

# Supplementing crias with milk

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## Rules of thumb at birth

- Crias should stand and begin nursing within 1-2 hours of birth. Give the cria time to bond and suckle.
- If the dam has no milk/has died or the cria is too weak to nurse, feed warm colostrum (frozen and stored from another disease-free alpaca/cow/goat) via teat (preferred method, to optimise digestion) or stomach tube (last resort) for the first 3 days of life to maximise antibody uptake into blood (first 12 hours of life) and to provide local gut protection from microbes for the duration of use.
- If no colostrum available, use milk replacer and strongly consider intravenous plasma transfusion for antibody transfer (speak to your veterinarian about plasma use). Use milk in preference to oral glucose/honey and water. Do not fortify *any* milk replacer with egg yolk/glucose/cod liver oil/vitamin drops/etc.
- Powdered colostrum does not increase plasma antibody levels in neonates of other species and is unlikely to do so in alpacas.

## Choice and use of milk replacer

- It does not matter which brand or type of milk replacer you use (Table 1), but do not vary the brand of milk replacer once you have made your selection. The way it is fed that determines

success or failure of bottle-rearing, not the brand of milk used.

- Store milk powder below 30° C and protect from moisture. Use clean bottles/teats/feeders.
- Mix according to label instructions; do not fortify. Warm milk to 35° C before feeding.

## Frequency of feeding

- **Feed to demand** (approx. 10-15 % of body weight as milk per day) over 6 feeds for first 2 weeks of life, decreasing to 4 feeds/day until 4-6 weeks, then decrease frequency to weaning at 12 weeks of age.
  - E.g. 6 kg cria requires 600-900 mL/day, equivalent to 100-150 mL per each of 6 feeds.
  - E.g. 10 kg cria requires 1-1.5 L/day, equivalent to 250-375 mL per each of 4 feeds.
- Feed first thing in the morning, 1-2 times mid-morning, 1-2 times mid-afternoon, last thing at night. Wait-times in between feeds encourage the cria to develop an appetite to:
  - Nurse from dam as much as possible if she is available.
  - Start picking at grass/hay/supplements and develop 1<sup>st</sup> compartment of stomach.
  - Drink enthusiastically from teat when offered.

**Table 1. Types of milk replacer available for crias**

Milk type	Per litre of reconstituted milk			
	% Solids	% Protein	% Fat	% Sugars
ProfeLAC Shepherd Premium Lamb-Kid-Cria Milk Replacer <sup>®</sup>	18	4.5	5.4	5.4
Di-Vetelact <sup>®</sup>	13.5	3.2	4.1	6.3
Palastart Lamb & Kid Milk Replacer <sup>®</sup>	22	5.3	5.5	
Wombaroo Cria Milk <sup>®</sup>	17	5.9	2.7	6.2
Full cream cows' milk from supermarket*	12-12.5	3.2-3.6	3.8-3.9	4.8-5.2
Full cream cows' milk powder	13	3.2	3.7	4.9

\*Fresh or UHT milk

- **Crias should double birth weight by 4-6 weeks of age**, and gain 200 g/d from 4-12 weeks of age.
  - Weigh cria regularly to monitor weight gain. Keep good records of weight gain and milk intake.
  - If cria is not meeting weight-for-age targets, speak to your veterinarian.

## Method of feeding

- Tube-feed cria (in consultation with your vet) if neonate is moribund.
- Bottle-feed cria with teat, holding bottle vertical and ensuring nose of cria pointing skywards to simulate cria suckling from udder. This posture elicits a reflex in the gut, which allows passage of milk along a groove from the oesophagus directly to the 3<sup>rd</sup> stomach compartment, bypassing C1&2. In C3, the milk is converted into curds and whey under the effects of acid and enzymes. The whey fraction (sugars and soluble proteins) is then rapidly digested, while the curds (fats and insoluble proteins) are digested slowly over the next few hours.
- Teat feeding is preferred over bucket feeding to ensure milk enters C3 and does not ferment in C1 (appear as pot-bellied, ill-thrifty crias). Teat feeding also stimulates saliva secretion to enhance milk digestion.

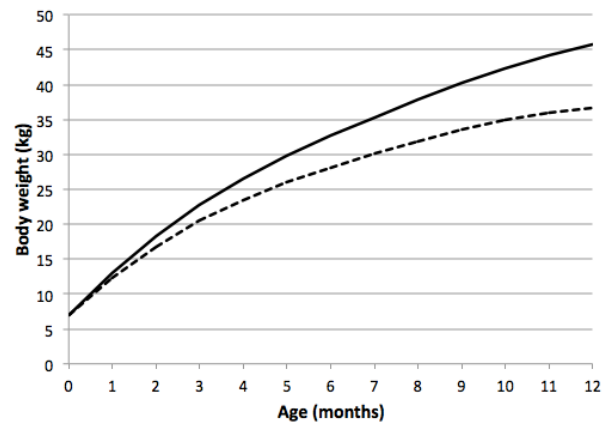
## Tips to prevent diarrhea

- *Keep concentration of milk consistent, do not fortify by adding more milk powder per litre of water as diarrhoea can develop secondary to higher sugar content of milk.*
- If a cria develops diarrhoea, offer oral electrolytes by teat between milk feeds (3 hours apart) and seek veterinary advice.
  - Do not dilute milk by adding electrolytes to the milk as this prevents curds and whey formation and exacerbates diarrhoea.

## Other hints on rearing crias

- Always have clean, cool, fresh water available to allow normal C1 development.
- Offer high quality, highly digestible creep feed and good quality hay to develop C1 from 7-10 days of age.
- **Aim to wean from milk replacer by 3-4 months of age** provided cria eating good quality forage and weighs ≈ 25 kg (Figure 1). You must ensure the cria is eating substantial amounts of forage/supplements prior to weaning or it will fail to thrive after weaning.

- Do not humanise alpacas: Do not pat cria. Bottle feed and walk away so cria bonds with alpaca herd. Crias naturally jump on their mothers and other crias, and will try to do it to you when they get bigger if you humanise them too much.



**Figure 1. Cria growth rates under Australian conditions. The solid line represents what is reasonable and ideally achievable by alpacas grazing pasture with appropriate supplementation, whilst the dotted line represents a minimum goal.**

USE GOOD HUSBANDRY TECHNIQUES. KEEP GOOD RECORDS. WRITE DOWN TREATMENTS/MATING DATES/MEAT WITHHOLDING TIMES.

NO PRODUCTS ARE REGISTERED FOR USE IN ALPACAS. CONSULT YOUR VETERINARIAN AND ALWAYS READ THE LABEL BEFORE USING ANY OF THE PRODUCTS MENTIONED. NEVER USE ANY PRODUCT IN ALPACAS THAT IS NOT REGISTERED FOR USE IN FOOD PRODUCING ANIMALS.

FOR ANY SIGNS OF UNUSUAL OR SERIOUS ANIMAL DISEASE, RING THE DISEASE WATCH HOTLINE: 1800 675 888.



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