

Use Bovatec or Rumensin in Recently Weaned Dairy Heifer Grain Mixes



College of Agriculture,
Food and Environment
Cooperative Extension Service

By: Donna Amaral-Phillips, Ph.D.

Many dairy calf starters (grain mixes formulated for baby calves on milk) contain decoquinate (trade name Deccox®) to prevent coccidiosis. Heifers with coccidiosis, a disease that can cause diarrhea in calves and young heifers, gain less weight. It is considered an opportunistic disease and is seen most often in heifers under 400 pounds who have been stressed. Remember that one of the most stressful times in a calf's life is the month after weaning.

Deccox® works very well in preventing coccidiosis and acts by “holding” the coccidian in its life cycle in the intestinal cells. However, once Deccox® is removed from the diet the coccidian can grow and cause damage to the intestinal wall. Bovatec® and Rumensin® are feed additives that can be added to grain mixes for heifers to increase weight gain, improve feed efficiency, and prevent coccidiosis. Thus, heifer grain mixes (especially those heifers fed calf starters with Deccox®) should contain one of these feed additives at the proper rate of inclusion.

Calculations

Note: All equations use the cancellation of units to arrive at the answer with the correct units.

Calculation #1: Calculate the amount of Rumensin® supplied through a free-choice mineral. The same principles apply for Bovatec®, although amounts needed may be different.

Assumptions:

- Bred heifers weigh 900 lbs.
- You want the free-choice mineral to supply 200 mg Rumensin® per day per heifer.
- Heifers consume 3 ounces of mineral daily.
- From the feed tag on the mineral, it contains 1600 grams of Rumensin® per ton of mineral.

Calculations start with the amount of mineral consumed by each heifer. Within the next 2 parentheses, ounces are converted to ton of mineral. From the mineral feed tag, we know that there are 1600 g of Rumensin in 1 ton of mineral. The last parenthesis, converts grams to mg. Identical units in a numerator and denominator cancel each other until you are left with the units you are solving – in this case mg of Rumensin®.

$$\left(\frac{3 \text{ oz mineral}}{16 \text{ oz mineral}}\right) \left(\frac{1 \text{ lb mineral}}{2000 \text{ lbs mineral}}\right) \left(\frac{1600 \text{ g Rumensin}^{\text{®}}}{1 \text{ ton mineral}}\right) \left(\frac{1000 \text{ mg Rumensin}^{\text{®}}}{1 \text{ g Rumensin}^{\text{®}}}\right) = 150 \text{ mg Rumensin}^{\text{®}} \text{ per heifer in 3 oz. of mineral.}$$

If 4 oz. of mineral is consumed, it will supply 200 mg of Rumensin®.

Calculation #2: Calculate the amount of Rumensin® supplied through 4 pounds of grain mix.

Assumptions:

- a) Bred heifer consumes 4 pounds of grain mix.
- b) 100 pounds of mineral added per ton of grain mix.
- c) Mineral mix contains 2200 mg of Rumensin® per kg.

$$\left(\frac{4 \text{ lb grain}}{1}\right) \left(\frac{1 \text{ ton grain}}{2000 \text{ lbs grain}}\right) \left(\frac{100 \text{ lbs mineral}}{1 \text{ ton grain}}\right) \left(\frac{1 \text{ kg mineral}}{2.2 \text{ lbs mineral}}\right) \left(\frac{2200 \text{ mg Rumensin}^{\circledR}}{1 \text{ kg mineral}}\right)$$

= 200mg Rumensin® supplied in 4 pounds grain of grain mix.