DEMONSTRATION

TwinN on Dairy Pastures: Winnaleah, Tasmania, Australia

SUMMARY OF DEMONSTRATION

A six month demonstration to assess the role of TwinN on pasture growth, comparing a combination of EasyN + TwinN against urea, was undertaken in Tasmania. The comparison was made of kilograms of dry matter pasture (Kg/DM) for Recorded Milk Litres for the period 1 September 2008 to 28 February 2009, against the same period in 2007/08.

This was undertaken with an autumn/spring calving Holstein herd averaging 198 cows over an average of 58 ha (50 ha laterally irrigated). The herd budget cow litre for an average season is 8,400 litres per cow.

KEY RESULTS

Milk Production

During the 181 day assessment period, the 2008/09 season received a total of 25.5 units of nitrogen (N) per ha applied as Easy N and was supplemented with four applications of TwinN. By comparison, the 2007/08 season was treated with 110 units of N per ha applied as urea.

During 2008/09 there was an overall increase in milk production and, more importantly, there was a greater than 17% increase in Total Milk Solids. Milk quality improved per cow with Total Fat increasing by 4.8% and Total Milk Solids increasing by 3.3%.

	2007/08	2008/09	Variance
Total Litres produced	815,497	907,224	11.2%
Average cows milked	174	198	13.8%
Total Fat	30,869	36,804	19.2%
Total Protein	27,621	31,982	15.8%
Total Milk Solids	58,490	68,786	17.6%
Total Fat/cow	177.4	185.9	4.8%
Total Protein/cow	158.7	161.5	1.8%
Total Milk Solids/cow	336.1	347.4	3.3%

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Pasture Production

On average, the pasture supported 24 more cows (increase of almost 14%) whilst delivering an increase in Pasture Utilised of 12.4%. It was also reported that cow performance and health has improved.

	2007/08	2008/09	Variance
Pasture Utilised (Kg/DM)	400,332	449,806	12.4%

Comparison of previous pasture quality tests taken when standard urea applications were used shows the current pasture quality is much higher in most parameters during 2008/09. It cannot be concluded that TwinN was the only factor in pasture improvement. However, what the results show is that the pasture quality under the current management regime, with reduced N fertiliser plus TwinN, is good.

Date	Crude Prot	NDF	Water Sol Carb	Starch	Ca	P	MeMJKgDM	RFV
12/2/09	29.6	43.6	6.0	1.3	0.66	0.42	11.14	146
11/10/05	25.6	55.6		0.2	0.39	0.048	9.0	103

Western Feed Tests - Perennial Ryegrass

At a time when nitrogen fertiliser prices soared, the TwinN + EasyN strategy saved approximately $54 per hectare (based on urea @ $1,000/t, Easy N @ $1.10/L, and TwinN @ $30/ha).

METHODOLOGY

The data presented was collated from Fonterra Milk Supply data and On-Farm records for both periods compared. Pasture utilisation calculations adopted the following:

- 5.4 MJ/litre of milk.
- Pasture Kg/DM @ 11 MJMe.
- Assumption that the bale ration MJMe of 6 Kg/cow/day equalled the maintenance/walking requirements.
- Utilisation of pasture is 70% of that grown.

No consideration has been given to differences in seasonal conditions, irrigation or pasture management strategies in 2007/08 versus 2008/09. Dry matter from silage cut and yearling followers during the period November-December 2008 has not been included in pasture utilised Kg/DM in the milking pasture area.

2007/08		2008/09	
10/9/07	65 kg Urea	14/9/08	TwinN + 20L/ha EasyN
21/10/07	45 kg Urea + 10 units K	26/10/08	TwinN
29/11/07	65 kg Urea	20/12/08	TwinN + 20L/ha EasyN
13/1/08	65 kg Urea + 10P + 10K	7/2/09	TwinN + 20L/ha EasyN

DO NOT MIX TWINN WITH EASY N

CONCLUSIONS

- **A direct comparison of one season's production against the other cannot be made accurately as all prevailing conditions were not exactly the same.**
- **The 2008/09 season supported 17% higher Total Milk Solid production than the previous year, whilst receiving a dramatic reduction of 94 units of N plus supplementation with TwinN.**
- **Pasture Utilised Kg/DM increased by 12% in the 2008/09 season, demonstrating the new nutrition regime well and truly maintained the increased herd load.**
- **Milk quality over the two periods can be compared. Total Milk Solids per cow increased in the 2008/09 season by 3.3%, suggesting the TwinN + EasyN combination is potentially more economical than the urea-based strategy.**

FARMER'S COMMENTS

I will continue with TwinN in the 2009/10 season for 365 days (applying at 8-week intervals) as a result of pasture feed quality, cow herd health and the economics. I will also budget for three applications of urea a@35 kg/ha.

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