

**Mixed ration and free cow traffic in automatic milking: effects on production and milking frequency***M. Patel, H. Driscoll and E. Spörndly**Swedish University of Agricultural Sciences, Department of Animal Nutrition and Management, P.O. Box 7024, 75007 Uppsala, Sweden; mikaela.patel@slu.se*

One of the most important factors to maintain high production level in automatic milking systems is well-functioning cow traffic and frequent visits to the milking unit. Low milking frequencies may jeopardize udder health and milk yield. The aim of this study was to evaluate the effect of different feeding strategies on high yielding dairy cows. Thirty-eight cows were randomly allotted to either a mix of grass/clover silage and concentrate (MIX; 12.1 MJ ME) or separate ration (SR) of silage (11.4 MJ ME) and concentrate during a ten week experiment in a free cow traffic system. The feeds were from the same silos/batches and the mix and silage was fed ad libitum. The concentrate ration in the SR treatment was continuously adjusted in relation to silage intake to ensure that the silage/concentrate ratio was the same in both treatments. Daily feed intake, milk yield and milking frequencies were recorded automatically and the milk constituents analysed fortnightly. The statistical model included treatment, parity and days in milk using a mixed model with repeated measurements and cow as random variable. The results revealed no significant differences in somatic cell count or milk production with 35.0 and 35.4 kg ECM/day in the MIX and SR groups, respectively but feed intake in the MIX group was significantly higher ( $P < 0.05$ ) (26.8 vs 24 kg DM/day). Milking frequency was also higher in the MIX compared with the SR group, 2.6 and 2.3 milkings/day, respectively, which was unexpected since nutrient dense mixed feed are often claimed to lower milking frequency ('lazy cow syndrome'). The same pattern remained when fetched visits were excluded from the analyses. In conclusion, this study showed no evidence of lower milk frequencies or milk yield when dairy cows are fed a nutrient dense mixed ration in a free cow traffic system.