



BMR Revolution shows value for livestock production

Over the past three years, forage specialist Seed Force has been undertaking trials to examine the true value of forage sorghum to Australasian livestock producers. One product in particular BMR Revolution forage sorghum has shown outstanding yield and profitability results.

In 2007-08 and 2008-09, replicated yield trials have been undertaken comparing a number of commercial cultivars. These trials highlighted BMR Revolution as the highest yielding BMR type – an average 23% higher than Pacific BMR, the first crop commercialized in Australia around 2000.

In 2008-09 two split paddock trials were also sown at Seed Force's Merrina research and extension centre at Gundagai in southern NSW. At each grazing period yield was measured using the cut and dry method and forage samples were taken and sent for nutritive value analysis by NSW DPI Feed Quality Service at Wagga Wagga.

One paddock was grown under dryland conditions with 105mm of growing season rainfall. The other paddock was supplemented with 5 waterings of 33mm each or 165mm for a total of 270mm water. The irrigated trial was also topdressed after the first 2 grazings with 60kg/ha Urea.

The trial highlighted the big difference between Water Use Efficiency of BMR Revolution compared to shirohie millet. The economics have highlighted that under current low milk price expected in south east Australia, there is a difference in value of over \$500/ha to dairy producers. This difference will be even larger for those producers who will receive higher prices for their market milk.

In 2008 many farmers shifted away from forage sorghum back to millet based on the big difference in seed price (\$1.80/kg or \$36/ha compared to \$7.50/kg or \$150/ha in this example). Whilst they may have saved money on their seed input, they would have been significantly worse off financially.

In autumn 2009 we have also seen ryegrass seed being heavily discounted within the dairy sector on the misconception that all varieties will provide the same result when fed to cows. Modelling using Seed Force's Animal Performance Calculator™ has shown differences of up to \$300/ha in ryegrass varieties, far greater than the discounts of around 50c/kg (or \$10-15/ha) offered as savings on seed.

The development of the Animal Performance Calculator by Seed Force has been a major breakthrough in assisting farmers and their advisors to identify pasture varieties that can improve profitability, rather than evaluating yield data alone.

Results

The data from the yield and nutritive value has been modeled with the following assumptions:

- Irrigated trial for dairy based on 600kg friesian cows
 - Utilization of both forages at 75%, even though there was a significant preference for BMR Revolution
 - Milk price at 28c/litre

- Dryland trial for beef based on 300kg steers
 - Utilization of both forages at 65%, even though there was a significant preference for BMR Revolution
 - meat price at \$1.80/kg liveweight

Irrigated dairy split paddock trial results – table 1

	Unit	Shirohie	BMR Revolution
Yield	kg DM/ha	7,240	16,964
NDF	%	53.33	55.33
ME	MJ / kg DM	9.07	8.93
Daily milk from crop	litres / day	5.90	4.76
Total milk from crop	litres / ha	2373	4658
Price	0.28c / litre	0.28	0.28
Gross Income	\$/ha	\$664	\$1,304
seed	\$/ha	\$36	\$150
establishment	\$/ha	\$180	\$180
maintenance/growing	\$/ha	\$90	\$90
Total costs	\$/ha	\$306	\$420
Gross Margins	\$/ha	\$358	\$884
Extra Profit from BMR Revolution			+\$526

Dryland dairy split paddock trial results – table 2

	Unit	Shirohie	BMR Revolution
Yield	kg DM/ha	2,526	6,011
NDF%	%	52.5	54
ME	MJ per kg DM	9.3	9.3
Ave daily gain	kg/hd/day	0.439	0.400
Liveweight gain	kg lwg/ha	105	234
Price	\$/hd lwg	\$1.80	\$1.80
Gross Income	\$/ha	\$189	\$422
seed	\$/ha	\$36	\$150
establishment	\$/ha	\$180	\$180
maintenance/growing	\$/ha	\$0	\$0
Total costs	\$/ha	\$216	\$330
Gross Margins	\$/ha	-\$27	\$92
Extra Profit from BMR Revolution			+\$119

The irrigated trial showed improved water use efficiency from 27kg DM/mm water for shirohie millet to 63kg DM/mm water for BMR Revolution forage sorghum. Under dairy modeling using the Animal Performance Calculator the BMR Revolution showed a \$526/ha greater profit.

The dryland trial showed improved water use efficiency from 24kg DM/mm water for shirohie millet to 57kg DM/mm water for BMR Revolution forage sorghum. Under beef modeling using the Animal Performance Calculator the BMR Revolution showed a \$119/ha greater profit.

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