

# Reduced stocking rate prospect 'appals' scientist

The prospect of dairy-farmers decreasing stocking rates as a rule-of-thumb approach to increasing milkfat production per hectare is 'appalling' and fraught with danger, says **Arnold Bryant**.

Most NZ dairyfarmers are not stocked to maximum for good reasons applying to their particular circumstances.

In general it is dangerous to believe that a farmer can maintain production/ha by reducing the stocking rate.

Dr Bryant added his voice to those of other science leaders at *Taranaki Dairyfarmers Week* in advocating best utilisation of available pasture by better-quality cows.

This approach to increasing milkfat production per hectare will mean that while numerical stocking rates may remain the same, effective stocking rates will increase.

Higher breeding index cows require more feed/cow.

Dr Bryant is dairy development group leader with MAF Technology at Ruakura.

*Dairyfarmers Week* speakers agreed that in the drive for maximum milkfat/ha, some top farmers with top cows may be running into a feed barrier.

But this bracket is small. The Livestock Improvement Corporation deputy general manager, **Dr Brian Wickham** pointed out that only 1% to 2% of NZ herds have BI (breeding index) averaging 135 or above.

Dr Bryant outlined an example of the feed barrier. Ruakura's herd next year will have a BI of 140. With production 700kg milkfat/ha, Ruakura cannot take advantage of higher BI unless it grows more feed.

An option to allow full feeding of high BI cows appears to be reduced cow numbers. But all the data points to lower production/ha if stocking rate is decreased.

NZ Dairy Board consulting officer at New Plymouth, **John Wells** asked whether the feed barrier nudged by top herds using all available grass spelt the end of development of New Zealand's pastoral-based dairy industry.

After a decade of proven progress in dairy cow improve-

ment through breeding, 'is it showdown time?'

"Things will not be as simple from now on for those at high stocking rates."

Mr Wells said research farms such as at Massey and Ruakura have in the past provided answers and inspiration for the dairy industry; 'let's hope it continues.'

Dr Bryant believes a key to dairyfarming's future lies now in plant breeding, with big advances in the last 10 years amid deregulation of the seed industry.

"We will see some gains in higher producing ryegrasses. This is a competitive area that is of benefit to all concerned." Unfortunately, the benefit to dairy production may be only a few per cent.

Summarising cow breeding progress, Dr Wickham said BIs 'have been doing something good.' Production/cow has risen steadily in the last 20 years. Changes in management and other improvements such as in animal health have contributed, but the BI concept gave extra production/cow.

By 1995, NZ Dairy Board premier sires (Holstein-Friesian and Jersey) should be approaching 160 BI milkfat. "The question then will be: *How do we manage cows with BI 160?*"

Dr Bryant reported on Ruakura work that started several years ago comparing high BI (125) and low BI (100) Jerseys. At an average 4 cows/ha, high BI cows produced an extra 32kg milkfat/cow, a difference of 23%.

Major difference between the 2 groups was feed intake, with no difference in the way the groups digested food.

Demands made by the high BI animal's udder motivate her greater appetite.

**Table 1: Differences in intake (kg of drymatter/day) and production/day (kg milkfat and protein).**

	High BI	Low BI
Liveweight	372kg	337kg
Intake kg DM/day	14kg	12.3kg
Production		
Milkfat	0.87kg	0.70kg
Protein	0.61kg	0.52kg

During lactation, the high BI cows dropped more than 2 condition scores; the low BI cows stayed at much the same score.

High BI cows produced at a higher level than low BI cows throughout lactation; low BI reached the drying-off stage sooner and were more prone to a short lactation.

Dr Bryant summarised differences between the 2 groups as: feed intake; energy partitioning; and lactation length.

**Dr Colin Holmes** of Massey University's animal science department said cows have a fixed feed maintenance requirement. The high BI animal's greater efficiency is derived from feed above maintenance converted into milk.

Costs of the maintenance requirement are diluted with the cow's greater production. This maintenance dilution reduces at higher levels of feeding.

Farmer's must not neglect the extra feed requirement as cow genetic merit increases.

**Table 2: NZ dairy cow average production increase and stocking rate increase from 1970 to 1990:**

	1970	'80	'90
Milkfat /cow (kg)	140	150	160
Stock rate	2	2.2	2.4
Tonne DM eaten/ha	6.7	7.6	8.6

The increase in milkfat/cow over the 20 years is 14.5%.

The increase in stocking rate is 20%, and the increase in drymatter (DM) eaten for the extra production is 30%.

Dr Holmes points to the 20% increase in stocking rate for a 30% increase in DM eaten as significant.

The importance of the production increase from higher genetic cows is the corresponding rise in effective stocking rate. A physical increase in numbers as well as more production/cow adds further to effective stocking rate.

## Wastage

Dr Holmes advises a higher stocking rate to fully utilise available feed. All evidence points to increased feed wastage if stocking rate is reduced.

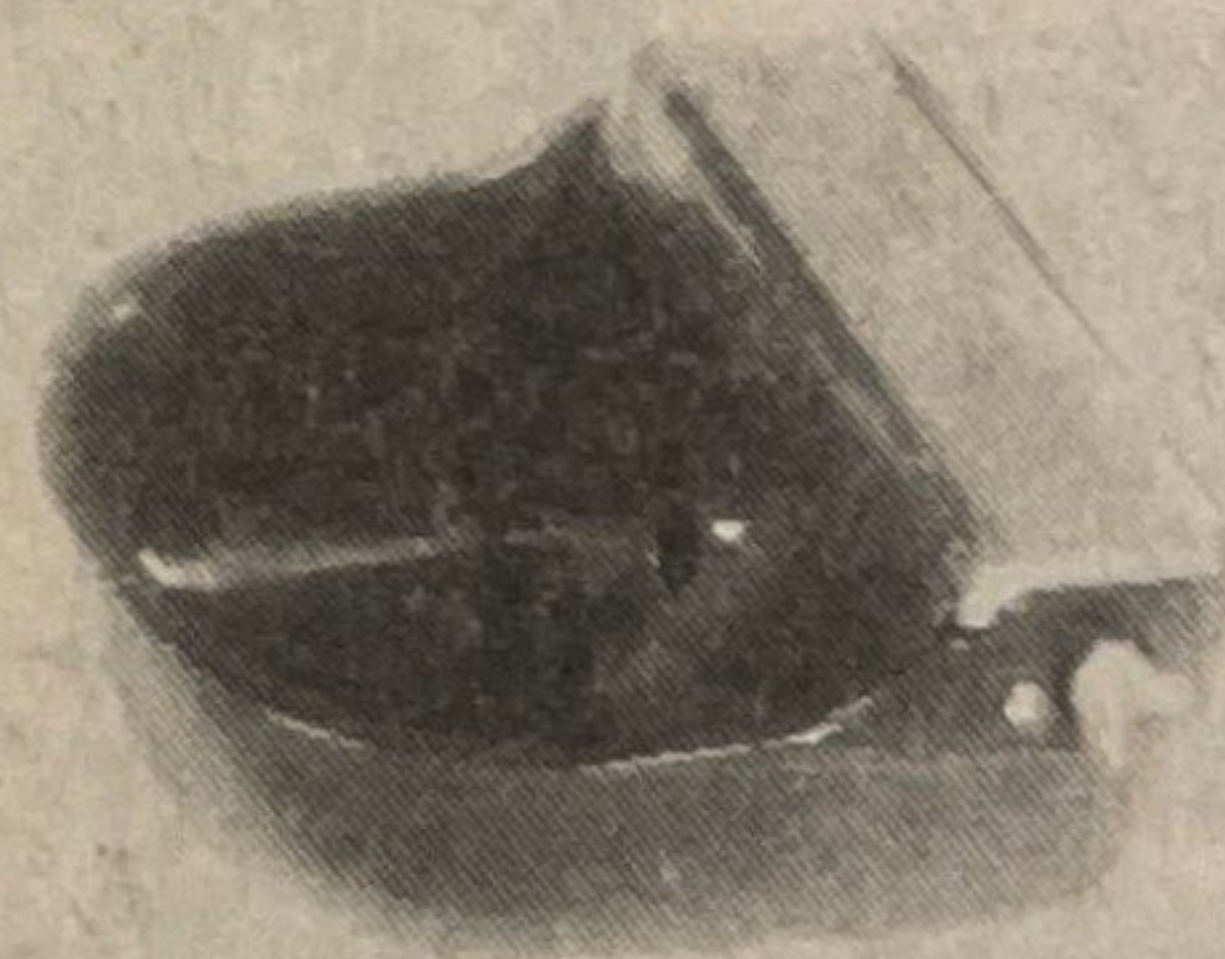
"If the farmer is already wasting grass and decides to decrease stocking rate, he will waste more feed."

The only practicable path to fully utilise pasture is to increase, then maintain effective stocking rate.

A case may exist for lowering the physical stocking rate to increase production/ha when all relevant facts are known, including herd genetic merit and grass utilisation throughout the year. D

## WATER WATER EVERYWHERE?

Not any more, with these imported water fillers and bowls.



### STABLE BOWL

Top quality enamel and stainless steel. Horse proof. Unbreakable. Safe and clean.

### AUTO FILLER

Hang one on anything and you have an instant stock-proof water trough. Heavy-duty and standard models.



### MINI TROUGH

Galvanised steel. Stock proof. Great for calpens, small blocks, strip grazing.



**SHOOF INTERNATIONAL LTD**  
Ph. (071) 273-902 or call Toll Free 0800-800-801.