



United States
Department of
Agriculture

Animal and
Plant Health
Inspection
Service

Veterinary
Services

Growth of Dairy Heifers in the United States

National Animal Health Monitoring System

Dairy heifer growth represents the culmination of many feeding, health, and management practices on today's dairy operations. Growth is fundamentally important in determining the age at which heifers can be bred and become productive units of the operation. Heifers that calve with less than optimal body weight have been shown to produce less milk during the first lactation and, therefore, are less profitable to the dairy producer.

Heifer growth was measured as part of the U.S. Department of Agriculture's 1991-92 National Dairy Heifer Evaluation Project (NDHEP). The study was sponsored by the National Animal Health Monitoring System (USDA:APHIS:VS) and included 1,811 dairy operations in 28 states.¹ To be included in the study, the operations had to have greater than 29 milking cows. Participants were randomly chosen so that the results would be representative of 78 percent of the National dairy cow population. The operations represented a variety of herd sizes and management types.

Growth data were determined for those producers willing to measure their heifers with the assistance of the State or Federal Veterinary Medical Officers working on the project. The participating producers are not necessarily representative of the entire population. Over 9,000 animals (9,857) were measured in the heifer growth evaluation, and most of the animals measured were Holsteins (greater than 95 percent). The Hostein results will be discussed here.

Figure 1. Average Holstein Replacement Heifer Weight from Birth to 24 Months of Age (n = 8,505)

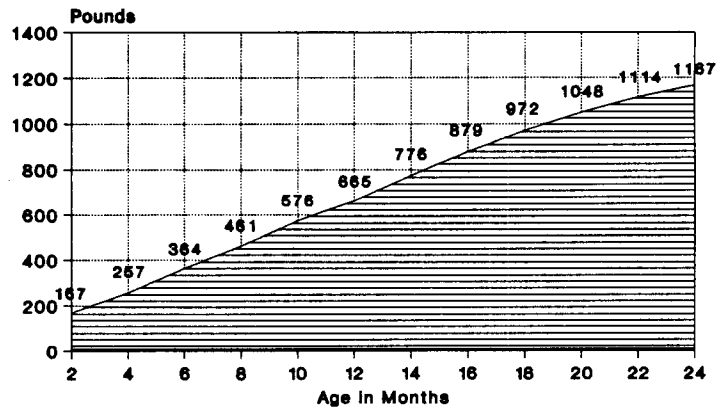
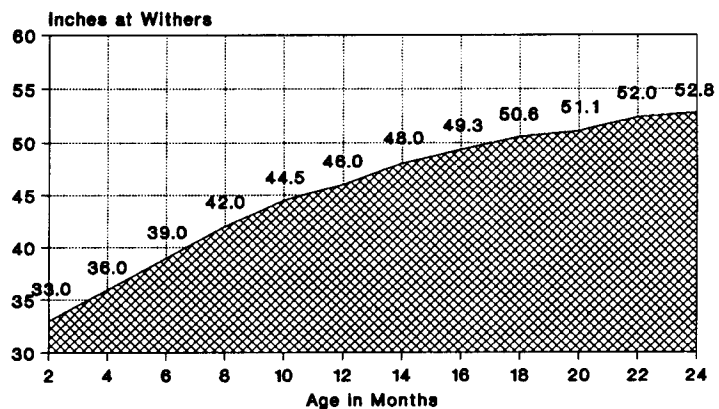


Figure 1 shows the weight averages for the participating operations : 364 lbs (6 months), 665 lbs (12 months), 972 lbs (18 months), and 1,167 (24 months).

Average wither heights, shown in Figure 2, were 39 inches (6 months), 46 inches (12 months), 51 inches (18 months), and 53 inches (24 months).

Figure 2. Average Holstein Replacement Heifer Height at Withers from Birth to 24 Months of Age (n = 8,505)



¹States participating in the National Dairy Heifer Evaluation Project (NDHEP): Alabama, California, Colorado, Connecticut, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, Nebraska, New Hampshire, New York, North Carolina, Pennsylvania, Ohio, Oregon, Rhode Island, Tennessee, Vermont, Virginia, Washington, and Wisconsin.

Reported average age at first calving in the entire NDHEP study was 25.9 months of age. While many of the heifers measured in the growth evaluation portion of the study would not have calved by 24 months of age, most were large enough to have been bred earlier and most likely could have calved by 24 months.

Figure 3 shows the average weights of various age animals by regions outlined in Figure 4. While differences were not significantly wide, there were tendencies for the Western and Midwest states to have larger heifers than the Northeastern and Southeastern states. Differences were not evident in the wither heights, as shown in Figure 5. Variation in feeding and management systems are most likely the reason for body weight variation from region to region.

Heifer growth is an important parameter to be utilized in evaluating a dairy heifer's health, nutrition, and well being. The National growth measurement data set for dairy heifers may be used to produce an improved evaluation tool for producers. Its use will be further beneficial when combined with other NDHEP data on the health and economics of the nation's dairy replacements.

Participants in the NDHEP also included the National Agricultural Statistics Service (USDA) and the National Veterinary Services Laboratories (NVSL). The Cooperative Extension Service provided editorial assistance. For more information on the National Dairy Heifer Evaluation Project and other NAHMS programs, please contact:

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Figure 3. Mean Holstein Heifer Weights by Region (n= 8,505)

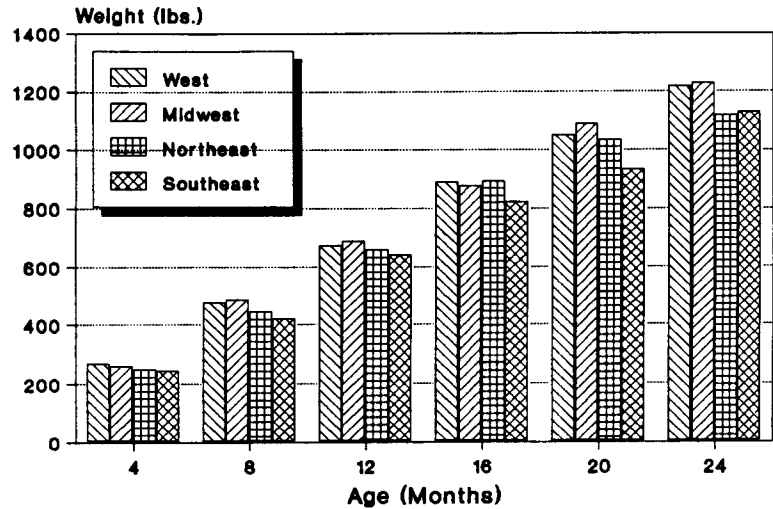


Figure 4. Regions Used for NDHEP Growth Analysis

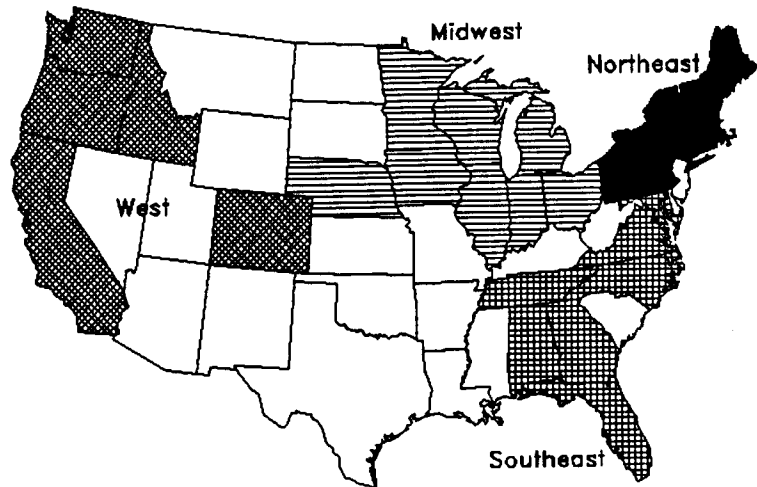


Figure 5. Mean Holstein Heifer Heights at Withers by Region (n = 8,505)

