Peer Review 1: Response

Editorial comments:

Corrections have been made to make U.S. consistent throughout the document and citations have been corrected.

Q1: How were the traits/phenotypes this work will focus on identified (i.e. from producer groups, etc.)?

These traits were identified in previous research as having an impact on production in the southern region of the U.S. As indicated in the statement of issues and justification, these traits are also associated with areas of interest prioritized by SAAESD.

Q2: At what level of the beef industry will these results, tools, and technologies be employed and to what extent? How are producers impacted by the work?

This information will be used primarily in the seed stock and commercial cow-calf segments of the industry. This should aid in genetic selection of animals that are more adapted to our climate as well as help in identifying animals early in life that will aid in their well-being throughout their productive life. Indirectly this will give producers animals that will cost less to maintain and will increase longevity and decrease replacement rates.

Q3: How will the use of stored DNA impact the understanding and improvement of the traits?

With DNA storage, this will allow us to link different genotypes to the different phenotypes that are expressed in the populations. Genes can then be included in commercial profiles that are being marketed now to aid in selection. Values can also be generated and used in EPDs.

Q4: Will data be collected from cooperator herds or are the animal resources adequate at the stations? If collected from cooperators, what steps will be taken to ensure quality and accuracy of data?

Data will not be collected from cooperator herds. With each station combining resources, numbers can be achieved.

Q5: Target numbers and analysis of data is mentioned for eye and facial pigmentation. What are the target numbers for udder conformation and skull conformation? How will the data be handled and analyzed?

There are no target numbers for udder conformation. Each station that is contributing to this station will collect this information and report at our annual meeting each year. A leader for each objective will be determined and will be responsible for assigning a form in which the data will be collected. Once the data is put together in a larger data base, the group will decide on the analysis.

Skull conformation is a novel trait. One site is working to develop methods and procedures for other stations to collect the same information. As of right now, it is a pilot study.

Q6: What is the target number for objective 3 (thermo-tolerance measures)?

Currently we have 20 animals at one site that will be evaluated in this objective each year. Other sites will contribute to this objective once this has been approved.

Peer Review 2: Response

Comment 1: Objective 1.4 Skull Conformation needs mention and background information added prior to the objectives section.

Information added.

Comment 2: Recommendation of adding hair coat data collection to activities.

It has been added.

Comment 3: Change sub-heading of Objective 1.3 from structural soundness to foot structure.

Change has been made.

Comment 4: Identify traits or measures of performance for objective 2.

Traits and measures have been identified.

Peer Review 3: Response

Comment 1: Recommended to state that AHA and AAA have a genetic evaluation for teat/udder and feet/leg.

Statement added.

Comment 2: Recommendation that the economic model have stochastic elements for all traits.

The following is described in the activities section of Objective 2.

Stochastic simulation techniques, using Simetar will be used to account for variability in steer and heifer weaning weight and the weaning rate based on the variability observed in the cow data. Simulation provides the opportunity to make probabilistic estimates of alternative strategies based on the estimated distributions of economic returns. The basic cow-calf model will account for revenue and the cost associated with each cow in the herd. Revenue will be determined as products of the probability a cow would wean a steer with the stochastic weight of a steer and the stochastic price of a steer for that particular year. This value will then be added to the dollar amount generated by multiplying the probability of the cow having a heifer calf by the heifer price and stochastic heifer weight.

Comment 3: Recommendation that "Risk" was not clear; is this market risk?

Market risk; change has been made in document