

EARLY WEANING IN DROUGHT CONDITIONS

Are you concerned about conception rates? Are your cows losing body condition? Is your pasture depleted with no hopes of recovery? If you answer "yes" to any of these questions, then early weaning may be in order.

Trials have shown that weaning the calf at 45 days of age brought on heat 12 days earlier and improved conception rates 6 percent. Calf performance up to 200 days was similar for early versus late weaned calves during normal moisture years. Although calves can be successfully weaned at 45 days of age, management of such young weanlings can be challenging. Calf health and performance may be improved by allowing calves to reach 90 to 120 days of age prior to weaning. Although cows should be bred before calves reach this age range, early weaning at 90 to 120 days of age still provides an opportunity for cows to recover body condition. Without the nutritional demands of lactation, cows may be better able to maintain pregnancy and support the in utero development of a healthy and vigorous calf. In drought years, there is every reason to expect early weaned calves will perform better. Recent research shows that early weaned calves placed on a high energy ration from weaning typically have higher marbling at harvest and are more feed efficient.

Check List for Facilities

- Excellent fenced lot
- Well-drained lot
- 100 sq. ft. per head at weaning time
- 400 sq. ft. per head one week after weaning
- Bunks and water at 18" throat height

Feeding Management for Early Weaned Calves

- Wet down dusty lots to reduce respiratory tract irritation
- Butt feed bunk end up to fence to reduce walking
- Expose calves to grain 10 days before weaning
- Start calves on feed slowly and avoid loading the bunk
- Spread feed out in entire bunk to ensure all calves have access at once
- Offer feed amounts that calves will clean up in 10 to 20 minutes
- Feed calves twice daily so it's easier to spot sick calves and make feed adjustments

Health Considerations

Weaning is often associated with numerous stressors that can contribute to immunosuppression and greater susceptibility to bovine respiratory disease and other infections. Early weaned calves often experience additional challenges that can exacerbate the health risk associated with weaning.

During the first few months of life, there is a gradual loss of passive immunity as maternal antibody levels decline. At the same time, calves are building active immunity as they produce antibodies in response to antigen exposures. Often there are windows of susceptibility in which neither passive nor active immunity levels are fully protective. These windows of susceptibility vary greatly depending on the pathogen in question, amount and quality of colostrum consumed, nutritional status of the calf,

antigen exposure, and other factors. Generally though, early weaned calves are often more susceptible to infections as compared to older and more fully developed, conventionally weaned calves.

Early weaning spring born calves means weaning during the heat of the summer. Heat, humidity, dust, and flies can cause additional stress for these newly weaned calves. Pasture weaning is sometimes used to allow continued grazing in a familiar environment thus minimizing stress associated with diet change, environment change, shipping, etc. Early weaning, however, is often utilized during drought conditions to conserve pasture and reduce nutritional demands on the cows. In such conditions, pasture weaning is often not feasible. If early weaning unexpectedly develops as a management strategy, young calves may not have had the benefit of creep feeding and preconditioning, both of which can help them successfully transition from nursing calves to weanlings.

So what can you do to combat some of these challenges? First, strive to minimize stress as much as possible. Consider low-stress weaning strategies such as two-step weaning, day weaning, fence-line weaning, etc. Strive for excellence with all the basics of animal husbandry. Offer plenty of fresh, clean water and make sure the weaned calves know where to find it. Offer a well-balanced and palatable ration. Provide bedding, shade, fly control, dust control, etc. as appropriate.

Work with your veterinarian to make a plan regarding preconditioning. Ideally, at least one dose each of clostridial and respiratory vaccines should be given 2-3 weeks prior to weaning. Consider the use of intranasal vaccines to bypass maternal antibody, establish immunity quickly, and mimic the natural route of exposure. Your veterinarian can help you make vaccination choices that appropriate for calves of this age. Perform castration and dehorning procedures as early as possible with appropriate anesthesia and analgesia to minimize pain and stress.

Finally, monitor weaned calves carefully. Watch closely for early signs of respiratory disease such as depression, anorexia, fever, lowered head, lowered ears, etc. Early signs of bovine respiratory disease are often non-specific but must be identified to facilitate successful treatment. Other common illnesses in early weaned cattle may include enterotoxemia, coccidiosis, pinkeye, and foot rot. Work with your veterinarian to establish a treatment plan and to have appropriate medications on hand should any of these illnesses occur.

Ration Considerations

- Simple, homegrown feed rations can be utilized. However, keep these feedstuffs palatable and of high quality so that the calves find them tasty and easy to consume and digest.
- Knowing and meeting the 90-120 day old calf's daily needs is fundamental to a successful early weaning program. Within 7 to 10 days after weaning, the calf should be consuming 2.5 to 3.0 percent of its body weight daily.
- Light calves, 200 to 300 pounds, need a ration that contains 14 to 17 percent crude protein and 70 to 80 percent total digestible nutrients on a dry matter basis. This cannot be done with a straight hay diet.
- Feed for early weaned calves should be selected with care. Medium to high-quality hay is more desirable. Save the coarse, stemmy first-crop hay for later.
- Another ration must provide enough energy or calories in the feed that fills the calf. If the calf receives only low-quality, low-energy feeds (i.e. medium to low-quality hay) its belly will be full, but it will be short on nutrition. Weight losses may occur in this situation.

- Young calves have a sweet tooth: adding molasses to the ration may take advantage of this. This increases ration palatability and aroma as well as lowers dust problems. Liquid molasses should not make up over 5 percent of the ration, while dried molasses can be used at a 10-15 percent rate.
- Coproduct feeds such as distillers grains, corn gluten feed, or soy hulls can be incorporated into starting rations. The corn based co-products provide highly digestible fiber as well as protein to the ration. Soy hulls add bulk to the ration similar to oats. These high fiber feeds have lower energy value as the grain in the diet increases. It is suggested to limit soy hulls to 15-20% of the grain mix so that energy is not diluted. Corn gluten feed should be limited to no more than 30-50% of the grain mix for the same reason.
- Most formulated rations for early weaned calves will need protein supplementation. If a commercial supplement is used, be sure all the protein comes from a natural protein source such as soybean meal, cottonseed meal, linseed meal, etc. Research shows the rumen of a young calf may not consume enough energy optimally utilize a non-protein nitrogen source such as urea.

Table 1 shows some simple concentrates that may be fed with hay. Feed 2% of the calf's body weight in hay the first day and 1 pound of the grain mix. Slowly increase the grain and decrease hay so that at the end of 7 to 10 days, 300 lb. calves are eating 4-5 lbs., 400 lb. calves are eating 5-6 lbs., 500 lb. calves are eating 7-8 lbs., and 500 lb. calves are eating 9-10 lbs. of the grain mix. The total ration should be at least 2/3 grain mix - 1/3 hay at this time. Be sure salt, Vitamin A, Vitamin E, calcium, phosphorus, and trace minerals are supplied in the supplement or by other means.

When grinding and mixing a ration, be certain the grind is very coarse. Finely ground feeds are generally refused or sorted quite badly resulting in poor cattle intake and often digestive irritation.

In summary, with proper health, husbandry, and nutritional management, young calves can be weaned successfully. Remember to provide the calf with a clean, well-drained lot, a fresh supply of feed and water daily, and he will return the favor to you with improved productivity in the feedlot. In addition to the calf's increased weight gain from providing a properly balanced diet, the dam will also be maintained at lower cost during the drought and is more likely to give birth to a strong, healthy calf next spring.

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Table 1. Rations for Early Weaned Calves

	Weight at Weaning		
	300 lb. Calves	400 lb. Calves	500 lb. Calves
Grain mix – corn/supplement			
% Corn	62	76	78
% 32-36% All-natural protein supplement*	38	24	22
Grain mix with oats			
% Corn	39	45	54
% Oats	24	36	33
% 32-36 to All-natural protein supplement*	37	19	13
Grain mix with dry corn gluten feed			
% Corn	41	44	50
% Corn gluten feed	41	44	50
% 32-36% All-natural protein supplement*	16	10	--
% High calcium gluten balancer**	2	1.5	1
Grain mix with distillers dried grains			
% Corn	60	59	72
% Distillers dried grains with solubles	22	39	27
% 32-36% All-natural protein supplement	16	--	--
% High calcium coproduct balancer*	2	2	1
Grain mix with soy hulls			
% Corn	55	63	65
% Soyhulls	15	15	15
% 32-36% All-natural protein supplement*	30	22	20
lbs. of grain mix (after 7-10 days)	4-5	5-6	7-8
% CP of grain mix (DM basis; total ration is 2/3 grain mix and 1/3 hay***)	22	17	15
% CP of total ration (DM basis; total ration is 2/3 grain mix and 1/3 hay***)	20	16	15

*Contains 2.5% Ca and 1% P. May need to supplement 0.05 to 0.15 lb. per day of a 22-12% Ca- P mineral mix or equivalent to balance Calcium in hay (less if hay is legume, more if hay is grass or oat).

**Contains at least 25% Calcium and should be fortified with trace minerals and vitamins to requirements.

***Assumes hay is 55% TDN and 15% CP