

804 Lactation performance of Holstein cows fed orchardgrass silage. D. J. R. Cherney<sup>1</sup>, 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 = 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<sub>i</sub> (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 ± 9.8 kg/d) than for cows on the ALF (34.7 ± 7.4 kg/d) or OGL (32.9 ± 8.3 kg/d). This was primarily due to a higher DMI by cows on OGE (23.5 ± 1.0 kg/d) than on other diets (22.0 ± 1.1 and 21.3 ± 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 = 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<sub>i</sub> (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 ± 3.4 kg/d) during the 10 wk trial than those on the late cut TMR (15.6 ± 2.3 kg/d). Higher DMI by the cows on the early cut TMR resulted in more (P < 0.05) milk produced (35.3 ± 6.8 kg/d) than those on the late cut TMR (31.3 ± 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