

# **COW/CALF CORNER**

The Newsletter

From the Oklahoma Cooperative Extension Service

**July 15, 2013**

In this Issue:

## **Changes in Mexico-U.S. Cattle and Beef Trade Flows**

Derrell S. Peel, Oklahoma State University Extension Livestock Marketing Specialist

## **Drug Therapy Resistance Increasing In BRD Cases**

Dave Sparks DVM, Oklahoma State University Area Extension Veterinarian

## **Time of Day of Harvest and Impact on Nitrate Concentration**

Glenn Selk, Oklahoma State University Emeritus Extension Animal Scientist

## **Changes in Mexico-U.S. Cattle and Beef Trade Flows**

Derrell S. Peel, Oklahoma State University Extension Livestock Marketing Specialist

The latest livestock trade data provides additional indication that the Mexican cattle industry is undergoing rapid and dynamic change. Changes in cattle and beef flows between the U.S. and Mexico have significant implications for the cattle industries on both sides of the border. The newest component of the increasingly complex and integrated U.S.-Mexico cattle and beef industries is the rapidly growing imports of Mexican beef into the U.S.

U.S. imports of Mexican beef have increased rapidly the past four years resulting in Mexico becoming the fourth largest source of U.S. beef imports. However, imports of beef from Mexico for the month of May were down just over 4 percent year over year. This may not signify a new trend but it is significant as it represent the first decrease after 48 months of double digit year over year increases. It raises the question of whether imports are slowing because of demand limitations for Mexican beef in the U.S.; or because the supply of beef in Mexico is limited and high domestic prices are reducing the economic incentives to export beef? Data to answer the question is not complete but there are indications in the U.S. beef export and cattle import data.

U.S. beef exports to Mexico have been decreasing since 2008. For most of the intervening period a combination of high U.S. beef prices and a weaker Mexican Peso have made U.S. beef more expensive in Mexico and limited U.S. beef movement into Mexico. Mexican beef prices have risen significantly over the past 20 months to catch up with U.S. prices and bring domestic beef prices closer to a balance with imported beef prices. Though U.S. beef exports continue to fall, the decrease the past two months has been less and may indicate that U.S. beef exports to Mexico will stabilize. U.S. beef exports were down an average of 12 percent year over year for the past two months compared to average decreases of nearly 36 percent for each of the preceding 11 months.

More evidence that the supply of cattle and beef in Mexico continues to tighten is in the data on Mexican cattle imported into the U.S. Mexican cattle exports increased in 2011 and the first half of 2012 as strong U.S. markets and severe drought in northern and central Mexico forced significant cattle liquidation. Despite dropping sharply in late 2012, total Mexican cattle imports for the year totaled nearly 1.5 million head. This total included over 384,000 spayed heifers, much more than typical. In fact, U.S. imports of Mexican steers were actually down in 2012. So far in 2013, total imports of Mexican cattle is down nearly 43 percent, over 406,000 head, compared to last year, based on weekly data through the end of June. Mexican heifer exports to the U.S. are down more than 57 percent year over year for the year to date. It appears that in Mexico, much as has happened in the U.S., significant female liquidation has occurred the past several years. Mexican beef production, cattle exports and perhaps beef exports may be curtailed for the next couple of years at least.

## **Drug Therapy Resistance Increasing In BRD Cases**

Dave Sparks DVM, Oklahoma State University Area Extension Veterinarian

A survey of records of bovine respiratory disease (BRD) cases at the Kansas State Veterinary Diagnostic Laboratory showed that drug resistance in *Mannheimia hemolytica*, one of the primary organisms associated with BRD, increased over the three year period from 2009 to 2011. Researchers found that over that period a high percentage of the organisms recovered from cattle lungs were resistant to several of the drugs typically used to treat that pathogen. Six antimicrobial drugs were tested. Using the parameter of resistance to at least three of the six drugs as a definition of multi-drug resistance they found that 63% of the bacteria were multi-drug resistant in 2011 compared to 46% in 2010 and 42% in 2009.

Several factors are known to contribute to the development of drug resistant organisms. These include use of antimicrobial drugs when they are not indicated, improper dosing, and failure to follow label directions. Perhaps the greatest factor is discontinuance of the therapy when improvement is seen rather than maintaining drug levels throughout a full recommended course of treatment. To prevent or delay the development of resistance, always follow closely the label as well as your veterinarian's directions.

While many of the recovered organisms were resistant to three or more of the six antimicrobials tested, none were resistant to all six. This emphasizes the importance of antimicrobial sensitivity testing that can be done easily and inexpensively by your veterinarian or the Oklahoma Animal Disease Diagnostic Laboratory. Using the right drug for the particular organisms causing your BRD problems not only helps to prevent the development of further resistance but also minimizes death loss, economic loss, labor, and animal suffering in your herd.

# Time of Day of Harvest and Impact on Nitrate Concentration

Glenn Selk, Oklahoma State University Emeritus Extension Animal Scientist

Forage sorghums are used by cattle producers for summer grazing or harvested for hay. Forage sorghums can be very productive and high quality, but can also accumulate toxic levels of nitrate when stressed. In the past, the assumption was made that the plant continues soil nitrate uptake during nighttime hours, followed by accelerated conversion of the nitrate to protein during daylight hours. Therefore past recommendations have been to wait until afternoon to cut forage sorghum for hay if anticipated nitrate levels are marginally high.

To evaluate the significance of the change in nitrate concentration in forage sorghums during the day, Oklahoma State University Extension Educators collected samples at two hour intervals from 8 AM to 6 PM. Five cooperators' fields ("farm") were divided into quadrants. Three random samples, consisting of ten stems each, were taken from each quadrant at the specified interval. The samples were analyzed at the Oklahoma State University Soil, Water, and Forage Analytical Laboratory to determine the level of nitrates, in parts per million (ppm).

As expected, differences between "farms" were substantial and significant. The mean concentration of nitrate for individual farms varied from only 412 ppm to 8935 ppm. The mean nitrate concentrations across all farms were 3857, 3768, 4962, 4140, 4560, and 4077 ppm for samples at 8 AM, 10 AM, noon, 2 PM, 4 PM, and 6 PM, respectively. Remember, most laboratories consider nitrate concentrations at, or above 10,000 ppm potentially lethal. **There was much more variation between farms than between harvest times. Time of day of harvest did not impact nitrate concentration or proportion of dangerous samples of forage sorghum hay.** [Source: Levalley and co-workers. 2008 Oklahoma State University Animal Science Research Report.](#)

Oklahoma State University, in compliance with Title VI and VII of the Civil Rights Act of 1964, Executive Order 11246 as amended, Title IX of the Education Amendments of 1972, Americans with Disabilities Act of 1990, and other federal laws and regulations, does not discriminate on the basis of race, color, national origin, sex, age, religion, disability, or status as a veteran in any of its policies, practices or procedures. This includes but is not limited to admissions, employment, financial aid, and educational services. References within this publication to any specific commercial product, process, or service by trade name, trademark, service mark, manufacturer, or otherwise does not constitute or imply endorsement by Oklahoma Cooperative Extension Service.