

Feeding the preweaned calf in winter

We are nicely in the middle of winter and proper nutrition will help our preweaned calves to grow adequately and have less cases of pneumonia.

Many preweaned calves are housed in either very well ventilated , cool temperature nurseries or outdoors in hutches. Calves can do very well in hutches or nurseries with a 4 to 8 air exchanges per hour and a controlled temperature around 3 to 6 C in the winter.

One of the secrets of the success of these cool temperature winter nurseries is feeding milk or milk replacer at elevated rates . The national dairy code recommends 9 to 10 litres per day of whole milk or milk replacer when the ambient temperature is cool.

So can we just feed bigger meals? More concentrated meals ?

When feeding over 8 litres of milk replacer a day , it needs to be done in three meals per day. The science is not 100% clear on maximum meal size for a milk replacer meal, but I am very uncomfortable ever feeding **more than 600 gram of powder** in a meal . Have I seen it work- rarely , yes. Have I seen it fail many times – yes. Failure can appear as sporadic rapid death from bloat or abomasal ulcers .

So how sure are we that we are offering 600 gram of powder in a 4 litre meal ? When is the last time we calibrated our auto feeder? Ideally any hand mixed milk replacer meal has the milk replacer weighed in , not volume scooped in.

The ideal concentration of a milk replacer meal is considered to be between 135 to 155 gram in a final 1 litre solution. The ideal mixing routine for every milk replacer will be on the milk replacer tag. Please read the tags carefully . The short version of the instructions to create an example 4 litre meal of 560 gram of milk replacer (or 140 gram in a liter) is to add 560 gram to approximately 2.4 to 2.8 litres of warm water . Mix thoroughly , then add enough cooler water to bring the final volume to 4 litres at the ideal drinking temperature for a calf. This routine will deliver a very consistent meal size and concentration.

A common method of creating a milk replacer meal is to add 560 gram scoop of milk replacer to a 4 litre volume of water. For discussion purposes we will assume the scoop volume weighs 560 grams. This will actually create a larger more dilute meal as some of the milk replacer expands the meal size. This is very important for when we only feed a 4 litre meal, as we are feeding less milk replacer solids than what we planned on. This example 4 litre meal will contain approximately 513 gram of milk replacer. If you are unsure of your final meal concentration and/or size please verify it with your calf nutrition advisor.

Following the dairy code we need to feed 9 to 10 litres per day. If fed at 150 grams in a litre that will total to **1.50 kg to 1.35 kg** of powder per day, which will work quite nicely for growth and health. As a comparison if we feed 7 litres (below dairy code) of milk replacer a day with 490 gram of powder ($140 \text{ gram} \times 3.5 = 490$) added to 3.5 litres of water twice a day it will supply approximately **0.900 kg** of milk replacer powder per day in 7 litres. This feeding rate is not ideal. So how much powder are your calves getting each day? Are you mixing **in a litre** or **added to a litre**??

As we feed more milk or milk replacer please ensure all of our feeding equipment is clean enough for a baby calf. As mentioned in a previous article by Dr. Lance Males a luminometer is a very useful tool on farm to ensure all of our feeding equipment is extremely clean. Dr Males article is in the August 2024 edition, please refer to it for optimum use of a luminometer. Another option to verify our feeding equipment is appropriately clean is to submit a milk replacer or whole milk sample to the AHL at the University of Guelph to get an actual count of total aerobic bacteria and coliform bacteria. An excessive bacteria meal can show up as digestive upset, fevered calves or on occasion calves dying rapidly from septicemia.

Preweaned calves can do very well in a cool environment for health and growth. One of the secrets of the success of these cool environments is proper nutrition. If you have any questions please reach out to your calf nutrition advisor.

Happy calf raising.

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