Forages for Replacement Heifers in the Northern Great Plains

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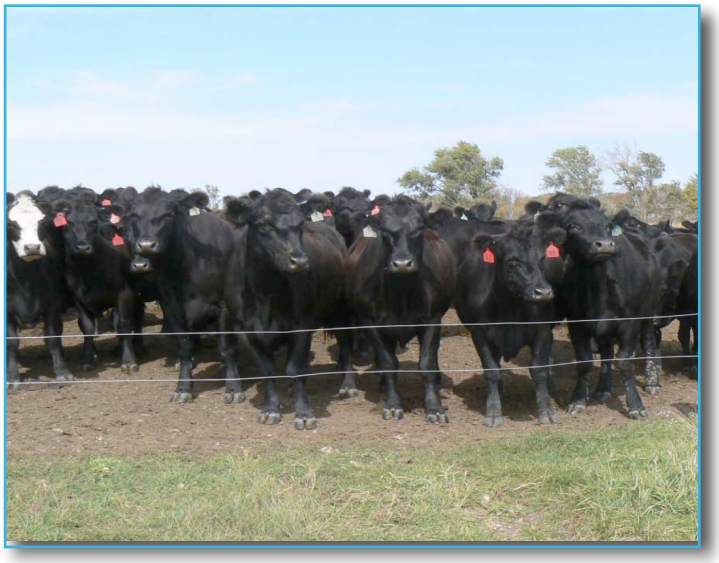
With tighter margins in the cattle business, it is important for producers to scrutinize management practices to discover areas in which changes can be made to enhance profitability. Development of replacement heifers is one of the largest economic investments for cow/calf producers; in the average cowherd, producers do not begin to realize a return on investment from a replacement heifer until after their third calf. To secure long-term profitability of retaining replacement heifers, it is pivotal for cow/calf producers to have management practices in-line which focus on ensuring heifers kept as replacements are successful in conceiving and raising a calf through the early years (Photo).



Age, body weight, and breed are the three predominant factors contributing to the onset of puberty in the replacement female. As a rule of thumb, heifers should be 65% of their mature body weight at the beginning of the breeding season. Management of replacement heifers should begin no later than weaning or earlier, if possible. When heifers are grown at a slow rate of gain from weaning until 30-60 days prior to the beginning of the breeding season, then placed on a high plane of nutrition for the remaining 30-60 days, age at puberty is decreased and a greater number of heifers will be cycling at the beginning of the breeding season. Furthermore, when placed on a higher plane of nutrition prior to breeding, development and recruitment of follicles is increased, a management practice commonly referred to as "flushing."

With simple pasture management practices, it is possible, and many times more cost effective, for beef producers to use forage-based systems rather than concentrate feeds to achieve the goals mentioned above. For example, assume the average mature body weight of a group of replacement heifers is 1,200 lbs, average weaning weight is 550 lbs, and there are 160 days from weaning until one month prior to breeding. Following the "slow-fast" method for development, with a target body weight of 780 lbs at one month prior to breeding, the targeted gain for the initial 100 days is 1.0 lb/day and 2.2 lbs for the remaining 60 days. As pasture quality declines and snow cover sets in through the winter months in the northern Great Plains, producers with spring calving systems can rely on harvested forages to meet the nutrient requirements of the growing heifer. Combinations of alfalfa and bromegrass hay that were harvested in optimum conditions would be excellent choices for forages to be used during this time. The amount and percentage of forages fed to the growing heifer at this time depends on forage quality and should be monitored closely to ensure protein and energy levels are adequate to satisfy the needs for the growing heifer.

Once past the winter months and at the onset of spring green-up, producers developing heifers in spring calving systems can take advantage of the high protein and energy content of immature cool season bromegrass pastures to achieve accelerated rates of gain to increase cyclicity and overall conception rates. In addition, legumes such as alfalfa, birdsfoot trefoil, red or white clover, that are inter-seeded into bromegrass pastures, provide excellent sources of additional protein and energy during this time. Lastly, producers who have the ability to more intensively graze pastures may choose to implement a rotational grazing program at spring green-up to increase harvest efficiency and sustain pasture quality over a longer period of time.

Access to high-quality pasture and harvested forage to develop replacement heifers varies among operations. Individual producers should assess their situation and resources and make management changes as feasible.