

# THE EFFECTS OF SEPTIMUNE ON HEALTH AND PERFORMANCE OF STRESSED STOCKER CATTLE

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## Story in Brief

One hundred and fifty shipping-stressed steer, bull and heifer calves originating from Florida and averaging 290 lb were received at the Pawhuska research station. The objective of this study was to evaluate the relative efficacy of septimune (Pastuerella vaccine). Septimune did not significantly affect average daily gain or morbidity however it did numerically improve both by 7 and 15 % respectively.

(Key Words: Shipping-Stress, Calves, Septimune.)

## Introduction

Transportation, mixing and weaning are all stresses which can make shipped stocker cattle extremely susceptible to shipping fever, also known as the bovine respiratory disease complex (BRD). Vaccinations against viruses have become common place in most management systems. Viruses decrease the immunity in cattle thereby increasing susceptibility to secondary bacterial infections namely pastuerella. Septimune (Fort Dodge Laboratories, Fort Dodge Iowa) is one of several pastuerella vaccines on the market and the objective of this study was to determine it's efficacy on performance and health of newly received stressed calves.

## Materials and Methods

One-hundred and fifty bull, steer and heifer calves originating from Florida and averaging 290 lb were received at the Pawhuska Research Station on August 14, 1992. The cattle arrived late in the afternoon. After unloading, cattle were individually weighed, identified by ear tag, randomly assigned to 8 pens and

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allowed free access to hay and water. After a day and a half rest the cattle were vaccinated with IBR-PI3 (modified live virus; i.m.) and 7-way Clostridial bacterin and dewormed with Ivermectin at which time four of the 8 pens randomly received the Septimune vaccine (2ml, i.m.).

The receiving ration consisted of 2 lb of 38% CP pellets, known amounts of prairie hay which was offered free and water for the entire 28 day receiving period. Cattle were visually monitored twice daily for signs of sickness. Animals displaying visual signs of illness were moved to the processing area where rectal temperatures and severity of illness were clinically appraised and recorded. Animals with rectal temperatures >104 F were considered sick, else healthy and returned to home pen. Sick animals were treated with anti-microbial drugs. If no improvement in temperature or visual signs was apparent within 48 hours, a different anti-microbial drug was administered. The order of antibiotics was Micotil, Naxcel and penicillin, Spectam and finally Tylan. This procedure was continued until a satisfactory improvement in health was observed. At the end of the receiving period cattle were weighed off trial, branded, dehorned and castrated as needed.

## Results and Discussion

Although there were no statistical differences the cattle that were vaccinated with Septimune vaccine tended to outperform the controls (Table 1) in ADG (1.65 vs 1.54) and decreasing morbidity (57.53 vs 66.23). Because of high morbidity and antibiotic treatments at the time of processing, we arbitrarily decided to look at response of sick cattle after nine days. This protocol was

**Table 1. Effect of Septimune on animal health and performance.**

	Control	Septimune	Probability
Animals, N	77	73	
In weight, lb	295	285	.13
Out weight, lb	338	331	.34
ADG, lb			
total, 28 days	1.54	1.65	.35
only sick	1.40	1.55	.30
only healthy	1.81	1.77	.81
healthy, and sick after 9 days	1.61	1.64	.76
Morbidity, %			
total, 28 days	66.2	57.5	.27
after 9 days	50	39.2	.27
Feed efficiency	9.58	6.51	.36

decided on due to the fact that a modified live vaccine can not build immunity prior to nine days. The results of this analysis still did not have a significant affect, but again numerically improved ADG (1.64 vs 1.61) and morbidity (39.21 vs 50) over controls. When comparing only the cattle that got sick regardless of when it was, the vaccinated cattle had a 9.68% numerical increase in gain (1.55 vs 1.40) possibly indicating a positive performance response of cattle destined to be sick. However, when only comparing healthy cattle the vaccinated animals show a slight depression in performance (1.77 vs 1.81) which is expected in any biological vaccination.

In summary the Septimune Pastuerella vaccine appeared to numerically improve morbidity and gains in this study. Although there were no statistical differences the utility of this vaccine should not be ruled out. Due to the high number of pulls at the time of processing and the short 28 day trial period the vaccine response may not have been fairly and effectively measured.