

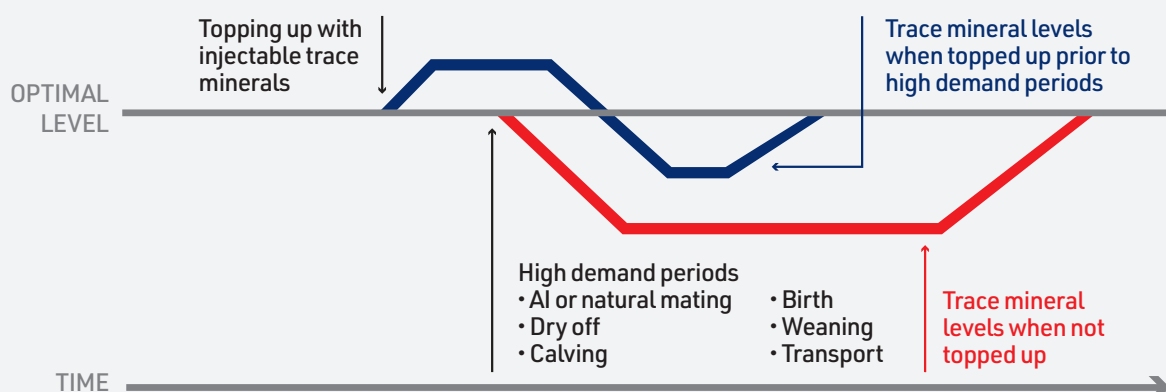
MAXIMISE THE PERFORMANCE OF YOUR CATTLE WHEN IT'S NEEDED MOST

To perform well, cattle need optimal levels of energy, protein, vitamins and minerals. Cattle can readily turn fibrous feed and plant material into energy, protein and vitamins. However, cattle cannot easily absorb and utilise trace minerals from feed during high demand periods when the demand for trace minerals increase¹. Oral trace minerals alone are unlikely to meet the requirements during these high demand periods.

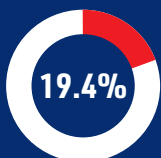
Multimin® Evolution Injection for Cattle is a unique trace mineral injection containing copper, selenium, zinc and manganese that increases productivity by improving fertility and immunity **when it matters most**.

- Multimin Evolution contains the **highest trace mineral content** (90 mg/mL)⁵ of any other injectable trace mineral product on the market in a low volume formulation.
- Multimin Evolution has **50% more Zinc** than any other injectable trace mineral product on the market. Zinc is critical for reproduction, immunity and to meet the high demands of modern cattle.
- Multimin Evolution is **rapidly absorbed**, readily utilised and provides sustained antioxidant activity during high demand periods including:
 - Dry off in dairy cows
 - Calving
 - Artificial insemination or natural mating
 - Weaning

STRATEGIC TRACE MINERAL TOP-UP PRIOR TO HIGH DEMAND PERIODS



MULTIMIN EVOLUTION OPTIMISES FERTILITY



IMPROVED FIRST CYCLE CONCEPTION RATES

Multimin Evolution has been shown to improve first cycle conception rates by **UP TO 19.4%**.⁶⁻⁸



IMPROVED PREGNANCY RATES

Pregnancy rates in breeding females treated with Multimin Evolution are up to **12% HIGHER** than untreated females, depending on the length of the breeding season and breeding method.^{6,7, 9-11}



IMPROVED SPERM QUALITY

Bulls treated with Multimin Evolution 90 days before joining had **22% HIGHER** sperm concentration and significantly more motile sperm than control animals.¹²⁻¹⁵

IMPROVED FIRST CYCLE CONCEPTION RATES

Administered a month before joining, Multimin Evolution has been shown to **improve first cycle conception rates by UP TO 19.4 %** compared to untreated cows.⁶⁻⁸

Heifers and cows cycle approximately every 21 days. This means they have just two opportunities to conceive during a six-week joining program. Improving the number of heifers and cows that conceive in the first or second cycle can dramatically tighten the calving pattern.

“ We saw a 22 % higher first cycle conception rate in the Multimin treated group, while the control group had the majority of heifers get in calf on the 2nd cycle.

Don McConnel,
Droughtmaster Producer, QLD

”

+9.0%

Mundell *et al* (2012)

+10.0%

Virbac (2015)

+12.5%

Mundell *et al* (2012)

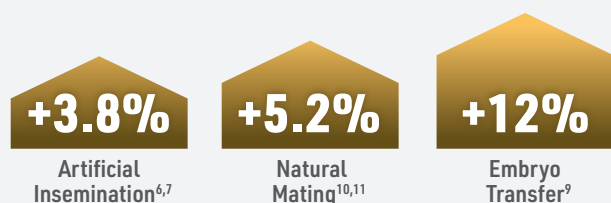
+19.4%

Virbac (2018)

EFFECT OF MULTIMIN ON CONCEPTION AT FIRST CYCLE IN MULTIPLE STUDIES

IMPROVED PREGNANCY RATES

Multimin Evolution improves embryo survival by providing the four essential trace minerals required by the antioxidant systems to fight 'free-radicals'.^{1,21} Scientific and field trials have shown that **pregnancy rates in breeding females treated with Multimin Evolution are up to 12% higher** than untreated females, depending on the length of the breeding season and breeding method.^{6,7, 9-11}



“ We had a 10% higher pregnancy rate in the cows that were treated with Multimin pre-joining. ”
Tim Reid, Roslyn NSW

EFFECT OF MULTIMIN ON PREGNANCY RATES

EFFECT OF MULTIMIN EVOLUTION ON CALVING PATTERN AND RETURN ON INVESTMENT (ROI)

		CONTROL		MULTIMIN [®] EVOLUTION	
Calving Time	Weaning weight [kg]	Cows calving [%]	Value of calves [\$5/kg LW]	Cows calving [%]	Value of calves [\$5/kg LW]
First 21 days	270	59%	\$79,650	72%	\$97,200
Second 21 days	249	28%	\$34,860	19%	\$23,655
Third 21 days	228	3%	\$3,450	2%	\$2,280
Empty	--	10%	--	7%	--
Total Value	--	--	\$117,930	--	\$123,135
Increased value of using Multimin: \$5,205 Cost of Multimin: \$432 ROI AFTER COSTS: 12:1					

*Multimin Evolution injected 30 days pre-joining. This simulation was based on Mundell *et al* (2012). This figure does not include labour cost. This is a guide only, outcomes can vary depending on farm management, animal's responses to treatment and market value.

IMPROVED SPERM QUALITY

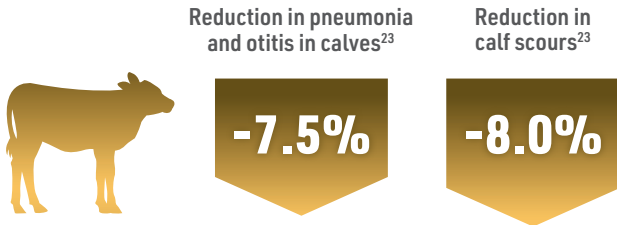
Treating bulls with Multimin Evolution 90 days before joining, semen collection, or breeding soundness evaluations can have benefits on semen quality. Trials have shown a **22% increase in sperm concentration, as well as improvements in motility and morphology**, which resulted in more bulls passing the exam.¹²⁻¹⁵

Make sure bulls are vaccinated and drenched routinely and are examined by a veterinarian before joining to determine their breeding soundness.



OPTIMISED CALF IMMUNITY

Multimin Evolution is the only scientifically-proven injectable trace mineral to optimise immune function in cattle, improving vaccine response and reducing the incidence of diseases.



“ We’ve seen a great immunity result in our dairy calves with none of the Multimin treated animals developing scours.

Renee Murfett, Framlingham VIC

”

REDUCED SEVERITY OF DISEASE IN CATTLE

Along with good biosecurity, animal handling, nutrition and routine vaccination, one of the easiest ways to boost the immune system in calves, replacement heifers and cows is to provide a rapidly absorbed source of essential trace minerals.

Optimum trace mineral status enhances the physical barriers against infection and improves innate immunity and antibody production.

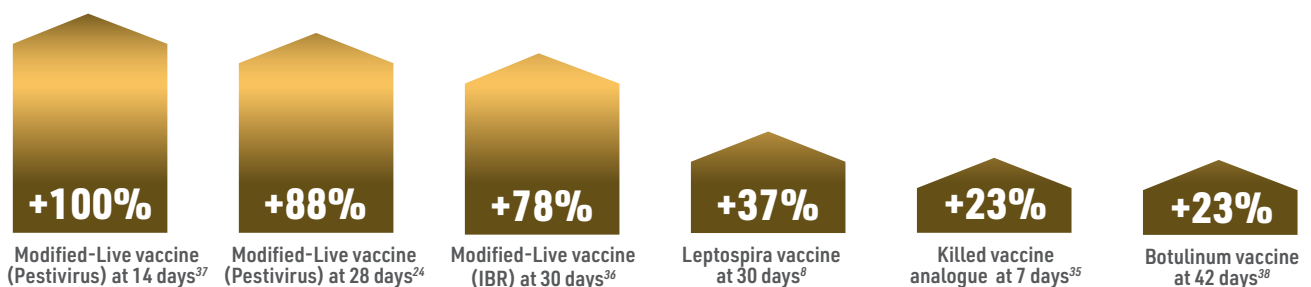
MULTIPLE STUDIES SHOWING MULTIMIN EVOLUTION'S IMPACT ON REDUCING DISEASE SEVERITY

- 2.4% reduction in subclinical mastitis in all age groups²²
- 5.6% reduction in endometritis²²
- 5.7% reduction in clinical mastitis in mature cows²²
- 7.5% reduction in pneumonia and otitis in calves²³
- 8% reduction in calf scours²³
- 27% reduction in somatic cell count between 3 and 5 months of lactation²²
- Reduced need for veterinary treatments (e.g. antibiotics)^{32,33}

BOOSTING VACCINE RESPONSE

Studies have shown that the administration of Multimin Evolution concurrently with vaccines can improve the animal's response to vaccines that protect against clostridial diseases, leptospirosis, and respiratory diseases.^{8,24,33-41}

In one study, Multimin Evolution halved the time required for a specific vaccine response from **56 days to 28 days.**²⁴



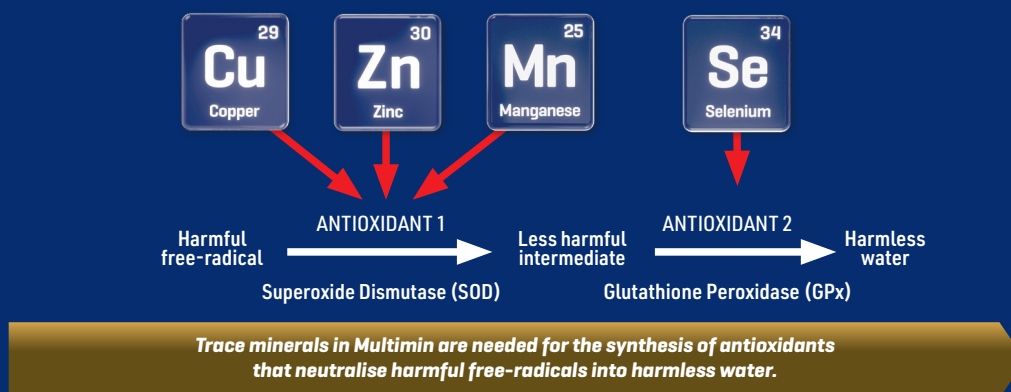
EFFECT OF MULTIMIN UPON VACCINE RESPONSE

Multimin Evolution can be administered concurrently with other animal health products. If in doubt, consult your veterinarian. DO NOT MIX products with Multimin Evolution in the same syringe prior to administration.

HOW DOES MULTIMIN EVOLUTION WORK?

Normal bodily processes such as metabolism, ovulation, pregnancy or fighting disease produce 'free-radicals'. These unbalanced molecules cause chemical reactions that may damage healthy cells. Antioxidants are substances that neutralise these

'free-radicals'. Multimin Evolution provides a rapid 'top-up' of the four trace minerals used to synthesise antioxidant enzymes. These trace minerals also provide a direct source of nutrients used in the reproductive and immune systems.^{1,21}



MULTIMIN EVOLUTION AND ORAL SUPPLEMENTS

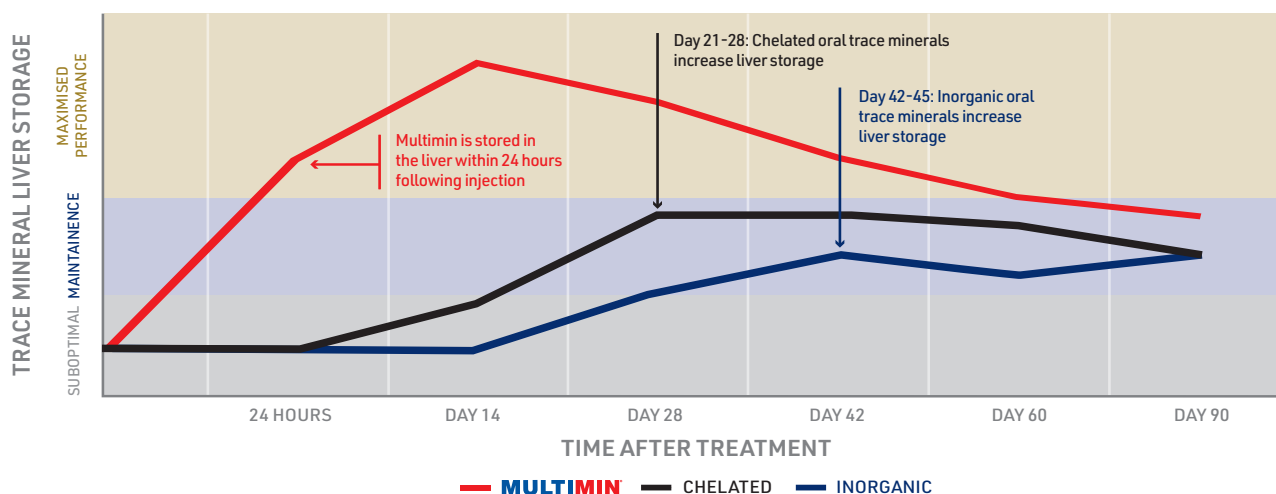
Multimin Evolution is absorbed into the bloodstream in as little as two hours⁴², reaches the liver in 24 hours, and provides prolonged antioxidant action for up to 90 days which will help to meet the requirements of modern cattle at high demand periods.²⁻⁵

Pastures or supplementary feed often do not provide sufficient levels of trace minerals during 'high demand' periods, such as weaning, joining, and calving, while **oral supplements can take months to**

increase levels of trace minerals in storage sites such as the liver.^{3,4,43}

Multimin Evolution is not a replacement for year-round oral trace mineral supplementation in the feed or water. Multimin Evolution supports an existing well designed feed program for optimised performance. Therefore, to optimise livestock performance, consider using Multimin Evolution and oral supplements as part of a complete nutrition program.

SCHEMATIC REPRESENTATION OF TRACE MINERAL ABSORPTION AND LIVER STORAGE OF MULTIMIN AND ORAL SUPPLEMENTS^{3,4,43}



MULTIMIN EVOLUTION DOSAGE AND ADMINISTRATION

Multimin Evolution is administered as a low volume subcutaneous injection at 1 mL / 50 kg in young cattle (up to 12 months) and 1 mL / 75 kg in yearlings (1–2 years) and 1 mL / 100 kg in adult cattle (>2 years).⁵

Age	Live weight (kg)	Dose (mL)	Doses per pack (500 mL)
Calves up to 1 year 1 mL per 50 kg	25	0.5	1000
	50	1.0	500
	75	1.5	333
	100	2.0	250
	125	2.5	200
	150	3.0	166
	175	3.5	142
	200	4.0	125
	225	4.5	111
	250	5.0	100
Yearlings from 1 to 2 years 1 mL per 75 kg	190	2.5	200
	225	3.0	166
	265	3.5	142
	300	4.0	125
	340	4.5	111
	375	5.0	100
	415	5.5	90
Adult cattle over 2 years 1 mL/100 kg	400	4.0	125
	500	5.0	100
	600	6.0	83
	700	7.0	71
	800	8.0	62
	900	9.0	55
	1000	10.0	50

Round down to the nearest 0.5 mL.

MULTIMIN EVOLUTION WHEN TO ADMINISTER

Multimin Evolution should be administered prior to 'high demand' periods of cattle such as four weeks before calving in heifers and cows, eight to four weeks before artificial insemination or joining, and at weaning in calves, to allow antioxidant levels to peak.⁵

- For best results, Multimin Evolution can be administered every 3 months according to your management practices, and the trace mineral requirements of your animals.
- Multimin Evolution can be used regardless of seasonal conditions and as part of an integrated nutrition and animal health program.
- Multimin Evolution may also be concurrently administered with other animal health products to optimise performance, including parasiticides, 7 in 1 vaccine and vitamin supplements**.
- Always administer in a different injection site to other injectables. **DO NOT** use concurrently with drenches, boluses or other animal health products containing selenium or copper.

BEEF PROGRAM

Cows and heifers	Weaners	Bulls	Feedlotting/backgrounding
30 days pre-joining [^]	At or before weaning	90 days pre-joining	Before or at induction
30 days pre-calving		At joining	

DAIRY PROGRAM

Cows	Heifers	Calves	Bulls
30 days pre-joining [^]	30 days pre-joining [^]	At birth	90 days before joining
At or before dry off	30 days pre-calving	Every 3 months	At joining

Results may vary depending on the length of the breeding season.[^] 6-8 weeks before artificial breeding (Fixed Time Artificial Insemination, Embryo Transfer, Multiple Ovulation Embryo Transfer).

WITHHOLDING PERIODS

Milk Withholding Period	Meat Withholding Period	Export Slaughter Interval
NIL	NIL	NIL

