

# Evaluation of herd and within-herd prevalence of bovine leukemia virus in eastern Kansas beef cattle

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## Introduction

The last U.S. national beef BLV herd prevalence study occurred in 1997 by the USDA and found an AGID/ELISA herd prevalence of 36.4% and an individual animal prevalence of 7.73% of animals tested in the northcentral U.S. which included the state of Kansas. Kansas State University and Michigan State University, in a collaborative effort, performed a BLV herd and within-herd prevalence study of beef cattle in eastern Kansas in the fall of 2021.

## Materials and methods

Beginning September 27, 2021 and concluding November 5, 2021, convenience blood samples were collected for BLV screening from cattle that presented to Kansas State University for routine herd checks. Whole herd BLV ELISA screening (IDEXX gp-51) was performed on 2,811 animals from 43 herds owned by 20 different producers spanning 13 counties in eastern Kansas. All animals that had a positive BLV ELISA test were submitted for BLV qPCR testing (SS1) to measure proviral load. Metadata collected on sampled animals was age, breed, BCS and pregnancy status.

## Results

Forty-one out of 43 herds had at least one ELISA-positive animal, a 95% herd prevalence. Fifty-five percent of all cattle tested were ELISA-positive, with 77% of cattle 4 years of age and older ELISA-positive. Of the BLV ELISA-positive animals, 53.6% had detectable virus via qPCR.

## Significance

The BLV prevalence results in this study are much higher than previous estimates, supporting the need for further investigation of the prevalence and importance of BLV to U.S. beef herds' health and welfare.

