

How much to feed a 45kg Calf

Many of our two-week-old calves have reached this size. The question is, “How much milk replacer does a 45kg calf need for maintenance and to grow?”

The answer is, “It depends.” If our housing is the same temperature as outdoors, then it depends on the weather. Is it 10-15°C? 0°C? Or -5°C? And, it depends on our goals. How healthy do we want our calves to be and how rapidly do we expect them to grow?

First, calves use food for maintaining their bodies. Maintenance needs go up a lot when the temperature goes down below freezing. For example, let's compare the maintenance needs for a 45kg calf at 10°C to those at -1°C.

At 10°C, it takes 2.8 litres/day of a 20% oil - 20% protein milk replacer mixed 125g/litre to keep her alive. In contrast, at -1°C, the maintenance amount needed is nearly 4litres/day. These amounts are **just for maintenance** – no weight gain calculated in at all.

If the weather gets really cold in January (0°C during the day and minus numbers at night) the amount to keep her alive is nearly 4.7litres/day.

Calves need to grow in order to be healthy. As they grow, their immunity level goes up. If they don't grow, their resistance to disease does not increase as it should as they get older. They are more likely to become ill.

Growing requires energy and protein. For 450g/day of gain in addition to maintenance, we have to feed about 1.9litres/day of milk replacer. For our 45kg calf that needs 2.8 litres daily for maintenance at 10°C, adding the extra milk replacer for 450g/day of growth (1.9L) brings her needs up to 4.7 litres a day.

Recall that for a calf to double her weight in the first 60 days of life she needs to average around 700g/day liveweight gain. If she going to gain anything close to this during the first 4 weeks of life her milk ration is going to be quite a bit more than 4.7 litres/day.

Average size Holstein heifer calves at two weeks of age in cold weather (around -1°C) need at least 5.7 litres of milk replacer daily. That will meet her needs to stay alive and to grow at about 450g/day.

See also:

www.atticacows.com Just click [HERE](#) for an example for a 41kg calf at three selected environmental temperatures. Note the US convention of listing protein% first and oil% second.

www.calfnotes.com Note #100 An Introduction to the Nutrients, Note #121 Added Calf Milk Replacer feeding in cold weather.

Also see for a computer spreadsheet to estimate amounts to feed at different temperatures:

(<http://www.calfnotes.com/downloads/AddedCMR.xls>)

When you paste this in your browser it will download a Excel spreadsheet that allows you to try different feeding procedures.