Breeding Yearling Heifers

Field studies indicate weight more important than age

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 89.6%. 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-
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 aver-
age 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 ex-
pected.

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 assist-
ance.

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 Janu-
ary 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 col-
lected 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 Experi-
ment 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 in-
crease the efficiency of many beef cattle
herds without increasing breeding cattle
numbers.

The field data, supplemented with re-
results of experiments conducted at the
various experiment stations, strongly in-
dicate 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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Monterey County.

The study reported here was conducted with
the cooperation 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.