



WHICH CMR CONCENTRATION IS BEST ?

Calf milk is a vital component of calf nutrition during the early stages of life. Achieving the correct ratio of water to milk powder—known as the dry matter concentration (DM%)—is critical. This balance ensures the optimal delivery of nutrients such as protein, fat, vitamins, and minerals.

Understanding Calf Milk Replacer (CMR) Concentration

When preparing milk replacer for calves, it is essential to correctly mix the powder with water. A key distinction is whether you are adding the powder **into** or **on top of** a liter of water. Misinterpreting this can lead to an incorrect concentration, potentially providing calves with a nutrient mix that differs from what is intended. This ratio significantly impacts the nutritional density of the milk, directly influencing calf health and development.

The Right Concentration

The ideal concentration depends on the specific needs of the calf, the environment, and the farmer's goals. For conventional feeding schedules, a concentration of **12.5% DM** is typically recommended, while for accelerated feeding schedules, a concentration of **15% DM** is ideal. Maintaining a minimum concentration of 12.5% DM is crucial to ensure the milk is digested in the abomasum rather than mistakenly being processed in the rumen. Recent studies have demonstrated that a **15% DM concentration** provides an optimal balance of nutrients and water.

Here's why:

- 1. Nutrient Balance**
 - At 15% DM, the milk delivers a balanced supply of energy, protein, fat, vitamins, and minerals essential for calf growth and development.
- 2. Digestibility and Absorption**
 - This concentration supports the calf's digestive system, enabling efficient digestion (e.g., clot formation) and optimal nutrient absorption in the intestines.
- 3. Growth and Development**
 - Practical experience has shown that calves fed milk replacer at 15% DM exhibit superior growth rates, improved body condition, and enhanced immune function compared to calves on lower DM% concentrations.
- 4. Hydration Balance**
 - Calves require sufficient water for proper hydration and metabolic processes. A 15% DM concentration ensures that calves stay hydrated while also receiving essential nutrients.

However, feeding CMR at concentrations exceeding **16% DM** can disrupt the osmotic balance in the calf's intestines. This imbalance can draw excess water from the calf's body into the intestines, leading to diarrhea, dehydration, and inadequate nutrient absorption.

CONCLUSION

Choosing the optimal CMR concentration is critical for calf health, growth, and development. A concentration of **15% DM** strikes the right balance by delivering necessary nutrients while maintaining proper hydration. Concentrations above 16% DM, however, can pose significant risks such as dehydration and digestive issues. Adhering to the recommended **15% DM** concentration ensures calves achieve their full genetic potential and remain healthy during their early life stages.