

804 Lactation performance of Holstein cows fed orchardgrass silage. D. J. R. Cherney\*, J. H. Cherney, and L. E. Chase, Cornell University, Ithaca, NY.

Two studies were conducted to study the effects of orchardgrass quality on lactation performance. In study one, 60 Holstein cows in midlactation ( $109 \pm 49$  DIM initially) were randomly assigned to one of three diets for the 10 wk trial. Each diet was balanced to provide NDF equal to 0.95 % of BW, primarily from forage with corn silage (47 % NDF) set at 20 % of the total forage DM. Forages studied included alfalfa (52 % NDF; ALF), an early cut orchardgrass (46 % NDF; OGE) and a late cut orchardgrass (68 % NDF, OGL), all ensiled. Diets were balanced for  $NE_L$  (38 Mcal/d) and CP (4.0 kg CP/d) with high moisture corn grain and soybean meal and fed as TMRs. Forages comprised 53 %, 47 %, and 44 % of total diet DM for ALF, OGE, and OGL based TMRs, respectively. Milk production tended to be higher for cows fed the OGE ( $38.7 \pm 9.8$  kg/d) than for cows on the ALF ( $34.7 \pm 7.4$  kg/d) or OGL ( $32.9 \pm 8.3$  kg/d). This was primarily due to a higher DMI by cows on OGE ( $23.5 \pm 1.0$  kg/d) than on other diets ( $22.0 \pm 1.1$  and  $21.3 \pm 1.6$  kg/d for ALF and OGL, respectively). Milk production differences between diets were larger early in the study and in cows less than 60 DIM. In a second study, 50 early-lactation ( $57 \pm 28$  DIM initially) Holstein cows were assigned randomly to one of two TMR diets: early cut orchardgrass silage (54 % NDF) or late cut orchardgrass silage (58 % NDF). As in study one, each diet was balanced to provide NDF equal to 0.95 % of BW and were balanced for  $NE_L$  (38 Mcal/d) and CP (4.0 kg CP/d) with high moisture corn grain and soybean meal. Cows on the early cut TMR had higher ( $P < 0.01$ ) DMI ( $19.3 \pm 3.4$  kg/d) during the 7 wk trial than those on the late cut TMR ( $15.6 \pm 2.8$  kg/d). Higher DMI by the cows on the early cut TMR resulted in more ( $P < 0.05$ ) milk produced ( $35.3 \pm 6.8$  kg/d) than those on the late cut TMR ( $31.3 \pm 5.8$  kg/d). Results indicate that quality of orchardgrass NDF is important in determining DMI and resulting milk production.

Key Words: Grass, Forage Quality, Lactation