



# Panic at the Feedlot

**O**n an early August morning, Clay Burson sipped on his coffee while he flipped through the Wall Street Journal, emotionless. As he flipped past page B3, he suddenly realized what he had just read. Slowly he turned back to the previous page where he saw the article headline that read, “Merck Suspends Sales of Cattle-Feed Additive Zilmax™ in U.S., Canada.” Burson was stunned.

The past three months, Burson had put the final details of his up-coming research project on Zilmax™. Burson, an animal science graduate student from Abeline, Texas, with a focus in ruminant nutrition, knew immediately this would critically alter his project.

During the summer of 2013, Burson began designing a study to investigate the effects of heat stress on Zilmax™ fed cattle. Zilmax™ is a Food and Drug Administration-approved feed supplement for cattle. Zilmax™ promotes the efficient conversion of feed to lean beef cattle. However, there had also been concerns in the cattle industry that it might affect the cattle’s ability to cope with heat stress, especially among black-hided heifers. Merck wanted to find out, so they financed the study under the direction of Dr. Bradley Johnson and Dr. Ryan Rathmann. Burson was asked to take the lead on the project. He used 100 head of cattle to create four groups in his experiment;

a control group for each gender, and a group from each gender to take Zilmax™.

On August 7, Burson’s plans suddenly changed. Tyson announced that they were suspending the purchases of any cattle that had been fed Zilmax™. As a result, Merck, the pharmaceutical company that produces Zilmax™, removed the drug from the market about a week later.

“This came as a shock at first, but I then realized that my [continued] research would ultimately provide valuable scientific data needed to investigate the effects of zilpaterol hydrochloride, the compound used in Zilmax™, on cattle health and well-being particularly pertaining to lameness,” Burson said with a confident smile.

With a few added elements to the original study, Burson continued testing the effects of Zilmax™ on cattle’s ability to cope with heat stress and possible lameness and other health conditions in the cattle.

“We decided to take additional measures in order to evaluate movement differences in cattle,” Burson said, “additionally, we collected tissue samples after the cattle were harvested (including hooves from cattle representing each treatment) to further investigate the physiological effects of the compound.”

He further explained that the new pen arrangements have changed with the shift in research

goals, but instead of taking the internal body temperature of the cattle on and off Zilmax™, the serum in the joints and amount of oxidents in the blood are also being tested.

“One of the techniques we used to measure movement differences in cattle was ‘exit velocity.’ We set up an electronic eye to determine how quickly cattle leave the chute,” Burson said.

“The news that Zilmax™ had been suspended actually provided a unique opportunity for our study.

We were put in the position to provide valuable scientific data that speaks to a controversial question in the industry,” Burson added.

Former feedlot manager, Crockett Calk indicated, “We have observed an incidence of lameness or impaired immobility in non-Zilmax fed cattle over the years that is due to factors such as inferior genetics or unfavorable weather conditions. These feeding challenges can somewhat be financially mitigated by Zilmax™ which has added anywhere from 24 to 33 pounds of carcass weight to out weights.”

Calk also pointed out that reduction in carcass weights could tighten a market that is experiencing a historical numbers shortage. He stated consumer perception both in our local as well as export markets can be a major contributor to markets and how we feed the cattle prior to slaughter.

Aware of perception issues, most cattle feeders participate and are accredited by the Beef Quality Assurance program that provides testing and information in order to assure that producers are

practicing safe, wholesome care of cattle in order to provide high quality and yield grades of beef carcasses. This program keeps a tight leash on meatpackers and feedlots concerning the care, husbandry and well being of cattle. There have been very few, if any, incidents scientifically attributed to Zilmax™.

Calk sees Merck’s decision to temporarily suspend Zilmax™ from the market as a way to relieve

any misconceptions or negative perceptions towards their product.

“Tyson and Merck are both acutely aware of

consumer perception and it’s impact but must work together to find a solution that will not deteriorate the cattle feeder’s bottom line,” said Calk.

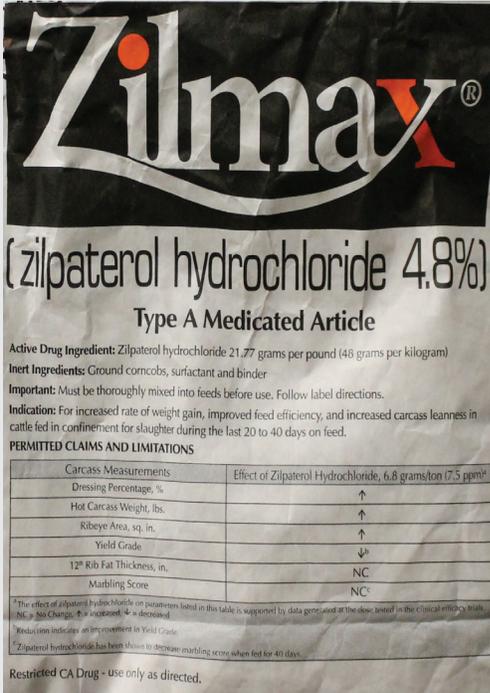
The negative consumer perception that Zilmax™ can possibly be harmful to cattle is only due to a few instances where some cattle have shown up as ‘downers’, or cattle that are immobile, to the packer. There has not been any scientific connections that link lameness and Zilmax together.

“However, Merck has removed Zilmax™ from the market and will be gathering data and running tests to prove that Zilmax™ is only doing good for the cattle and producers, alike,” said Calk.

At the end of each day, Merck wants each and every customer, consumer and cattleman alike to be taken very seriously and know that customer satisfaction and approval is at the top of their list. With the help of many universities across the globe, and scientists and researchers, such as Burson and Calk, Merck will hopefully be able to provide scientific data that will prove Zilmax™ is a safe and effective way to produce lean beef. Most importantly, the consumer holds all of the power right at their taste buds. Zilmax™ claims to provide cattle with the energy needed to produce lean, tasty and juicy beef.

In the end, if the consumer is happy, the producers are happy. 

“The consumer holds the power.”



**Zilmax<sup>®</sup>**  
(zilpaterol hydrochloride 4.8%)  
Type A Medicated Article

**Active Drug Ingredient:** Zilpaterol hydrochloride 21.77 grams per pound (48 grams per kilogram)  
**Inert Ingredients:** Ground corncobs, surfactant and binder

**Important:** Must be thoroughly mixed into feeds before use. Follow label directions.

**Indication:** For increased rate of weight gain, improved feed efficiency, and increased carcass leanness in cattle fed in confinement for slaughter during the last 20 to 40 days on feed.

**PERMITTED CLAIMS AND LIMITATIONS**

Carcass Measurements	Effect of Zilpaterol Hydrochloride, 6.8 grams/ton (7.5 ppm) <sup>1</sup>
Dressing Percentage, %	↑
Hot Carcass Weight, lbs.	↑
Ribeye Area, sq. in.	↑
Yield Grade	↓ <sup>2</sup>
12 <sup>th</sup> Rib Fat Thickness, in.	NC
Marbling Score	NC <sup>3</sup>

<sup>1</sup>The effect of zilpaterol hydrochloride on parameters listed in this table is supported by data generated in the dose listed in the clinical efficacy trials. NC = No Change, ↑ = increased, ↓ = decreased.

<sup>2</sup>Reduction indicates an improvement in Yield Grade.

<sup>3</sup>Zilpaterol hydrochloride has been shown to decrease marbling score when fed for 40 days.

Restricted CA Drug - Use only as directed.

Matthew Silburn  
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