

2007 Beef Improvement Federation 39th Annual Meeting

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Selection Decisions

BIF's Selection Decisions Committee addresses feed efficiency, bull marketing and temperament.

Story & photos by **Troy Smith**

FORT COLLINS, COLO. (June 7, 2007) —The Selection Decisions Committee, chaired by Darrah Bullock of the University of Kentucky, met Thursday, June 7, to discuss feed efficiency, bull marketing and temperament.

Feed efficiency

University of Nebraska geneticist Merlyn Nielsen reported on the December 2006 Feed Efficiency Symposium hosted by the National Beef Cattle Evaluation Consortium (NBCEC) in Kansas City, Mo. He summarized work done by U.S. scientists, as well as counterparts in Australia and Canada, to identify an accurate measurement for feed efficiency. Nielsen said residual feed intake (RFI) is the favored trait to use in genetic evaluation for feed efficiency.

The ratio of feed intake to gain (feed conversion) has traditionally been used to evaluate feed efficiency in growing cattle. However, feed conversion is not suited for use in genetic selection since selection on that basis also results in selection for increased growth and mature size.

RFI represents the difference between an animal's actual feed intake and the amount required for maintenance and growth, Nielsen explained. Selection for RFI can be applied independently, without affecting growth rate and mature cow size. A negative RFI value is indicative of efficient animals that consume less feed than expected, based on their size and growth rate.

Seeking RFI indicator

Gordon Carstens, associate professor at Texas A&M University,

shared results of studying blood or serum levels of insulin-like growth factor 1 (IGF-1) as an indicator trait for RFI. A natural hormone, IGF-1 has been shown to be genetically correlated with RFI in *Bos taurus* cattle.

"Measuring feed intake [and thus, RFI] of individual animals is expensive," Carstens explained, "so it is preferable to find an indicator trait to predict RFI."

However, studies in the U.S. and Australia have shown that the relationship between RFI and IGF-1 is not always consistent across breed types. Results suggest that a significant amount of variation in RFI is unrelated to IGF-1. Consequently, Carstens reported, additional research is needed, and IGF-1 cannot yet be recommended as an indicator trait for RFI.

Bull marketing

Frank Padilla, director of member services for the North American Limousin Foundation (NALF), presented results of a bull/female price study, based on registered and nonregistered Limousin cattle sold at public auction during



► Merlyn Nielsen, University of Nebraska



► Gordon Carstens, Texas A&M University



► Frank Padilla, NALF

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2005 and 2006. The results indicated commercial cattlemen were willing to pay substantially more money for registered seedstock. Purchase prices indicated buyers favored a full complement of EPDs and ultrasound data.

“The study showed that cattlemen want it all, and will pay more to get it,” Padilla said. “But it also showed the need to encourage selection for balanced traits rather than extremes, and consider antagonisms such as growth relative to mature cow size and milk [production] related to reproductive performance.”

Temperament

Bob Weaber, assistant professor of beef cattle genetics at the University of Missouri, discussed ongoing research related to animal temperament.



► Bob Weaber, University of Missouri

In Missouri, studies involving growing calves, electronic measurement of the speed with which animals leave a chute during regular processing (exit velocity) and subjective pen scores for disposition are applied. Results suggest higher scores, from each measurement, are associated with cattle that exhibited poorer rates of gain, but also had lower placement weights.



Look for the PowerPoints and audio files for these presentations in the newsroom. A proceedings paper for Gordon Carstens' presentation is available on the "Symposium Papers" page.



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