

CALF MILK REPLACERS

The practicalities



Preparation of calf milk replacer, feeding schedules and growth targets.

The preparation of calf milk replacers requires an understanding of **5 key areas:**

1. Hygiene

Mixing and feeding equipment cleaned between each feed

2. Mixing

Method and time

3. Concentration of dry matter solids

4. Milk temperature

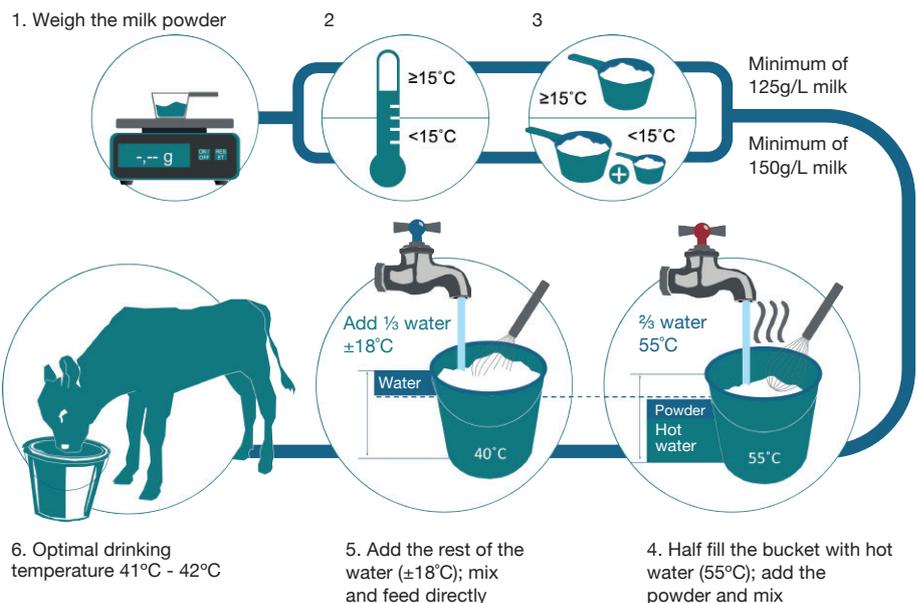
Ideally presented slightly above calf body temperature at 41-42°C

5. Water temperature

Ensures uniform solution with nutrients in suspension

Mixing instructions

1. Weigh the powder; depending on the required concentration.
2. Add two thirds of the volume of hot clean water (55°C) into a clean bucket.
3. Mix thoroughly for 30 seconds or until fully dissolved with a whisk until smooth and in suspension.
4. Add remaining one third of cool clean water to make up to the required total litres and mix thoroughly.
5. Check the temperature to make sure that drinking temperature is between 41°C and 42°C, and feed the required amount to the calf immediately.
6. Optimal drinking temperature between 41°C and 42°C degrees.



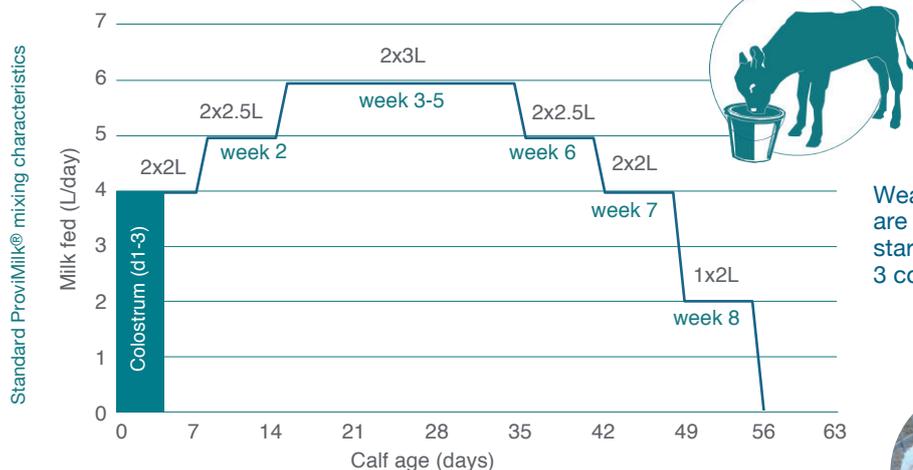
Standard ProviMilk® mixing characteristics

ProviMilk® Calf Milk Replacers are typically fed at a concentration similar to that of maternal whole milk i.e. 12.5% dry matter (125g/kg DM). However, they can be fed at concentrations ranging from 10 to 20% dry matter (100 to 200g/kg DM), depending on the feeding system and growth rate required.

Speak to your Cargill representative for more information.



Feeding schedule



Wean when calves are eating 2kg of starter feed daily for 3 consecutive days.



This feeding schedule can be used for either 125g or 150g powder concentration, twice a day feeding. Other feeding systems are outlined in the table below:

System	Concentration	Ratio (powder : water)
Twice-a-day	10%	100g : 900ml
	12.5%	125g : 875ml
Once-a-day	20%	200g : 800ml
Accelerated*	15%	150g : 850ml

Growth targets

The only way to ensure heifers achieve the growth targets set, and reduce the variation within groups is to regularly measure and monitor growth rate.

Top tips

- Set growth targets for the herd based on mature body weight of the cows in the herd from lactation 3 onwards and aim for 55-60% of mature body weight at first breeding.
- Measure calves at birth and again when heifers are handled for routine farm practices e.g. vaccinations, worming, insemination.
- Use weighing equipment such as a weigh crate or weigh band.
- Use the same measure consistently so growth can be benchmarked between weighing intervals.

Weight and height targets for heifers

Stage	Weight	Height
Puberty	45-50% of mature weight	79-83% of mature height
Breeding	55% of mature weight	85% of mature height
Just pre-calving	95% of mature weight	95% of mature height
7 days post calving	85% of mature weight	85% of mature height



To determine mature size either use a breed standard for the weight and height of the breed in question or weigh/measure a group of 3+ lactation cows to work out herd average.

Weight and dry matter intake targets for heifers

Age (months)	Live DMI (kg)	% of mature weight	Target DMI (kg)
3	120	18 - 20%	3.5
6	190		5.0
12	330	55%	8.0
14	375 (bulling)		8.6
18	465		10.2
24	625		11.7

These targets are based on targets for Holstein heifers.

Please contact your Cargill representative for specialist advice on selecting suitable mixing and feeding regimes tailored to your overall calf performance objectives.

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