# Electrolytes May Have Adverse Effect

The use of electrolytes in preparing calves for feedlot shipments has been found to adversely affect animal performance in tests at the University of California's Meloland Station.

The feedlot scientists administered an electrolyte-energy source in the drinking water of calves 24 hours prior to shipment and again 60 hours after arrival at the station in the Imperial Valley. The produce used contained sodium chloride, potassium chloride, sodium citrate, calcium glysero-phosphate, magnesium gluconate, saccharin and glucose oligosaccharides.

Ten pounds of the material were dissolved in 50 gallons of drinking water and offered to the test cattle in randomly assigned groups. The control groups had non-treated water.

The calves used by researchers Don Addis, Glen Lofgren, J. G. Clark and John Dunbar originated in Carlos, Texas, and were provided by the F. Borchard Feedlot. Transit time was 32½ hours with an average 9.8% shrink.

The addition of the electrolyte-energy formulation to the drinking water dramatically increased water consumption. (4.1 gallons per head per day versus 2.4 gallons.) For the next 3½ days following removal of the electrolyte formulation from the drinking water, consumption was lower than for the controls (2.9 versus 3.6).

Feed consumption the first week was reduced by 21% (3.5 lb. versus 4.4 lb. per head per day) by the electrolytes per head per day. This lower feed intake and average daily gain for the electrolyte-treated calves was observed throughout the 56-day test period. Five of the electrolyte animals died versus one in control (8.3% versus 1.7%). The weight loss of dead animals was charged to their respective groups. Therefore, a negative gain for the second week after arrival in California was experienced with the electrolyte animals.

Throughout the 56-day test period, the electrolyte watered group calves gained less and required more feed to produce a pound of gain.

The animals receiving electrolytes required a greater number of medication treatments before regaining their normal health (8 versus 5 treatments). This resulted in even more days in the sick pen (6.6 versus 4). The percentage of cattle which became sick the second or third time was greatest for the electrolyte groups (60% versus 44%). The medication treatment costs for the electrolyte-treated calves was greater ($6.83 per head versus $4.05).

The scientist concluded that the addition of an electrolyte product to calves' water 24 hours prior to shipment and 60 hours after arrival did adversely affect the animals' performance and health. All death losses were due to pneumonia.

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**Special to Recipients of "Summary of Adverse Reactions to Animal Drugs Reported to the Bureau of Veterinary Medicine Reviewed During April-June 1976"**

**CORRECTION**

Through a clerical error, 13 previously reported complaints of adverse reactions to an animal drug product were included in the quarterly report published in July 1976.

The antiparasitic, Levamisole, was erroneously reported as having drawn 14 complaints involving 2974 bovine with 795 animals showing adverse reactions and 195 deaths.

Actually, only one complaint involving Levamisole in cattle was reviewed during this quarter. The reference to this product on page 3 of the report should read as follows:

Drug Product: Levamisole
Number of Complaints: 1
Number of Animals Treated: 1
Number of Animals Showing Adverse Reactions: 1
Number of Deaths: 1
Common Signs and Lesions Reported; Concomitant Therapy; Conclusions: Convulsions; none; possibly drug-related, animal had an overwhelming bacterial infection.

The Bureau of Veterinary Medicine deeply regrets any inconvenience this error may have caused. Steps have been taken to prevent a reoccurence.

Surveillance Division
Surveillance and Compliance
Bureau of Veterinary Medicine
Food and Drug Administration

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