implanted steers had higher grading carcasses with better marbling. From these results there appears to be no advantage to leaving bulls intact and "chemically castrating" them by the use of stilbestrol implants.

Implanting heifer calves at 3½ months of age with either 18 mg. stilbestrol or Synovex-H increased gains approximately 17% over the controls, and increased the carcass value per calf by $3.00 to $8.00. There appeared to be little advantage to either type of implant with the limited number of suckling calves used in these trials.

Creep-Feeding Fall Calves

A. B. Nelson, L. R. Kuhlman, W. D. Campbell

Creep-feeding is a method of increasing the gain and finish of suckling beef calves. In any feeding system increased feed consumption usually results in increased gain; one of the goals in creep-feeding, therefore, is to provide a palatable feed that will be consumed in large quantities as a supplement to the pasture grass and the milk produced by the dam.

There are many factors which must be given careful consideration when making a decision of whether or not to creep-feed. When creep-feeding is practiced it is with the expectation of increased profit. However, in a three-year test with spring-dropped calves (Okla. Agr. Exp. Sta. Bul. B-462) creep-feeding resulted in decreased profits. The calf gains were increased an average of 30 lbs., but the value of this gain was not as great as the cost of the creep-feed. The cows were high-quality grade Herefords grazing native grass pastures where an abundance of forage was available. In a study with calves from two-year-old heifers and in a season of low rainfall creep-feeding was profitable with the steers but not with the heifers. The average consumption of creep-feed in this test was 740 lbs. per head. Upon completion of these tests, attention has been given to the value of creep-feeding fall calves.

One would expect that creep-feeding would be of greater importance with fall calves than with spring calves. The fall-calving cow would be nursing a calf during the season when the forage in the native grass pastures is of lowest nutritive value. Unless the level of supplemental feeding is very high, the milk production of the cow would be expected to be lower than if green grass were available. The provision of creep-feed during this season would greatly increase the nutrient intake of the calf.

In a four-year study with fall calves (Okla. Agr. Exp. Sta. MP-55:72) creep-feeding increased the calf gains an average of 70 lbs. When the cows were fed an average of 1.5 lbs. of cottonseed meal per head daily creep-feeding increased gains 87 lbs. When similar cows were fed 2.5 lbs. cottonseed meal and 3 lbs. grain, the gains were increased 52 lbs.

The average creep-feed consumption per calf was 879 lbs. The selling price per 100 lbs. was not increased by creep-feeding, although the creep-fed calves were fatter, because the price per 100 lbs. as feeders was as high or higher (usually) than for slaughter. Under these conditions creep-feeding was not profitable. In these studies a high proportion of the increased gain resulting from creep-feeding has occurred during the winter months. Such data suggest that it may be desirable to creep-feed only until green grass is available in the spring. This and other factors are being studied in current experiments.

Procedure

On January 7, 1959, 72 calves born in October and November were divided into 4 lots of 18 head. There were 9 steers and 9 heifers in each of 3 lots, and 10 steers and 8 heifers in the fourth lot. A correction for this difference in the fourth lot has been made in order that any difference in average gains among the lots is not due to sex of the calf. The calves were placed with their dams in native grass pastures. The cows were fed an average of 2.5 lbs. of pelleted cottonseed meal per head daily.

The calves in Lots 1 and 2 were fed a mixture consisting of 55 percent steam rolled milo, 30 percent whole oats, 10 percent cottonseed meal and 5 percent cane molasses. Those in Lot 1 were creep-fed until weaning in July. Those in Lot 2 were creep-fed only until April 23, which was the date that supplemental feeding of the cows was discontinued. The calves in Lot 3 were fed the same as those in Lot 2 except that an antibiotic, erythromycin, was added at a rate to furnish 45 milligrams of erythromycin per calf daily. The calves in Lot 4 were creep-fed alfalfa hay. Creep-feeding in Lots 2, 3, and 4 was discontinued on April 23.

Results

In the period from January 7 until April 23 the creep-fed calves in Lots 1, 2, and 3 gained an average of 174 lbs. This is 57 lbs. more than the 117 lbs. gained by the calves fed alfalfa hay (Lot 4). The consumption of creep-feed during the winter was 425, 514, and 517 lbs. for the first three lots, respectively. The average creep-feed consumption of 485 lbs. in these three lots cost $13.00 as compared to the cost of $3.10 for 310 lbs. of alfalfa hay as fed in Lot 4. Since there was not a control group of calves that was not creep-fed, it is difficult to assess the value of the alfalfa hay fed in this trial. A summary of a previous four-year test indicated that creep-feeding from January to April increased gains 56 lbs. in this period. If this gain were used as a base the alfalfa hay was of little, if any, value. However, additional data on the value of creep-feeding alfalfa hay are being collected in a test which is currently in progress.

The addition of 45 mg. of erythromycin per head daily did not increase gains of calves (Lot 2 vs. 3). Feed consumption was nearly equal in the two lots.

Table 1.—Creep-Feeding Fall Calves.

	Lot 1 Creep-fed[1] until weaning	Lot 2 Creep-fed[1] until spring	Lot 3 Creep-fed until spring plus erythromycin[2]	Lot 4 Creep-fed alfalfa hay until spring[3]
Number of calves				
Steers	9	9	9	10
Heifers	9	9	9	8
Average weight per calf, lbs.				
Initial 1-7-59	171	177	174	175
Spring 4-23-59	346	349	348	292
Weaning 7-3-59	512	482	478	457
Gain to spring (106 days)	175	172	174	117
Gain, April to July (71 days)	166	133	130	165
Total gain (177 days)	341	305	304	282
Creep-feed per calf				
Pounds	847	514	517	310
Dollars[4]	22.70	13.78	13.86	3.10
Financial, dollars				
Value of total gain @ $33.50	114.24	102.18	101.84	94.47
Value of gain minus creep-feed cost	91.54	88.40	87.98	91.37

[1] Creep-fed a mixture of 55 percent steam rolled milo, 30 percent whole oats, 10 percent cottonseed meal and 5 precent cane molasess.
[2] Creep-fed mixture plus 45 milligrams of erythromycin per head daily.
[3] Baled alfalfa hay fed in an open bunk.
[4] Creep-feed mixture cost $2.68 per 100 lbs. Alfalfa hay cost $20.00 per ton. Cost of erythromycin was not considered.

In the 71 days from weighing in April until weaning, the calves in Lot 1, which were creep-fed until weaning, gained 2.3 lbs. per head daily. This was also true for the calves which had been creep-fed alfalfa hay until spring. This latter group had gained at a much slower rate during the winter. After creep-feeding was discontinued on April 23 in Lots 2 and 3 these calvs gained 132 lbs. during early summer. Creep-feeding during this period (Lot 1) increased gains 34 lbs. The additional 442 lbs. of creep-feed consumed during early summer by these calves cost $11.31 and the increased gain was valued at $11.39.

Summary

Creep-feeding a concentrate mixture until spring increased the gains of fall calves 57 lbs. more than those creep-fed alfalfa hay. When creep-feeding was discontinued, those previously fed the mixture gained 33 lbs. less than those previously fed alfalfa hay. The continuation of creep-feeding during early summer resulted in an increased feed consumption of 422 lbs. and an increased gain of 34 lbs. when compared to stopping creep-feeding in April. When only feed costs were con-

sidered, creep-feeding for the entire season was more profitable than stopping creep-feeding of the concentrate mixture in the spring, but about equal to creep-feeding alfalfa hay until spring.

Present Research

Additional data concerning methods of creep-feeding and kinds of creep-feeds will be furnished by a test now in progress in which six lots of calves are being fed as follows:

Lot 1—Creep-fed concentrate mixture until weaning
Lot 2—Creep-fed concentrate mixture until spring
Lot 3—Creep-fed pelleted mixture until spring
Lot 4—Creep-fed alfalfa hay until spring
Lot 5—Creep-fed pelleted alfalfa hay until spring
Lot 6—Not creep-fed

An Evaluation of the X-Ray Method for Identifying Carriers of the Snorter Dwarf Gene in Beef Cattle

B. J. Rankin, E. J. Turman,
B. J. Watkins, Doyle Chambers, Dwight Stephens

The present attitude of the beef cattle industry towards dwarfism is in sharp contrast to that of a few years ago. The fear, doubt and confusion accompanying the onset and early history of this hereditary defect has been replaced by one of optimism that dwarfism is under control. Such optimism has been encouraged by the marked reduction in the occurrence of snorter dwarf calves in recent years.

The control measures, practiced by breeders, that are responsible for this decline are pedigree selection and progeny testing. Pedigree selection, or more correctly pedigree discrimination against lines of breeding known to include dwarf carriers, has been the most widely used of these methods. Progeny testing, although the most effective, has been limited mainly to the larger purebred herds because of the expense and time involved.

Pedigree selection can be effective as a means of controlling dwarfism if it is based on accurate pedigree information. In too many cases such information is lacking, and discrimination is based on rumor and hearsay. Under such conditions pedigree selection is useless as a method for controlling dwarfism. Even though reliable pedigree information is available as a basis for selection, wholesale discrimination against certain lines of breeding undoubtedly results in a serious loss to the breed of many superior animals that are in reality free of dwarfism.

It should be emphasized that the presence of known dwarf producers in an animal's pedigree merely indicates that animal could be a carrier.