

individual animals within a herd to satisfy trace element requirements is the problem.

Least cost mineral supplements are not necessarily the best cost when performance is considered. Minerals that contain high levels of P (14%) and/or Mg (5%) may be the best elemental purchase, but will not benefit the animal if not adequately consumed. If choosing a mineral supplement for a consistent intake, begin with 10% P. The Ca:P ratio of a mineral mix should not substantially exceed 2:1, but can be as high as 7:1 as long as the animal meets its minimal P requirement.

Animals like salt and it is included in commercial supplements to enhance intake. Block and loose salt should be avoided when wanting to maximize consumption of a complete mineral supplement (animals choose salt over mineral supplement). In regions where forage and water contain high levels of sodium, a mineral supplement should contain minimal salt (< 5%) to encourage consumption.

Increased consumption of mineral is observed with added physiologic stress of lactation, gestation and calf crop increases in size. This group of animals has a higher nutrient requirement, and thus require a higher mineral intake.

Alternative feedstuffs that can be used to enhance in-

take of a mineral supplement include: protein meals, dried molasses, yeast products, fat or flavoring products.

The primary goal of a mineral supplementation program is to maintain 'adequate and consistent intake' throughout the year to meet the animal's physiological requirements. Consistent intake (cow = 85 to 113 gm/hd/d) of a loose balanced mineral supplement varied for forage conditions is superior to infrequent intake (cow = 28 to 57 gm/hd/d). Block mineral supplements are not generally consumed at adequate levels. Encourage use of a loose or pelleted complete mineral supplement for optimal intake.

Synchronizing mineral supplements with animals and forages is analogous to medical therapy for disease situations. Obtain a sufficient data base (avoid intense profiling, it is many times not economically justified for the producer) concerning animal physiological requirements and basic forage quality prior recommendations. A mineral supplementation program can only be evaluated if the producer monitors mineral consumption cost and animal response throughout the year.

References

Doyle, J.C. & Huston, J.E. "Mineral Supplementation For Beef Cattle on Rangeland" (Ed.) Howard, J. in press. In: Current Veterinary Therapy for Food Animal Medicine.

Lifting The Bovine Fore Leg

J. K. Harness, DVM

*Franklin Veterinary Associates
2380 Buchanan Trail West
Greencastle, PA 17225*

One of the challenges faced by the cattle practitioner is lifting the bovine foot for the purposes of examination and treatment. Because the shoulder is not a fixed joint like the pelvic limb, there is a great deal of anterior-posterior movement. Most cattle will drop to their carpus when the fore leg is raised, requiring the operator to place his knee under the axilla to support the animal. This is difficult and dangerous for the operator.

After trying a number of fore leg lifting devices, a workable solution was found.

The cow is first restrained forward in the stanchion or chute with a halter.

A beam hook or sling and block and tackle are attached to the ceiling in the customary manner. In the case of the front leg it is best hung directly over the shoulder. A

30 inch obstetrical chain, being the correct length, is passed through the axillary space and the ring at each end is placed over the "T" bracket or hook on the tackle. A nylon webbing loop with a 30 inch diameter works equally well. The shoulder is then raised until the weight is supported by the block and tackle and the foot is barely touching the floor. A nylon sling is placed around the pastern in a "larks head" knot and the foot pulled posteriorly and dorsally. The free end of the sling is looped over the tackle hook. The distal fore leg is now nearly parallel with the floor and the cow is supported comfortably. Examination and treatment of the foot can now proceed with a minimum of struggle by the cow and a minimum of strain to the operators back.