

ECONOMICS OF MILK PRODUCED FROM TEMPERATE GRASSES IN THE SUBTROPICS

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Temperate perennial grasses may improve the production of irrigated farms in the subtropics by reducing the establishment costs associated with the annual ryegrass sowing, increasing autumn production and improving irrigation efficiency, thereby increasing the gross margin of milk production. In the past, grass persistence has been the cause of poor performance of these dairy pastures. Recently released cultivars of perennial grasses have performed better in the subtropics (Lowe and Bowdler 1995) and this experiment assessed their milk production potential.

Three perennial grasses, (*Festuca arundinacea* cv. AU Triumph, *Bromus willdenowii* cv. Matua, *Lolium perenne* cv. Yatsyn) were compared with annually-sown ryegrass (*Lolium multiflorum* cv. Concord in pure swards fertilised with 50 kg N/ha each month of the year. Milk yield and quality and gross margin of milk production from Holstein-Friesian cows were measured over 3 lactations. Pastures were grazed on a 1-week on, 3-weeks off rotation and stocked at 3 cows/ha. Animals grazed pastures for 24 hours in winter and spring but only at night in summer because of lack of shade. In autumn, all except AU Triumph required 6 weeks spell to re-establish stands from seed. Both ryegrasses required oversowing each year to maintain adequate plant density, Matua regenerated from self sown seed and only AU Triumph persisted unaided over the 3 years. Animals were fed 5 kg of a grain/minerals mix daily and a measured ration of maize silage or lucerne hay when off the pasture areas. Gross margins were calculated using the Dairy Farm Accounting Scheme (Busby 1994).

In 1992/93, cows grazing Yatsyn produced more ($P<0.05$) milk than those on AU Triumph (Figure 1) but there was no difference between Yatsyn, Matua and Concord. There were no differences in milk production in 1993/94 due to a larger standard error. In 1994/95 milk production from Matua was greater ($P<0.05$) than from Concord but Matua, AU Triumph and Yatsyn were similar. Lactation length and butterfat and protein content of the milk were similar in all lactations. There was a higher lactose content in milk from Matua than from Yatsyn in 1994/95. Yield of protein was highest from cows grazing Yatsyn in 1993/94 and 1994/95. Liveweight differences were small except in 1993/94 when cows grazing AU Triumph lost more than other groups. Calving weight increased over the 3 lactations.

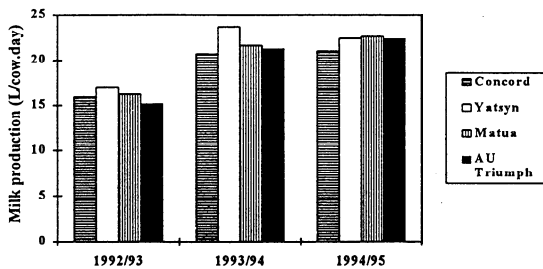


Figure 1. Milk production from 4 temperate grasses

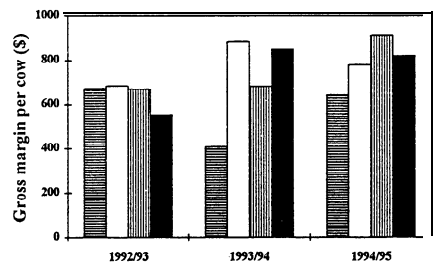


Figure 2. Gross margin per cow of milk produced from 4 temperate grasses

At 1994/95 prices, the best gross margins per cow were \$682 (Yatsyn), \$882 (Yatsyn) and \$908 (Matua) for 1992/93, 1993/94 and 1994/95 respectively (Figure 2). AU Triumph had the lowest gross margin in the first lactation while Concord was lowest in 1993/94 and 1994/95. Matua and Yatsyn produced the best overall result but AU Triumph improved each lactation and this is related to better persistence of fescue compared with the other 3 grasses.

BUSBY, G. (1994). Queensland Department of Primary Industries Information Series Q195006. (QDPI: Brisbane).

LOWE, K.F. and BOWDLER, T.M. (1995). *Aust. J. of Exp. Agric.* 35: 57 1-8.