

Tucumcari Beef Cattle Feed Efficiency Testing

Investigators

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Summary:

Many New Mexico cattle producers struggle to understand the value of genetic selection for production improvement. Many make their purchasing decisions of bulls and females based on price rather than quality. There is a large learning curve needed to be addressed to help New Mexico cattle producers remain competitive. Currently, many New Mexico calves are discounted in price. Part of the reason for this financial discount is calf quality, due to poor genetic potential.

The pure bred sector of the beef industry is another area that requires attention. Also called seedstock operators, pure bred cattle breeders supply the genetics to the commercial cattle producer. For cattle quality to improve, educating the seedstock producers is just as important.

Objective:

To educate commercial cattle producers in New Mexico on how they can select for genetic improvement. This education should lead to producers making more educated decisions when buying herd replacements and appreciate the value of investing in good genetics. For the seedstock operator, to provide an outlet where they may gain specific information on how their cattle compare to others to help them improve the genetic potential of their herds.

Background:

The Tucumcari Bull Test and Sale is an NMSU supported program funded by the New Mexico Beef Cattle Performance Association (NMBCPA). With 2016 being its 55th year, this collaborative effort includes Marcy Ward, NMSU Livestock Extension Specialist, NMSU Quay County Agent for Agriculture, Jason Lamb, staff at the NMSU Tucumcari Agricultural Science Center, and 10 New Mexico cattle producers. This activity helps to accomplish both educating the commercial producer and seedstock producer alike.

In the past, beef producers who raised pure bred cattle brought young bulls of varying breeds to the Tucumcari Agricultural Science Center every October. The bulls were fed and their performance was monitored for 120 days. Feed efficiency was calculated on a pen basis reflecting up to 4 bulls. At the conclusion of the data collection period, the data was compiled and disseminated to the public, and the bulls were sold at the annual Tucumcari Bull Sale in March.

The purpose of the Tucumcari Bull Test was to generate valuable information that allowed beef cattle producers to make educated decisions to improve the genetics within their herds. The sale portion of the activity, also provided participants of the test an outlet to promote and sell their cattle.

Outcomes:

In 2015, under the guidance of Dr. Ward and cooperation of Leonard Lauriault and the Tucumcari Agricultural Science Center, participating producers invested in a digital feed intake monitoring system to improve the quality and reputation of the test. The Growsafe® System measures individual animal feed intake with the use of radio frequency identification. As a result, producers now know exactly what each of their animals consumed on a daily basis. This information is then used to determine an animal's efficiency in utilizing feed, which is highly heritable. This technology provides an invaluable service to pure breed producers in the state to evaluate the efficiency of their cattle.

With all the improvements made to the facility and test, members of the NMBCPA reorganized to form an LLC called the Tucumcari Feed Efficiency Test, LLC (TFET). They not only invested their own money to purchase the Growsafe technology, but also made much needed improvements to the facility itself. These positive changes have allowed for program expansion to where cattle can be evaluated for feed efficiency and performance for 10 months out of the year. The original Tucumcari Bull Test and Sale, however, remains intact. Two additional test periods have been added, that will be used exclusively for data collection and efficiency evaluation.

When Dr. Ward assumed the role of test director, she also saw an opportunity to work with the local community college. She recruited the help of Mesalands Community College Animal Science instructor, Staci Stanbrough. As a result, Mesalands students have played an active role in the data collection process and Ms. Stanbrough was able to incorporate the Tucumcari Feed Efficiency Test into her curriculum. The greatest outcome of this opportunity has been the hands on learning experience students have gained. This partnership has been mutually beneficial for all involved.

Outputs:

The ACES-NMSU Tucumcari Bull Test and Sale Website is the primary source of information dissemination of performance data, genetic information, and pedigree information. Sonja Jo Serna, ACES Media Specialist, serves as the primary administrator of the website, and Dr. Ward provides content. For the 120-day test, four performance reports, pedigrees of each animal, and their genetic information are made available on the website every year. These reports and genetic information are used by both the test participants and potential buyers to help make educated decisions on how to improve the genetics within their herd. A hard copy catalog is also generated to promote the bulls consigned to the Tucumcari Sale. The catalog contains the same information as the website, but is distributed through the mail to over 1000 producers from NM, TX, CO, and OK.

The Tucumcari website is available year round. Therefore, Dr. Ward will continue to provide content through this outlet as a source of information for cattle producers looking to learn more about efficiency in cattle.

Every March producers from around the region come to the Agricultural Science Center for the auction sale to buy bulls that had been performance-tested. The information collected during the test is put on display and made available in handouts on sale day.

Impacts:

The collaboration of Dr. Ward with the Agricultural Science Center, Mesalands Community College, and the involved producers has expanded the scope and scale of the test and has improved its reputation.

In 2013 the gross sales were approximately \$137,600 with approximately 75 producers attending the Tucumcari Bull Sale. Additionally, until 2015, sales per bull at the Tucumcari Bull Sale were consistently \$300-\$500 lower than other production sales in the state.

This year, 2016, was very productive for the Tucumcari Feed Efficiency Test with over 100 producers were in attendance, representing five states. Given a declining cattle market, the bulls still sold well in the Spring sale with gross sales totaling \$421,200, driven predominantly by market and volume, as well as the combination of improved cattle quality, incorporation of the new technology, and the overall increase in number of bulls for sale. These factors have now made the Tucumcari Bull Sale more competitive.

The other audience to consider are the visitors to the website and sale catalog pages. During the months of October 2015 through March 2016, 1182 people used Google to find and visit the Tucumcari Bull Test website. The 2016 sale catalog was also posted on the American Angus Association website. There were over 2000 visits to the catalog page when published.

One week after the sale, 64 heifers were brought to the station for efficiency testing. They were fed for 60 days, and were bred at the facility, towards the end of the testing period. Dr. Adam Summers, NMSU reproductive physiologist, and one of his graduate students were allowed to use the heifers in a research project studying antral follicle counts and fertility. This was an excellent example of producer and research collaboration.

Also in the Spring of 2016, Newt McCarty (NMSU Agriculture Agent for Valencia County) introduced a program for his county where young people are partnered with producers. The goal is to give the young person an opportunity to raise and care for a production heifer, with training and input from NMSU and the producers. Many of the members of the TFET organization contributed heifers to the project. As a result, in 2017, 11 heifers from

this program will be brought to the facility in April to be fed and bred alongside the other group of 64 production heifers. This will be a great learning opportunity for the participants and great exposure for the center.

In June, 48 yearling bulls were brought to the Tucumcari Feed Efficiency Testing facility. This session was strictly for performance data collection. As this program continues, Dr. Ward intends to compare efficiency of bulls on feed in the summer versus winter months and its effects on Residual Feed Intake.

This program continues to grow, with a waiting list of new producers wanting to bring bulls for testing in the facility. The traditional 2016/2017 Tucumcari Bull Test will be recorded as the biggest test in the program's 56-year history with 155 bulls received in October.

Partnerships are in the works with producers who purchase bulls at the Tucumcari Bull Sale. The intent is to follow the offspring from those bulls through the production line. This will allow Dr. Ward to follow the genetic progress of New Mexico cow herds. Additionally, heifers tested through the station will also be followed into the production herd. The members of the Tucumcari Feed Efficiency Test are also generating a DNA library. As cattle enter the station to be performance tested, DNA samples will be collected to monitor genetic progress. Members of TFET are already considering future expansion of the facility.

2014:

- 8 active producers
- The station tested 75 bulls.
- Sold 43 bull; averaging \$2500.

2015:

- 12 active producers and
- The station tested 113 bulls
- Sold 55 bulls; averaging \$5200

2016:

- 16 active producers
- The station tested 147 bulls
- Sold 100 bulls; averaging \$4300
- Record top selling bull sold for \$16,500
- 64 heifers currently being tested
- Plans to test another 64 bulls from June-Aug



BEFORE INSTALLATION OF THE GROWSAFE® SYSTEM



AFTER INSTALLATION



Mesalands College students helping with data collection day and sale prep.



Roy Hartzog, TFET President, addresses crowd.



Tucumcari Agricultural Science Center Staff

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