



Browser's Bulletin 49:

Artificial Rearing of Kids

We aim to produce a healthy well-grown kid with good rumen development. As we have had many multiple births hitting the ground this year, we can then expect to see lower birth weights than with single kids and an increase in miss-mothering. It is essential that the kid gets colostrum in the first 24 hours of life. The colostrum is the darker, creamy milk that the doe produces in the first few days and provides the kids with antibodies that protect it from diseases in the first 2-3 months. Excess colostrum can be frozen and stored for 12 months.



I will often get questions about milk replacers at this time of year. These questions include; Which milk replacer should be used? How often should I feed? and How much should I feed?

Kids can grow just as well on decent quality milk replacer as they do on whole milk from the dam. Producers need to have strict management practices with good hygiene of feeding equipment and the rearing facility.

The best milk replacers are those where the protein is 100% milk protein. Milk replacers that contain a high skimmed milk powder content (>45% analysis) are much better than the cheaper alternatives. Those milk replacers that contain whey/soya-based products which contain an elevated level of lactose are cheaper, less digestible, and more likely to cause bloat issues and restrict the kid's growth. The fat (oil) content of the replacer is used by the kid as an energy source, this fat source does not seem to be as important (animal and vegetable fat) as the type of protein.

Milk substitutes for calves and lambs are usually 22-26% protein and 12-24% fat. The milk replacers for lambs are generally higher in fat, as the ewe's milk is higher in fat than doe and cow milk. It is not advisable to exceed 30% fat in the milk replacer, and in the first few weeks not to exceed 22% fat. Growth performance is similar on goat, lamb or calf milk replacer, provided it is of good quality. Often you will find that the sheep and goat milk replacers are more expensive so there is no issue purchasing calf milk replacer. Milk replacers that give good results for calves are likely to be equally suitable for kids, but all milk replacers should be fed at 125g/L or 12.5% dry matter for kids.

Always read the instructions on the milk replacer label, as they are all different. Some are formulated to be made up at different temperatures and fed at different temperatures. The temperature of the milk can be cold, ambient, or warm but check with the instruction on the label. The kid may decrease its consumption if you change from ambient to cold milk feeds. Cold feeds are much less labour intensive, it also can prevent bloat, digestive upsets and scouring. Cold feeding is easier to maintain the hygiene and prevent bacterial growth. Some producers will start feeding kids with a

warm or ambient temperature feed and then change to cold feeds at around day 7-8 (need to check this is possible on the label first).

It is also important to ensure the milk replacer is mixed properly (using a whisk or electric mixer) and at the correct concentration and temperature. If you mix the milk at the incorrect temperature the fat will not disperse resulting in valuable energy being lost, floating on the surface and sticking to the kid's muzzle. Also, the protein will sink to the bottom of the container and not be consumed. It is important to not vary the concentration of the milk even if the kid begins to scour. If the kid scours it will require some electrolytes and glucose.

When Feeding Kids milk replacer feed the correct amount of properly mixed milk, at the correct strength and the correct temperature.

How much you feed, how often and when to wean will obviously vary with your breed of goat, enterprise goals and your set of circumstances. Bottle feeding usually is done for 10-12 weeks and weaning usually when the kid is >15kg (breed dependent). In the first week, the abomasum size is the limiting factor of how much a kid can consume and it is more beneficial for the kid to consume small feeds more regularly (4 feeds/day) than giving 2 large feeds per day. Kid's average liquid intake is approximately 0.5-0.7L per day for the **first week** divided into 4 feeds, then 1.5-2L per day given over 3 feeds from week 2- 6. **Week 7-10** decrease to 2 feeds/day, **weeks 10-12** only 1 feed/day and week 13 weaned (no milk). The kids weight gain is usually between 150-250g/day until weaning in a well-managed system (1.5kg/week) in an average meat breed goat.

Abomasal bloat is not uncommon in kids on an artificial milk replacer. It is most likely linked to rapid ingestion of large quantities of milk and/or poor-quality milk replacer, leading to excessive fermentation and rapid distension of the abdomen with gas and fluid. The kid will have a distended abdomen that is tight like a drum and they will appear in pain, grinding their teeth, yawning, stretching of their back, diarrhoea, shock and death. Most of these cases are severe and require immediate veterinary attention, mild cases may respond to a tablespoon of vegetable oil or bloat oil drench. It is important to give the kid more regular smaller feeds than one large feed in order to prevent abomasal bloat and always give the feed at the correct concentration and temperature.

If you are hand rearing any animal, I cannot express enough the importance of strict hygiene of the bottle, teats, feeders and environment. Bottles, teats, larger bucket feeders or open vessel feeders need to be scrubbed with detergent and sanitised with dairy bleach after each feed, to make sure any milk residue is removed.

Training kids onto the bottle can sometimes be tricky, especially if they have been on the doe for a few days. Attempt introduction to the bottle about 3-4 hours after removal from the dam so it is starting to feel hungry. Push the back of the kids head down so its head is in the normal feeding position. If it won't take the bottle, try with your fingers first and attempt to slip the teat into the mouth. It can be very helpful to attempt the bottle introduction alongside another kid that is already well trained onto the bottle.

Within the first 2 weeks of life, the kid will start to pick up hay/straw which initially it will spit out but gradually it starts to swallow some of the material, resulting in the development of the rumen and the development of the microbial population. From 3 weeks the kid will start to chew on grass, hay, or other concentrates if they are available. Rumination and chewing of the cud follow soon after.

If you have any further question about bottle feeding and milk replacer, please don't hesitate to send me an email at kylie.greentree@lls.nsw.gov.au

References:

Matthews, J. 2009. Diseases of the Goat (3rd edition)

<https://www.dpi.nsw.gov.au/animals-and-livestock/goats/mgt/rearing> Artificial methods of rearing goats

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