

TECHNICAL BRIEF

REWARD[®] MINIDOSE[®] TROUGH TREATMENT

Monensin is an accepted component of the supplementation regime on many dairy farms. REWARD[®] Minidose is a new and novel aqueous suspension of micronized monensin designed for use through water reticulation systems.

What are the label claims of REWARD[®] ?

REWARD[®] is approved by ACVM as an aid in the control of ketosis in cattle and as an aid in the reduction of bloat* .

What does REWARD[®] do?

Monensin, is an ionophore antibacterial that acts by interrupting the mechanism for transporting nutrients in certain rumen bacteria; in particular those from the gram-positive group. As a result of this selective action the rumen bacterial population is 'skewed' toward gram-negative bacteria at the expense of gram-positive.

So, how is this a benefit?

During fermentation rumen bacteria break down feed and in the process produce propionate, acetate or butyrate volatile fatty acids (VFA's). While the cow requires all three of these VFA's to support body processes, propionate is very important to support glucose production and fat metabolism. Glucose is used by the cow to make lactose, a critical component of milk production.

As the fermentation pathways of gram-negative bacteria lead to propionate and succinate VFA's administering monensin results in a beneficial increase in the propionate to acetate ratio.

In terms of overall animal health the benefit of increased propionate production include:

- Improving efficiency of feed utilisation
- Reduction in the incidence of bloat
- Reduction in the incidence of ketosis



So what are the features of the REWARD® formulation?

REWARD® Feature	User Benefit
The formulation is free-flowing and aqueous-based.	It is easy to decant from the drum.
It contains special dispersant ingredients.	It is able to be readily mixed in the dispensing tank without the need for special equipment.
The monensin component is micronised	It does not settle or layer in the trough
The formulation is highly concentrated	It is easily transported and stored in the shed. Each 20L pack contains 8,000 daily doses meaning the end to lifting of larger, heavier drums

Table 1: Features and benefits of REWARD® formulation compared to other common monensin-based products.

When should REWARD® be used?

There are a number of potential use programmes:

Programme	Period of use	Benefit
REWARD® Protect	120 days (calving to mating)	Bloat control, reduced potential for ketosis
REWARD® Prime	180 days (Calving until end of Summer)	For protection of the bulk of the production season
REWARD® Premium	260 days (Calving through dry off)	Maximum protection and benefit

Table 2: REWARD® Use Programmes.

How easily is REWARD® mixed and does it settle in the trough?

The special additives in REWARD® mean that it is capable of dilution and mixing directly into the reticulation system solution tank without the need for pre-agitation.

A study was undertaken to test active-ingredient suspension in a trough over time. REWARD® and RUMENSIN® were each diluted to the concentration typically administered to cows (6ppm, assuming a cow drinks 50L of water in a 24 hour period and is receiving 300mg of monensin). The concentration of monensin in the trough was then tested at 2 hours and 24 hours.

The results demonstrated that after dilution REWARD® and RUMENSIN® displayed similar positional stability in the trough. As a result farmers can be confident that the first cow drinking from a trough containing REWARD® will receive the same dose of monensin as the last cow to drink.

		Monensin Concentration (ppm)	
Products	Period of use	2hrs	24hrs
REWARD® Minidose	Top	6.15	6.15
	Middle	6.16	6.20
	Bottom	6.29	6.18
RUMENSIN® Trough Treatment	Top	6.34	6.22
	Middle	6.35	6.37
	Bottom	6.39	6.35

Table 3: Assay of diluted samples (6ppm) of REWARD® in comparison with RUMENSIN® Trough Treatment, 2 hours and 24 hours after dilution.

What about tank mixing with other materials?

The stability of REWARD® when mixed with Zinc Sulphate and Magnesium Chloride has also been tested. This was determined over a 24 hour period to simulate material being held in the solution tank prior to and/or during dispensing. The results demonstrated that neither material had an adverse effect on the mixing and dilution of REWARD®.

How is REWARD® packaged?

REWARD® is packed in convenient, easy to carry 20L containers (containing 8,000 daily doses). Each container comes with its own dispensing tap. There are 24 containers on each shipping pallet.

What are the mixing instructions?

See the current REWARD® label for most up to date use instructions.

The general mixing instructions principles are:

- Measure the required daily volume of REWARD® based on 2.5ml per cow per day.
- Pour the measured volume of REWARD® directly into the Solution Tank and mix thoroughly.

THOROUGH MIXING IS ESSENTIAL:

- Use an agitation pump to provide continuous “stirring” of the Solution Tank.
- Follow the instructions for your particular metered inline water dispenser system.
- Calibrate dispenser to ensure the Solution Tank is dispensed into the water supply within a 24-hour period.
- Make sure that the dispenser intake filter is placed as close as possible to the bottom of the solution tank.
- Make up a fresh solution tank every day.
- **Before mixing with other products** please consult your veterinarian for advice. REWARD should be added last, after all other ingredients have been included and thoroughly mixed.

RECOMMENDATIONS FOR METERED IN-LINE WATER MEDICATION :

- **Follow the instructions for your particular in-line water dispenser system.**
- Soluble powder products take time to dissolve fully. For best results, use two Solution Tanks side by side and allow 24 hours “standing time” so that the product(s) are completely hydrated prior to use.

- Use an in-line water meter to detect the presence of leaks and to monitor daily drinking behaviour for optimum dispenser calibration.
- Use a continuous agitation pump in the Solution Tank to prevent products from settling and ensure more accurate dosing. Check and clean the pump filter daily.
- Calibrate dispenser to ensure the Solution Tank is dispensed into the water supply within a 24-hour period. To achieve this, ensure the dispenser intake filter is placed as close as possible to the bottom of the Solution Tank.
- Clean out the Solution Tank at least monthly to remove any debris or insoluble materials that may have settled. Check water pipes on a monthly basis for evidence of accumulating bacterial growth (All farm water lines contain a bio-film of bacteria on the inside of the pipes. The addition of certain products into the solution tank may stimulate additional growth of the bio-film bacteria. Products include some mineral/trace element formulations, molasses based products and also REWARD®).
- Treatment of accumulating bacterial growth
- Add chlorine (13% hypochlorite) at 25 ml/1000L water (supplied to the herd) to the supply tanks or dispenser for 7 days.
- Do not add Chlorine to solution tanks containing zinc sulphate. If adding chlorine to solution tanks containing magnesium chloride and REWARD®, ensure agitation is used.



NOTE:

Bloat is unpredictable. As with any bloat treatment, **HERD OBSERVATION IS STILL REQUIRED** during bloat challenge periods.

CAUTION:

Optimal bloat control is achieved when a 300mg/cow/day dose of monensin is ingested. To allow consistent daily intakes of REWARD®, ensure the solution tank is emptied on a daily basis. Wide variation in daily cattle water intakes may provide inconsistent bloat control to the herd. Individual animal treatment may be required in these situations.

PRECAUTION:

Thoroughly rinse any spills or residues of REWARD® from the drum, mixing buckets, or floors to reduce exposure to dogs. Ensure recommended doses are not exceeded. Do not use concurrently with other products which contain monensin as the active ingredient. Do not treat cattle with products containing erythromycin, tiamulin or oleandomycin while using REWARD®. Do not use on dogs or horses as fatal toxicosis may result. Prevent access of medicated water to horses and dogs.



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REWARD® is trademark of Alleva Animal Health Limited.
RUMENSIN® is a trademark of Eli Lilly & Co.
Approved under the ACVM Act 1997, No. A10864. See www.foodsafety.govt.nz for registration conditions.
Please note that ACVM no longer approves productivity enhancement claims (such as enhanced milk production) for ionophore-based products.

REWARD MINI DOSE® TROUGH TREATMENT

