

# RURAL MANAGEMENT STRATEGIES

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## NEWS BULLETIN NO 95

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*This bulletin contains some notes on the following topics:*

**APPLYING PHOSPHORUS TO PASTURES**

**ALTERNATIVE FERTILISER TRIALS**

**POST-EMERGENT WILD OAT CONTROL IN CEREALS**

**UNIT COST OF PRODUCTION AND BREAK EVEN PRICE ANALYSIS**

**KEY FINANCIAL RATIOS**

**GRAIN MARKET UPDATE**

**INTEREST RATE UPDATE**

**INDICATIVE CHEMICAL PRICES**

### APPLYING PHOSPHORUS TO PASTURES

Prolonged drought has resulted in a marked reduction in the amount of Phosphorus (P) applied to pastures. The reduction has been driven by two factors:

- **Cost Cutting.** During drought years P applications were cut to reduce expenditure.
- **Decreased Production.** At the onset of drought, pasture fertility is often high and moisture is the most limiting factor to pasture growth. In this instance reducing P input is prudent. However sustained reduction in inputs leads to a decline in soil P level, resulting in a decline in productivity.

The reduction in application of P has seen soil P levels in many pastures decline to the point where pasture growth and carrying capacity are compromised. A perennial pasture that is Phosphorus deficient will:

- Be slow to respond to rainfall
- Produce less feed (dry matter)
- Be less competitive with weeds
- Become invaded by undesirable species
- Likely become Nitrogen deficient as well due to pasture legume species becoming weaker

The current buoyant livestock market provides an opportunity to review the program for application of pasture fertiliser and increase pasture productivity and carrying capacity. In doing so the following should be considered:

- **Pasture composition.** Priority paddocks for single super application should be those containing productive pasture species.
- **Soil pH.** The most limiting factor to plant growth should be addressed first. Paddocks with soil acidity may require liming prior to applications of P. Raising the pH increases the availability of soil P, hence reducing the requirement for P fertiliser.
- **Current soil P levels.** The critical value is the soil P level at which a good legume and grass pasture could be expected to reach 95% of its potential production. In southern NSW the critical soil value is approximately 35 mg/kg Colwell P.
- **Target Stocking Rate.** The amount of Phosphorus required to maintain the critical soil P value will be determined by the stocking rate. Target stocking rate should be a level that can be conservatively maintained throughout an average year

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- Phosphorus removal.** Phosphorus removal varies from 0.4 to 1.4 kg P/DSE/ha/year. On an annual basis, assuming a removal figure of 0.9 kg P/DSE/ha and a stocking rate of 8 DSE ha, livestock remove 7.2 kg P/ha year which equates to approximately 80 kg/ha of Single Super. In other words to maintain the existing soil P level, 80 kg/ha of Single Super is required each year. Where soil P is below the critical value, the rate must be increased in order to build the soil P level over time.

On a whole farm basis, every 1,000 DSE removes 900 kg of P annually. This equates to approximately 10 tonnes of Single Super.

Single Super should be applied to annual pastures during autumn, while application to productive perennial pastures can occur in autumn or spring.

#### **ALTERNATIVE FERTILISER TRIALS**

A series of trials conducted at Bookham and Binalong have been established to compare a range of alternative fertilisers applied to native pastures.

The trials were established in 2009 as a joint venture between local Landcare groups and the NSW DPI. They will run until at least spring 2011.

The table below shows the range of treatments, the annualised cost of each, plus the cost of each extra kg DM/ha above the control.

Single Super and pig manure were the only treatments that resulted in a significant increase in herbage mass compared to the control in both years at all three sites.

Microbial biomass and activity ratings did not show any significant difference between treatments, but large variation between years at all sites. This is primarily due to variation in soil moisture and temperature.

Some treatments gave no significant improvement in pasture growth or soil nutrient analysis, despite costing between \$20 and \$230/ha.

Some companies claim that improvement from their products occur over many years and that one to two years of trial data is insufficient to observe their stated benefits.

Clients should carefully assess the potential benefits, cost and payback period of any alternative fertiliser products.

Even if the promised benefits are realised in three to five years, they may not provide a satisfactory return on investment.

Many companies in the alternative fertiliser industry have little scientifically valid data to support their claims. As such, trials of this nature are invaluable as a means of comparing alternative fertilisers to current standards.

The next field day will be held in August 2011.

Treatment	\$/ha /yr annualised	Increased DM vs control	\$/extra kg DM
Single Super	\$45.00	Yes	\$2.40 - \$8
Agriash	\$70.00	2/3	\$4 - \$10
Triomin/Ecomin	\$150.00	No	
Pig Manure	\$73.00	Yes	\$4 - \$8.50
DECC Compost	\$63.00	No	
YLAD Mineral Blend	\$230.00	1/3	\$13 - \$20
YLAD Compost Tea	\$40.00	No	
Urea	\$20.00	No	
BioAg	\$97.00	No	
Ecology Fluid Fertiliser	\$60.00	No	

## POST-EMERGENT WILD OAT CONTROL IN CEREALS

There are a number of products available for control of Wild Oats in cereals, all of which will produce a satisfactory result given the right conditions. However, there are very significant cost differences and certain situations where one product would be a better option over another.

Considerations in product selection include:

- **Efficacy.** The performance of products registered to control Wild Oats can vary with climatic conditions and growth stage of the weed. Group B products work best when soil conditions are moist and weeds are small. Products such as Mataven will only work in warm temperatures. Understanding the limitations of the various products is important to ensure sufficient efficacy is achieved to obtain control.
- **Resistance Status.** Resistance to Group A (fop) herbicides in Wild Oats is common. Resistance to Group A (dms) and Group Bs is less common, however increasing rapidly. Understanding the resistance status of the Wild Oat population to be controlled is vital to product selection. Rotation of chemical groups is a critical management technique to maintain the efficacy of post-emergent herbicides.
- **Other Weeds Present.** Most products are registered on a number of other grass weeds and in some cases broadleaf weeds as well.
- **Cost.** Prices range from \$7/ha to \$40/ha. Therefore cost should be a major consideration in product selection after taking the above into account.
- **Growth Stage.** Grass weed control should be carried out at the earliest opportunity when weeds are small and more susceptible to herbicides. Early removal reduces crop competition and improves the economic result.

- **Grazing Withholding Period (WHP).** Should grazing wheat require a grass weed spray, the WHP becomes a critical factor in product selection. Achieve has a 2 week WHP, Wildcat and Foxtrot have a 3 week WHP, while Topik has a 4 week WHP.
- **Plant Back Period.** Generally this is not a consideration, however with the increasing number of Group B products available, the plant back restrictions to pulses, legumes and pastures needs to be considered.

Following are some specific comments on the more common products available.

Achieve	Good Wild Oat control, weak on Annual Ryegrass.
Atlantis	Most effective on small weeds. Good Wild Oat control. Also effective on Annual Phalaris. Less effective under dry conditions.
Axial	Most compatible with broadleaf weed control products.
Hussar	Good Wild Oat control. Also effective on small Annual Ryegrass and broadleaf weeds. Less effective under dry conditions.
Crusader	Similar to Hussar. Suppression of Annual Ryegrass only.
Mataven	Good control of Group A & B resistant Wild Oat populations. Very expensive. Requires warm conditions. Selective spray topping option to reduce Wild Oat seed set.
Topik	Generally most cost effective option for control of "fop" susceptible Wild Oats.
Wildcat	Strong on mixed populations of "fop" susceptible Wild Oats and Annual Phalaris.

The following table outlines some of the key features of each product which require consideration prior to application.

PRODUCT & COMMON RATE	ACTIVE	PRICE /ha	CHEMICAL GROUP	CROP GROWTH STAGE	WATER RATE/ DROPLET	GRAZING WHP
Achieve WG @ 380 g/ha + Supercharge @ 1%	Tralkoxydim	\$20.00	A (dim)	2 - 4 leaf	50 - 150 L Fine	14 days
Atlantis OD @ 330 ml/ha + BS1000 @ 0.25%	Mesosulfuron-Methyl	\$30.00	B	1 leaf - 3 leaf, 1 tiller	50 - 80 L Fine - Medium	8 weeks
Axial @ 150 ml/ha + Adigor @ 0.5%	Pinoxaden + Cloquintocet-Mexyl	\$20.00	A (den)	2 leaf - end of tillering	50 L + Fine - Medium	21 days
Cheetah Gold @ 1.0 L/ha + Uptake @ 0.5%	Diclofop-Methyl + Sethoxydim + Fenoxaprop-P-Ethyl	\$25.00	A (dim) + A (fop)	2 leaf - 2 tillers	50 - 150 L Fine - Medium	7 weeks
Crusader @ 500 ml/ha + BS1000 @ 0.25%	Pyroxsulam + Cloquintocet-Mexyl	\$34.00	B	1 - 3 leaf	50 - 100 L Medium - Coarse	4 weeks
Decision @ 1.0 L/ha + Uptake @ 0.5%	Diclofop-Methyl + Sethoxydim	\$17.00	A (fop)+ A (dim)	2 leaf - 1 tiller	50 - 150 L Fine/Medium	7 weeks
Foxtrot @ 560 ml/ha	Fenoxoprop-P-Ethyl + Cloquintocet-Mexyl	\$12.00	A (fop)	2 leaf - early tillering	50 - 100 L Fine - Medium	3 weeks
Hoegrass 500 @ 1.1 L/ha + BS100 @ 0.25%	Diclofop-Methyl	\$16.00	A (fop)	2 - 3 leaf	50 - 150 ml Fine - Medium	7 weeks
Hussar OD @ 100 ml/ha + BS1000 @ 0.25%	Iodosulfuron-Methyl Sodium	\$30.00	B	1 - 3 leaf	50 - 80 L Medium	4 weeks
Mataven 90 @ 2.5 L/ha	Flamprop-M-Methyl	\$40.00	Z	Prior to jointing	30 - 110 L Medium	6 weeks
Topik @ 65 ml/ha + Hasten @ 0.5%	Clodinafop-Propargyl + Cloquintocet-Mexyl	\$8.00	A (fop)	2 leaf - mid tillering	50 - 100 L Medium- Coarse	4 weeks
Tristar Advance @ 1.5 L/ha	Diclofop-Methyl Fenoxaprop-P-Ethyl	\$20.00	A (fop)	2 - 4 leaf	50 - 100 L Fine - Medium	7 weeks
Wildcat 110EC @ 300 ml/ha + BS1000 @ 0.25%	Fenoxaprop-P-Ethyl	\$9.00	A (fop)	2 - 5 leaf	50 - 100 L Fine - Medium	3 weeks

Based on the above information, Topik is likely to be the product of choice where Wild Oats are Group A (fop) susceptible. For Group A (fop) resistant populations, Achieve Group A (dim), Axial Group A (den), or a Group B product may provide control. Group B products whilst expensive, have a place where rotation of chemical groups is required, or broadleaf weeds are present and can be controlled with one pass. Alternatively, Mataven can be used at the full rate early, or at the lower spray topping rate later.

**UNIT COST OF PRODUCTION AND BREAK****EVEN PRICE ANALYSIS**

The average budgeted Cost of Production (before interest), and Break Even Price (after interest), calculated from 2011/2012 client budgets for the major commodities is shown below:

Budget Cost Of Production Before Interest

	<u>Top 20%</u>	<u>Average</u>	<u>Bottom 20%</u>
Wheat (\$/t)	129	155	190
Canola (\$/t)	319	390	473
Wool (\$/kg)	2.41	3.84	5.41
Lambs (\$/hd)	43	71	96

Budget Break Even Price After Interest

	<u>Top 20%</u>	<u>Average</u>	<u>Bottom 20%</u>
Wheat (\$/t)	145	177	212
Canola (\$/t)	365	447	524
Wool (\$/kg)	2.88	4.54	6.35
Lambs (\$/hd)	51	80	114

Both the Cost of Production (COP) and Break Even Prices (BEP) for wheat, wool and lambs have increased since these figures were last calculated, while the COP for canola has increased and the BEP has decreased.

The increases for wheat and canola are due primarily to increases in the level and costs of inputs, while increases for wool and lambs are due to higher fixed costs being allocated to wool and lambs, being a re-allocation from cropping, based on % contribution to income on mixed farms.

The top 20% of producers continue to have both lower variable and fixed unit costs than the bottom 20%, due to higher productivity and better matching of variable costs to expected output.

The challenge to management is to achieve a Cost of Production which provides sufficient margin from expected commodity returns. The suggested margin is 30%. Therefore if the net ESR for wheat long term is \$170/tonne, the desired Cost of Production is \$131/tonne or less. For lambs, if \$90/head net is obtained, the Cost of Production needs to be \$69/head or less to achieve a 30% margin over costs (excluding interest).

The unit cost of interest for the top 20% of producers is about half that for the bottom 20% of producers for the four major commodities analysed.

An example of the differences in variable, fixed and interest costs between the top 20% and bottom 20% of producers is illustrated below:

	Wheat (\$/t)		Canola (\$/t)		Wool (\$/kg)		Lambs (\$/hd)	
	Top 20%	Bottom 20%	Top 20%	Bottom 20%	Top 20%	Bottom 20%	Top 20%	Bottom 20%
Variable Cost	83	121	215	300	1.25	3.01	22	46
Fixed Cost	<u>46</u>	<u>69</u>	<u>104</u>	<u>173</u>	<u>1.16</u>	<u>2.40</u>	<u>21</u>	<u>50</u>
<b>COST OF PRODUCTION</b>	<b>129</b>	<b>190</b>	<b>319</b>	<b>473</b>	<b>2.41</b>	<b>5.41</b>	<b>43</b>	<b>96</b>
Interest	<u>16</u>	<u>22</u>	<u>46</u>	<u>51</u>	<u>0.47</u>	<u>0.94</u>	<u>8</u>	<u>18</u>
<b>BREAK EVEN PRICE</b>	<b><u>145</u></b>	<b><u>212</u></b>	<b><u>365</u></b>	<b><u>524</u></b>	<b><u>2.88</u></b>	<b><u>6.35</u></b>	<b><u>51</u></b>	<b><u>114</u></b>

The predicted costs for the top 20% of clients on a per hectare basis are as follows:

Variable Costs	\$228/ha	60% of Operating Costs
Fixed Costs	152/ha	40% of Operating Costs
Operating Costs	\$380/ha	
Interest Costs	70/ha	16% of Total Costs
Total Costs	\$450/ha	

It is interesting to note that fixed costs for medium scale operations are now around \$150/ha or \$60/acre compared with the old rule of thumb of \$50/acre. This is a reflection of higher costs of most services to business.

**KEY FINANCIAL RATIOS**

Some key indicators based on predicted EBIT (earnings before interest and tax) have been calculated on the 2011/12 budget data for a selection of clients. EBIT is a measure of profitability used across various businesses and industries.

The average results for the group are as follows:

Sales to Assets (sales/assets)	17%
Interest Cover (EBIT/interest cost)	2.2
EBIT Margin (EBIT/sales)	25%
Return on Assets (EBIT/assets)	4.2%

The first ratio is a measure of operating efficiency, the second a measure of debt servicing ability (comfort factor), while the last two are a measure of profitability.

The results above show that the top performing clients can achieve financial ratios comparable to other medium – to – large businesses outside agriculture.

**GRAIN MARKET UPDATE**

**Canola**

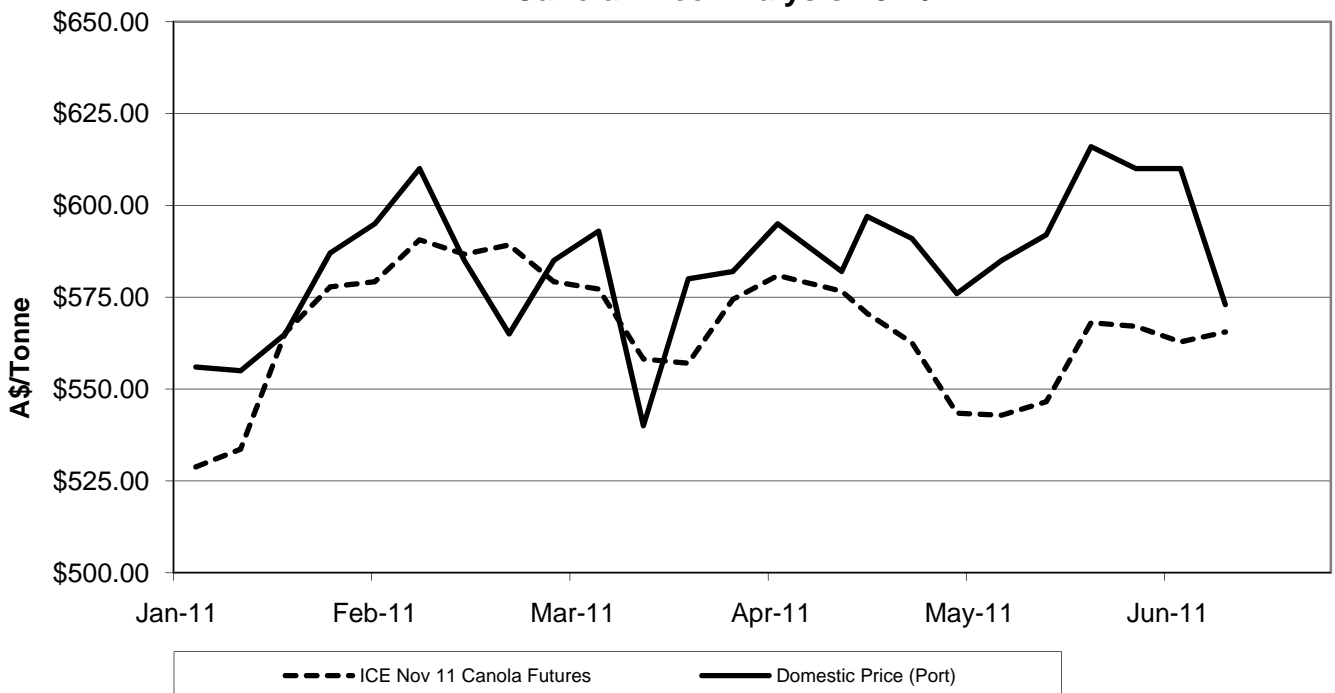
The following graph shows the movement in the ICE Futures Canada November 2011 Canola Futures and the 2011/12 domestic canola price delivered port.

Since early 2011, the domestic price on a port basis has been quite volatile. The rapid drop in the domestic price during mid March was a market reaction to the Japanese tsunami and reflected uncertainty in the global economy and the health of the Japanese economy.

Conversely high prices during late May were the result of planting delays in Canada, European drought and forecast declines in oilseed production from China.

The basis for the period has been predominately positive and has strengthened of late. Currently the domestic price is A\$573/tonne and the ICE November 2011 Canola Futures price is A\$566/tonne equivalent, reflecting a positive basis of A\$7/tonne.

**Canola Price Analysis 2011/12**



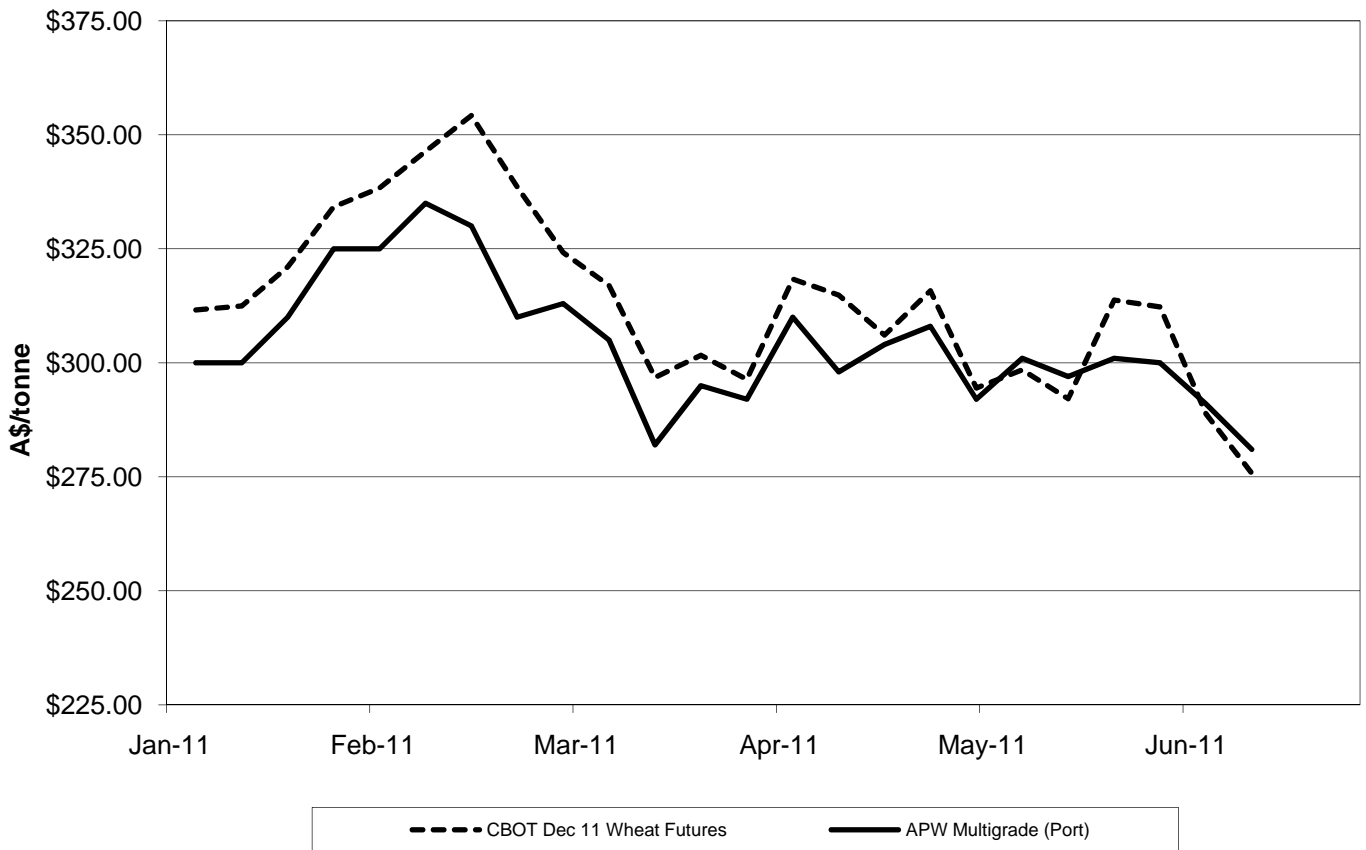
**Wheat**

The following graph shows the movement in Chicago (CBOT) December 2011 Wheat Futures price and the 2011/12 APW Multigrade price delivered port.

Prices trended down between February and March 2011. More recently prices have stabilised somewhat at around A\$300/tonne.

Currently the CBOT December 2011 Futures price is at A\$276/tonne equivalent and the APW Multigrade price is at A\$281/tonne, resulting in a positive basis of A\$5/tonne.

**Wheat Price Analysis 2011/12**



**INTEREST RATE UPDATE**

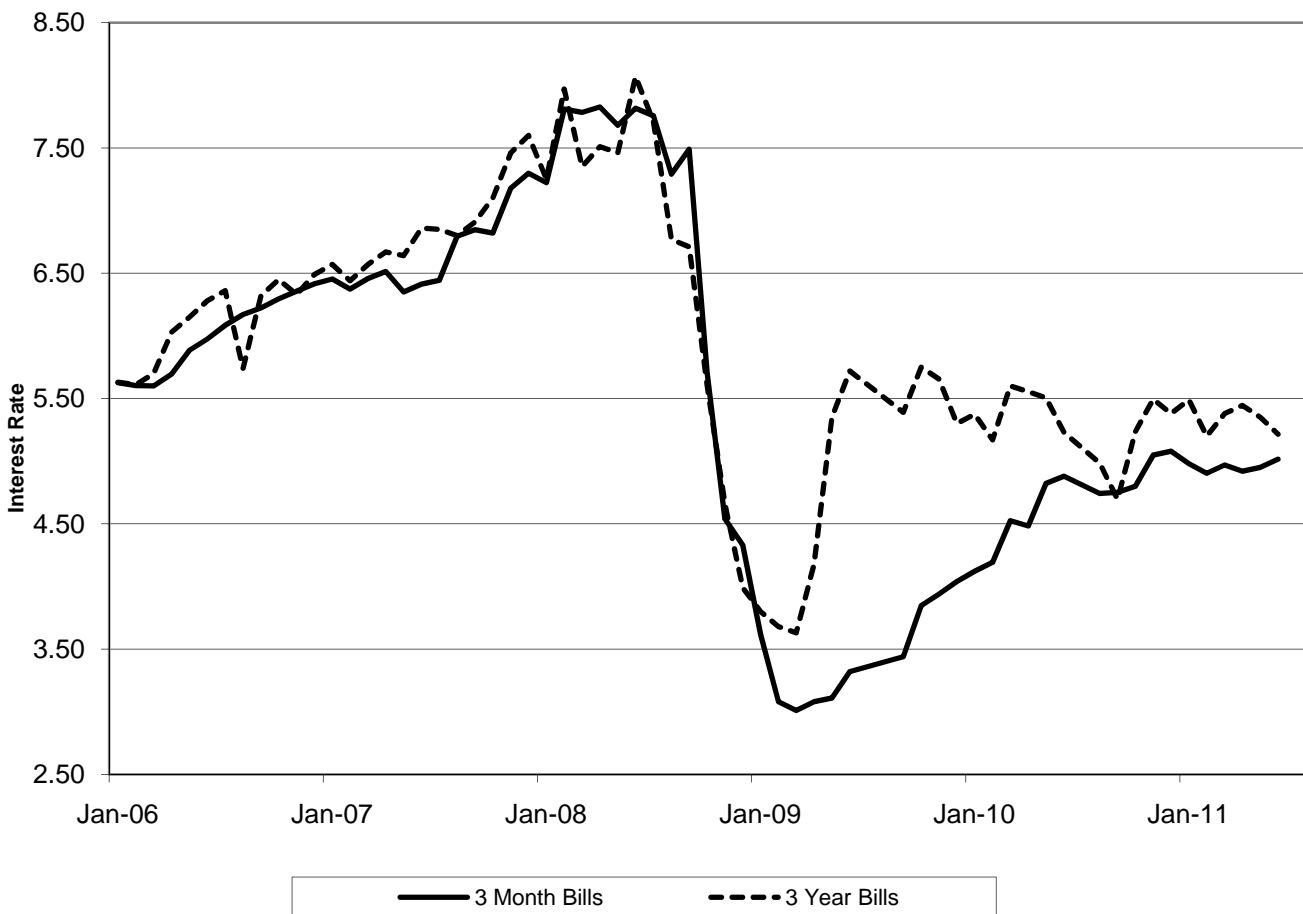
The following graph shows movements in both the 3 month and 3 year Bank Bill yield rates, for the period January 2006 to June 2011.

These rates are wholesale rates which are net of any margin charged by financial institutions.

The gap between the short term and long term rate has closed, indicating that rates may stabilize in the short to medium term.

Currently the 3 month wholesale Bill rate is 5.02% pa and the 3 year wholesale Bill rate is 5.22% pa, a premium of only 0.20% pa for the longer term.

**INDICATOR BILL RATES**



## INDICATIVE CHEMICAL PRICES

CHEMICAL	CONTAINER SIZE	PRICE	UNIT PRICE	COMMON RATE	COST HA
<b>Herbicides:</b>					
Achieve WG	5 kg	\$220	\$44.00 /kg	0.380 kg/ha	\$16.72
Affinity Force	4 L	\$660	\$165.00 /L	0.065 L/ha	\$10.73
Ally	500 g	\$40	\$0.08 /g	5 g/ha	\$0.40
Aramo	20 L	\$700	\$35.00 /L	0.300 L/ha	\$10.50
Atlantis OD	5 L	\$450	\$90.00 /L	0.330 L/ha	\$29.70
Atrazine - Liquid (500)	20 L	\$120	\$6.00 /L	1.000 L/ha	\$6.00
- Granules (900)	15 kg	\$140	\$9.33 /kg	0.555 kg/ha	\$5.18
Axial	5 L	\$580	\$116.00 /L	0.150 L/ha	\$17.40
Broadstrike	500 g	\$320	\$0.64 /g	25 g/ha	\$16.00
Brodal Options	5 L	\$335	\$67.00 /L	0.200 L/ha	\$13.40
Bromoxynil	20 L	\$200	\$10.00 /L	1.400 L/ha	\$14.00
Bromoxynil M	20 L	\$185	\$9.25 /L	1.400 L/ha	\$12.95
Cheetah Gold	20 L	\$450	\$22.50 /L	1.000 L/ha	\$22.50
Correct / Shogun	10 L	\$265	\$26.50 /L	0.450 L/ha	\$11.93
Crusader	10 L	\$650	\$65.00 /L	0.500 L/ha	\$32.50
Decision	20 L	\$290	\$14.50 /L	1.000 L/ha	\$14.50
Diuron - Liquid (500)	20 L	\$150	\$7.50 /L	0.500 L/ha	\$3.75
- Granules (900)	15 kg	\$180	\$12.00 /kg	0.280 kg/ha	\$3.36
Eclipse	500 g	\$590	\$1.18 /g	7 g/ha	\$8.26
Ecopar	20 L	\$585	\$29.25 /L	0.400 L/ha	\$11.70
Foxtrot	10 L	\$205	\$20.50 /L	0.560 L/ha	\$11.48
Fusilade	10 L	\$105	\$10.50 /L	0.275 L/ha	\$2.89
Fusion Super WG	5 kg	\$375	\$75.00 /kg	0.280 kg/ha	\$21.00
Glean	1 kg	\$85	\$0.09 /g	20 g/ha	\$1.70
Gramoxone 250	20 L	\$90	\$4.50 /L	0.800 L/ha	\$3.60
Hussar OD	3 kg	\$877	\$292.33 /kg	0.100 kg/ha	\$29.23
Hoegrass (375)	20 L	\$200	\$10.00 /L	1.500 L/ha	\$15.00
Intervix	10 L	\$760	\$76.00 /L	0.300 L/ha	\$22.80
Igran	20 L	\$280	\$14.00 /L	0.550 L/ha	\$7.70
Jaguar	20 L	\$320	\$16.00 /L	0.750 L/ha	\$12.00
Kamba 500	10 L	\$200	\$20.00 /L	0.160 L/ha	\$3.20
Kamba M	20 L	\$198	\$9.90 /L	1.400 L/ha	\$13.86
Ken-Up Dry (680)	15 kg	\$120	\$8.00 /kg	0.500 kg/ha	\$4.00
Lontrel	20 L	\$440	\$22.00 /L	0.300 L/ha	\$6.60
Mataven 90	20 L	\$320	\$16.00 /L	2.500 L/ha	\$40.00
MCPA Amine (750)	20 L	\$170	\$8.50 /L	0.330 L/ha	\$2.81
MCPA LVE (500)	20 L	\$170	\$8.50 /L	0.300 L/ha	\$2.55
Midas	20 L	\$800	\$40.00 /L	0.900 L/ha	\$36.00
Monza	500 g	\$500	\$1.00 /g	25 g/ha	\$25.00
Paragon	20 L	\$660	\$33.00 /L	0.375 L/ha	\$12.38
Precept 300	20 L	\$582	\$29.10 /L	0.500 L/ha	\$14.55
Raptor	0.25 kg	\$200	\$0.80 /g	45 g/ha	\$36.00
Roundup CT (450)	20 L	\$90	\$4.50 /L	0.750 L/ha	\$3.38
Roundup Ready Herbicide	15 kg	\$140	\$9.33 /kg	0.900 kg/ha	\$8.40
Status (Select)	10 L	\$130	\$13.00 /L	0.250 L/ha	\$3.25
Sencor 750 WG	5 kg	\$140	\$28.00 /kg	0.100 kg/ha	\$2.80

CHEMICAL	CONTAINER SIZE	PRICE	UNIT PRICE	COMMON RATE	COST HA
Sertin 186 SC	20 L	\$660	\$33.00 /L	0.750 L/ha	\$24.75
Sertin Plus	20 L	\$425	\$21.25 /L	1.200 L/ha	\$25.50
Simazine - Liquid (500)	20 L	\$120	\$6.00 /L	1.250 L/ha	\$7.50
- Granules (900)	15 kg	\$140	\$9.33 /kg	0.695 kg/ha	\$6.49
Sniper	2 kg	\$720	\$0.36 /g	50 g/ha	\$18.00
Spinnaker 700 WG	2 kg	\$330	\$0.17 /g	70 g/ha	\$11.55
SpraySeed 250	20 L	\$180	\$9.00 /L	1.500 L/ha	\$13.50
Starane Advance	20 L	\$280	\$14.00 /L	0.600 L/ha	\$8.40
Terbyne	10 kg	\$170	\$17.00 /kg	1.000 g/ha	\$17.00
Tigrex	20 L	\$240	\$12.00 /L	0.750 L/ha	\$9.00
Topik 240 EC	1 L	\$100	\$100.00 /L	0.065 L/ha	\$6.50
Torpedo	5 L	\$575	\$115.00 /L	0.100 L/ha	\$11.50
Trifolamine	20 L	\$280	\$14.00 /L	2.250 L/ha	\$31.50
Tristar Advance	20 L	\$270	\$13.50 /L	1.500 L/ha	\$20.25
Tzar	10 L	\$105	\$10.50 /L	0.250 L/ha	\$2.63
Velocity	10 L	\$300	\$30.00 /L	0.500 L/ha	\$15.00
Verdict 520	5 L	\$250	\$50.00 /L	0.075 L/ha	\$3.75
Wildcat	10 L	\$270	\$27.00 /L	0.400 L/ha	\$10.80
2,4-D LV Ester (680)	20 L	\$165	\$8.25 /L	0.470 L/ha	\$3.88
2,4-D Amine (625)	20 L	\$125	\$6.25 /L	1.100 L/ha	\$6.88
<b>Wetters, Oils:</b>					
Adigor	20 L	\$130	\$6.50 /L	0.500 L/100L	\$2.28 @70 L/ha
BS 1000	20 L	\$100	\$5.00 /L	0.200 L/100L	\$0.70 @70 L/ha
D-C-Trate	20 L	\$110	\$5.50 /L	2.000 L/100L	\$7.70 @70 L/ha
Broadcoat	20 L	\$88	\$4.40 /L	2.000 L/100L	\$6.16 @70 L/ha
Hasten/Kwickin	20 L	\$100	\$5.00 /L	1.000 L/100L	\$3.50 @70 L/ha
LI-700	20 L	\$130	\$6.50 /L	0.250 L/100L	\$1.14 @70 L/ha
Supercharge	20 L	\$130	\$6.50 /L	0.750 L/100L	\$3.41 @70 L/ha
Uptake	20 L	\$130	\$6.50 /L	0.500 L/100L	\$2.28 @70 L/ha
<b>Insecticides:</b>					
Dimethoate	20 L	\$190	\$9.50 /L	0.085 L/ha	\$0.81
Fastac Duo	20 L	\$120	\$6.00 /L	0.200 L/ha	\$1.20
Imidan	20 L	\$180	\$9.00 /L	0.300 L/ha	\$2.70
Le-mat	10 L	\$250	\$25.00 /L	0.100 L/ha	\$2.50
Lorsban	20 L	\$190	\$9.50 /L	0.300 L/ha	\$2.85
Pirimor	5 kg	\$220	\$44.00 /kg	0.150 kg/ha	\$6.60
Supracide	5 L	\$150	\$30.00 /L	0.090 L/ha	\$2.70
<b>Fungicides:</b>					
Bayleton	20 L	\$100	\$5.00 /L	0.500 L/ha	\$2.50
Folicur	10 L	\$300	\$30.00 /L	0.145 L/ha	\$4.35
Tilt	10 L	\$300	\$30.00 /L	0.250 L/ha	\$7.50
Tilt Xtra	10 L	\$650	\$65.00 /L	0.250 L/ha	\$16.25
Opus 125	5 L	\$200	\$40.00 /L	0.250 L/ha	\$10.00
Prosaro 420	10 L	\$660	\$66.00 /L	0.150 L/ha	\$9.90
Amistar Xtra	10 L	\$1,200	\$120.00 /L	0.400 L/ha	\$48.00