Weaning Procedures to Reduce Stress and Minimize the Risk of BRD

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Bovine Respiratory Disease Complex Series

FAST FACTS

- Minimize negative stress caused by nutritional, environmental, physical and social changes experienced by calves at weaning time
- All newly-weaned calves should be closely monitored for health and performance

The goal of low-stress weaning techniques is to minimize negative stress caused by nutritional, environmental, physical and social changes experienced by calves at weaning time. Stress increases cortisol levels, which reduces immune system performance and can predispose cattle or (calves) to illness from a variety of disease pathogens, particularly organisms that cause the Bovine Respiratory Disease (BRD) complex. It can also reduce average daily gain and is associated with secondary abomasal (stomach) ulcers and negative carcass quality issues.

Signs of stress in calves can be manifest in several ways. Some of the most common include:

- Poor appetite
- Dull or rough hair coat
- Pacing
- Aggression
- Isolation
- Weight loss
- Increased vocalization
- Nasal discharge
- Frequent or severe illness(es)

Historically, weaning beef calves involved abrupt weaning, vaccination and sometimes even branding, castration and other management tasks. These highly-stressed calves were often then transported by stockers/growers to the next production phase and were at high risk for developing BRD due to stress-weakened immune systems and exposure to pathogens. To help reduce BRD losses, progressive value-added programs now require calves be weaned at least 45 days before shipping. By implementing new recommendations to reduce weaning stress, producers should realize greater profits and reduce animal health costs.

Developed by WSU Animal Science and Veterinary Medicine Extension

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FAST FACTS

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Reducing Environmental Stressors

Whenever possible, try to avoid weaning during bad weather. Minimize weaned calves' exposure to dust, irritating fumes or other respiratory irritants, all of which are predisposing factors for BRD. Provide sufficient bunk and loafing space for weaners and minimize transportation, handling and restraint. Protect weaned calves from excessive unusual noise, dogs or new caretakers. Ensure good footing by preventing situations that can create slippery footing which animals find stressful. If excessive heat is a stressor, try to provide shade or other means of cooling. Almost nothing is as stressful to a calf as being cold and wet, so try to provide shelter and keep calves out of mud.

Reducing Nutritional Stressors

Calves being considered for weaning should be consuming adequate amounts of roughage, water +/- starter grains and gaining well before being weaned. For calves weaned around six months of age, the social loss of weaning far outweighs the nutritional loss of the small amount of milk they are consuming. However, distress from abrupt weaning can cause calves to stop eating and drinking as they bawl and try to reunite with their dam; significant weight loss can occur. It is important to place feed bunks and waterers where calves will come upon them as they search for their dam. Offer the same feed and forage as before weaning; make any changes later and gradually. Be sure calves have sufficient quantity of a balanced diet, paying particular to trace minerals, which play key roles in immune system function.

Reducing Physical Stressors

Whenever possible, management practices that effect calf physical well-being should be separated from the weaning process. Castration, branding, ear tagging, dehorning and even vaccination should be done well ahead of weaning; at least three weeks is recommended (Gerrish 1998). Stressed animals often do not respond well to vaccinations and protective antibody levels may not be achieved, so vaccination should not be done in conjunction with other major stressors such as weaning. Vaccination is a crucial part of protection from BRD, however, and is a component of value-added backgrounding programs. Horned animals can cause more trauma to herdmates, so used polled breeding stock or dehorn early in life.

Reducing Social Stressors

Some calves will experience significant stress if groups of calves are co-mingled. Try to avoid co-mingling of strange groups or provide enough space to reduce this stress. Monitor newly-assembled groups of animals for evidence of stress and correct issues before health is affected.

A temporary small plastic paddle can be inserted in a calf's nose and physically prevent the calf from nursing, functionally resulting in weaning. The cow-calf pair can remain together, so there is no social stress. These nose paddles require labor to insert and remove and can irritate the calf's nasal lining, so they cannot be wholeheartedly endorsed.

These nose paddles require labor to insert and remove and can irritate the calf's nasal lining, so they cannot be wholeheartedly endorsed. However, some cow-calf operations are using them successfully as part of a two-step weaning program: the nose paddles are left in for four or five days to accomplish the nutritional weaning phase, then low-stress fenceline weaning (see below) accomplishes the social aspect of weaning. Due to the labor involved with inserting and removing paddles, they may be best suited to smaller-scale operations. However, they are a viable weaning aid if operations have no way to physically separate cows and calves or if severe weather events have transpired to make fences ineffective.

Fenceline weaning described below is designed to minimize the stress of a calf being removed from its mother. Contact is still possible, just not nursing. Fenceline weaning is growing in use and popularity due to its relative ease and effectiveness. Instead of the traditional abrupt separation of cows and calves at weaning, which results in much vocalization, pacing and little eating by cows and calves, pairs can see, hear, and smell each other while separated by a sturdy electric fence. Studies show increased feed consumption and weight gain in calves weaned with the fenceline weaning method over other weaning methods (Price et. al 2003) and reduced incidence of respiratory disease (Mathis and Carter 2008).

Best practices for fenceline weaning include:

- Keep cow-calf pairs in the area that will contain the calves for a few days before weaning. This will acclimate the calves to the area and reduce the stress of relocation. Train calves to water troughs or ball-valve waterers if necessary.
- After morning grazing or feeding on weaning day, move cows out of the common area and leave calves behind.
- Have a three-strand electric fence or one offset hot wire between cows and calves and be sure they have been trained to an electric fence before this time. Use at least 2,500 volts to keep pairs separated (Suverly and Bartlett 2005).
- Place feeders and water source where calves will encounter them as they initially pace the fence trying to get back with their mothers.
- If possible, wean calves onto excellent pasture reserved for this purpose. This will keep calves gaining well during weaning and reduce exposure to dust irritants.
- Keep pairs separated by fenceline weaning for up to a week. Calves and cows usually finish the social/maternal bond weaning after 4 to 5 days of fenceline weaning.

FAST FACTS

- Weaning is an inherently stressful process because it is usually connected with major changes.

Conclusion

Weaning is an inherently stressful process because it is usually connected with major changes. However, reducing weaning stress will help reduce the risk of calfhood BRD and keep calves eating, gaining and growing. Careful monitoring of weaned calves is essential so stress-related conditions such as BRD, coccidiosis and scours can be identified and addressed promptly.

References:

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