



## Spaying Heifers as a Management Tool

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Heifer spaying is a management tool with several advantages that outweigh the few disadvantages. For cattlemen unfamiliar with the procedure, here's a quick review. Spaying (ovariectomizing) female cattle is the surgical removal of the ovaries, or female castration. This removes the primary source of estrogen, the hormone that causes estrus. It also, removes the source of ova, which combine with sperm cells after mating to initiate pregnancy and the production of the progesterone hormone. Spaying heifers maintains stocker and feeder heifers in an "open" or neutered status. This also enables early detection of pregnant stocker heifers accidentally bred at a young age.

Prevention of pregnant heifers in a feedlot situation is a plus for all involved, especially considering all the associated complications such as cesarean surgeries, vaginal/uterine prolapses, down and dying heifers and frustrated feedlot personnel. The pregnant heifer that calves in the feedlot costs the feeder approximately \$150-200 due to calving problems, infection, decreased gain, decreased carcass quality and yield. Spaying is not a common practice in Minnesota, but with Minnesota's downgrade in bovine TB status, implications of shipping Minnesota feedlot cattle out-of-state and the advantages with production this maybe a procedure worth investigating with your veterinarian.

The following evaluates the advantages and disadvantages of incorporating heifer "spaying" into your overall management plan.

### Advantages of Spaying

1. Maintaining stocker and feeder heifers in an "open" or neutered status.

2. Early detection of pregnant stocker heifers accidentally bred at a young age.
3. Prevention of pregnant heifers in a feedlot situation with all the associated complications, such as cesarean surgeries, vaginal/uterine prolapsed, down and dying heifers and frustrated feedlot personnel.
4. Elimination of feeding estrous suppression feed additives.
5. Elimination of pregnancy checking heifers upon arrival to feedlots.
6. Elimination of the need to test stocker heifers for tuberculosis when marketed to out of state feedlots.
7. Improved average daily gain and feed conversion when spayed heifers are implanted vs. intact implanted heifers.
8. Ability to graze or feed heifers and steers together.
9. Ability to graze spayed heifers near cow-calf herds with bull present.

### Disadvantages of Spaying

1. Surgery is irreversible; therefore spayed heifers are no longer candidates for being breeding replacement heifers.
2. Cost varies depending on the number being spayed at a particular location.
3. Minimal risk of death loss related to the surgery, depending on expertise of surgeon.
4. Limited service provided by veterinarians in Minnesota to date.

### Spaying Techniques

#### *Flank Spaying:*

Involves an incision being made in the left flank of the

heifer and the two ovaries are surgically removed through the incision. Flank spaying is more labor intensive and costly than the modern vaginal methods now used according to Daryl Meyer, DVM in Fremont, Nebraska.

Flank spaying also incurs occasional incision site infections. Scarring at the incision site is common, which interferes with the hide pulling process at the harvest plant. This results in excess carcass trimming.

### ***Vaginal Spaying Techniques:***

An instrument is used where the ovaries are excised and removed from the heifer or dropped into the abdominal cavity where they are absorbed by the body. Harvest examination revealed no re-attachment of excised ovaries within the abdominal cavity.

Vaginal spaying is faster and a less stressful technique for the heifers and lessens the likelihood and infections of other complications associated with flank spaying. Many more heifers can be safely spayed in a day's time using the vaginal technique, which lowers overall labor cost for producers. As with any surgery, the experience and proficiency of the surgeon are critical.

### **What about Performance after Spaying?**

Studies have shown that spayed heifers respond more positively to implants than intact heifers. Spayed heifers can be grazed, fed and implanted in a manner similar to steers.

One study has shown the average daily gain response to implantation was four-fold greater in spayed than in intact heifers. Heifers spayed and implanted tended to deposit more lean tissue and less fat during this experiment. Other grazing/growing studies have shown an overall 5.5% gain advantage for spayed implanted heifers vs. implanted intact heifers. Finishing studies have shown a 2.5-3% gain advantage for spayed implanted heifers. Feedlot surveys indicate a 0.1-0.3 lbs./day advantage for spayed implanted heifers.

Research trials indicate that spayed heifers in the feedlot, implanted and marketed at the correct time, have about a 2% gain advantage compared to the implanted intact heifer.

The 2% advantage is based on a combined average of studies conducted over a 6 to 7 year period on spayed yearling

heifers shipped to feedlots. Good quality spayed heifers finish and grade at 90-110 days on feed and yield a quality carcass. The spayed heifer will reach optimum grade sooner than her intact counterpart. In conclusion, the spayed heifer implanted and marketed at the proper time will outperform her intact counterpart.

Feedlot operators realize that these figures, coupled with the potential problems of abortion, calving/dystocia problems, and increased labor costs of pregnant heifers make pregnant heifers a definite liability in the feedlot. Spaying also eliminates the visual exposure of the public and customers to heifers calving in a feedlot setting which can lead to poor public perception of the individual feedlot and the industry regarding animal welfare and care.

### **What about MGA?**

In comparison with spaying, many feedlots supplement melengestrol acetate (MGA) to heifers to suppress estrus. Supplementation of MGA blocks the release of luteinizing hormone and maintains a natural estrogen level and therefore preventing ovulation. Feeding MGA results in improved weight gain and feed efficiency when compared to intact heifers without MGA supplementation. However, because MGA is not approved for steers, it can only be fed to pens that contain all heifers. For grazing cattle, MGA may only be supplemented to heifers intended for breeding, and not for back grounding or stocker heifers. In these situations, spaying may be a feedlot operator's only option for suppressing estrus in feedlot heifers and aid in exportation of females to feedlots in other states.

With the increase interest in utilizing the spaying procedure to address out-of-state shipping requirements, the University of Minnesota will be offering a 1-day "Spaying Clinic" for veterinary professionals in June. Please contact Lori Schott at 320-225-5055, or email [wedd1002@umn.edu](mailto:wedd1002@umn.edu) for further information.

For more information on bovine TB call the Bovine TB Hotline: 1-877-MN TB FREE (668-2373) or visit the Minnesota's TB Free website at [www.mntbfree.com](http://www.mntbfree.com).

*Note: Daryl Meyer is a practicing veterinarian located in Fremont, Nebraska. 1-800-494-1045.*