MULTIMIN® EVOLUTION

AUSTRALIAN SHEEP ARE DEMANDING MORE!

NOW WITH 50% MORE ZINC

MULTIMIN®
WHEN IT MATTERS

Shaping the future of animal health
Virbac

MODERN AUSTRALIAN SHEEP HAVE EVOLVED

THE MODERN AUSTRALIAN SHEEP HAS AN INCREASED DEMANDS FOR NUTRIENTS

Australian sheep have evolved through genetic selection for **rapid growth** and **increased reproductive performance.** This has turned the modern sheep into a different biological entity compared to its ancestors, placing considerable demand on key nutrients.

HIGHER GENETIC POTENTIAL

Bred for more wool, faster growth and more twins.

INCREASED NUTRITIONAL DEMAND

Requires more energy, protein and key minerals.

THE PERFORMANCE CAP

Sub-clinical deficiencies limit flock profitability.

19% INCREASE IN LAMB WEIGHTS

INCREASED LAMBING RATES

EWES WITH TWINS REQUIRE 3X MORE ENERGY FOR DAILY MAINTENANCE

HIGHER AND RAPID GROWTH RATES

- The average Australian **lamb carcass weight has increased by 19%** in the last two decades, reaching up to 24.4 kg in the past year.[1,2]
- This increase is a direct result of continued **improvements in early growth rates for meat breeds**, allowing lambs to reach market weight faster.
- Achieving these rapid growth rates **places a greater daily demand on energy, protein, and essential macro and trace minerals**, which are crucial for building muscle and bone tissue.[3]

INCREASED LAMBING RATES

- Continued **improvement in reproduction and weaning rates** for both merino and maternal breeds has led to more lambs being born and weaned per ewe.
- This increased reproductive output places an **enormous metabolic and nutritional demand on the ewe,** as her energy requirements can more than double during late pregnancy and lactation, particularly when she is carrying multiple lambs.[3-5]
- For instance, a 60 kg Merino ewe at peak lactation with twins **requires greater than 30 Megajoules (MJ) of Metabolisable Energy (ME) per day which is more than 3 times the energy** required for maintenance.[3,5]

THE BENEFITS OF ZINC SUPPLEMENTATION

Strategic zinc supplementation is a high return investment in productivity, as it helps unlock the genetic potential already present in the flock.

Zinc supplementation directly translates into core profit drivers by leading to increased turnover (more lambs born and weaned), higher weights, potentially reduced costs due to healthier animals, and enhanced wool returns.[14]

THE IMPORTANCE OF ZINC FUELING HIGH PERFORMANCE

To capitalise on the genetic investment in modern Australian flocks, strategic trace mineral supplementation with bioavailable zinc is an essential part of sheep management. Zinc is a key trace mineral involved in hundreds of critical biological functions and is fundamental to the success of any sheep enterprise.[3,6]

GROWTH & WOOL

Zinc is essential for protein synthesis, the process that builds muscle tissue for meat and keratin for wool.[7]

REPRODUCTION

Zinc is essential for fertility in both ewes and rams because it plays a key role in the synthesis and regulation of reproductive hormones.[10-12]

SKIN AND HOOVES

Zinc is vital for maintaining the integrity of skin and hooves, and its role in keratin synthesis is crucial for preventing hoof problems like footrot.[9]

IMMUNE FUNCTION

Zinc is critical for the healthy function of white blood cells and the production of antibodies.[8]

Adequate zinc status in ewes is linked to the production of high quality colostrum, which is vital for transferring passive immunity to newborn lambs.

THE INCREASED RISK FOR MODERN SHEEP

The elevated metabolic demands of modern sheep including faster growth, heavier high quality fleece, and increased twinning mean a rapid turnover of zinc-dependent enzymes.

DIETARY ZINC AND ABSORPTION

Research suggests that sheep may require twice as much dietary zinc (32 ppm) for optimal wool production and male fertility as they do for growth (17 ppm).[13] This indicates that general nutritional recommendations may be insufficient for high performing animals.

Pastures are often marginal sources of zinc, with levels as low as 10-20 mg/kg, which is below the level required for maximum production.[8] Additionally, oral absorption of zinc in sheep is a complex process influenced by the zinc source, the presence of antagonists, and the animal's physiological state.[6]

STRESSORS AND MINERAL BALANCE

Increased production stressors, such as higher stocking rates and climate stressors like heatwaves, place additional demands on the sheep's immune system and disrupt mineral balance. This further increases the requirement for zinc.

TABLE OF ZINC REQUIREMENTS BY EACH PRODUCTIVE STAGE (NRC 2007)

	Body Weight	Description	Zinc Requirements mg/kg DM
MATURE EWES	60 kg	0 gain	30
		Breeding	44
		Late Gestation (Single)	51
		Late Gestation (Twin)	59
		Peak Lactation (Twin)	79

	Body Weight	Description	Zinc Requirements mg/kg DM
LAMBS	20 kg	200 g/day gain	21
		300 g/day gain	29
	30 kg	200 g/day gain	24
		300 g/day gain	32
	40 kg	300 g/day gain	51
		400 g/day gain	63

	Body Weight	Description	Zinc Requirements mg/kg DM
RAMS	100 kg	0 gain	51
		Pre-breeding	58

INTRODUCING MULTIMIN® EVOLUTION FOR SHEEP

Multimin Evolution for Sheep[15] contains 50% more Zinc than any other injectable trace mineral product for sheep on the market. It is a high concentration, low volume formulation containing zinc, selenium, copper, and manganese.

BENEFITS OF MULTIMIN EVOLUTION FOR SHEEP

RECENT FIELD TRIALS ACROSS FOUR FARMS SHOWED THAT MULTIMIN:^[16]

- Boosted the number of lambs marked by **an average of 9%.**
- Increased the weaning weight by **an average of 2.3 kg.**
- Based on these results, a producer could expect **an additional $23 per ewe** (6:1 return on investment).*

^Multimin Plus Copper Injection for Sheep was used in this trial (APVMA n 83674).
*Calculation based on 100 ewes producing 9 extra lambs sold at $175 each and producing 128 lambs with 2.3 extra kg at weaning. Assuming 46 % dressed %, $8 CWT and $350 cost of two Multimin treatments + labour. This is a guide only, outcomes may vary depending on farm management, animal responses and market value.

BENEFITS OF THE TARGET SHEEP REPRO PROGRAM

TARGET SHEEP REPRO PROGRAM

THE USE OF OVASTIM AND MULTIMIN CAN HELP IMPROVE EWE FERTILITY AND FECUNDITY THROUGH A DUAL MODE OF ACTION

23%
INCREASE IN LAMBING RATES[17]

Ovastim has been shown to increase lambing rates by an average of 23%.

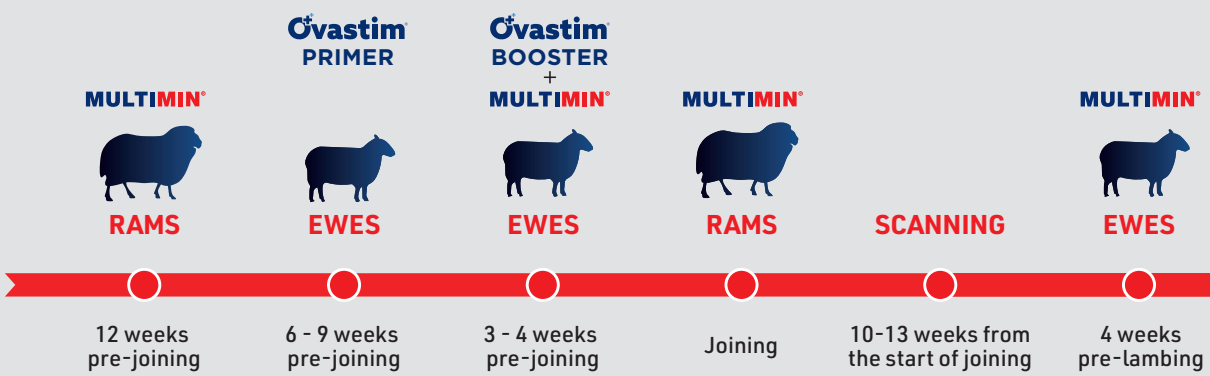
9%
MORE LAMBS MARKED[16]

Multimin has been shown to increase the numbers of lambs marked by an average of 9%.

2.3 kg
INCREASE IN WEANING WEIGHT[16]

Multimin has been shown to increase weaning weight by an average of 2.3 kg.

THE MULTIMIN AND OVASTIM PROGRAM



THE MULTIMIN® EVOLUTION SHEEP RANGE

NOW WITH 50% MORE ZINC[15]

	MULTIMIN® EVOLUTION PLUS COPPER INJECTION FOR SHEEP For sheep with elevated copper requirements:	MULTIMIN® EVOLUTION COPPER-FREE INJECTION FOR SHEEP AND CATTLE For sheep with unknown, or high copper status:
ZINC	**60 mg/mL zinc as disodium zinc EDTA**	**60 mg/mL zinc as disodium zinc EDTA**
COPPER	10 mg/mL copper as disodium copper EDTA	N/A
MANGANESE	10 mg/mL manganese as disodium manganese EDTA	10 mg/mL manganese as disodium manganese EDTA
SELENIUM	3 mg/mL selenium as sodium selenite	5 mg/mL selenium as sodium selenite

MULTIMIN DOSING AND ADMINISTRATION

	When to administer	
RAMS	12 weeks prior to joining	At the start of joining
EWES	4 weeks prior to joining	4 weeks prior to lambing
EWE LAMBS	Every 3 months	4 weeks prior to joining and 4 weeks prior to lambing
LAMBS	At or prior to weaning (BW +20 kg)#	
FEEDLOT/TRADING	At induction concurrently with quarantine treatments	

#To accurately measure out a small dose, lambs should be at least 20 kg.

- Multimin Evolution Plus Copper Injection for Sheep and Multimin Evolution Copper-Free Injection for Sheep and Cattle are administered as a subcutaneous injection at 0.2 mL / 10 kg (1 mL / 50 kg) before high demand periods.
- Always dose sheep according to their individual bodyweight - do not administer more than the recommended amount.
- **DO NOT** use concurrently with drenches, boluses or other animal health products containing selenium or copper.
- Multimin can be administered concurrently with other animal health products. If in doubt, consult your veterinarian. *DO NOT MIX products with Multimin in the same syringe prior to administration. Always inject high on the neck, multiple injections should preferably be given on different sides of the neck, according to product label instructions.*
- No withholding periods for milk, meat or export.[15]

BACKED BY SCIENCE. BECAUSE IT MATTERS.

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