**Medical management of grain overload**

Initially in the management of grain overload where there is the occurrence of bloating, the animal is intubated using an ororuminal tube. This would differentiate a primary bloat from a secondary bloat- if it is a secondary bloat, which is free gas, the gas would be expelled through the tube. If it is a primary bloat (frothy) as with most grain overload cases, there would be no improvement in the cows’ condition. From this point, the veterinarian can opt to perform a rumen lavage or a rumenotomy depending on the severity of the case. A large-bore tube (2.5 cm inside diameter, 3 m long) should be used, and enough water added to distend the left paralumbar fossa; gravity flow is then allowed to empty out what it will. Repeating this 15–20 times achieves the same results (and requires about as much time) as using rumenotomy to empty and wash out the rumen with a siphon. Performing a lavage would require a rumen transfaunation as the microbes and protozoa from the rumen would have either died or were washed out.

Emptying the rumen is unnecessary in less severe cases. Ruminal alkalinizing agents are principally used to treat ruminal lactic acidosis (pH & lt; 5.5) due to grain overload or soluble carbohydrate overload. Antacids that may be given PO, bid-tid, include magnesium hydroxide (cattle: 100–300 g; sheep: 10–30 g) and magnesium carbonate (cattle: 10–80 g; sheep: 1–8 g). Antacids should be mixed in ~10 L of warm water to ensure adequate dispersion through the ruminoreticular contents. Administration PO of activated charcoal (2 g/kg) is believed to protect the ruminoreticular mucosa from further injury by inactivating toxins. Oral administration of sodium bicarbonate (baking soda), either as powder dissolved in water or commercially available solutions prepared for IV infusion, rapidly neutralize the rumen pH but are accompanied by rapid release of large amounts of CO 2. Because of decreased rumen motility in ruminants with acute rumen acidosis, these animals are at increased risk of developing potentially life-threatening free gas bloat.

Acute frothy bloat in cattle can also be treated with poloxalene, which may be administered as a drench or by stomach tube (25–50 g). Polymerized methyl silicone (3.3% emulsion [cattle: 30–60 mL; sheep: 7–15 mL]) may be used in a similar manner as poloxalene, although direct intraruminal injection via a needle or cannula may be more satisfactory in this case.

Administration of docusate sodium in emulsified soybean oil (6–12 fl oz containing 240 mg/mL) or administration of vegetable oils alone, such as peanut oil, sunflower oil, or soybean oil (cattle: 60 mL; sheep: 10–15 mL), also relieves acute frothy bloat when given PO.