.
- **Why No Cups?** - Recent research confirms what good calf growers have known for a long time - it pays to be consistent. In the research, calves fed consistent amounts of milk replacer powder gained 0.80 lb/day compared to 0.65 lb/day when the same amount of milk replacer powder was fed, but fed inconsistently. Milk replacer powder density changes from batch to batch. One batch may be "fluffy" and the next is more dense. So, if we mix milk replacer by volume (using a cup that might be more full or less full from feeding to feeding), we know that the amount of milk replacer powder going into the mix will be inconsistent. This goes against our goal of being consistent! Our strongest recommendation is to use a balance and weigh milk replacer powder for calves. Many growers take a simple farm scale and hang it from the ceiling with a bucket hanging on the scale. Then, they add milk replacer powder to the bucket until the scale shows the proper amount of milk replacer powder **BY WEIGHT**. This way, the mixing is consistent every day. For those farmers who want cups, we do have cups available at no charge. NRV cups hold approximately 11.5 ounces of milk replacer, so calf growers will add 1 cup per bottle to feed 11.5 ounces of milk replacer. Remember, consistency pays!



NRV, Inc. is part of the Serval Family of Milk Replacers

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