# Evaluating Performance Trends of the Four Most Represented Breeds of Bulls in the Utah Beef Improvement Performance Test

EXTENSION \*\*
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#### Introduction

- ➤ The Utah Beef Improvement Association (UBIA) has been conducting a performance bull test since 1972
- **➢Over 7580 bulls have been tested since 1987**
- The primary objective of the test is to assist beef producers in developing and obtaining genetically superior performance tested bulls
- ➤ This is a 112d performance test in which the bulls diet is primarily forage based
  - ➤A three week acclimation period is mandated prior to data collection beginning
- ➤ At Completion of the test producers have the option to enter the bull into an auction so that Utah beef producers can purchase the bull.

#### **Materials and Methods**

- Beginning in 2008 an ear notch sample was collected from all bulls for the option of future DNA testing
- > Bulls are weighed twice a day on the 28d weighing intervals
- Breeds with greater than 500 bulls tested were included in the analyses
- ➤ Traits included birth weight, weight per day of age, 205d weaning weight, adjusted yearling weight, average daily gain, initial test weight, and final test weigth

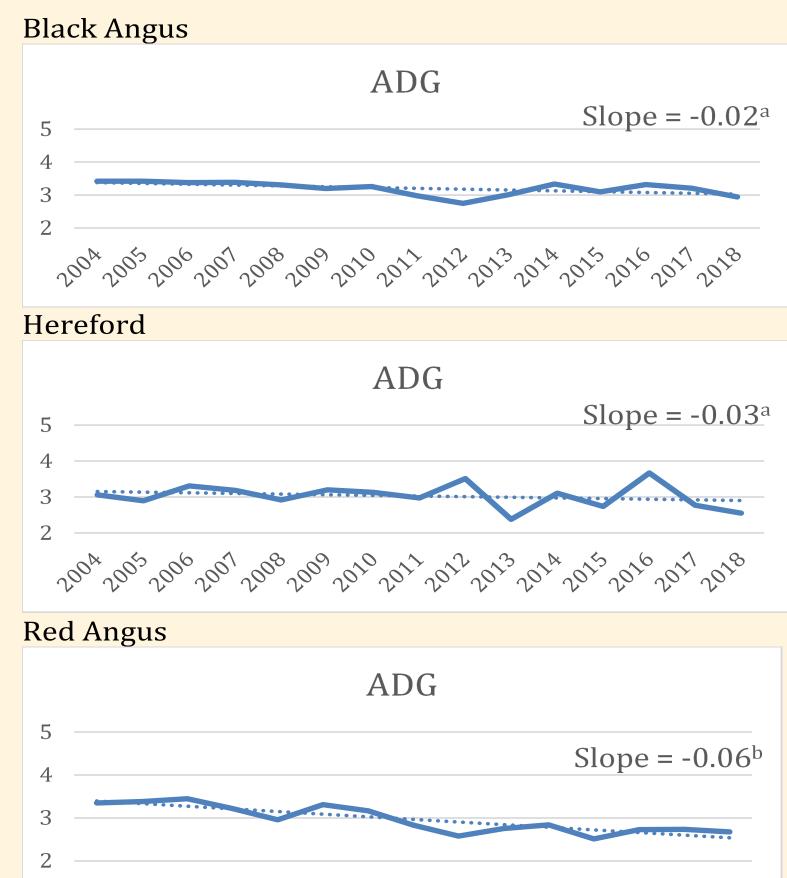
## **Statistical Analyses**

- > The mixed model procedures of SAS were utilized
- > Performance weight measurements were fit as random variables
- Year and breed were fit as fixed variables.
- ➤ Interval regression analyses were utilized to determine if a significant (P < 0.05) rate of change for specific traits was observed between breeds

#### **Objectives**

The Objective of the current study was to evaluate 14 years (2004-2018) of performance bull testing to determine genetic trends of bull selection in the state of Utah.

Figure 1. Means of average daily gain, for the top representing breeds participating in the UBIA Bull Test from 2004-2018. Differing superscripts differ at a level P < 0.05.



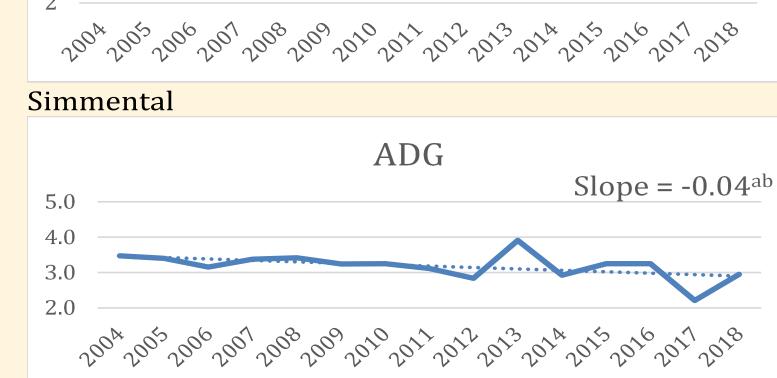


Figure 2. Means of initial test weight, for the top representing breeds participating in the UBIA Bull Test from 2004-2018. Differing superscripts differ at a level P < 0.05.

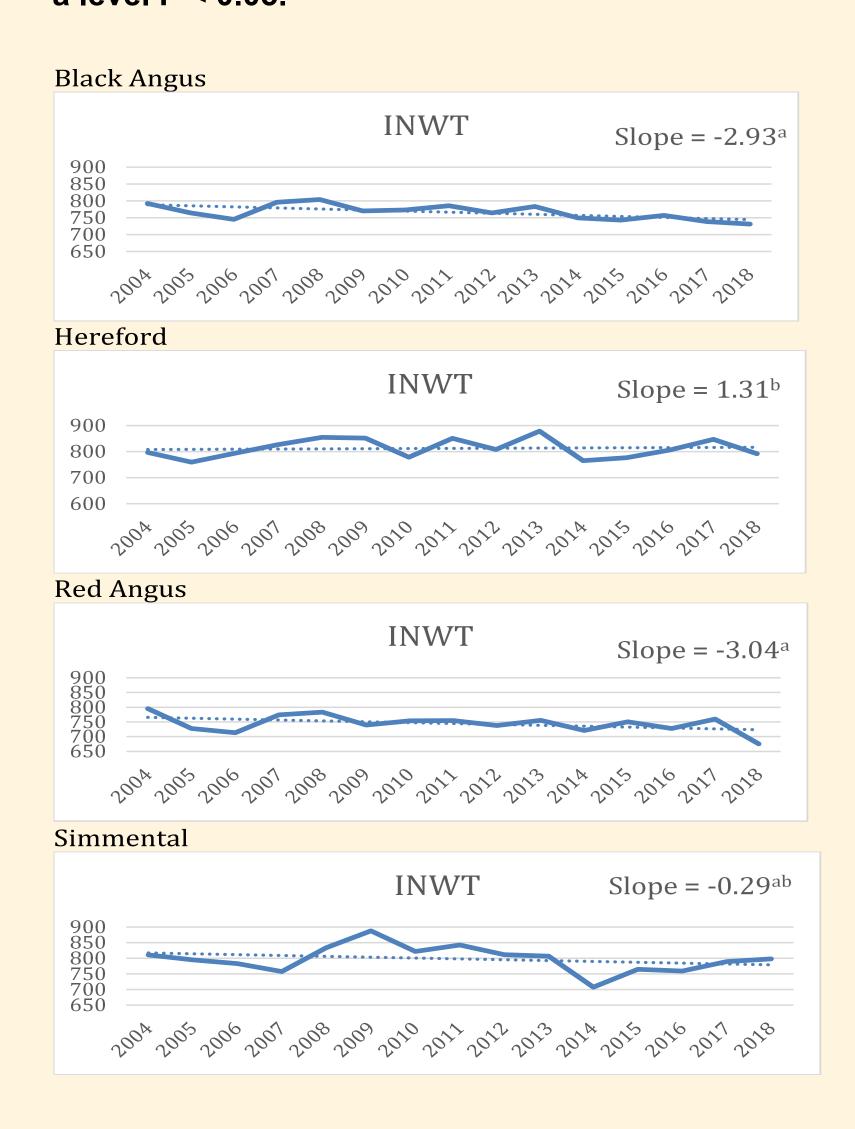


Figure 3. Means final test weight, for the top representing breeds participating in the UBIA Bull Test from 2004-2018. Differing superscripts differ at a level P < 0.05.

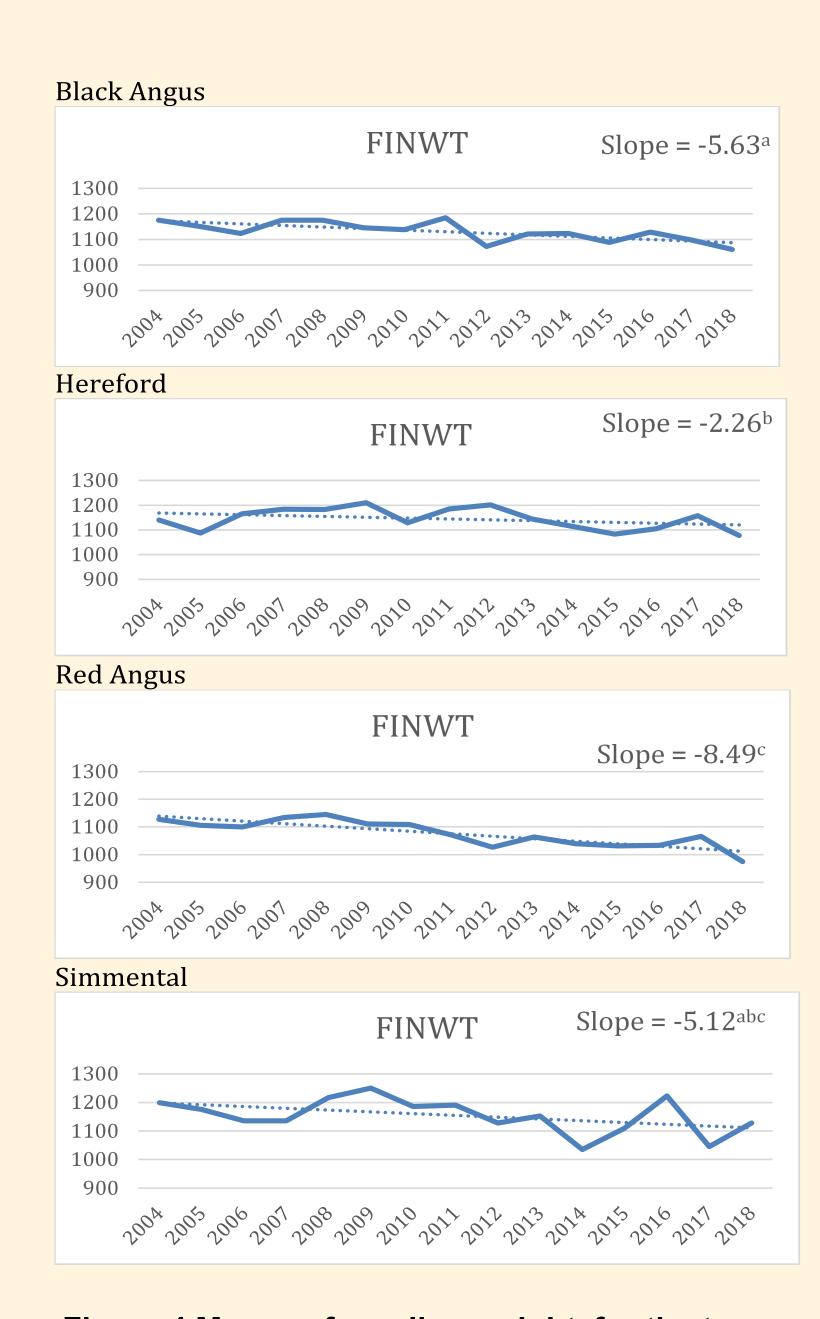


Figure 4 Means of yearling weight, for the top representing breeds participating in the UBIA Bull Test from 2004-2018. Differing superscripts differ at a level P < 0.05.

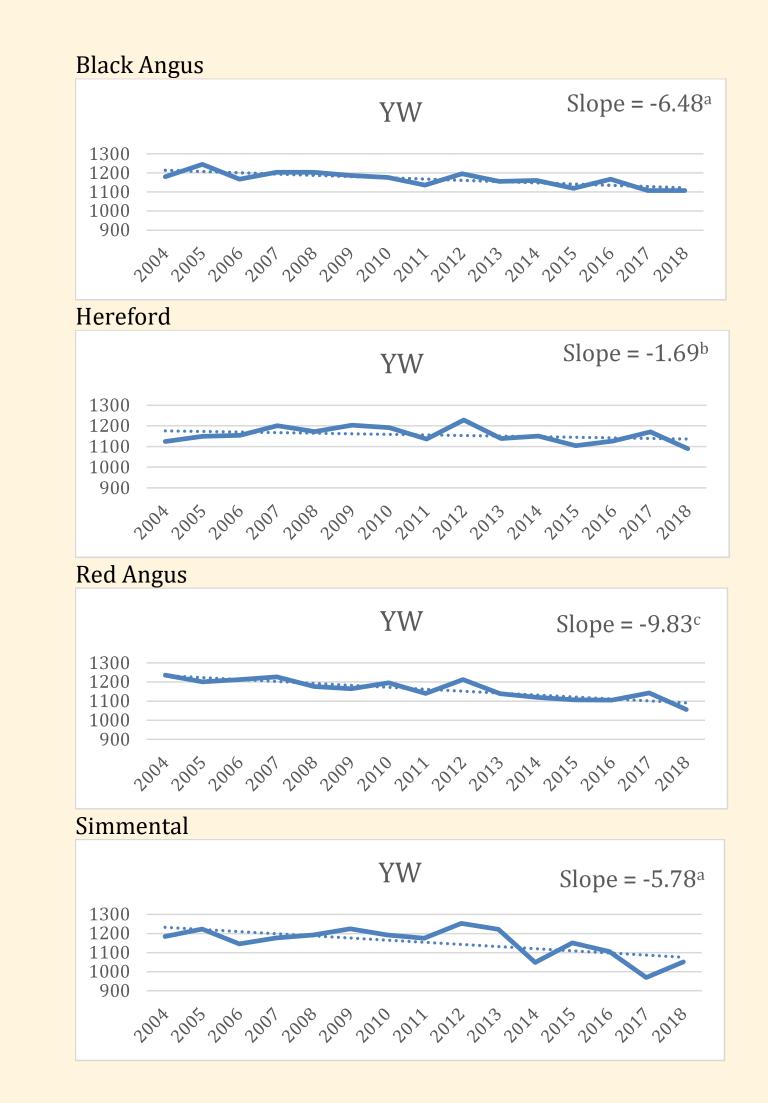


Figure 5. Means of weight per day of age, for the top representing breeds participating in the UBIA Bull Test from 2004-2018. Differing superscripts differ at a level P < 0.05.



### Results

- ➤ Significant differences in rate of genetic trend were observed for 5 traits
- >Average daily gain
- ➤Initial test weight
- Final test weight
- Yearling weight
- Weight per day of age

#### Conclusions

- ➤ Genetic trends did not follow previous genetic trend studies in which animals exhibited a dramatic increase in growth and mature size
- A possible explanation for this is the fact that a concerted effort has been made by Utah beef producers to moderate mature size due to the negative correlation of mature size and longevity in limited forage production systems of the intermountain west.