

## STUDY HIGHLIGHTS



### STUDY

*The Effect of Arrival Vaccine Combination on Performance and Efficiency During the Receiving and Backgrounding Phase*

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### OBJECTIVE

To evaluate how three commercially available **vaccine combinations** given at arrival influence **growth performance, feed efficiency, and health outcomes** during the receiving period.

### EXPERIMENTAL PROCEDURE

A total of 393 crossbred heifer calves (BW= 499 ± 38 lb) were purchased at auction markets in Tennessee, assembled at an order buyer's facility in Dickson, TN then shipped 674 miles to the Kansas State University Beef Stocker Unit over a 9-d period from October 9th to October 17th, 2024. The heifers were used in a randomized complete block design to analyze the effect of arrival vaccine combination on performance and efficiency during a 56-d receiving trial. Heifer calves were labeled high-risk due to long transportation time and comingling at the order buyer facility. Heifers were blocked by truck load (4), stratified by individual arrival (d -1) weight within load, and assigned to pens containing 10 or 11 head. Pens within each block were randomly assigned to 1 of 3 treatments which equaled 12 pens/treatment for a total of 36 pens. Cattle were weighed immediately on arrival (d -1) and individually identified with a visual and electronic identification tag. Heifers were then offered warm-season grass hay at 1% of BW [dry matter (DM) basis], had *ad libitum* access to water, and were allowed to rest for 24 hours.

The following day (d 0) all heifers were individually weighed again and received antibiotic metaphylaxis with Tulathromycin (Macrosyn; Bimeda, Schaumburg, IL). Heifers were treated for internal and external parasites with a combination deworming strategy using levamisole oral suspension (Levamed; Bimeda, Schaumburg, IL) and ivermectin pour-on (Bimectin; Bimeda, Schaumburg, IL), and assigned a tag with a pen number. Farm staff was blinded to vaccine treatments during the entire 56-d receiving period. Prior to trial start date, vaccine protocols were relabeled with a color and letter (**White A (Pyramid)**, **Red B (Stimulator)**, and **Blue C (Bovi-Shield Gold)** for the purpose of animal allocation and vaccine administration during processing and data analysis.

### BY THE NUMBERS



**56**  
DAYS ON TRIAL



**393**  
HIGH-RISK CROSSBRED  
HEIFERS



**499±38**  
INITIAL BODY WEIGHT

GROUP NAME	PRODUCTS USED
PYRAMID	Pyramid® 5 + Presponse® SQ (BI) + Vision® 7 Somnus w/ Spur® (Merck)
STIMULATOR	Stimulator® 5 + Pro-Bac® 4 (Bimeda) + Vision 7 w/ Spur (Merck)
BOVI-SHIELD GOLD	Bovi-Shield Gold One Shot® (Zoetis) + Vision 7 Somnus w/ Spur (Merck)

## RESULTS

**ALL THREE VACCINE PROTOCOLS WERE WELL-TOLERATED IN HIGH-RISK HEIFERS WITH NO STATISTICAL DIFFERENCES IN PERFORMANCE OR HEALTH OUTCOMES.**

### FINAL BODY WEIGHT

No difference between treatments.



### AVERAGE DAILY GAIN

No difference between treatments. ( $P \geq 0.35$ )



### FEED EFFICIENCY

No difference between treatments. ( $P \geq 0.53$ )



### WATER INTAKE

No difference between treatments. ( $P = 0.51$ )



### MORBIDITY + MORTALITY

No statistical difference.



## HEALTH INSIGHTS

- No adverse effect on performance based on vaccine choice.
- Vaccine combination did not influence pull rates or BRD treatment incidence.
- Supports flexibility in vaccine selection when following good processing protocols.

## IMPLICATIONS FOR CATTLE MANAGERS

- Arrival vaccine choice did not impact feed intake, weight gain, or health over 56 days.
- Select vaccine combinations based on availability, compatibility, and logistics and cost or value – not performance concerns.

## VIEW FULL STUDY

To view the complete study completed by Kansas State University, scan the QR code below or visit [www.bimedabiologicals.com](http://www.bimedabiologicals.com).

