GrowSafe® Technology Coming To New Mexico!
Selecting for Efficiency

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Experts in the beef industry have argued about the definition of efficiency in cattle for years. Some say it’s the straight conversion of pounds of feed to pounds of gain. Others say it is the level of input required to maintain performance. While others claim efficiency may be defined as increasing performance without additional inputs. The confusion has transferred over to EPD’s (Expected Progeny Difference) and bull selection. The Angus Association now carries an EPD for efficiency; represented by rADG (residual average daily gain). The higher the value carried for this EPD by an Angus bull means he will likely produce calves that offer more performance with the same amount of input. Other breeds, such as Hereford, Gelbvieh, and South Devon are currently building their own data bases to develop an EPD for RFI (residual feed intake); which is an indication of efficiency by which the same performance may be obtained with fewer inputs. A more negative RFI number will indicate a more efficient animal associated with this EPD.

The Beef Improvement Federation (BIF) has set specific standards for intake data collection to be used for the calculation of an efficiency EPD. Specific technology is now used by various breed associations to accurately assess intake, thus efficiency. Producers here in New Mexico have invested in the purchase of this technology. Thanks to these producers innovative and progressive spirit, A GrowSafe® Feed Intake and Behavior Monitoring System will now be housed at the NMSU Tucumcari Ag Experiment Station, and will be used to collect valuable intake data on bulls for the Tucumcari Bull Test.

Here is how the technology works. Individual electronic IDs are placed in each animal. There are radio frequency identification readers (RFID) embedded in each feed trough (Figure 1.) Each feed trough is mounted on a weigh cell. When an animal places its head in the feeder, the system will collect what time the animal ate, how long it stayed at the feeder, and how much it ate at each visit to the feeder. The data is then downloaded for a 24 hour feeding period. The total data collection period is for 60 days.

Efficiency is relatively heritable (approximately 40%). Implication of selecting for efficiency have been mixed. In the feedlot, the benefits for efficiency selection is clear. Less feed, less fecal output, means
less input costs for the feeder. In the cow calf sector, selection for efficiency is not as well defined or understood. For New Mexico, or any other arid region, the benefit of breeding for an animal that requires less feed seems to make a lot of sense. Some preliminary studies have shown, however, that reproduction was reduced in cows that had been bred to be more efficient. Much more needs to be researched in this area. With local producers now involved in helping generate important intake data, much more can be learned about efficiency in beef cows in a commercial setting.

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