

The use of anti-suckling devices in the weaning process of calves is appealing because it facilitates a relatively low-stress weaning approach. Anti-suckling devices work by preventing calves from nursing while allowing the calf and cow to remain together. The most common form of anti-suckling device is a flap that attaches to the nostrils of the calf so that the calf cannot get the teat into its mouth to nurse (Figure 1). These devices prevent calves from suckling but allow them to graze and drink.

TWO-STAGE WEANING

Two-stage weaning strategies are low-stress methods that mimic “natural” weaning by dividing the process of weaning from milk and the physical separation of calves and cows into two stages (Figure 2). The two-stage process reduces the acuteness of weaning stress. The most commonly used two-stage weaning methods are fenceline weaning and the use of anti-suckling devices. When fenceline weaning, calves are separated by a single fence but allowed social contact with their mothers during the first stage. Alternately, when an anti-suckling device is used, the nose flap is placed in the calf’s nostrils, and then the calf is allowed to stay with its mother for a period of 4 to 14 days. During the first stage, the calf is weaned from milk but has social contact with its mother. In the second stage, the anti-suckling nose flap is removed and the calf is separated from its mother.

ANTI-SUCKLING DEVICE VS. TRADITIONAL WEANING

Research conducted in Canada, Montana, and Virginia demonstrated that calves weaned in two stages



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Figure 1. An example of a calf with an anti-suckling device in place during stage one (prohibited from suckling but not separated from dam) of the two-stage weaning process.

using anti-suckling devices exhibit less stress behavior during weaning than conventionally weaned calves. In fact, conventionally weaned calves were observed to vocalize (bawl) 20 times more often than calves weaned in two stages with anti-suckling devices when separated from cows at the same time. Calves weaned with anti-suckling devices walked about 15% more while nursing was prevented in the first stage, but after separation from their dams, conventionally weaned calves took approximately twice as many steps as calves weaned in two stages. During the period when anti-suckling devices were

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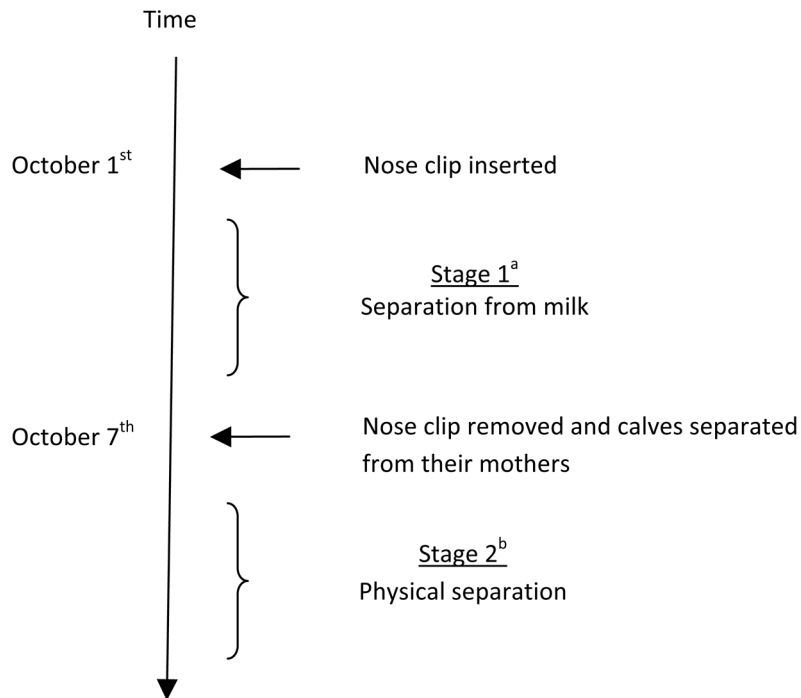


Figure 2. Example of the 2-stage weaning process using anti-suckling devices.

^aDuring stage 1, calves are not allowed to suckle (fenceline separation or use of anti-suckling device). Stage 1 may last up to 14 days to facilitate pre-weaning vaccination protocols.

^bDuring stage 2, calves are physically separated from their dams (taken to a separate location).

in place, calves generally gained less weight than if they were allowed to nurse, and when compared to their abruptly weaned counterparts they remained lighter or equal in body weight at 50 days post-weaning. This may indicate that weight gain differences stemming from decreased gain during the period when anti-suckling devices were in place may not have been fully compensated for by 50 days post-weaning (Figure 3).

ANTI-SUCKLING DEVICE VS. FENCELINE WEANING

Researchers in Virginia compared conventional weaning, fenceline weaning, and two-stage weaning with anti-suckling devices. Their results also suggest that weaning in two stages with anti-suckling devices reduced signs of behavioral stress when compared with abrupt weaning. However, fenceline weaning yielded a similar reduction in stress behavior. Although fenceline weaning resulted in over five-fold more vocalization during the first week after remote physical separation, the fenceline

weaning method yielded improved weight gain. The authors suggested that this difference may be due to residual sensitivity in the calves' noses that caused reduced feed intake in calves weaned with anti-suckling devices. However, this effect was not evident in the Canadian and Montana studies comparing anti-suckling devices and traditional abrupt weaning. Additionally, since the Virginia researchers only measured weight gain for the first 7 days post-weaning, no comparisons of long-term weight gain between fenceline weaning and weaning with anti-suckling devices were made.

CONSIDERATIONS

1. Anti-suckling devices can be placed on calves at the same time pre-weaning vaccines are administered (approximately 2 weeks before weaning).
2. To avoid potential irritation and performance suppression, make sure no ridges are present on the part of the device that could irritate the calf's nose.

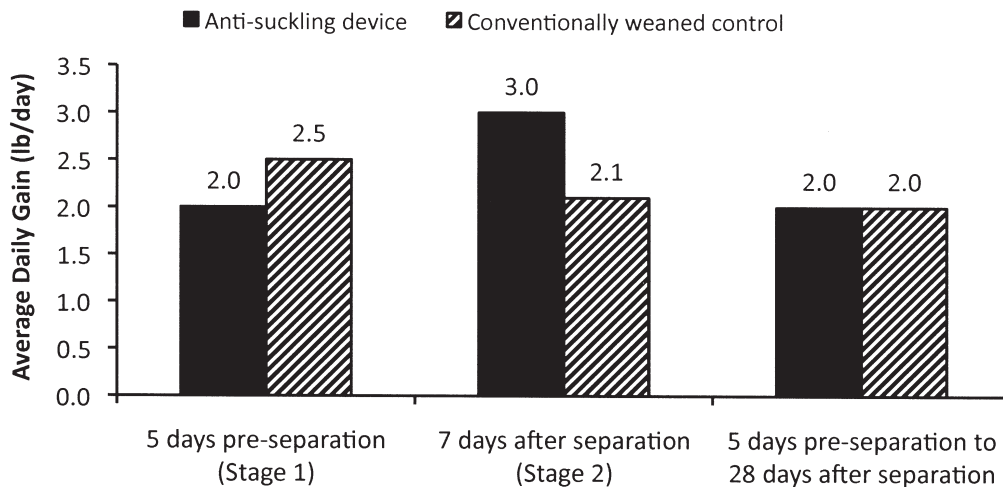


Figure 3. Average daily gain of calves weaned by conventional abrupt separation (control) or in two stages with nursing prevented with an anti-suckling device for 5 days before separation. (Adapted from Haley et al., 2005)

3. Retention rate is reported to be about 95%. Calves weighing less than 425 lb are more likely to lose the anti-suckling device.
4. Anti-suckling devices cost approximately \$2.00 each and can be reused.

CONCLUSION

Weaning in two stages by placing anti-suckling devices in calves' noses 4 to 7 days before remote separation of cow and calf can reduce exhibition of stress behaviors (walking, vocalization) when compared to conventional weaning. Weaning with anti-suckling devices and fenceline weaning yield similar reductions in stress behavior; however, fenceline weaned calves may exhibit a post-weaning performance advantage. Therefore, if facilities are not available to make fenceline weaning practical, two-stage weaning using anti-suckling devices is a tool producers may utilize to minimize stress during weaning with little or no reduction in subsequent calf weight gain. Producers should consider animal well-being, cost, labor, calf performance, and facility requirements when deciding which weaning protocol best fits their operation.

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