HIGHLY DIGESTIBLE FIBRE SUPPLEMENTS FOR COWS GRAZING RYEGRASS-CLOVER PASTURE

T. TOHARMAT*, R.T. COWAN**, J.H. TERNOUTH* and R.J. MOSS**

Cows grazing highly digestible pastures and given large amounts of cereal grains often produce a low-fat milk (Thomas 1984). The value of different supplements in overcoming this syndrome was examined.

Twenty Holstein-Friesian cows in early lactation in June 1989 were blocked on calving date and milk yield and assigned to four supplementary feeding treatments in a randomised complete block design. Pastures were almost pure stands of irrigated swards of *Trifolium repens* cv. Haifa and were stocked at four cows/ha. Supplements of rolled barley (B), rice pollard (RP), wet pineapple pulp (PP) or wet brewers' grains (BG) were offered twice daily to provide 46 MJ ME/cow.day for 16 weeks. Supplement intake was determined by weighing residues after feeding. Herbage intake was determined at weeks 7 and 13 using intra-ruminal chromium capsules (Captec) to measure faecal output and *in vitro* digestion of hand-plucked herbage to measure digestibility. Milk yield and composition and live weight (LW) were measured weekly.

	Treatments				
	B	RP	PP	BG	SE
Feed intake (kg DM/day):					
Supplement	3.6^{a}	3.1^{ab}	2.6^{b}	3.4^{ab}	0.28
Forage	12.2	12.4	13.6	12.8	0.79
Total intake:					
Protein (kg/day)	3.2	3.1	3.2	3.5	0.19
NDF (kg/day)	4.4^{b}	4.1^{b}	5.8^{a}	5.7^{a}	0.27
Energy (MJ/day)	177.3	158.2	171.9	165.9	9.17
LW gain (kg/day)	0.76	0.69	0.65	0.70	0.07
Milk yield and composition:					
Total (l/day)	21.14	22.22	22.60	22.84	1.18
40 g/kg FCM (kg/day)	17.7^{b}	17.35^{b}	21.17^{a}	20.1^{ab}	1.05
Butterfat (g/kg)	27.7^{bc}	23.9^{c}	34.1^{a}	31.0^{ab}	1.86
Protein (g/kg)	31.8^{ab}	31.2^{b}	33.6^{a}	31.5^{ab}	0.69
Lactose (g/kg)	45.8	46.0	47.0	47.2	0.59

Means with different superscripts are different ($P<0.05$).

The cows fed the pineapple pulp and brewers' grains had higher fibre intakes and produced more FCM. Milk butterfat and protein concentration was highest from cows fed pineapple pulp. Milk yield, lactose concentration and liveweight gain were unaffected by the supplement.

THOMAS, C. (1984). In 'Milk Compositional Quality and its Importance in Future Markets', p.69, eds. M.E. Castle and R.G. Gunn. (Occ. Publ. Br. Soc. Anim. Prod. No. 9).

* Dept. of Agriculture, The University of Queensland, Queensland 4072
** QDPI, Mutdapilly Research Station, M.S. 825, Ipswich, Queensland 4305