

# Describing the consumption of a granular mineral supplement containing chlortetracycline by gestating beef cattle on pasture

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## Introduction

The objective of this study was to explore the consumption frequency of a granular, chlortetracycline (CTC)-containing mineral supplement offered free-choice to beef cows on pasture.

## Materials and methods

A total of 94 nonlactating, pregnant, crossbred beef cows were randomly assigned to 1 of 3 pasture groups. Each group was equipped with a portable, self-contained feeding unit (Smart-Feed; C-Lock, Inc.) used to record individual animal supplement intake and frequency. Cows were offered dried distillers' grains with NaCl for 14 days of acclimation (mean intake = 1.54 kg/day) before transitioning to a commercially available granular mineral containing CTC (6,160 mg/kg) on day 0 for 162 days from May 18-October 26, 2023.

## Results

According to label instructions, each cow should be fed mineral supplement such that they consume 1.1 mg CTC/kg of body weight daily. Mean supplement consumption throughout the study was 87g mineral/cow/day, or 0.54g CTC/cow/day. The mean number of consecutive days that a cow did or did not

consume any amount of mineral was 2.4 and 3.1, respectively. On average, 47% of cows consumed mineral on any given day of the study, with a maximum of 79% and a minimum of 7%. Using individual body weights, expected total CTC-containing mineral intake for the trial period was calculated for each cow individually. In total, 43% (40/94) of cows consumed an adequate amount of mineral throughout this study to receive the label-indicated dose of CTC.

## Significance

Results of this study show that feeding a granular CTC-containing mineral supplement free-choice is not an effective method of ensuring all cattle consume the label-indicated dose of CTC.

