Wisconsin - Dairy Cows Milk Well on Kura Clover-Reed Canarygrass Silage

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Research has shown a mixture of Kura clover and reed canarygrass can provide high-quality forage for dairy cows in regions where alfalfa persistence is a problem. This mixture has proven to be extremely persistent in the northern U.S., but information on dairy cow performance potential was lacking.

Twenty lactating Holstein cows were used to compare DM intake and milk production from diets containing either Kura clover-reed canarygrass silage (KRS) or alfalfa silage (AS). The forages were cut, wilted and ensiled in horizontal plastic bags at Arlington, WI, and allowed to ferment for >50 days before beginning the experiment. Both silages fermented well, producing primarily lactic acid and some acetic acid. The KRS was ~40% Kura clover and 60% reed canarygrass. The NDF concentrations of AS and KRS were 37 and 47% DM, respectively; however, the corresponding NDF digestibilities were 45 and 65% of NDF.

Table 1. *Effects of alfalfa silage and kura clover-reed canarygrass silage diets on milk yield and milk composition at Arlington, WI.*

Item	Alfalfa Silage TMR	Kura clover-reed canarygrass silage TMR
Production	----------*Lb/day*----------	
Milk Yield	76	73
4% FCM	72	68
Fat	2.8	2.6
Protein	2.5	2.3
Lactose	3.7	3.5
Milk Composition	----------*%*----------	
Fat	3.7	3.5
Protein	3.2	3.2
Lactose	4.8	4.8

Treatment diets were TMRs formulated with 57% of total DM as either KRS or AS. The remainder of both diets was 32% ground high-moisture corn and 11% protein-mineral supplement. The resulting crude protein and NDF concentrations of the TMRs were 20 and 26% DM for AS, and 17 and 33% DM for KRS, respectively.

DM intake (53 vs. 50 lb) and 4% fat-corrected milk production (72 vs. 68 lb) were greater for cows fed AS than for cows fed KRS. Cows consumed more NDF and more digestible NDF when fed KRS diets compared with AS diets, but the amount of undigested NDF was similar between diets. Cows produced 1.5 lb of milk/lb of DM consumed regardless of diet, indicating that the digestible NDF of KRS was utilized as efficiently as the cell wall constituents of AS; but the intake of cows fed KRS may have been limited by rumen fill. With diets formulated to contain ~60% of DM as forage, cows fed KRS consumed more NDF but less total DM, resulting in slightly less milk yield than cows fed excellent-quality AS. These results demonstrate that a mixture of Kura clover and reed canarygrass can substitute for alfalfa, where alfalfa persistence is problematic, with minimal impact on dairy cow performance.