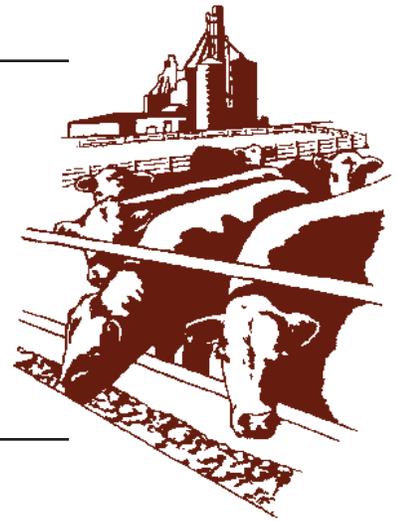


## Cattle Producer's Library



BCH-5475

Product of Extension Beef Cattle Resource Committee  
Adapted from the Cattle Producer's Library

### Preconditioning of Calves

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By strict definition, preconditioning is a vaccination, nutritional, and management program designed to prepare young cattle to best withstand the stresses of adjustment when they leave their point of origin and enter the channels of trade. Unfortunately, preconditioning is a loosely used term that can mean a blackleg shot or preweaning to one individual and a detailed, complex program to another. The lack of standardization of "preconditioning" has often led to abuses of the concept by producer, buyer, and veterinarian alike. For the producer and buyer to best use a system of preconditioning, the exact system should be recorded and used at the time of marketing.

Preconditioning, when properly done, is the best program available for preventing shipping fever and the bovine respiratory disease complex (BRD) and allows the animals to adapt quickly to feedlot rations and environment. Often one fails to appreciate all costs associated with sick cattle. The average sick animal will shrink 10 to 20 percent and will require 1 to 2 hours of labor. Medicine, treatment regimes, and death losses are expensive. Average 3-day treatment cost for a 400-pound calf is \$7.80. A 5 percent death loss increases cost of \$.90 calves to \$9.45. One time through a chute is considered equivalent to a 7-day feeding period. Therefore, it is far cheaper to prevent disease than to treat it.

Any good preconditioning program will have three major areas that require attention: immunization against disease, management, and nutrition practices that reduce stress. Consideration of only one or two factors will not give nearly the success as when all three are given equal attention. Since no one program will fit all

management situations, following is a complete general program that can be modified to fit individual needs.

#### Immunization Against Diseases of Recognized Significance

##### Young Calves (1 to 3 Months of Age)

If the cow herd has been given annual boosters, immunization should be delayed until the calf is 4 to 6 months of age, for better immunization.

##### 1. Respiratory diseases:

(a) IBR-PI3 (use killed vaccine intramuscular or modified live vaccine intranasally); (b) *Pasteurella*; and (c) *Haemophilus somnus*.

##### 2. Other diseases:

(a) leptospirosis (5 antigens); and (b) clostridial diseases (blackleg group, includes *Cl. hemolyticum*, *Cl. chauvoei*, *Cl. novyii*, *Cl. septicum*, *Cl. sordellii*, and *Cl. perfringens* (BD & D)).

##### Older Calves (3 to 4 Weeks Before Weaning)

##### 1. Respiratory diseases:

(a) IBR-PI3 (If this is a booster, use modified live virus vaccine intranasally, or killed vaccine intramuscularly may be used. If not a booster, use modified live virus vaccine intramuscularly); (b) BVD (some cattle producers and veterinarians prefer not to administer BVD with IBR-PI3 modified live virus vaccine intramuscularly); (c) *Pasteurella*; and (d) *Haemophilus somnus*.

##### 2. Other diseases:

(a) leptospirosis; (b) clostridial diseases; and (c) brucellosis (heifers: 2 to 10 months old, use a one-time vaccination by veterinarian or official technician only. Some states have a 2 to 7 month restriction, check with your veterinarian first).

3. Other procedures:

(a) Vitamin A (injectable preferred); and (b) implant with growth stimulants (except heifers to be kept for breeding).

If this program is begun early enough, both initial and booster shots may be administered before weaning. This will reduce stress at weaning and reduce shrink and amount of time required to regain weaning weight. This regime is subject to local practices, individual herd health needs, and various combinations of vaccines. The aim should be to reduce stress at weaning time.

### Calves — Weaning Time

1. If original and booster have both been given, no additional immunization is needed at this time.
2. If the first vaccination has been given, booster as described for older calves (above).
3. If the calves have not previously been vaccinated, several alternatives are feasible, depending upon type of confinement, feed, equipment and availability of labor, and final disposition or destination of the calves.
  - a. If calves can be handled only once, a suggested regimen would be: (1) IBR-PI3 intranasally; (2) BVD; (3) Haemophilus somnus bacterin; (4) leptospirosis bacterin; (5) clostridial diseases bacterin (consider a 7-way vaccine); and (6) brucellosis — vaccinate heifers (calves under heavy stress may show some reaction to brucellosis vaccination).
  - b. If calves can be handled twice — and this is preferred — here are two possible programs for your selection:

#### Program 1

At weaning: (1) Pasteurella bacterin; (2) Haemophilus somnus bacterin; (3) clostridial diseases bacterin; and (4) BVD vaccine.

14 to 21 days later (if calves are consuming 2 to 3 percent of body weight of feed, or are on pasture and eating well): (1) IBR-PI3 intranasally or I.M.; (2) Pasteurella booster; (3) Haemophilus somnus booster; (4) clostridial vaccination booster; (5) leptospirosis bacterin; and (6) brucellosis — vaccinate heifers.

#### Program 2

At weaning: (1) IBR-PI3 intranasally or I.M. (killed vaccine); (2) Pasteurella; (3) Haemophilus somnus; (4) clostridial diseases.

14 to 21 days later (if calves are consuming 2 to 3 percent of body weight of feed, or are on pasture and eating well): (1) IBR-PI3 booster; (2) BVD; (3) Pasteurella booster; (4) Haemophilus somnus; (5) clostridial booster;

(6) leptospirosis bacterin; and (7) brucellosis — vaccinate heifers.

### Management Practices to Reduce Stress\*

The best management system is to have a sound health program implemented before weaning. Calves should then be weaned at least three weeks before they are shipped to market.

### Management at Weaning

1. Calves should be eating some dry feed before weaning (2 to 4 weeks).
2. Vaccination procedures should be reviewed and implemented if necessary.
3. Adequate fresh water supply is essential
4. Vitamin A before or at weaning may be helpful.
5. Check for feed consumption and water consumption; both should increase during weaning period.
6. Provide high-quality hay. Calves should be consuming 2 percent of body weight of feed before you attempt to medicate either the feed or water.
7. Parasite control:
  - a. External Parasites — Lice and grubs can be controlled by one of the systemic organophosphate insecticides applied by spraying, dipping, or as a pour-on.
  - b. Internal Parasites — Since the need for worming cattle varies markedly from area to area, check with your veterinarian for the appropriate product to use for internal parasites in your region.
8. Dehorning and Castration — The ideal time to perform these tasks is when the calves are young, preferably 1 to 3 months of age. If these procedures are done at weaning age then do it 2 to 3 weeks before weaning but not at weaning time.

### Marketing and Transportation

1. Calves should be weaned at least 3 weeks before shipment.
2. Avoid prolonged processing. It is crucial to get calves moving and delivered quickly.
3. Avoid crowding and bruising.
4. Avoid excessive working, sorting, etc.
5. Avoid conditions of extreme dust or wetness.
6. Do not ship calves that have not been fed or watered.

### Other Factors

1. Segregate sick or diseased animals.
2. Tractor exhaust stacks must be tall enough for gasses to clear trailer well.
3. Avoid ammonia build-up in trucks or at yard (from excess urine, manure, or moisture). Ammonia contributes to respiratory disease.
4. Start adequate treatment promptly, identify sick cattle, and treat either for 3 days or provide medication that will be sustained in the calf for an equivalent time.

## **Nutrition**

Preconditioned calves must be acquainted with feed-bunks and water troughs to minimize the transition to feedlot environments. In addition, rations should be provided that are similar to those they will receive after marketing. Weaned calves started on feed adjust to movement and adapt to the feedlot with less shrink and susceptibility to disease.

## **Nutrition Management**

1. Offer a diet balanced for energy, protein, minerals, and vitamins.
2. Provide loose salt free choice.
3. Provide fresh, clean water, preferably in a trough so the calves will be acquainted with this type of water source.
4. Feed calves in a bunk to minimize feed contamination and adaptation to bunk feeding.
5. Observe each calf twice daily. Those calves not eating or drinking may need individual attention.
6. Calves will usually shrink 3 to 5 percent because of weaning but will gain 30 to 50 pounds during a 30-day precondition period.

Note: Read and follow label directions on any product used. A veterinarian should be consulted when selecting the type of vaccine to be used.

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