Factors affecting profitability on Wisconsin dairy farms

M Dutreuil[1], V.E Cabrera[1], R Gildersleeve[2], C.A Hardie[1]; UW Madison, Madison, WI, USA[1], UW Extension, Lancaster WI, USA[2]*

A survey was implemented on 131 Wisconsin dairy farms to understand the impact of farm management practices on profitability. Farms were selected across 3 systems: conventional (C), grazing (G) and organic (O). The O farms were certified organic, the G farms were using pasture as the main source of feed during the grazing season, which was at least 120 days long, and the C farms were the non-organic, non-grazing farms. The objective was to characterize main factors associated with profitability. A cluster analysis using complete linkage was conducted on 20 farms as preliminary analysis: 4 O, 4 G and 12 C. The analysis resulted in 3 clusters. Cluster 1 included 1 O, 2 G and 6 C farms; cluster 2 included 4 C and 1 G farms; and cluster 3 included 3 O, 1 G and 2 C farms. Cluster 1 included farms with the largest land base (284 acres) but intermediate values for milk production (15,582 lbs/cow per year), milk composition (3.78% fat and 2.99% protein) and milk price ($16.73/cwt). Although estimated dry matter intake (DMI) during the winter was the highest (52.0 lbs of DMI/cow per day), percentages of each diet ingredients in winter were intermediate compared with farms in clusters 2 and 3 (20% grass silage (GC), 32% hay, 12% corn silage (CS) and 36% concentrates (CO)). Farms in cluster 1 can be defined as "intermediate farms" with an IOFC of $5.97/cow per day. Cluster 2 included farms essentially similar to cluster 1 in terms of number of cows (71) and land base (234 acres). The estimated dry matter intake during the winter was intermediate on those farms compared with farms in cluster 1 and 3 (44.8 lbs of DMI/cow per day). Milk production (23,731 lbs/cow per year) and percentage of concentrate in the diet (46%) were the highest, while milk composition (3.55% fat and 3.03% protein) and milk price ($15.82/cwt) were the lowest. Farms in this cluster can be defined as "*productive efficient farms*" with an IOFC of $8.09/cow per day. Cluster 3 included farms with the smallest land base (133 acres) and the fewer number of cows (48). Milk composition (4.36% fat, 3.25% protein) and price ($21.82/cwt) were the highest, while milk production (9,140 lbs/cow per year) and estimated dry matter intake during the winter (39 lbs

of DMI/cow per day) were the lowest. Forages were the main constituents of the winter diet of the cows on those farms (17% GS, 54% hay, 5% CS). Farms in cluster 3 can be defined as "*low input farms*" with an IOFC of $5.22/cow per day. Each cluster included farms from different systems. Farms in each cluster are more similar to those in the same cluster than to other farms with the same system in another cluster. Consequently, preliminary results suggest that the farm system is not a good predictor of profitability. Variables such as milk production, milk price, or feeding management practices play a more important role in describing dairy farms' profitability.