

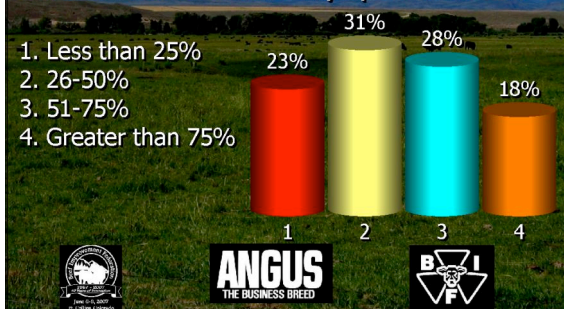
Can we build the ideal beef animal?

Darrh Bullock
University of Kentucky

Do we have a clear consensus on what type of product we should be producing?

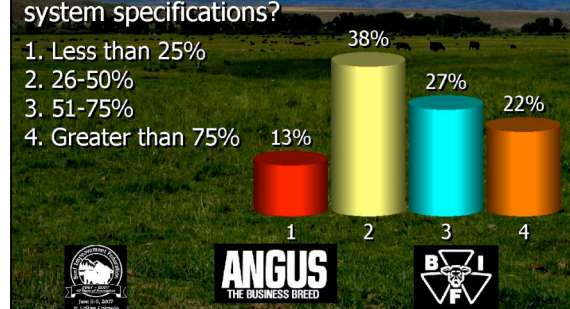
What percent of the cow-calf sector should focus their efforts on producing cattle to meet commodity specifications?

1. Less than 25%
2. 26-50%
3. 51-75%
4. Greater than 75%



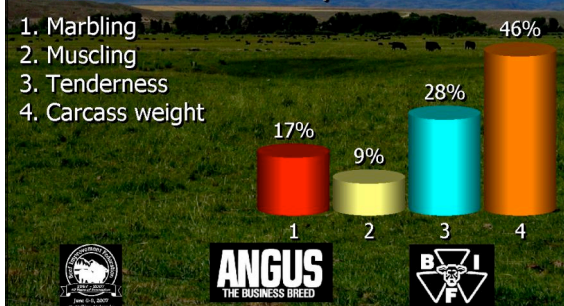
What percent of the cow-calf sector should focus their efforts on producing cattle for branded, value-added, or process verification system specifications?

1. Less than 25%
2. 26-50%
3. 51-75%
4. Greater than 75%



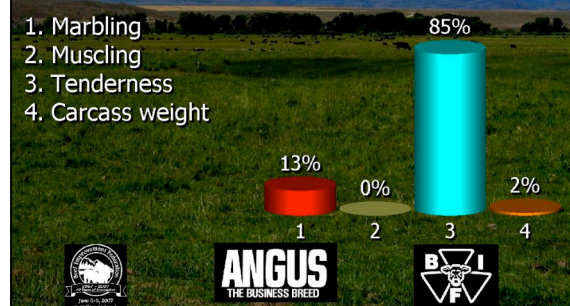
In the absence of outliers, which of the following is the trait of highest economic value in the beef industry?

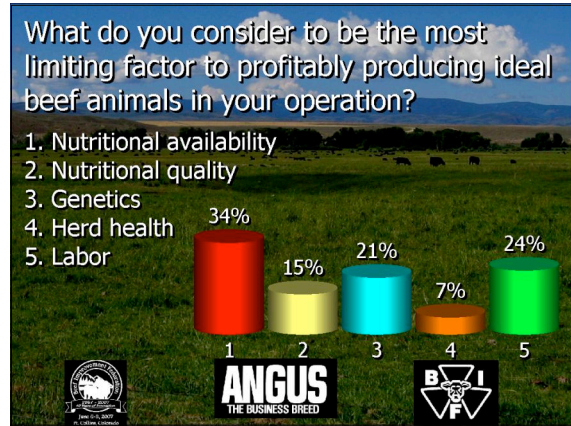
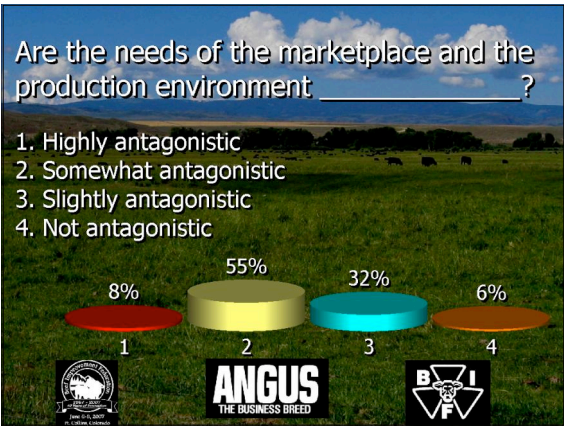
1. Marbling
2. Muscling
3. Tenderness
4. Carcass weight



In the absence of outliers, which of the following is the trait that will most increase consumer demand for beef?

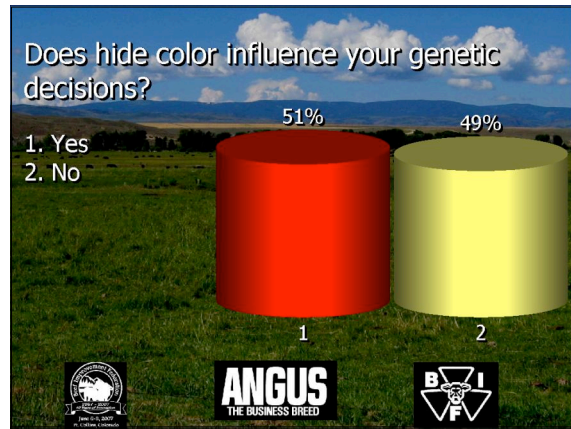
1. Marbling
2. Muscling
3. Tenderness
4. Carcass weight





Importance of Crossbreeding

- **Near consensus that crossbreeding should at least be a consideration at all phases of the production chain.**
- **> 70% Yes**
- **> 90% Yes or Maybe**



What effect does color have on production or product?

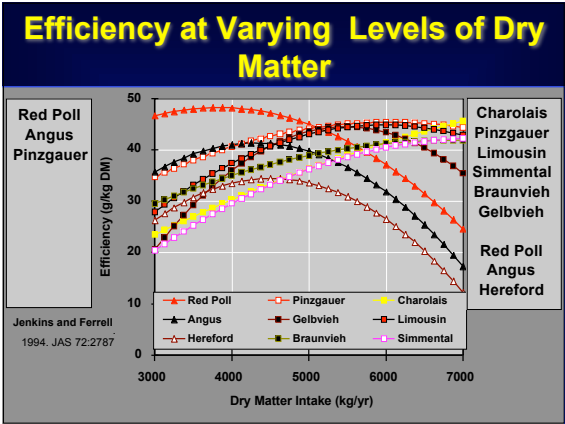
- **Calving Ease**
- **Growth**
- **Health**
- **Eating Quality**

What does color affect?

- **Market**
- **Market**
- **Market**
- **Then what does color have to do with beef improvement?**

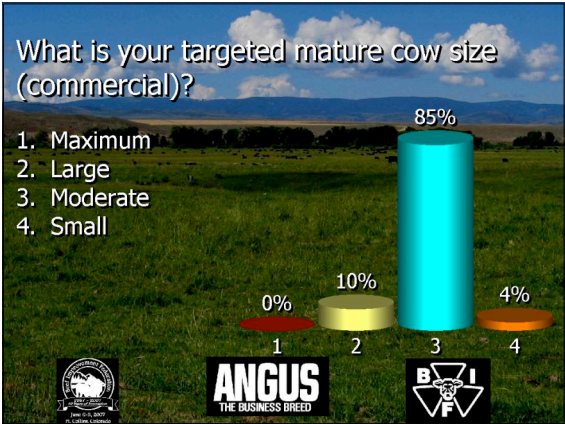
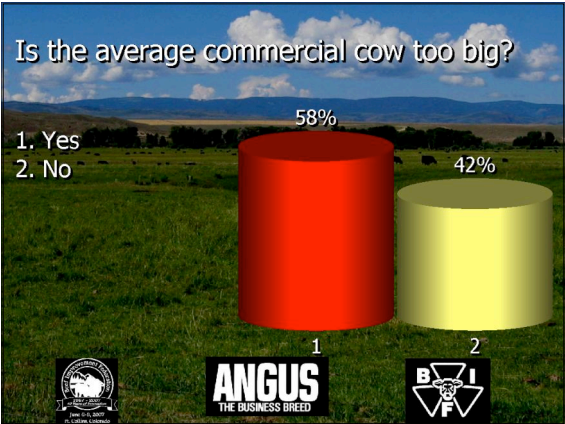
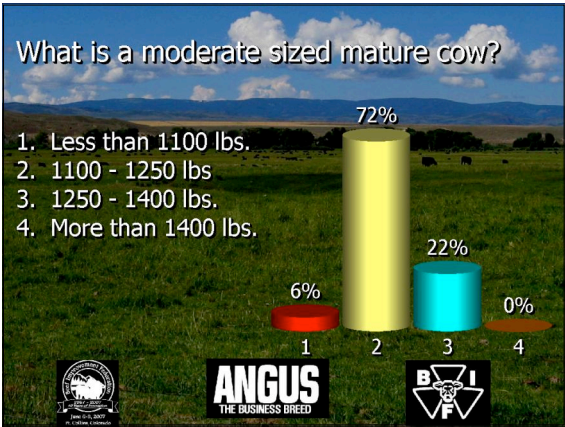
Does breed matter?

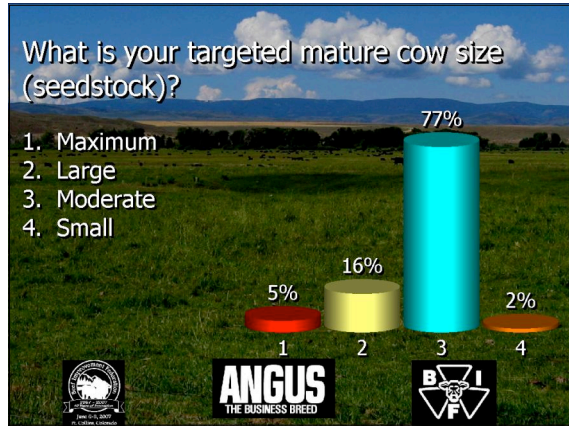
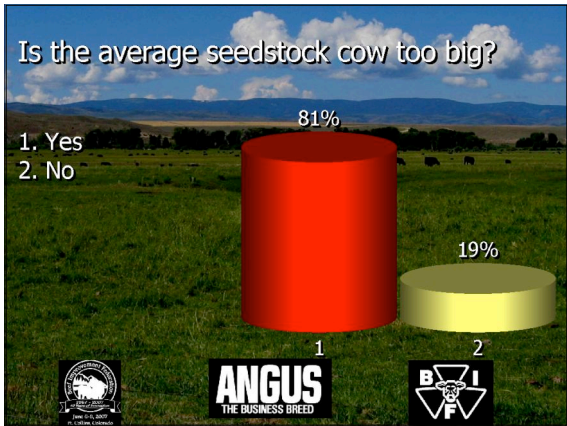
- **MARC and other data**
 - Differences between breeds for production traits
 - Differences between breeds for adaptability to environments



Does breed matter?

- **MARC and other data**
 - little difference between breeds for efficiency when fed optimally
 - Lower nutrition favored low production
 - Higher nutrition favored high production





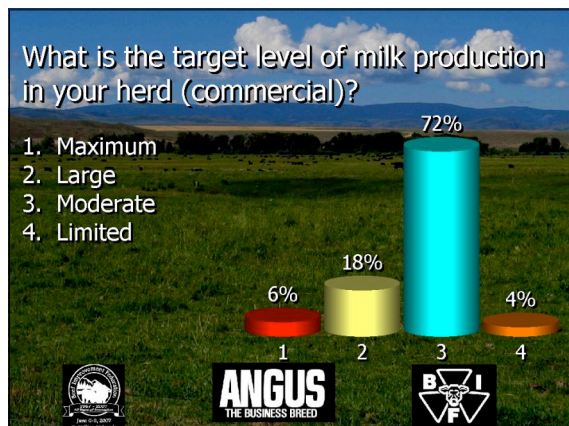
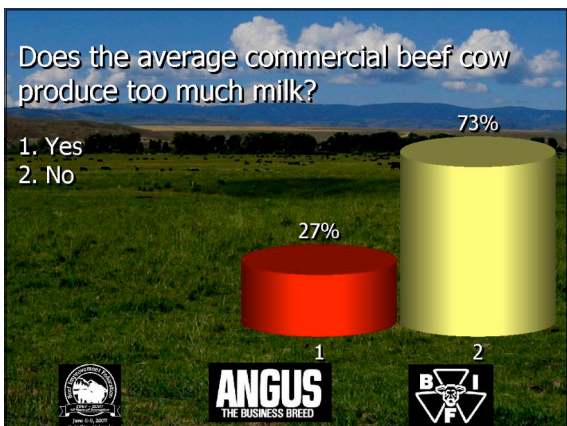
What is the ideal weight of a brood cow?

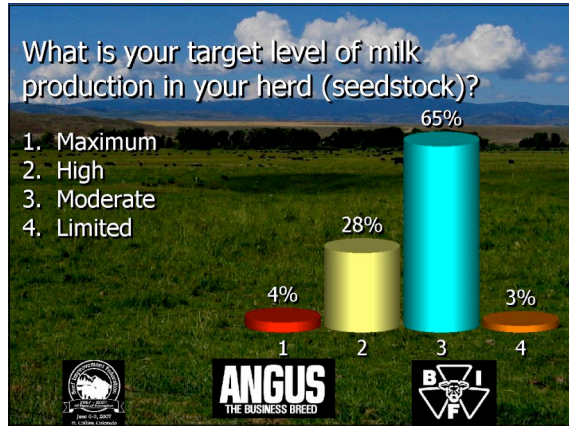
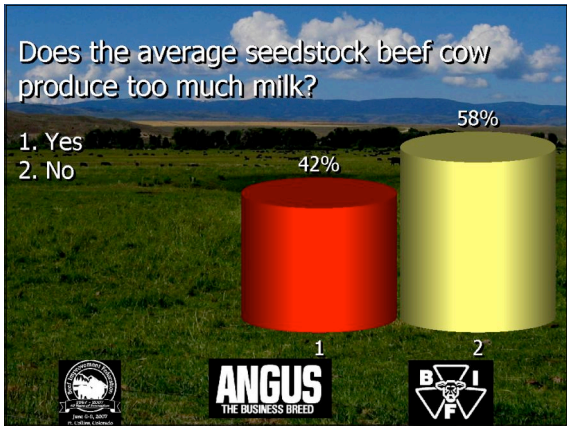
- What are your resources?
 - Lush pasture with intensive management
 - Arid environment with low quality and quantity of forage

Subtropical climate

What's going on here?

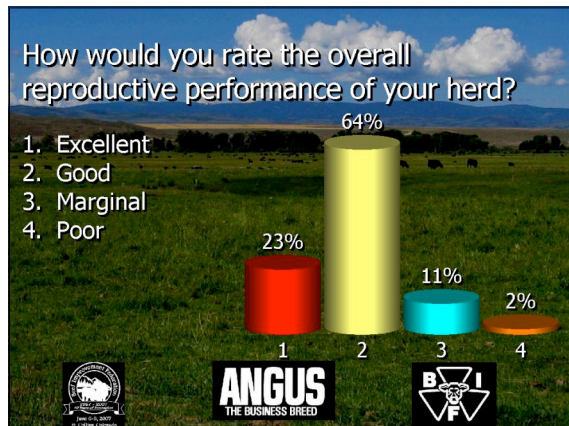
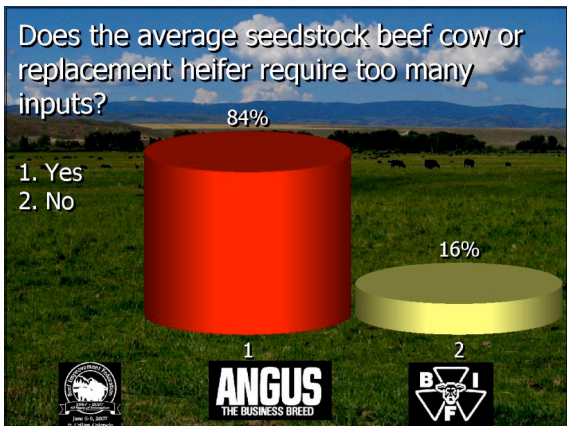
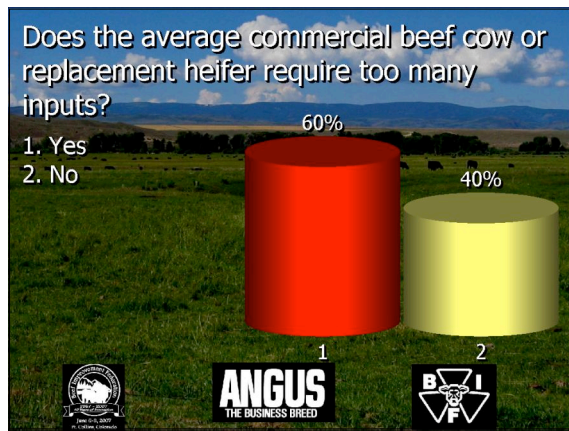
- If our cattle are too big, why?
- The tools for changing cow size have been around for decades, if they're too big then breed them smaller.





What is the ideal milk level of a brood cow?

- **What are your resources?**
 - Lush pasture with intensive management
 - Arid environment with low quality and quantity of forage
 - Subtropical climate

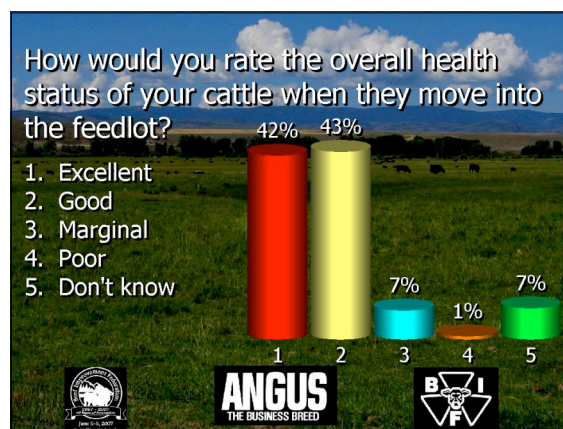
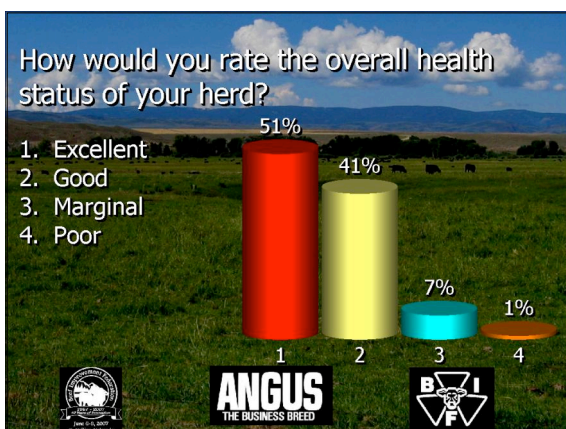
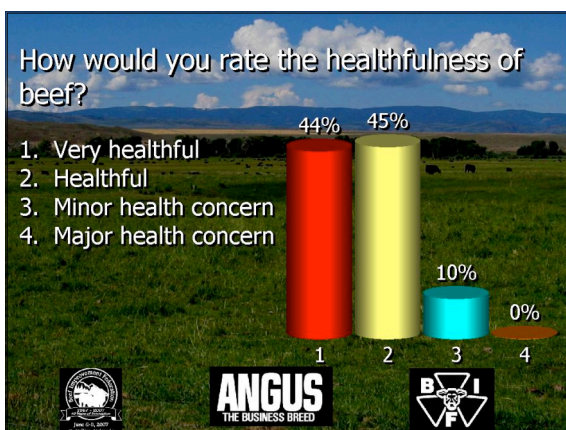


Interesting Relationship

- Nutritional limitations
- Too Big
- About right milk
- Too many inputs
- Acceptable Reproduction

What does that indicate?

- We're not doing a good job of matching our genetics to our environment.



What is our product of the future?

- High quality
- Lean
- Organic/Natural

What is our product of the future?

- We can genetically alter marbling and leanness with EPDs and molecular technologies
- If organic continues its growth there will be a greater need for selection tools for health

What is the ideal product?

- Tender
- What about the healthfulness of our product?
 - Altered fatty-acids
 - Mineral Composition
 - ????
- Is that beef improvement?

Can we build the ideal beef animal?

- ABSOLUTELY
- Region dependent
- Management dependent
- Market dependent
- Technology dependent