

***Management and
Supplementation Strategies
to Improve Reproduction of
Beef Cattle on Fescue***

John B. Hall
Extension Beef Specialist
Virginia Tech





Effects of Endophyte Infected Fescue on Reproduction in Cattle

Decreased pregnancy rates

- Cleavage failure
 - Compromised sperm physiology
- Early embryonic mortality
- Reduced follicular growth
- Decreased progesterone production

Reduced or limited milk production

Strategies to Combat Effects of Fescue

Supplementing Nutrients

- Energy
- Protein
- Minerals

Mitigating Effects of Toxins

- Blocking physiological actions
- Changing calving seasons

Reducing Exposure

- Grazing other forages
- Dilution of fescue with other forages or feeds
- Feeding adsorbents or detoxifying agents

Supplementing nutrients

Consumption of E+ fescue decreases forage intake

Energy is the limiting nutrient, but protein may also be needed

Exacerbated by high environmental temperatures

Supplementing nutrients

By-pass protein may or may not increase cow performance

- Effective level of by-pass protein depended on source of energy - corn vs soyhulls (MO)
- By-pass protein did not affect performance (U of IL)



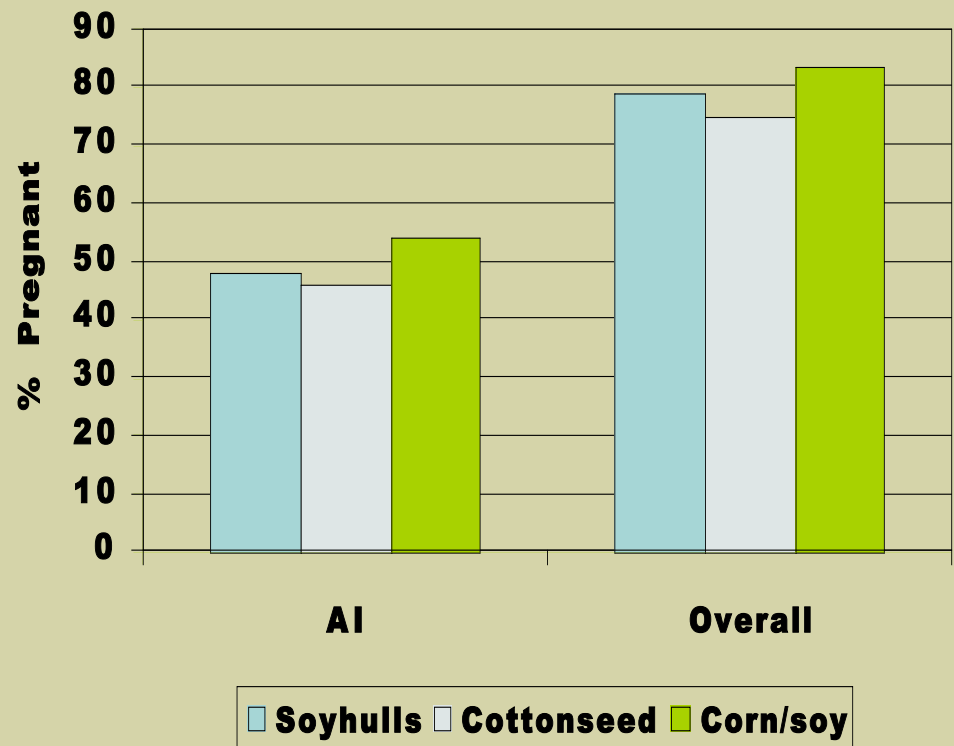
Effect of Supplement Type on Heifer Pregnancy Rate

Heifers developed on E+ fescue

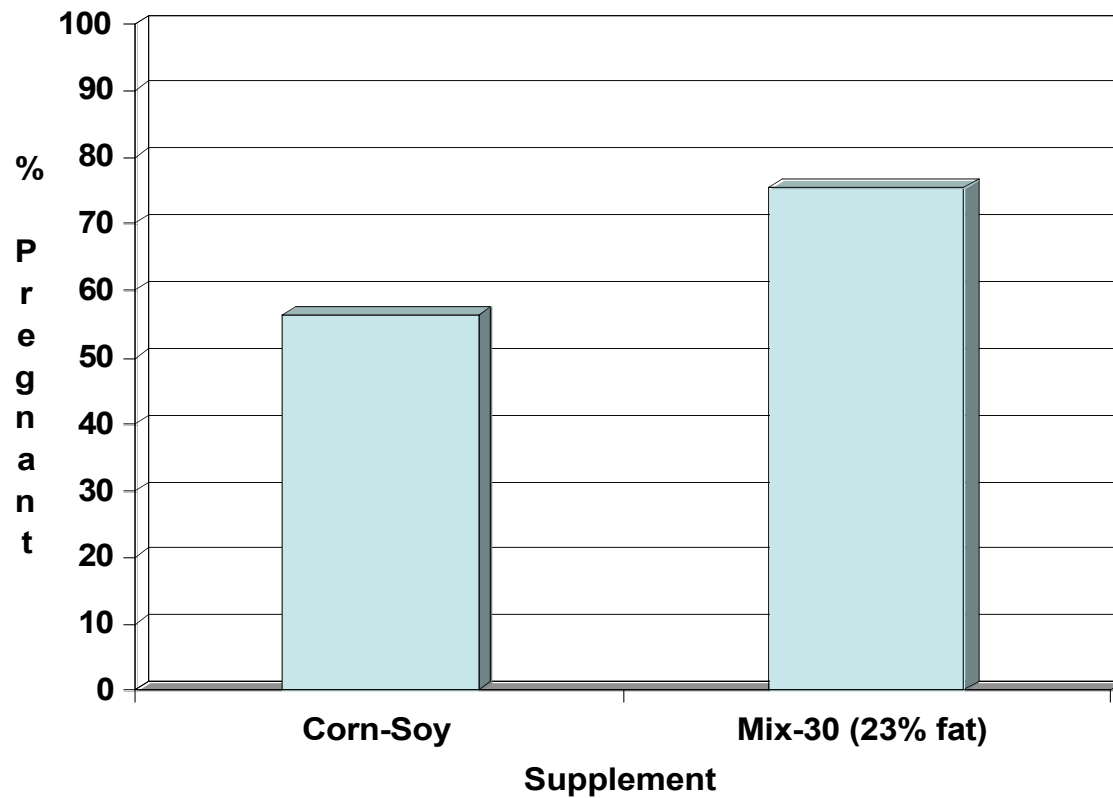
Received 1.0% of BW in supplement

Equal amounts of protein and energy

Gained 1.5 to 1.7 lbs/day



Impact of High Fat Supplementation on Pregnancy Rates of Cows Grazing E+ Fescue



Adapted from Myers et al., 2004



Mineral Supplementation

Mineral requirements of cattle are dependent on physiological status

- Lactating vs. dry
- Growing vs. mature

Mineral content of forage is dependent on:

- Soil fertility
- Forage type and maturity

Mineral Supplementation

Animals consuming fescue

- Have decreased immune function
- May have impaired absorption of phosphorus

There appears to be no magic fescue mineral but...

- Increasing levels of trace minerals related to immune function may be beneficial
- Mineral intake needs to be monitored closely

Minerals supplement - Commercial

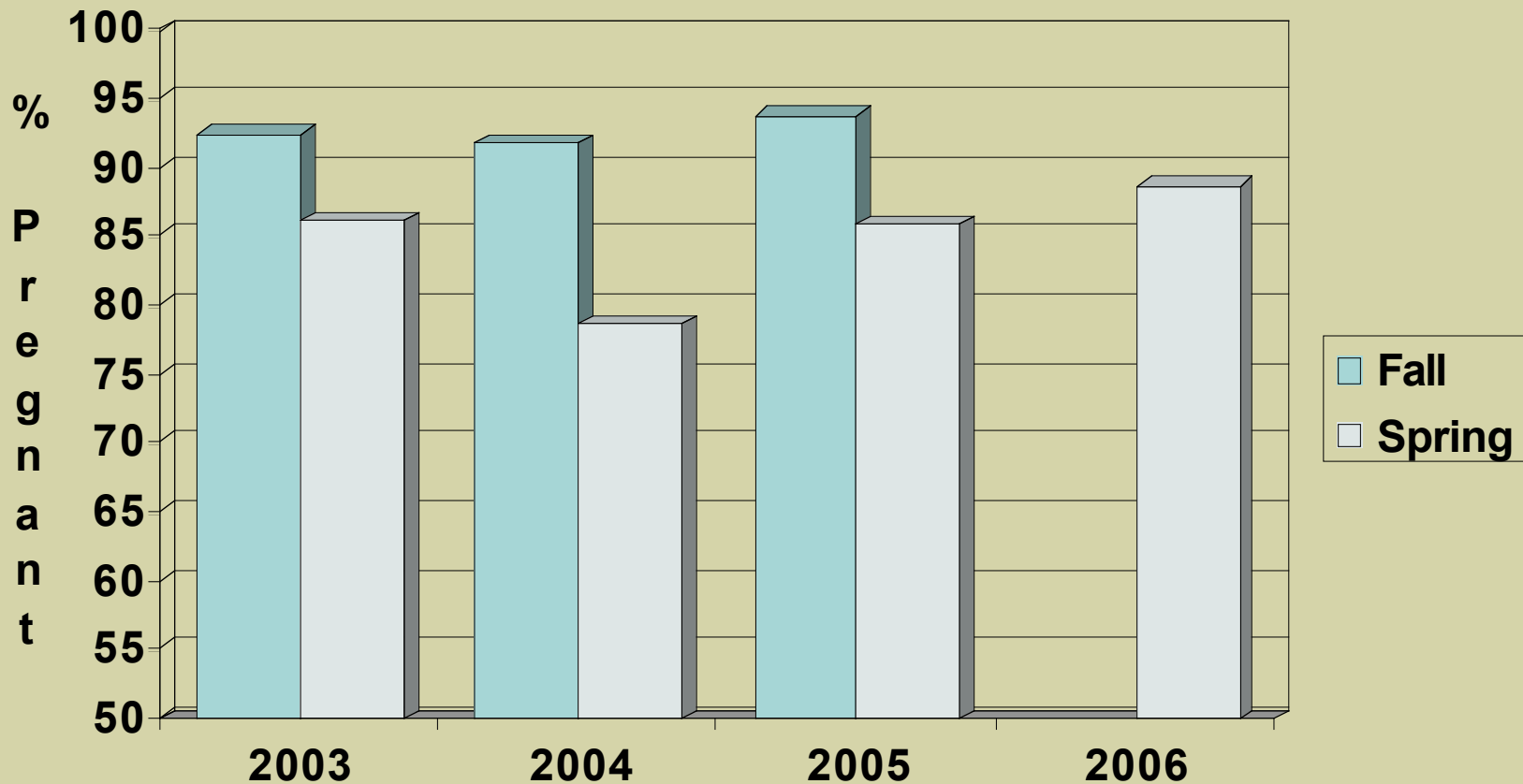
Mineral	Percentage
Salt	15-30
Calcium	0-12
Phosphorus	0-12
Magnesium	0-4 (814)
Sulfur	0-3

Mineral Supplements - Commercial

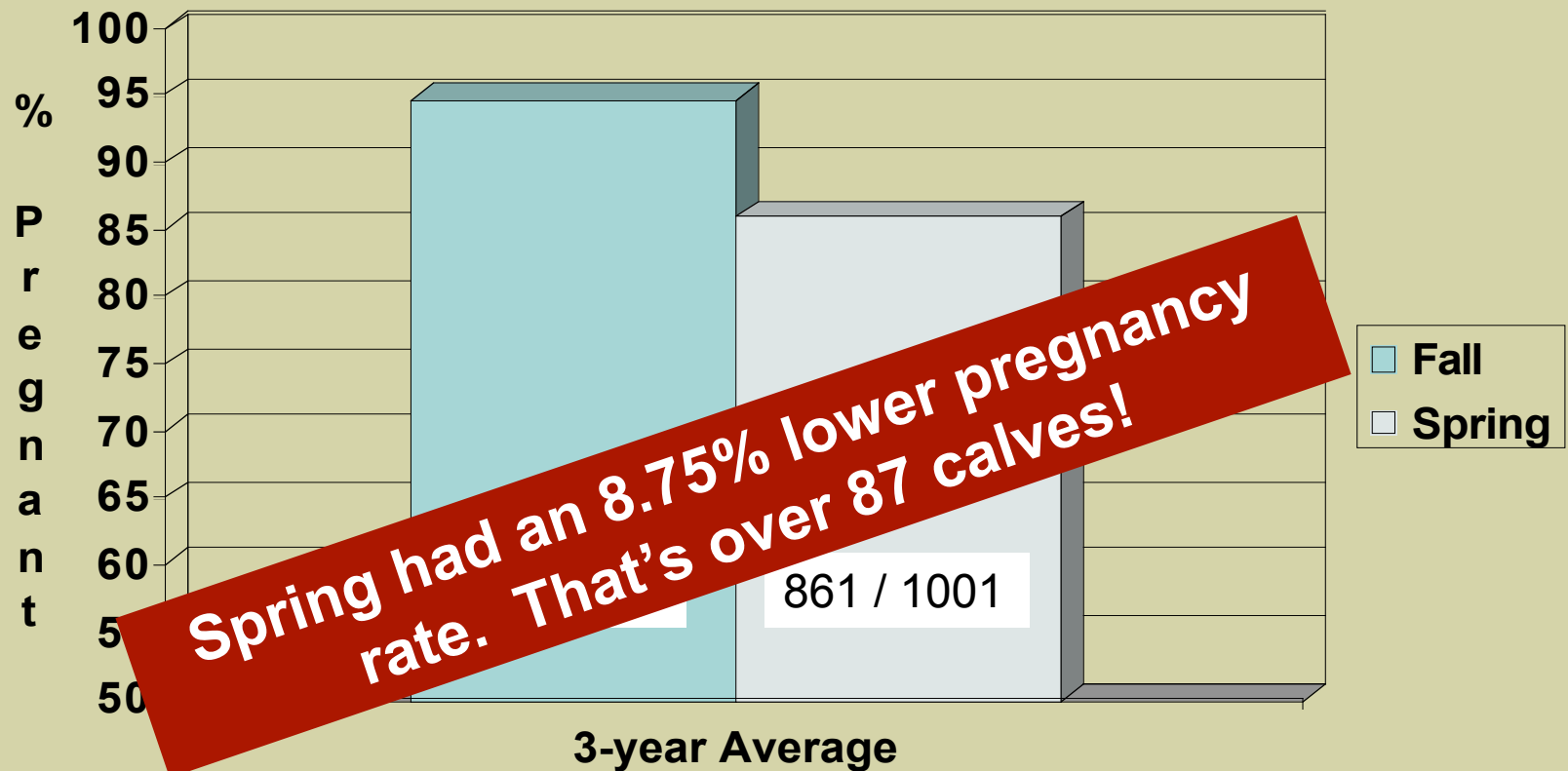
Mineral	Amount
Zinc	0.180.36 %
Copper	0.100.25 %
Manganese	0.180.36 %
Iodine	2.6 ppm
Selenium	52+ ppm



Pregnancy Rates in Spring or Fall Calving VA DOC Herds



Comparison of Pregnancy Rates in Spring and Fall Calving Herds – Fall Line Operation



Stockpiled Fescue

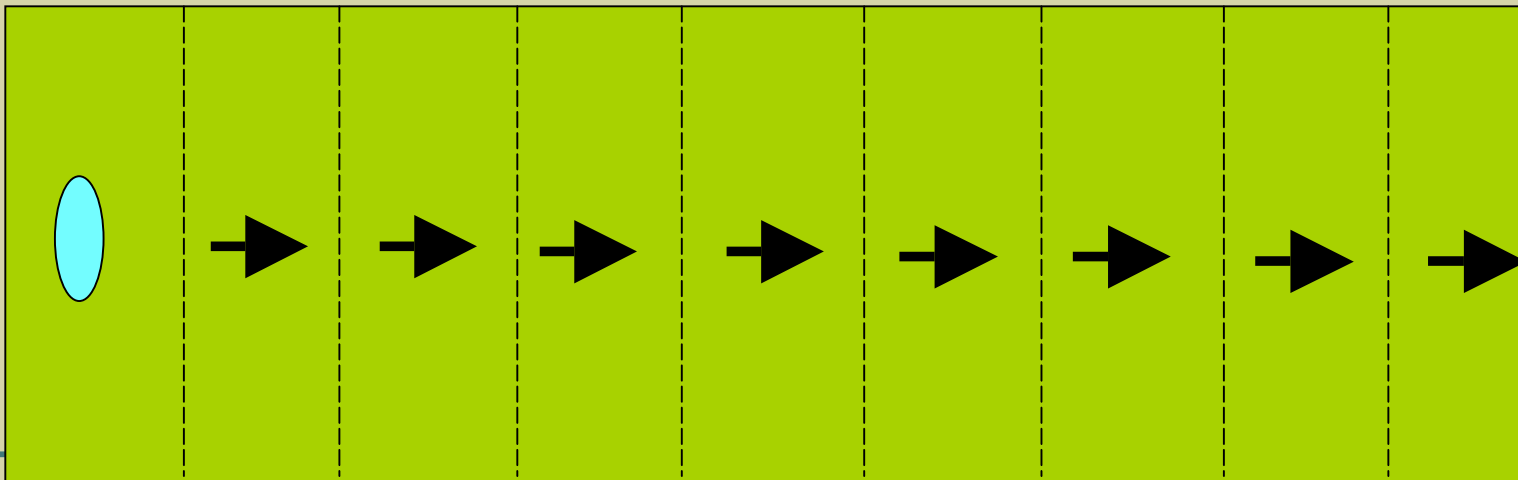
- Graze off field
- 60 units of N - Aug.
- Don't graze 'til after frost
- Grazing from Nov-Feb
- High quality -
 - 60+ % TDN
 - 10 - 12 % CP
- Low Cost - High Value
- Use strip grazing





Utilizing Stockpiled Forage

- Always utilize grass-legume mixture first
- Strip graze
 - maximizes utilization
 - only enough forage for 7-14 d
 - no back fence needed





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Cattle selection for fescue

Using a “fescue tolerant” bull did not affect performance of calves (VPI&SU)

Brahman and Brahman X cattle had increased milk production and weaning weights on fescue than Angus (UARK)

Impacts of selection

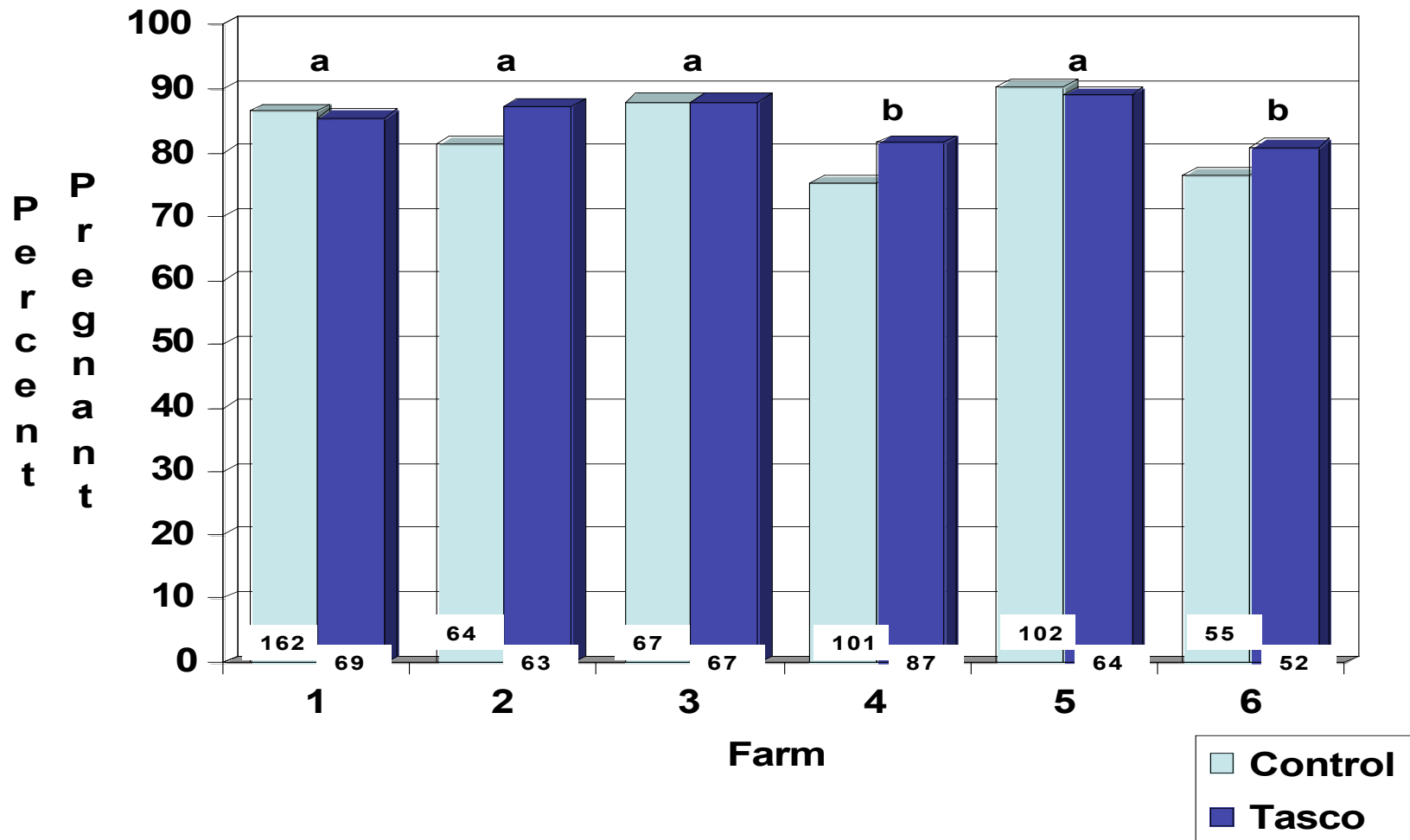
There are tolerant cattle – eliminate fescue queens

Care in selecting bulls from non-fescue regions

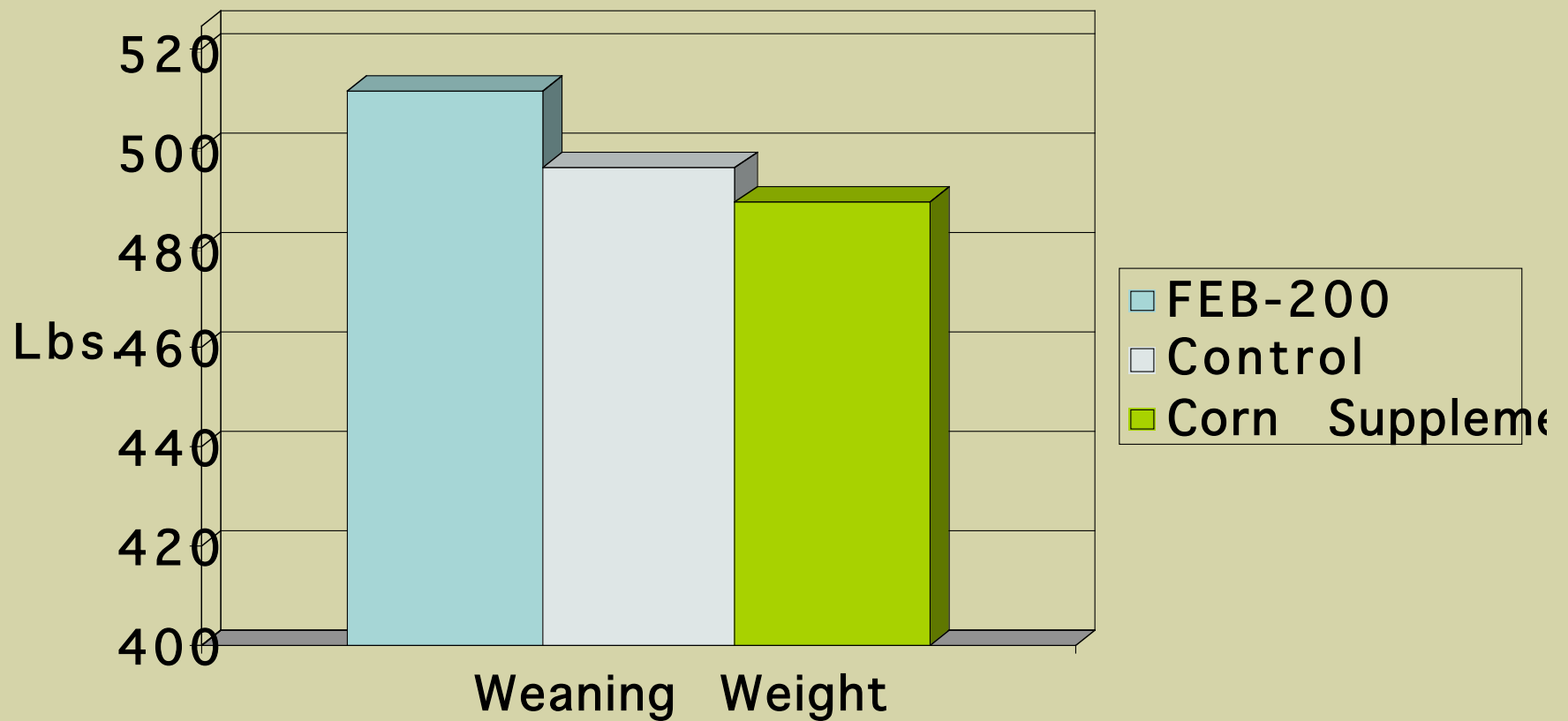
Breed used must not only perform on fescue, but needs to perform in feedlot and meet regional market



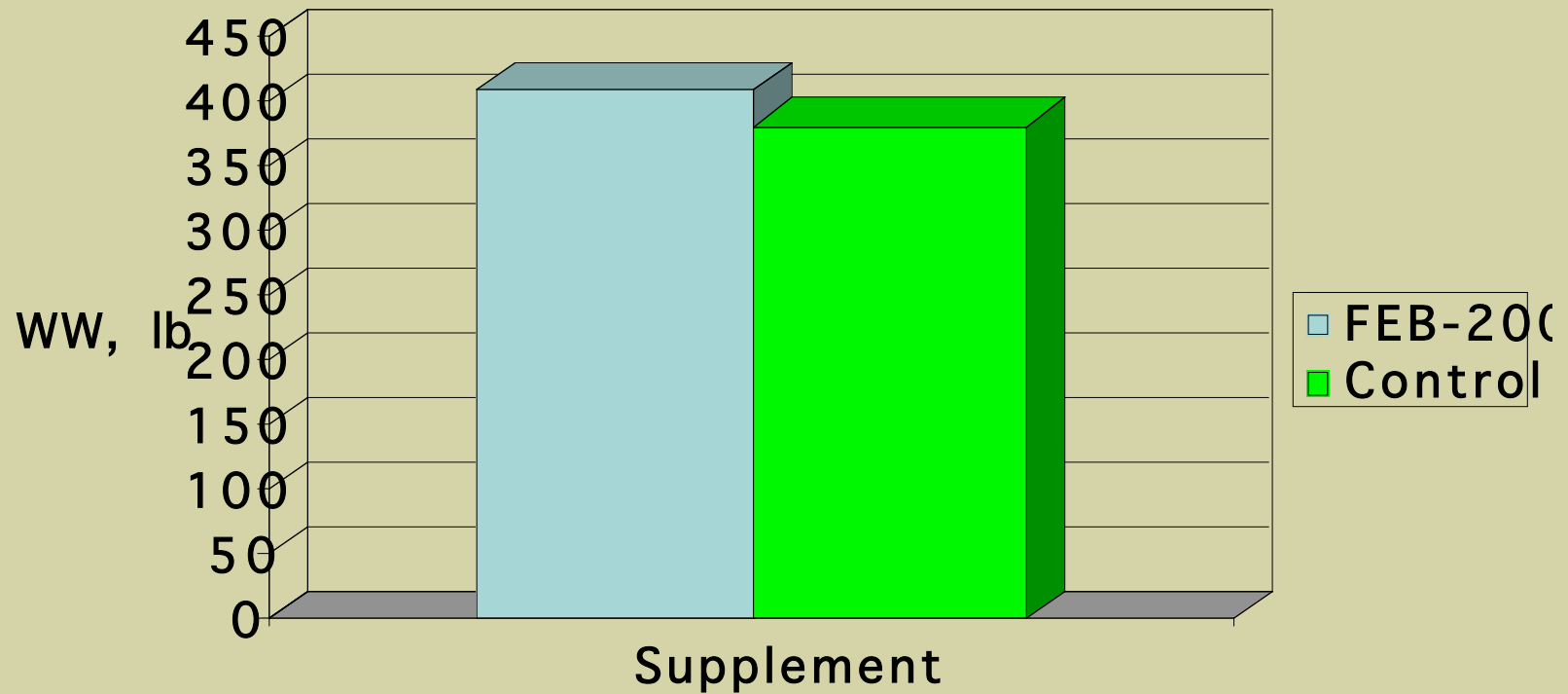
Impact of TASC0 mineral on Pregnancy Rates in Cows Grazing E+ Fescue



Effect of Supplement on Cow/Calf Performance on E+ Fescue



Effects on Cow-Calf Pairs - OH



Summary

Fall calving is the most powerful management tool

Supplementation with fiber based feeds can offset some of the effects of E+ fescue

Increasing amounts of Cu, Se, Zn appears to be important

No “magic bullets” but some interesting possibilities



