

Macalister Demonstration Farm

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NEWSLETTER 47

Monday March 14th 2011



Extension projects at the MDF are funded by Dairy Australia, Sustainability Victoria and Department of Agriculture, Fisheries and Forestry, with support from GippsDairy.

MID Irrigation Efficiency Incentive Program

Autumn 2011 funding round: Monday March 7 to Friday April 1, 2011

Incentives available for: Irrigation Farm Plans, Reuse systems, Spray irrigation conversions from surface (flood) irrigation

For more information contact Sarah Killury at the DPI Maffra on 5147 0800

Yellow Rag Bit

Bree Walshe, Dairy Advisor DPI Maffra

There are so many ryegrass varieties out there – which one should I choose?

This article is not designed to start a debate on what variety is best, but to highlight some of the basic differences between varieties/cultivars, to help with the decision making process.

What is the difference between a diploid and a tetraploid variety?

The main difference between diploid and tetraploid ryegrass is the number of chromosomes per cell

Diploid	Tetraploid
<p>Plant characteristics:</p> <ul style="list-style-type: none"> • Two sets of chromosomes per cell • More tillers per plant • Higher DM content per kg as fed, therefore more energy <p>Management considerations:</p> <ul style="list-style-type: none"> • Suitable for drier conditions and lower fertility • Hardier in terms of coping better with overgrazing and persistence 	<p>Plant characteristics:</p> <ul style="list-style-type: none"> • four sets of chromosomes per cell • Increased cell size, therefore greater ratio of cell contents (soluble carbohydrates) to cell wall (fibre) – larger leaves • Higher water quantity per cell • Increased palatability <p>Management considerations:</p> <ul style="list-style-type: none"> • Suitable for high fertility and irrigation • Can be sensitive to overgrazing, leading to poor persistence

What is ryegrass endophyte?

Endophyte is a naturally occurring microscopic fungus that lives inside ryegrass. It lives in harmony with the ryegrass plant where it can improve its persistence and productivity by producing toxins that protect the plant from predators. However, the toxins (alkaloids) produced by endophytes can cause animal health issues in livestock.

Chemical	Effect on insects	Effect on animals
Peramine	Deters insect pests, especially feeding and egg laying of Argentine Stem Weevil (ASW), a major pasture pest in New Zealand	None known
Lolitrem B	Deters ASW larvae feeding.	Causes ryegrass staggers, a nervous disorder in animals.

Ergovaline	Provides resistance to Black Beetle, a major pasture pest in northern New Zealand	Affects temperature regulation, increasing respiration rates, especially in warm and humid conditions. In response, animals reduce intake and growth rates.
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Ryegrass cultivars are now available with novel endophytes that cause little or no animal health problems. The table below lists some endophytes and their effects. Ask your reseller for further information.

Ryegrass endophytes and their effects on ryegrass persistence and livestock

	No endophyte	Wild endophyte	AR1	AR37	NEA2	Endo5
Persistence	Lacks persistence	Good	Good*	Good	Good	Good
Control pests	No	Varies with wild type	Yes**	Yes	Yes	Yes
Causes staggers	No	Yes	No	Some has been observed	Very low risk	Very low risk

*Persistence may be reduced by black beetle or root aphid when present. **No control of black beetle and root aphid.

What is the difference between an annual, biennial and a perennial?

Annual	Biennial	Perennial
As the name suggests, its life span is for one year only. An annual ryegrass seed has awns.	A plant that persists for two years.	By definition is a plant that lives longer than two years. In terms of ryegrass it has awnless seeds.

The performance, palatability, persistence and endophyte type are all cultivar and or variety specific, for example 'Vic Rye' is a perennial, diploid, wild type and a high endophyte ryegrass variety.

What I can not stress enough is the importance of *grazing management* for both the establishment and persistence of your pasture sward. Regardless of the variety, grazing management has the biggest impact on your pastures performance, which leads to cows intake, milk production and ultimately profitability. To find out more about getting the most from your pastures join me for Feeding Pastures For Profit (FPFP) this year, on the 3rd & 10th of May in Maffra.

When choosing your ryegrass variety understand what you are purchasing and know why you have made that decision!

For further advice in selecting a variety / cultivar that is suitable for your needs please contact your trusted agronomist, seed retailer or consultant.

To enquire or to book in for FPFP please call Bree Walshe at Maffra DPI on 5147 0834.

For this Yellow Rag the following references were used: www.sepwa.org.au/pastures/comparison, www.stephenpastureseeds.com.au, www.evergraze.com.au/LiteratureRetrieve.aspx?ID=23170, www.agricom.co.nz

Macalister Demonstration Farm Profitability Project

YEARLY PERFORMANCE	MDF	MDF	MDF	MDF PROJECTED	
YEAR	2007/08	2008/09	2009/10	2010/11	
Irrigated hectares Home	68	68	73	73	ha
Milkers (305 day lactations)	305	290	280	295	hd
Stocking rate	4.5	4.3	3.8	4.0	hd/hectare
Replacements	155	159	145	145	hd
Litres	2,117,305	2,000,330	1,868,435	2,061,323	litres
Litres/cow	6,942	6,898	6,666	6,986	litres/cow
Fat %	4.12%	4.32%	4.26%	4.20%	%
Prot %	3.49%	3.52%	3.53%	3.52%	%
Fat	87,337	86,430	79,572	86,516	kg
Fat kg/cow	286	298	284	293	kg/cow
Protein	73,912	70,486	65,962	72,579	kg
Prot kg/cow	242	243	235	246	kg/cow
MILK SOLIDS	161,248	156,916	145,534	159,095	kg

MS/cow	529	541	519	539	kg/cow
MS/ha	2,371	2,308	1,994	2,179	kg/ha
Milk Receipts \$	\$1,071,597	\$716,167	\$643,673	\$855,517	\$
Milk Price (cents per litre)	\$0.51	\$0.36	\$0.34	\$0.42	\$
Milk Price (\$ per kg solids)	\$6.65	\$4.56	\$4.42	\$5.38	\$
Milk receipts/cow	\$3,513	\$2,470	\$2,296	\$2,900	\$
Livestock Cash Receipts	\$33,451	\$47,883	\$36,293	\$41,159	\$
Other Farm Receipts	\$2,086	\$18,771	\$13,662	\$19,615	\$
Non farm receipts	\$0	\$0	\$0	\$0	\$
Total Receipts \$	\$1,107,134	\$782,821	\$693,628	\$916,291	\$

YEARLY PERFORMANCE	MDF	MDF	MDF	MDF PROJECTED	
Purch Grain	678	466	549	576	t DM
Grain Price (\$/t DM)	\$506	\$402	\$288	\$318	\$/t DM
Purch Pellets	0	100	60	96	t DM
Pellets Price (\$/t DM)		\$639	\$520	\$544	\$/t DM
Purch Hay	0	40	29	38	t DM
Hay Price (\$/t DM)		\$412	\$347	\$241	\$/t DM
Purch Silage	27	5	0	0	t DM
Silage Price (\$/t DM)	\$492	\$945			\$/t DM
Purch PKE	124	219	184	86	t DM
PKE Price (\$/t DM)	\$353	\$298	\$229	\$233	\$/t DM
Milker agjstment	0	0	0	0	t DM
Total purch milker feed	829	830	822	796	t DM
PURCH'D FEED / MILKER	2.7	2.9	2.9	2.7	t DM/cow
% DM Purchased	48%	48%	52%	47%	%
Waste of purch feed	0.0	10%	8%	6%	%
Grain	\$343,568	\$187,178	\$157,981	\$183,072	\$
Pellets	\$0	\$63,954	\$31,331	\$52,199	\$
Hay	\$0	\$16,513	\$9,953	\$9,110	\$
Silage	\$13,440	\$4,680	\$0	\$0	\$
PKE	\$43,557	\$65,263	\$42,057	\$19,927	\$
Dry cow agjstment	\$11,153	\$0	\$0	\$0	\$
Purchased feed \$	\$411,718	\$337,588	\$241,322	\$264,309	\$
Purch'd feed price /t DM	\$496	\$407	\$294	\$332	\$

YEARLY PERFORMANCE	MDF	MDF	MDF	MDF PROJECTED	
Nitrogen (element)	19.5	19.6	22.4	27.3	tonne
Nitrogen (element) /hectare	286	288	307	375	kg /ha
Average urea price	\$746	\$960	\$616	\$580	\$/t fert
Phosphorus (element)	1.5	0.4	0.0	0.0	tonne
Phosphorus (element) /hectare	22	6	0	0	kg /ha
Average superphosphate price	0	\$457			\$/t fert
Potassium (element)	5.2	1.8	3.7	3.6	tonne
Potassium (element) /hectare	76	27	50	49	kg /ha
Average potash price	0	\$1,073	\$913	\$750	\$/t fert
Sulphur (element)	0.9	0.6	0.0	0.0	tonne
Irrigation water	470	490	481	491	ML
Irrigation ML/hectare	6.9	7.2	6.6	6.7	ML/ha
Average water price	\$52	\$62	\$57	\$64	\$/ML
Pasture consumption per ha	13.0	14.4	12.1	12.7	t DM/ha
PASTURE PER COW	2.9	3.2	2.8	3.2	t DM/cow
PKS & other Fertiliser	\$15,614	\$6,396	\$6,707	\$5,420	\$
Nitrogen fertiliser	\$31,540	\$42,676	\$30,027	\$34,481	\$

Fuel and Oil	\$8,304	\$6,491	\$7,697	\$9,169	\$
Irrigation	\$24,385	\$30,349	\$27,632	\$31,368	\$
Pasture Renovation	\$0	\$5,000	\$5,165	\$5,165	\$
Cropping	\$0	\$0	\$0	\$0	\$
Weed control	\$3,297	\$1,104	\$2,279	\$2,203	\$
Feedtests & other grow feed costs	\$0	\$0	\$0	\$0	\$
Conservation	\$1,617	\$12,658	\$9,370	\$12,320	\$
Grown feed \$	\$84,757	\$104,674	\$88,878	\$100,126	\$
Grown feed spend/ha	\$1,246	\$1,539	\$1,218	\$1,372	\$/ha
Grown feed price	\$96	\$107	\$100	\$108	\$
TOTAL FEED \$	\$496,475	\$442,262	\$330,200	\$364,435	\$
All feed cost per cow	\$1,628	\$1,525	\$1,178	\$1,235	\$
All feed tonne per cow	5.6	6.0	5.7	5.9	t DM/cow
Feed efficiency	94	90	91	91	kg MS/t DM

YEARLY PERFORMANCE	MDF	MDF	MDF	MDF PROJECTED	
Semen	\$10,953	\$10,000	\$10,000	\$10,000	\$
Insemination	\$2,955	\$3,295	\$3,255	\$3,183	\$
Other mating expenses	\$3,210	\$7,617	\$3,676	\$2,714	\$
Herd Test	\$4,153	\$4,263	\$3,883	\$4,931	\$
Other herd costs	\$0	\$0	\$0	\$0	\$
Mastitis	\$1,769	\$10,174	\$2,675	\$2,762	\$
Herd Health	\$15,104	\$17,461	\$12,822	\$11,610	\$
Total Herd Costs \$	\$38,144	\$52,810	\$36,311	\$35,200	\$
Herd Costs/cow	\$125	\$182	\$130	\$119	\$
Detergents and Supplies	\$7,657	\$8,388	\$13,891	\$13,453	\$
Power	\$6,533	\$10,874	\$10,343	\$11,869	\$
Rubberware	\$2,319	\$988	\$1,901	\$2,428	\$
Dairy repairs	\$14,890	\$5,874	\$11,702	\$8,910	\$
Total Shed Costs \$	\$31,399	\$26,123	\$37,837	\$36,659	\$
Shed Costs/cow	\$103	\$90	\$135	\$124	\$

YEARLY PERFORMANCE	MDF	MDF	MDF	MDF PROJECTED	
Replacement agistment	\$12,504	\$60,620	\$55,022	\$50,139	\$
Other replacement cost	\$0	\$0	\$1,398	\$1,398	\$
Replacement FEED, VET, ID, mating, husb	\$39,497	\$8,505	\$1,644	\$13,374	\$
Total Replacements \$	\$52,001	\$69,125	\$58,064	\$64,912	\$
Replacement cost/replacm'nt	\$335	\$435	\$400	\$448	\$
Repairs to improvements	\$15,758	\$7,688	\$2,488	\$8,728	\$
Repairs to plant, mach, vehicles	\$3,000	\$6,547	\$3,590	\$4,801	\$
Repairs Other	\$0	\$0	\$0	\$0	\$
Rates	\$3,771	\$2,935	\$3,135	\$3,446	\$
Administration	\$1,859	\$769	\$3,506	\$1,134	\$
Other Overheads	\$0	\$0	\$0	\$0	\$
UDV subscription	\$888	\$846	\$787	\$1,058	\$
Farm insurance	\$1,605	\$1,935	\$1,891	\$3,612	\$
Workers Comp Insurance& OHS	\$0	\$3,572	\$533	\$533	\$
Bank fees	\$0	\$600	\$600	\$600	\$
Accounting and Audit	\$1,760	\$1,760	\$2,000	\$2,000	\$
Total Overheads \$	\$28,641	\$26,652	\$18,531	\$25,913	\$
Overheads/cow	\$94	\$92	\$66	\$88	\$
Overheads/ha	\$421	\$392	\$254	\$355	\$
Livestock Purchases	\$0	\$10,800	\$1,800	\$3,600	\$

LAND LEASE	\$0	\$0	\$0	\$0	\$
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YEARLY PERFORMANCE	MDF	MDF	MDF	MDF PROJECTED	
Paid labour	\$142,194	\$125,000	\$131,391	\$142,988	\$
Imputed Unpaid Labour	\$0	\$0	\$0	\$0	\$
Total Labour Costs \$	\$142,194	\$125,000	\$131,391	\$142,988	\$
Labour Costs/cow	\$466	\$431	\$469	\$485	\$
Farm Operating Receipts	\$1,107,134	\$782,821	\$693,628	\$916,291	\$
Farm Operating Payments	\$788,853	\$752,773	\$614,134	\$673,707	\$
% Operating Payments of Op Receipts	71%	96%	89%	74%	\$
Operating Surplus - Farm	\$318,281	\$30,047	\$79,495	\$242,585	\$
Operating Surplus -Per cow	\$1,044	\$104	\$284	\$822	\$
Margin over All Feed	\$575,122	\$273,905	\$313,473	\$491,083	\$
MOAF/ha	\$8,458	\$4,028	\$4,294	\$6,727	\$
MOAF/cow	\$1,886	\$944	\$1,118	\$1,664	\$
Livestock Value Change	-\$4,066	\$12,100	-\$3,500	\$1,700	\$
Depreciation \$	\$40,000	\$35,000	\$35,000	\$35,000	\$
FARM REVENUE	\$1,107,134	\$794,921	\$693,628	\$917,991	\$
FARM EXPENSES	\$832,919	\$787,773	\$652,634	\$708,707	\$
Earnings bef Interest & Tax	\$274,215	\$7,147	\$40,995	\$209,285	\$
EBIT/ha	\$4,033	\$105	\$562	\$2,867	\$
EBIT/cow	\$899	\$25	\$146	\$709	\$

YEARLY PERFORMANCE	MDF	MDF	MDF	MDF PROJECTED	
Long Term Interest payments	\$25,000	\$25,768	\$22,768	\$22,768	\$
Short Term Interest payments	\$17,000	\$17,000	\$17,000	\$17,000	\$
Long Term Princ payments	\$0	\$0	\$0	\$0	\$
Short Term Princ payments	\$0	\$0	\$0	\$0	\$
TOTAL FINANCE payments	\$42,000	\$42,768	\$39,768	\$39,768	\$
Capital payments	\$0	\$0	\$0	\$25,653	\$
Drawings	\$0	\$0	\$0	\$0	\$
Tax	\$0	\$0	\$0	\$0	\$
Cash Surplus/Deficit \$	\$276,281	-\$12,721	\$39,727	\$177,163	\$
Assets	\$1,834,800	\$2,069,944	\$2,346,851	\$2,346,851	\$
Liabilities (long term)	\$500,000	\$500,000	\$500,000	\$500,000	\$
Liabilities (short term)	\$0	\$0	\$0	\$0	\$
Total Liabilities	\$500,000	\$500,000	\$500,000	\$500,000	\$
Return on Assets (%)	14.9%	0.3%	1.7%	8.9%	%
Equity	\$1,334,800	\$1,569,944	\$1,846,851	\$1,846,851	\$
Equity (%)	72.7%	75.8%	78.7%	78.7%	%
% income spent on finance	3.8%	5.5%	5.7%	4.3%	%
Operating cost/kg MS	\$4.89	\$4.80	\$4.22	\$4.23	\$
TURNOVER (tonnes fed)	1,711	1,809	1,706	1,724	T DM
Milk \$ return/tonne fed	\$626	\$396	\$377	\$496	\$/T DM
Average feed price	\$290	\$244	\$194	\$211	\$/T DM
MARGIN (\$/tonne fed)	\$336	\$151	\$184	\$285	\$/T DM

NEXT ISSUE

Carbon Ready Dairy Demonstration Project

**An assessment of the Governments new Carbon Farming Initiative –
What’s in it for dairy farmers?**

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