

# Breeding Yearling Heifers

field studies indicate weight more important than age

Reuben Albaugh

**Breeding beef heifers** so they will calve at two years of age rather than at three years is one method of increasing meat supplies and improving production efficiency without enlarging numbers of breeding animals.

The effects of breeding animals at a young age have been studied in many domestic animals in several experiments throughout the country. In no instance has early breeding proved harmful under experimental conditions where nutrition was kept on a high plane.

Many of the difficulties voiced by practical producers may be controlled successfully—if cattlemen will practice the following methods:

1. Keep heifers in a good, thrifty condition by supplementary feeding.
2. Breed to small-bodied, small-boned, young bulls.
3. Wean and veal calves at about three months of age.
4. Give special care and attention at calving time.
5. Breed so that majority of heifers will calve early, during months of January and February in most parts of California; later in the higher, colder country.

A field study in Monterey County which involved four ranches, demonstrated that beef production could be increased and at the same time greater

economical returns enjoyed where beef heifers are bred to calve at two years.

These data involving four different ranches and 1,407 heifers producing 870 calves show a total production of 202,776 pounds, or 101 tons, of meat with a gross return of \$28,894.56. The average production of these heifers in dollars and cents as two-year-olds was \$20.54 per heifer bred and \$33.21 per heifer that calved. The average production of beef per heifer bred amounted to 144 pounds, or 233 pounds of beef per heifer calved.

The weaning and selling of these calves for veal at about 225 pounds in weight did not prove to be a serious drain on the heifers and did not stunt their growth. This early breeding practice did not interfere with rebreeding as two-year-olds nor with the percentage of the calf crop as three-year-olds. This is believed to have been made possible by the short lactation period—about three months—coupled with supplementary feeding of the heifers.

No information was obtained in this study on the percentage of calves these heifers produced as three-year-olds. Observations on one ranch were that the percentage of calf crop from three-year-old heifers was 10% higher on heifers that calved at two years over those calving for the first time as three-year-olds.

The average percentage of calf crop on

this ranch for 12 years for mature cows was 89.64%. Had the breeding of the yearling heifers interfered with their failure to conceive as two-year-olds, this percentage of calf crop would have been materially lower. If this practice had stunted their growth, they would not have weighed 803 pounds per heifer at the time their calves were weaned at about two years of age.

## Feeding and Care of Heifers

If yearling heifers cannot be fed and cared for properly, this yearling breeding practice should not be undertaken.

The heifers as weaners were fed in addition to range grass and/or grain stubble about one pound of cottonseed cake per head per day for about two months. They were then grazed on native range until about two months before calving time when they were again supplemented with the same amount of cake fed as when they were weaners.

The feeding method varied some on the different ranches. For instance, barley hay was substituted for cottonseed cake on one ranch; on another ranch during a short period of time the heifers were fed grain hay and cottonseed cake, and on another ranch the heifers were not supplemented as two-year-olds. This lack of extra feed on the fourth ranch was re-

Two-year-old Hereford heifer and calf. Calf was approximately three months of age and weighed about 250 pounds, when sold for veal.



flected in the weight of calves and heifers.

The main object on all the ranches was to keep the heifers in a good, strong, thrifty condition. The approximate average weight of the heifers at breeding time as yearlings was 625 pounds. At the time the calves were weaned from the heifers as two-year-olds, the heifers' average weight was 781 pounds. This average weight does not include heifers that did not raise a calf.

These data were gathered in years when feed supplies were above normal, except during 1948. That year feed was very short during the months of December, January and February; however, there was an abundance of late feed. In years when the feed supply is below normal, more supplemental feeding could be expected.

At calving time the heifers were kept in small, convenient fields where they could be watched daily and any heifer having trouble calving was given assistance.

## Breeding

The information collected on one ranch after twelve years' experience seems to indicate that the time of the year when the heifers calve has some bearing on the death loss of both heifers and calves. For example, the heifers calving in January and February had less difficulty than those calving later in the year. Experience on the other ranches reinforced the observation, but no data have been collected in the laboratory to prove this point.

All the ranchers who coöperated in this study recommended the use of young, small-bodied, small-boned bulls because by the use of such animals there would

be less injury at breeding time and the calves might be smaller at birth. No data were collected in this study to indicate that calves sired by yearling bulls were any smaller at birth than calves sired by the same bulls when matured.

Difficulty at calving time and mortality of heifers and calves are problems that are not limited to two-year-old cattle alone. Some loss is usually experienced on most ranches at time of calving with three-year-old heifers and this death loss is even extended to aged cows in some areas where feed and weather conditions are not favorable.

On one ranch Aberdeen-Angus bulls were crossed with Hereford heifers. Less difficulty was experienced at calving time with these two-year-old heifers than with those where the Hereford bulls were used. The information is not sufficient to allow one to draw any definite conclusions but it does show considerable promise.

The crossbred calves seemed more thrifty than the straight Herefords and this was reflected in an increased selling price.

Work carried on at the Ohio Experiment Station shows that the gestation period of Aberdeen-Angus cows is about 16 days shorter than that of the Hereford breed. Where these two breeds are crossed, the period of carrying their calves was eight days shorter than the straight Hereford. This may have some bearing on the theory that the crossbred calves are smaller at birth.

On another ranch a grade three-year-old Brahman bull was used on 20 yearling Hereford heifers. Although the calves were not weighed at birth, the coöperator felt that they were smaller than straight-bred calves and at calving time as only one heifer needed assistance.

The last 30 days these calves gained 2.53 pounds per head per day. They sold for 30c per pound, which was about 2c higher than straightbred Hereford calves from the two-year-old heifers included in this study in 1948.

The completeness of these data on breeding yearling beef heifers as obtained under field conditions indicates that—with adequate nutrition and proper care—this type of breeding program will increase the efficiency of many beef cattle herds without increasing breeding cattle numbers.

The field data, supplemented with results of experiments conducted at the various experiment stations, strongly indicate that the weight of the animal at breeding time may be more important than age.

Other possible advantages of early breeding are as follows:

1. Increased meat production without increased breeding cattle numbers;
2. Greater economical return;
3. Increased size and quality of calves from heifers as three-year-olds.

When Brahman or Angus bulls were crossed on yearling Hereford heifers, the results as compared to breeding Hereford bulls to Hereford heifers indicated in this study—

1. That less difficulty was experienced at calving time;
2. That there was less mortality of heifers and calves at calving time;
3. That the offspring was superior for veal and demanded a higher price on the open market.

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*The study reported here was conducted with the coöperation of Rudolph Asmus, manager, El Sur Ranch, Monterey County.*

**Two-year-old Hereford heifers produced this group of crossbred Angus calves. Average weight at selling time was 225 pounds.**

