

Strategic Supplementation: NMSU Small Supplement for Winter



Research Summary, 2002, 2003, 2004, and 2006



BACKGROUND

RESEARCH GOAL:

- Decrease the cost of winter supplementation by:
 - Utilization of a small supplement (4-5 oz/day)
 - Self-fed protein supplement for maintaining body weight and body condition score (BCS) of gestating cows grazing dormant rangeland forage.

SUPPLEMENTS

- Fed 3 supplements contained 28% to 40% crude protein
 - Traditional cottonseed meal-wheat middlings based cubes
 - Small supplement- composed of 50% Corona Ranch mineral and 50% bypass proteins meal (feather and blood meal)
 - In 2006 comprised of corn gluten meal
 - Manager's choice- traditional cottonseed fed when manager felt cow stress required supplementation

Feeding rate and frequency

- Traditional -1 lb/head/day, fed three times per week (2.3 lb/head/feeding)
- Small supplement – self fed, always available in mineral tubes
- Manager's choice – fed at any rate when needed

Supplementation strategies designed to be reflective of applied practices. Due to variation in annual forage conditions and grazing constraints, the duration of the supplementation period varied by yr.

- In yr 1, supplements were fed for 27 d (2002-2003)
- In yr 2, 62 d (2003-2004)
- In yr 3, 93 d (2004-2005)
- In yr 4, 60 d (2006–2007)

In all yrs, supplementation ended 2 wks prior to the expected initiation of calving



RESEARCH SUMMARY

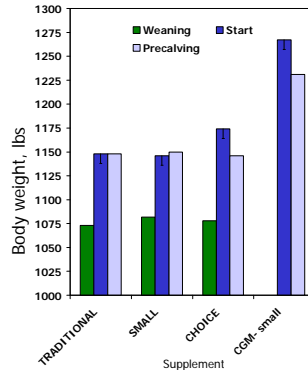


Figure 1. Body weights at weaning, the start of supplementation and before calving at the end of supplementation.

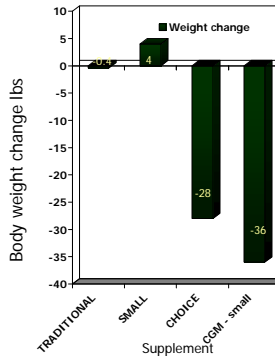


Figure 2. Average body weight loss from 2002, 2003 and 2004 before calving.

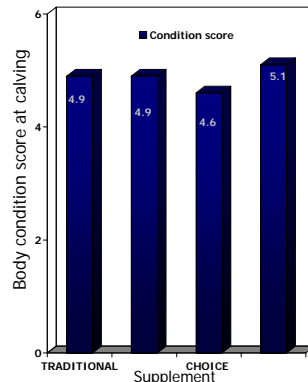


Figure 3. Body condition scores (1-10 scale) of pregnant cows fed 3 different postpartum supplements.

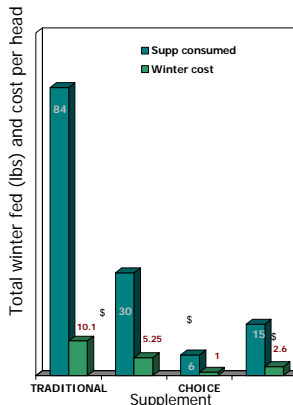


Figure 4. Total winter supplement consumed per head and total cost per head.

RESEARCH ANALYSIS

SUMMARY

Increased utilization efficiency resulted in decreased feed costs of maintenance for cows fed Small supplement relative to Traditional despite higher per unit feed costs for Small. Applying the unit feed costs for CON, SMP and VAR to the total consumption pooled across years results in per cow costs of \$10.08, \$4.70, or \$0.60/cow, respectively. Because cows receiving Choice failed to maintain BW, Small was the most economical strategy for BW maintenance in this study. However, using corn gluten meal as the sole protein source is not as effective as blood meal/feather meal in the Small supplement. This cost comparison does not include additional charges for labor and equipment that might be associated with any of the feeding strategies employed. Conceivably, application of these charges would further separate Traditional and Small.

TAKE HOME MESSAGE:

A self-fed, small supplement with blood meal/feather meal was equally effective for maintaining body weight and body condition score in pregnant wintering cows as a traditional hand-fed, cottonseed-based supplement. This supplement was used with higher efficiency and was more cost effective.

