Dairy Heifers Grazing Meadow Fescue or Orchardgrass

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Heifers grazing at Marshfield ARS.

Dairy heifers are typically managed in confinement and fed harvested and stored forages. With increasing costs, there has been interest in the use of grazing for rearing heifers to control costs and incorporate perennial forages. Use of rotational grazing can meet the needs of heifers to grow between 1.8 and 2.2 lbs gain/day with good pasture management. They can be moved every 1-4 days depending on forage availability, paddock size, and animal size. Use of adaptive grazing (watching residue amounts to determine timing of moves) helps minimize overgrazing and improve regrowth. Grazing can help reduce labor for feeding and cleaning, reduce feeding equipment needed, and minimize housing needs and bedding during the grazing season even if only a portion of heifers are grazed. They can be grazed starting at ~4-6 months of age. Younger heifers require higher-quality forage and a high level of pasture management to maintain pasture growth and quality. It is simpler to graze older heifers with lower forage quality needs, but they require higher intakes so lower stocking rates are needed to allow adequate forage availability.

A recent University of Wisconsin Marshfield Agricultural Research Station project compared grazing different grass species (orchardgrass-Haymaster, or meadow fescue-Hidden Valley) to determine forage production, quality, and resulting heifer growth. Both were managed as a monoculture with no legumes seeded. Heifers were 5-6 months old when put on pasture in mid- to late May each year. They were rotated to a new paddock every 3-4 days for a rotation length of 35 days. Only minerals were supplemented with no other concentrates provided. Nitrogen was applied after the first rotation (avoiding excessive growth in early summer that could not be captured by grazing) and again in mid-August to increase fall growth. Overall, forage available for grazing (>3" above soil surface) was similar between the two grass species with only an advantage in 2016 for orchardgrass. Orchardgrass averaged 1,300 lbs forage dry matter (DM) available per acre with meadow fescue averaging 1,210 lbs DM available per acre when heifers were moved into a new paddock. Forage quality was better for meadow fescue with lower neutral detergent fiber (NDF) - 53.4%, higher NDF digestibility (NDFD) - 65.4% of NDF, and higher protein - 15.4%, than orchardgrass (56.4% NDF; 61.8% NDFD; 12.8% crude protein). Heifer growth across the 3 years was similar between orchardgrass (1.63 lbs/day) and meadow fescue (1.72 lbs/day). However, there was variation in growth – heifers grazing orchardgrass had slightly lower gains (1.49 lbs/day) than those grazing meadow fescue (1.78 lbs/day) in 2017. In 2017, orchardgrass headed out in early June. Due to heavy rains, clipping was delayed a couple weeks causing it to have less vegetative growth and lower quality for an extended time. Meadow fescue headed out later and forage quality was less affected by delayed clipping, so it was able to maintain higher forage quality throughout the grazing season. Orchardgrass had a larger spring growth flush, more intense grazing and clipping after heading was needed to maintain vegetative, high-quality growth. Varieties mature differently and have varying forage growth distributions. Later-maturing varieties help slow heading and maintain higher-quality forage if clipping or excess forage harvest is delayed. Monthly monitoring is recommended to ensure heifers are meeting goals, with adjustments made to grazing management or use of supplements (silage, hay, concentrate) to support gains on pasture.

Grazing is a viable option for rearing heifers and allows for reductions in time spent in confinement on concrete. Resources are available including Extension personnel, county land conservation staff, and NRCS staff to assist in planning a grazing system.