



AUSTRALIAN BUSH BABY FORMULA MILK
TEATS & ACCESSORIES

BIOLAC FOR MARSUPIALS



BIOLAC provides the most advanced milk formulas ever produced for Australian native animals. BIOLAC formulas contain fully digestible carbohydrates, proteins, lipids and elevated levels of many vitamins and minerals. The lipids have a more favourable balance of saturated, mono- and poly- unsaturated fatty acids.

BIOLAC contains NO maltodextrins, sucrose or soy proteins

Liesa and Ken Wenham

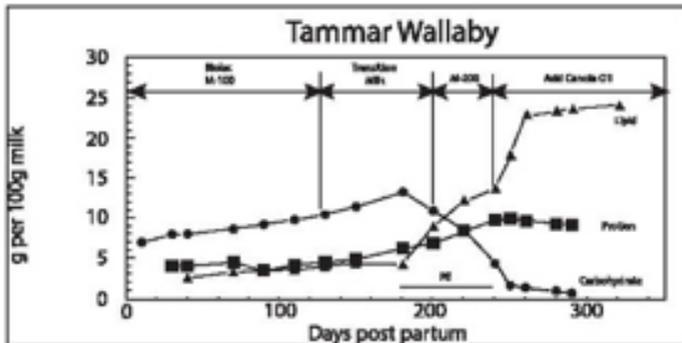
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During lactation marsupial milk changes quite significantly and reproducing these changes in milk formulations is difficult. The composition of BIOLAC is a compromise based on the most recent scientific information available, on the marsupials whose milk has been fully analysed at all stages of lactation. These milk substitutes are designed to follow the changes that take place in the milk supply to young macropods as they progress towards independence, as illustrated in the diagram.



Changes in the composition of Tammar Wallaby Milk and the use of BIOLAC. Note that the changes in the composition of the other macropods are similar, but not necessarily identical.

HOW TO USE BIOLAC WHEN ASSESSING WHAT FORMULA IS NEEDED FOR YOUR MARSUPIAL

M100 GOS

M100 GOS, which is short for galacto-oligosaccharides, is especially recommended for furless joeys and possums as well as critical care patients. Critical care patients such as pinkies, with their eyes closed and ears down, should remain on **M100 GOS** until their eyes open, ears are nearly erect and faecal consistency is that of thick custard. All furless and velveteed joeys should be on **M100 GOS** for the first 48 hours in care. Once they are feeding well and faecal matter is consistent for age they can be placed on **M100** without having to transition as **M100** also contains smaller amounts of GOS.

Macropods (kangaroos and wallabies)

Use **M100** on furless and velveteed macropods. When dense fur has developed progress to **M150**, which is a transition milk. When the animal produces solid, dark pellet droppings progress to **M200**, which contains elevated lipids. As the joey progresses to weaning, the level of lipid in the mother's milk continues to increase. This lipid is a major source of energy for the young joey

Note: In Grey and Red Kangaroos the transition period between the development of fur and the production of solid dark pellets is longer than in most wallabies.

Possums (brushtail possums, ringtail possums, sugar gliders, feather tail gliders, greater gliders)

The changes in milk composition in possums are less dramatic than in macropods, and there are other differences, so we recommend that possums only be fed on **M100** until weaned. **Do not use M150 or M200.**

Koalas

As Koala milk is higher in lipid content early in lactation use M100. Older animals should be fed M150 and then M200. Feeding regimes for Koalas are available upon request. Please contact our office

Wombats

Feeding Regime for Wombats

(Guide only. If in any doubt please contact your area coordinator or our office)



Times for Feeding Baby Wombats.

While all animals are different, a rough guide to the frequency of feeds over 24 hours follows:

- Up to 250 grams – every 2 to 4 hours
- 250-800 grams – every 4 hours
- 800 grams to 1.5kg – every 4 to 5 hours
- 1.5kg to 4kg – every 6 hours and have access to fresh water, roots and grasses and clean dirt
- 4kg to 7kg – every 8 hours and have access to fresh water, roots and grasses and clean dirt
- 7kg until weaned – every 12 hours and have access to fresh water, roots and grasses and clean dirt.

Transition times for Wombats (Guide Only)

- Up to 600 grams feed BIOLAC M100GOS
- From 600-800 grams feed BIOLAC M100 (no transition time needed between M100GOS and M100)
- From 800 to 2-3kg feed BIOLAC M150. Transition times from M100 to M150 may vary from 3 to 5 days.
- At 2-3kg transition from M150 to M200. Transition the same as above.
- From 2-3kg to weaning feed M200.

PREPARATION OF BIOLAC FORMULAS

For best results place the required amount of BIOLAC into a container with a small amount of warm water (do NOT use boiling hot water) and mix into a paste. Add the remaining amount of water and mix well. The milk can be stored in a refrigerator for up to 48 hours, but it is essential to shake/stir well before use. Please follow the directions as described on our formulas. All joeys should have access to solid food from the transition (**M150**) period on.

The number of bottles can be reduced as the joey progresses toward permanent pouch emergence. When the amount of solid food intake increases the joey can slowly be weaned.

BIOLAC has been formulated to contain the correct amount of vitamins and minerals. NOTE that some vitamins and minerals, particularly vitamins A and D, can produce symptoms of toxicity so therefore do not supplement BIOLAC with additional amounts of vitamins or minerals.

In addition it is important to understand that the milk of marsupials is higher in energy and total solids (ie powder per 100ml) therefore **DO NOT dilute** BIOLAC (unless advised by your veterinarian).

All BIOLAC formulas are developed from the most recent published scientific data available.

Pouch emergence normally begins:

Ringtail possums around 110 days post-partum

Brushtail possums around 125 days post-parum

Red kangaroos around 180 days post-partum

Wallabies from 190-200 days post-partum depending on species

Wombats around 220 days post-partum

Koalas around 225 days post-partum

Eastern Grey kangaroos around 250 days post-partum

APPROXIMATE ANALYSIS

	M100	M150	M200
Protein	5%	7%	10%
Carbohydrate	5%	3.5%	2%
Lipid	5%	7.5%	10%
Total Solids	16%	19.5%	23%

FEEDING REGIME – Guidelines only

M100 and M100GOS

160g of milk powder per litre of water
 16g or 1 BIOLAC scoop of milk powder per 100ml
 Feed 10-15% of bodyweight per day over 5 or 6 feeds

M150

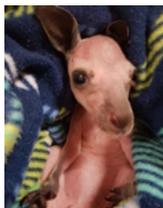
180g of milk powder per litre of water
 18g or 1 BIOLAC scoop of milk powder per 100ml
 Feed 10-15% of bodyweight per day over 4-5 feeds

M200

240g of milk powder per litre of water
 24g or 2 BIOLAC scoops of milk powder per 100ml
 Feed 10-15% of bodyweight per day over 3-4 feeds

Weight to volume per day

Weight in Grams	100	200	300	400	500	600	700	800	900	1kg
Volume in mls	15	30	45	60	75	90	105	120	135	150



VITAMIN AND MINERAL PROFILE

Vitamins in mg or ug per litre

Ascorbic Acid	50 mg	Thiamine	1 mg	Riboflavin	2 mg
Vitamin B6	1.5 mg	Nicotine Acid	50 mg	Pantothenic Acid	10 mg
Folic Acid	400 ug	Vitamin B12	40 ug	Biotin	60 ug
Retinol	800 ug	a-Tocopherol	4 mg	Vitamin D	10 ug
Vitamin K	50 ug	Inositol	300 ug		

Minerals in g or mg per litre

Calcium	2.0 g	Phosphorus	1.5 g	Sodium	1.0 g
Potassium	0.8 g	Citrate	0.5 g	Magnesium	100 g
Iron	20 mg	Copper	5.0 mg	Zinc	5.0 mg
Manganese	1.0 mg	Iodine	0.15 mg		

BIOLAC formulas for marsupials are based on published scientific information of milk compositions of kangaroos, wallabies, possums and koalas/wombats. As more scientific information becomes available we may modify our products accordingly.

We also supply an extensive range of products to meet the needs of our marsupial bush babies.



**Thank you for
the helping hand!**





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Biolac would like to

Thank you

**for caring for our Australian bush babies
We are here to help our carers in any way we can**

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**Biolac is committed to the health and wellbeing
of our Australian native animals**