



Cattle Producer's Handbook

Management Section

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How to Select, Grow, and Manage Replacement Heifers

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The costs of producing replacement heifers make up a major portion of the budget of most beef operations. Nationally, about 7.5 million heifers are developed annually to replace cows removed from the cow herd. Costs are estimated to exceed \$500 for each heifer kept for breeding. Of these, 20 percent fail to conceive and calve as 2-year-olds, and another 20 percent do not rebreed to calve as 3-year-olds. These losses can be reduced and profitability can be improved by proper selection, nutrition, and management programs for these heifers.

Selection

Actual replacement rates vary ranch-to-ranch and year-to-year but average about 15 percent per year. Keeping more heifers than are actually needed will allow culling at strategic points in a heifer's life as she develops. If marketing schemes allow, some producers can hold the top 40 to 50 percent of the heifer calves for possible replacements. Thus, animals can be evaluated at strategic growth points during their life and culled for poor reproductive or growth traits. If calves other than replacement heifers are sold at weaning time, this is not a feasible management practice.

Puberty and fertility are important and interrelated traits. Puberty is a function of age and weight. Beef cattle breeds currently used in the United States have the genetic ability to reach puberty at appropriate ages if managed properly. Thus, selection and management programs should emphasize animals and methods that develop proper weights. Actual weights reflect the progress to mature weight.

A Nebraska study indicates that heifers that are light at weaning or that aren't allowed to gain adequate weight from weaning until breeding will fail to show heat at the desired time. Hereford heifer calves averaging 350 pounds at weaning showed first heat 45 days later than heifers of

the same age that averaged 428 pounds at weaning. Both groups were fed to gain .81 pounds per day, which is adequate for most replacement heifers. The smaller heifers (350 pounds) did not breed early in the breeding season. Thus, larger heifers at weaning tend to breed earlier than small heifers. Late breeding means late calving, lighter body weights, and can be part of an overall economic problem.

A heifer should reach 65 percent of her mature weight by breeding time and 85 percent at calving time. In general, it's a good idea to select the larger calves at weaning. Weaning weight is a function of genetics and a cow's ability to give milk. Thus, the larger calves should come from the higher-producing cows, and they should be genetically superior in production of growth and milk. The larger calves are usually also older; thus, chances of early conception are higher.

In addition to selecting on weight, pick heifers that have the potential for a long productive life by choosing those with structural soundness in feet and legs, and with a straight strong back. Consider the skeletal size or frame, indicated by height at the hip and length of body. Avoid heifers with abnormally heavy muscling, an indication of a lack of femininity. Select heifers with well-developed sex organs, and avoid those with excessive fat or waste in the brisket.

Growth promoting implants are not recommended for any prospective breeding animals, either heifers or bulls. While implants will increase growth rate, the risks far outweigh any potential benefits. Among the problems encountered are vaginal/uterine prolapses, late puberty, and reduced conception rates.

Try to select a heifer based on her dam's performance record. Cows should calve regularly every 12 months and