loss of late-solute vitamins
Lu et al. (2010) reported a 52% reduction in post-weaning broiler feeders were supplemented with 200 mg/kg of copper versus copper-free diets.

In addition to these functional characteristics, trace mineral sources are also more concentrated than most organic or inorganic ingredients. Xing and Gao (2013) observed a greater flexibility with formulation space.

Our experiment (Caramalac et al., 2014) consisted of four individual feeders involving eight pens of early-weaned calves. Each pen had two calves at an average age of 120 days and an average initial bodyweight of 115 kg.

Calculations were provided free-choice access to a mixed-concentrate ration and grass hay. Each day at 10 a.m., all feed was withdrawn, and calves were offered three different mineral-fortified supplements containing copper and zinc for the four-hour period that were provided in three separate feeder containing bins.

Supplements were created using a base mixture containing 52% cottonseed meal, 15% corn, and 2% salt. The supplements were fortified with 2,000 mg/kg of copper (experiment 1), 1,750 mg/kg of copper (experiment 2), 3,000 mg/kg of copper (experiment 3), and all three minerals (experiment 4). Preferred voluntary intake of these feedstuffs, particularly in preweaned or stressed calves, can provide improved health and performance.

The Bottom Line
Calves’ voluntary consumption of limited-feed creep is reduced when the feeds are fortified with concentrated amounts of copper and manganese oxide. When given an opportunity for selection, young beef calves preferentially consume trace mineral-fortified supplements containing hydroxy sources versus saline or organic sources of copper, zinc, and manganese.

These initial results may have important implications for the formulation of trace mineral-concentrated rations intended for calves. Opportunities to improve voluntary intake of these feedstuffs, particularly in preweaned or stressed calves, can provide improved health and performance.

References


Without a JAM, our scientific community is not about-asas/asas-board-of-directors. about the authors

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