

The Castration of Bull Calves with Chem-Cast²¹

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Until Chem-Cast²¹ became commercially available in early 1984, cattlemen mostly relied on a "jackknife" or other surgical procedure to castrate bull calves. The "rubber band" elastrator or the "pincher" burdizzo method has also been used. However, both of these "bloodless" methods are not without problems. Chem-Cast²¹ is a sterile ready-to-use preparation for injection into the testes of the bull calves to effect castration.

In May, 1984, a trial was designed to compare chemical and surgical castration of bull calves weighing approximately 90 to 200 pounds. On May 8, fifty-six bull calves of mixed breeding were weighed and randomly assigned to be castrated surgically or with the Chem-Cast²¹ injection. The calves were restrained in a "calf cradle" where they were branded, vaccinated and castrated. Surgical castration was effected using an "All In One" castration tool. In this procedure, the scrotum of the calf was disinfected. The bottom one third of the scrotum was then cut off and the exposed testicles removed using the castration tool. No blood stop or other material was administered to the open wound. The castration tool was placed in a disinfectant solution between castrations. Efforts were made not to touch the exposed testicles with anything except the disinfected castration tool.

The calves assigned to the chemical castration group were also restrained in the "calf cradle". Two small syringes equipped with Lur-Loc tips and 1²¹/₁₆ inch, 20 gauge needles were used to inject the Chem-Cast²¹ solution into each testicle of the calf. Prior to injection, the scrotum was disinfected using 70% ethanol alcohol. The scrotum was squeezed to define the testicles. The needle was inserted into the center of the testicle from the top and the injection was completed, with a noticeable increase in testicle size and turgor. Following castration, the calves and cows were placed on crested wheatgrass pasture and observed daily. Approximately two weeks later, the calves were reweighed and visually evaluated for abnormal swelling and infection. (See Table 1 and Table 2) At approximately

205 days of age the calves were again weighed and weaned.

Discussion and Summary: In 1984 (see Table 1), the Chem-Cast^{21/11} castrated calves gained 4.2 pounds while the control calves gained less than a pound during the sixteen day post-castration period. However, at weaning, the control steers were 28.3 pounds heavier than the Chem-Cast^{21/11} steers based on actual weaning weights. This difference was only 11 pounds if we compare adjusted weaning weights.

In 1985, (see Table 2), the differences between each group are small and while weaning weights are not available at this writing, no large differences are expected between groups.

It appears that injection of Chem-Cast^{21/11} into the testicles of 100-200 pound calves at the recommended rates will affect complete and total castration. Cost of the Chem-Cast^{21/11} solution in this trial averaged approximately \$2.00 per calf. Calves treated with Chem-Cast^{21/11} did not appear to suffer any noticeable discomfort or pain although several calves had considerable swelling of the scrotum for four to five days following the treatment.

This trial may be continued in 1986 depending upon 1985 results.

Table 1. Effects of Chemical Castration in Beef Calves in 1984.		
	Chemical Castration	Regular Castration
No. of Steers	27	29
Average weight, day of castration	149.1	153.4
Average weight, 16 days post-castration	153.3	154.3
Gain or Loss/steer (lbs)	+4.2	+0.9
Actual Weaning wt.	475.8	493.3

(lbs)		
Gain/herd	326.7	355.0
Difference		+28.3
Average age at Weaning (days)	219.8	220.5
Adjusted Wean wt. (days)	497.4	508.4
Cost of Chem-Cast ²⁷ per calf	\$2.00	

Table 2. Effects of Chemical Castration in Beef Calves in 1985.		
Group 1:		
	Chemical Castration	Regular Castration
Number of Steers	18	18
Weight, day of Castration (May 2, 1985)	156.9	146.4
13 day post-castration weight (May 15, 1985)	169.4	158.9
Post-Castration Gain	12.50	12.49
Average Calf weight on August 22, 1985	426.7	414.5
112 day gain	269.8	268.1
ADG	2.41	2.39

Group 2:

Number of Steers	7	7
Weight, day of Castration (May 9, 1985)	136.3	125.6
28 day post-castration weight (June 6, 1985)	199.4	180.7
Post-Castration Gain	63.14	55.14
Average daily gain	2.26	1.97
Average Calf weight on August 8,1985	363.57	316.57
112 day gain	227.3	191.10
ADG	2.50	2.10

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