





- Heterosis the superiority of the crossbred progeny compared to the average of the parental breeds.....
- Maternal Heterosis the increase in calf performance due to the maternal effect of a crossbred cow

Heterosis – what should we expect?

- Primary advantage in the "lowly heritable" traits --- "the non-additive genetic portion"
- Small, net positive effects in many traits
- Fitness traits---often difficult to measure and difficult to "visualize" success
- LARGE NET POSITIVE CUMULATIVE **EFFECT**



Direct (individual) vs. maternal heterosis

- ----Heterosis of the calf = 8.5% (individual)
- ----Heterosis of the F1 = 14.5% (maternal)



Heterosis Effects - individual (crossbred calves)

- Calving rate 4.4%
- Survival to weaning 1.9%
- Weaning weight 3.9%
- Postweaning ADG 2.6%
- Yearling weight 3.8%
- Feed conversion 2.2%.



Heterosis effects - maternal **Crossbred cows**

- Calving rate 3.7%
- Survival to weaning 1.5%
- Weaning weight 3.9%
- OLONGEVITY 38%
- NUMBER OF CALVES 17.0%
- CUMULATIVE WEANING WT. 25.3%.

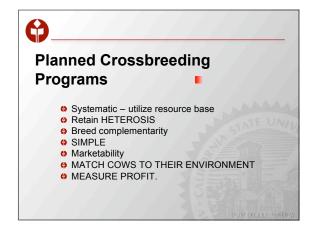


The Perception of Crossbreeding

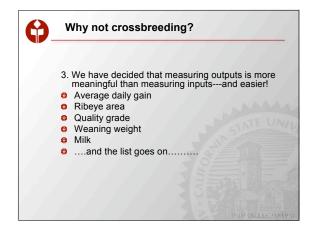
- increase variability
- lack of consistency
- mongerelize the nation's cow herd
- "too many breeds"
- lack of predictability.

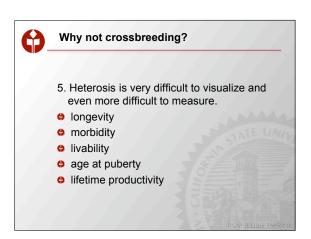


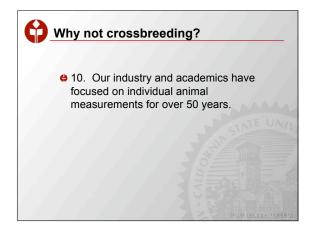


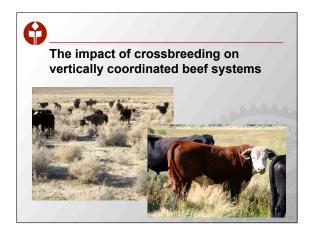


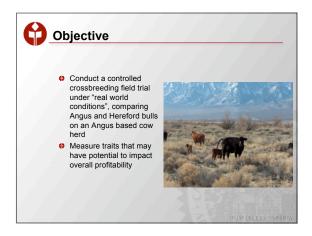


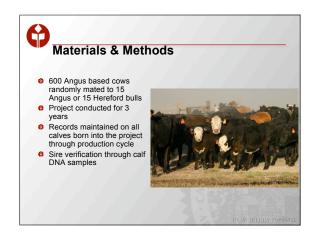




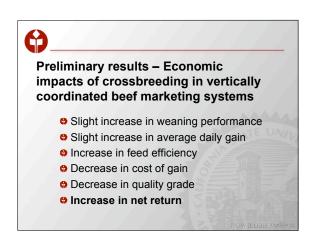


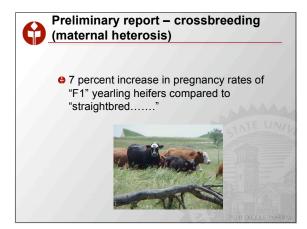


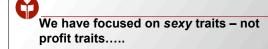












- Ø
- Our industry has focused on maximums, rather than on maximum return.
- When are we going to focus on maximum sustained profit per acre, per hectare or per unit—not maximum dollars per head.

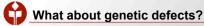
The basic premise of seedstock production.....

- All breeds can do all things! Just ask the breeders.....
- We have not capitalized on maternal and paternal lines...we have spent far too much time trying to blur those lines rather than utilize the differences.

∰ Ge

Genetic improvement

When EPD's became a marketing tool rather than a tool for genetic improvement, we lost our direction in genetic improvement



- Are we so busy trying to stay ahead of the EPD game that we don't thoroughly test cattle before they are widely used? What happened to linebreeding first?
- Are we narrowing the genetic diversity of the beef business in the quest for the perfect product? Do we really want to become like Holsteins?

Gene markers

- Remarkable science potential tools...but don't oversell the product at the risk of burning commercial producers....
- What is the value of a marker for highly heritable traits that only account for a small amount of variability in the trait? We can already improve those traits with standard selection programs.
- What about markers for disease resistance, longevity, etc...--true profit makers that are lowly heritable?
- What about genotypic-environmental interactions?

