Rumensin® Microtracer® Rotary Detector Method

The feed companies that supply quality feed products to the cattle industry have utilized Elanco Rumensin as an integral component of their feeding programs. To assist feed manufacturers in providing a quality feed product to their customers, Elanco has added Microtracers to Rumensin. Microtracers can provide a quick method for confirmation of inclusion or absence of Rumensin in feed.

Microtracers are extremely small, stainless steel particles which do not impact the feed, animal, or environment when Rumensin is used. With the addition of Microtracers in Rumensin, samples of premix or supplements can be tested for the presence of Rumensin in less than 3 minutes.

MATERIALS

1. Scale suitable for weighing 300 grams of feed
2. Advantec® No.1 filter paper with center hole, 75 mm diameter
3. Coffee mill or blender
4. Developing solution (70% alcohol — IPA rubbing or ethanol)*
5. Hot plate or mug warmer
6. Microtracer Rotary Detector

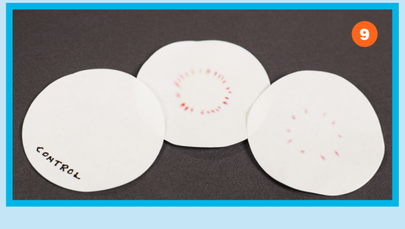
Rumensin Microtracer Kit items should be used and reserved for use with this testing kit only.

*Rarely, where pH of feed is low, a few drops of ammonia must be added to the developing solution.

QUALITATIVE PROCEDURE

1. Turn on the hot plate (250°F-300°F or 120°C-150°C) or mug warmer.
2. Weigh about 300 grams of feed (grind feed if in pellet form).
3. Place filter paper on the spindle of the rotary magnet.
4. Turn on the rotary detector.
5. Slowly pour the sample of feed through the top hopper of the rotary detector.
6. After the hopper is empty, turn off the rotary detector. Remove the top hopper.
7. Add 10-15 drops of the 70% alcohol developing solution to the center of the filter paper. Let the alcohol diffuse outward through the ring of trapped partcles.
8. Remove the filter paper from the rotary magnet. Allow the alcohol to evaporate for at least 30 seconds.
9. Place the filter paper on the heated hot plate or mug warmer. Check the filter paper for Microtracers colored spots for qualitative identification of Rumensin in the sample. Spots should appear pink/red.

If necessary, re-run the test using pure ethanol as the developing solution as a confirmatory test. The spots should now appear yellow, and these spots will fluoresce under an ultraviolet "black" light.



Analysis: Use the Microtracer Rotary Detector Quantitative Procedure.

1. Perform steps #1 through #6 as described.
2. Place a 185 mm Advantec No.1 or equivalent filter paper on a cookie sheet or piece of heavy aluminum foil.
3. Sprinkle the magnetic material recovered by the rotary detector onto the dry filter paper. Brush the material on the paper so it is distributed uniformly.
4. Use a spray bottle to "mist" the 70% alcohol developing solution over the test paper so the paper is uniformly wetted but without having any pools of developing solution.
5. As soon as red spots start developing, transfer the test paper to the preheated hot plate or mug warmer to dry and "fix" the spots.
6. After the paper is dry, it is recommended you count the spots, circling each spot counted using a black or blue ink pen.

- A negative result with the tracer test does not guarantee the absence of Rumensin in finished feed
- If a feed assay to determine the level of monensin sodium is required, contact your Elanco representative
- As a good manufacturing practice, avoid manufacturing feeds for horses directly after cattle feed containing Rumensin
- A daily positive control test must be performed on feeds manufactured that day and known to contain Rumensin 90 premix
- **Following the recovery of tracer from a sample yielding a positive result, the rotary detector should be brushed clean to avoid contamination of other feeds, which could thereby yield a false positive test result**

DIRECTIONS FOR USE:

For increased milk production efficiency (production of marketable solids-corrected milk per unit of feed intake)

Total mixed rations (complete feed): Feed continuously to dry and lactating dairy cows a total mixed ration (complete feed) containing 11 to 22 g/ton Rumensin on a 100% dry matter basis.

Component feeding systems (including topdress): Feed continuously to dry and lactating dairy cows a Type C Medicated Feed containing 11 to 400 g/ton monensin. The Type C medicated feed must be fed in a minimum of 1 pound of feed per cow per day to provide 185 to 660 mg/head/day monensin to lactating cows, or 115 to 410 mg/head/day monensin to dry cows. This provides cows with similar amounts of monensin they would receive by consuming total mixed rations containing 11 to 22 g/ton monensin on a 100% dry matter basis.

Growing cattle on pasture or in dry lot (stocker and feeder and dairy and beef replacement heifers): For increased rate of weight gain. Feeding directions: Feed at the rate not less than 50 nor more than 200 mg per head per day in not less than 1 pound of Type C Medicated Feed; or after the 5th day, feed at the rate of 400 mg per head per day every other day in not less than 2 pounds of Type C Medicated Feed. The monensin concentration in the Type C Medicated Feed must be between 15 and 400 grams per ton. During the first 5 days, cattle should receive no more than 100 mg per day contained in not less than 1 pound of feed. Do not self-feed.

For the prevention and control of coccidiosis due to *Eimeria bovis* and *Eimeria zuernii*: Feeding Directions: Feed at a rate to provide 0.14 to 0.42 mg per pound body weight per day, depending upon severity of challenge, up to a maximum of 200 mg per head per day. The monensin concentration in Type C Medicated Feed must be between 15 and 400 grams per ton. During the first 5 days, cattle should receive no more than 100 mg per day contained in not less than 1 pound of feed.

The label contains complete use information, including cautions and warnings. Always read, understand, and follow the label and use directions. Consumption by unapproved species or feeding undiluted may be toxic or fatal. Do not feed to veal calves.

Warning: When mixing and handling Rumensin 90, use protective clothing, impervious gloves, and a dust mask. Operators should wash thoroughly with soap and water after handling. If accidental eye contact occurs, immediately rinse with water.

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