

Preconditioning Nutrition and Management



Handouts that I usually have available:

AGEC-244 Goal setting

Financial Statement fact sheets: AGECE-751, Developing a Cash Flow Plan; AGECE-752, Developing a Balance Sheet; AGECE-753, Developing an Income Statement; AGECE-790, Evaluating Financial Performance and Position

Quicken CR-324

IFMAPS brochure or AGECE-239

CR-32799 Cow-calf Records

Budget brochures

Mission worksheets from Minnesota Institute for Sustainable Ag (MISA)

Objective is to point you to tools to assist you in building a solid foundation for the business.

Discussion Topics

- Pre-weaning management
- Weaning management
- Post-weaning management
- Post-weaning nutrition



Preconditioning:

Management steps executed prior to, during, and after weaning to insure optimum health and performance of calves.



Preconditioning Steps

- Preweaning and Weaning
- Dam's precalving nutrition
- Mineral supplementation for dam and calf
- Deworming
- Vaccination
- Castration
- Dehorning
- Postweaning
- Weaning management to minimize stress
- Training cattle to eat from a bunk
- Well balanced nutrition program to achieve positive weight gain
- Minimum 45 day weaning period





This slide represents only a few of the more recent national or state affiliated value added calf (or preconditioning) efforts that are underway today. Many of these have already met with great success, compared to previous value added calf programs.



Pre-weaning Management



Passive Immunity

- Passive transfer of colostral immunoglobulins
 - Dramatic impact on preweaning health
 - Calves that do not receive adequate passive transfer are 3 times as likely to be treated for BRD during the finishing phase
- Precalving nutrition impacts colostral quantity and quality
 - Protein
 - Energy
 - Vitamins
 - Minerals



Mineral Nutrition of Cows and Calves

- Of particular concern in OK: Cu, Se, Zn
- Deficiencies of Cu, Se, Zn cause immunosuppression
- Vaccine effectiveness is reduced with Cu, Se, Zn deficiency
- See Chapter 14, OK Beef Cattle Manual



Deworming

- Cattle do not acquire full immunity to GI parasites until about 20-24 mos of age
- Calves infected with internal parasites have reduced appetite, suppressed immune function, and reduced ability to respond to vaccination
- Most certified preconditioning programs provide an option for vaccinating calves 2-6 weeks prior to weaning. Producers can take advantage of this to increase sale weight.



Practices to Reduce Stress at Weaning Time

- Provide familiar environment
- Minimize pacing by using small pens, etc.
- Fence line weaning using corral or pasture fence with electric fence supplement



Post-weaning Management

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Post-weaning Nutritional Options

- One strategy doesn't fit all situations
- Feeding program begins at weaning
- Risk assessment
 - Home-raised: not exposed, low stress
 - Exposed: exposed, highly stressed
- Nutritional program can be 50 to 70% of preconditioning budget



A number of recent studies, and special preconditioned calf sales have shown that preconditioning calves can add to or increase their value by as much as \$60 or more (Cravey, 1996, MFA, Jordan, etc.). The increased profitability was due to reduced sickness, expenses, and improved performance. The Oklahoma Quality Beef Network program is built around a 45 day weaning period in an effort to maximize the benefits of preconditioning (Lalman and Smith, 2001). Nutritional management is important because research has shown that the nutritional status of the calf has a dramatic effect on its ability to withstand a disease challenge. Since there are many different ways of operating a cow/calf enterprise depending on location, resources, managerial ability, etc., one particular method or strategy doesn't fit all situations. The feeding or supplementation program should begin at weaning in order to reduce stress, train the calves to come to feed, eat from a bunk, and enhance health and performance. Since the nutritional program can account for up to 50 to 70% of the preconditioning budget, careful consideration needs to be given to all aspects of the process.

Native Range and/or Mature Bermudagrass Pasture

- Oklahoma Gold
 - 1 lb / hd / day 37-40% CP supplement
 - Vit. A, trace minerals, ionophore
 - (7) research trials of .9 to 1.2 lb / day protein
 - Response was .37 lb improvement in ADG
 - Response to ionophore is about .15 to .2 lb
 - Response to complete is about .57 lb.
 - Fed every other day, or pro rated for Mon.-Wed.-Fri.



The Oklahoma Gold program was designed for calves grazing mid to late season native range or bermudagrass pasture. It works well only if there is ample grass available for the calves at all times. It involves feeding approximately 1 lb./hd/day of a 37 to 40% Crude Protein all natural supplement with vitamin A, trace minerals, and an ionophore package. In seven research trials where the calves were fed between .9 to 1.2 lbs./day of the protein supplement the calves gain response was .37 lbs. increase in average daily gain over the control calves. Add to that the typical response to the ionophore of .2 increase in ADG and the calves exhibited a total gain response due to the complete supplement of .57 lbs. increase in average daily gain over the control calves. The feed conversion amounted to 1.8 lbs. of feed per pound of additional gain. The supplement program was designed to be fed every other day, or pro rated for a Monday-Wednesday-Friday feeding schedule.

Native Range and/or Mature Bermudagrass Pasture (cont.)

- Super Gold
 - 2.5 lb / hd / day of 25% CP supplement
 - Vitamins, minerals, and additive
 - Response was .76 lb / hd / day increase
 - FE was 3.3 lb of supplement / lb added gain
 - Fed every day, or every other day (based upon feed additive label directions)



The Super Gold program was designed for lighter weight calves, and calves on pasture or range situations where a little more energy was needed because of forage characteristics, not limited availability. It consists of 2.5 lbs./hd./day of an all natural 25% crude protein supplement with a vitamin, mineral, and ionophore package. When fed at recommended rates, the gain response was .76 lbs./hd./day more than the control calves. The feed conversion was 3.3 lbs. of supplement per pound of additional gain. It should be fed every day, or every other day according to the feed additive's label directions.

Stockpiled Fescue or Bermudagrass Pasture

- Minimal supplementation required
- Forage 12 to 16% CP until December
- Feed 2 to 3 lb / hd / day of 12 to 14% CP feed
- Vitamins, minerals, additive
- Response .35 to .42 lbs. ADG improvement
- FE 4.7 to 5.25 lbs. of supplement/lbs. added gain
- Fed every day, or every other day (based on feed additive labeled directions).



This forage resource will usually require only a minimal supplementation program because with good growing conditions the forage will supply 12 to 16% crude protein for calves from mid October through November. The supplement can consist of a 12 to 14% crude protein concentrate fed at the rate of 2 to 3 lbs./hd/day. The feed should contain a vitamin, mineral, and additive package. The response to the program will be in the neighborhood of .35 to .42 lbs. improvement in average daily gain. The feed conversion will range from 4.7 to 5.25 lbs. of supplement per pound of additional gain. The supplement can be fed every day, or every other day (based on the feed additive's labeled directions).

Small Grains and other Lush Pasture

- Oklahoma Green Gold
 - 2 lb / hd / day, 10 to 14% CP supplement
 - Vitamins, minerals, additive
 - Response was .42 lb ADG improvement
 - FE was 4.7 lb of supplement / lb added gain
 - Fed every day, or every other day (based on feed additive labeled directions).



Lush green pasture (winter and summer annuals, early spring forages, and immature and growing stockpiled fescue or bermudagrass, and legumes contain more protein than stocker/feeder calves require. Recently OSU researchers have developed a supplementation that is very effective for growing calves grazing this type of forage. The Oklahoma Green Gold program consists of feeding 2 lbs./hd/day of an all natural 10 to 11% crude protein supplement that contains a vitamin, mineral, and ionophore package. The gain response to this program was a .42 lbs. average daily gain improvement. The feed conversion was 4.7 lbs. of supplement per pound of additional gain. The supplement is designed to be fed either every day, or every other day (based on feed additive labeled directions).

Dry Lot Programs

- Pasture limited, or not available
- Hay and concentrate alternatives unlimited
- Use high quality hay (10% or better)
- Free choice hay, supplement fed at 1 – 1.5 % BW
- Expected gain = 1 to 2 lb ADG
- Vitamins, minerals, and additive can be fed in feed or mineral mix.



Occasionally there are those situations where high quality pasture is not available for one reason or another. On these occasions producers may have to implement a dry lot feeding program featuring hay and concentrate. When this occurs producers should use the highest quality grass hay available, preferably 10% crude protein or better. Sometimes, prairie hay containing 6 to 10% crude protein can be used. Lower quality hay is not recommended for growing calves. In this situation, hay can be fed free choice and the supplement at 1% of body weight. The response to this kind of program can range from 1 to 1.7 lbs. average daily gain. The vitamins, minerals, and ionophore can be fed in the feed, or mineral mix.

Dry Lot Programs (cont.)

- Alfalfa hay and corn or grain sorgham
- Blend at 60% hay and 40% grain
- Response 1.7 to 2.0 lb ADG
- Free choice alfalfa, feed grain at 1% BW
- For faster gain, feed hay at 40% and grain at 60%
- Begin at 2 to 3 lb of grain and work up



Alfalfa hay and corn or grain sorgham can be considered the “cadillac” of dry lot feeding programs. A blend of 60% hay and 40% grain will provide a gain response of 1.7 to 2.0 lbs. of average daily gain. If blending is not possible, the hay can be fed free choice or limited (depending on gain desired) and the corn can be fed at the rate of 1% of body weight. If a faster weight gain is desired, up to 60% grain and 40% alfalfa hay can be fed. As with all grain feeding programs, the grain should be fed starting with 2 to 3 lbs./hd./day and slowly work up to the recommended amounts.

Summary, Nutritional Options

- Define and prioritize objectives of nutritional management program
- Be careful to not over-condition calves
- Preconditioning feeds must be palatable
- Performance is difficult to predict
- High quality pasture is cheapest and most convenient preconditioning nutrition program



In summary, it is important to give careful consideration to your situation and your goals or expectations of the program, and then define and prioritize the objectives of the nutritional management program. Whether you sell your calves by private treaty, video auction, or special preconditioned calf sale, it is important to consider who will be buying your calves and where they may be going because that may determine how fast and how much you may want to gain them. Over conditioned calves are often discounted by buyers (Eastern Oklahoma Feeder Calf Study, 1997,99). Preconditioning feeds need to be be very palatable to get the calves started eating and reduce stress, because missing mama is going to be foremost in their minds for awhile. Remember, exact performance is going to be difficult to ascertain because of a variety of factors including stress, health, kind of feed, amount consumed, etc. Oftentimes, the highest quality pasture is the most economical and “ready made” or convenient preconditioning nutrition program available. After the calves have been taught to eat, and they are fully weaned, then just turning them out to high quality pasture is sufficient.

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