

# PRODUCTIVITY SERVICES WEED & PEST MANAGEMENT GUIDE

*Always read the label before application*



mackay area productivity services



## HCPSL

Herbert Cane Productivity Services Ltd.



## BROADLEAF WEED CONTROL

Situation	Herbicide	Rate	Comments
Broadleaf weeds & vines	MCPA 500	1.4 – 2.1 L/ha	<b>For best results when spraying 2,4-D formulations always avoid spraying in the heat of the day and use high water rates to avoid crop damage.</b>
	MCPA 750 +Dicamba 700 WG Na salt	0.93 L/ha +0.6 L/ha	
	MCPA 750 +Starane™ Advanced	0.93 L/ha +0.8 L/ha	
	MCPA 500 +Actril® DS	1.4 – 2.1 L/ha +1.5 L/ha	
	Dicamba 500 +2,4-D Amine 625	0.56 L/ha +1 L/ha	
	AGTRYNE MA	2 – 4 L/ha	
Broadleaf weeds, vines & Nutgrass suppression	Actril® DS	1 – 1.5 L/ha	
Broadleaf weeds, vines & GSP	Starane™ Advanced +2,4-D Amine 625	0.8 L/ha +0.8 L/ha	
For sicklepod & a range of small soft vines	Tordon™75-D +2, 4-D Amine 625	0.8 L/ha +0.8 L/ha	
For large sicklepod & woody vines	Tordon™75-D +2, 4-D Amine 625 +Starane™Advanced	0.8 L/ha +0.8 L/ha +0.8 L/ha	
Broadleaf weeds & some grass (over the top of cane up to the 6 leaf stage or as a directed spray)	Krismat® WG	1.5 – 2.0 kg/ha	Label requirement is that nozzles that produce a coarse to very coarse droplet size be used with 2,4-D products. Air induction nozzles are recommended.
	2,4-D (eg. Amicide) Amicide	1.1 L/ha	
	Advance 700	1.6 L/ha	
Broadleaf weeds, vines & some grass(over the top of cane up to the 6 leaf stage or as a directed spray)	Krismat® WG +2,4-D Amine 625	1.5 kg/ha +0.8 L/ha	
Grass, vines & broadleaf weeds (directed spray)	Sprayseed® 250 +2,4-D Amine 625	1.6 – 3.2 L/ha +0.8 L/ha	
Grass vines & broadleaf weeds (directed spray)	Sprayseed® 250 +MCPA 500 or +Actril® DS	1.6 – 3.2 L/ha +1.4 – 2.1 L/ha or +1.5 L/ha	

**PRE-EMERGENT WEED CONTROL**

Add Gramoxone®250 when weeds are present (Directed application)

Situation	Herbicide	Rate	Comments
Grasses & certain Broadleaf weeds	Stomp+Atrazine	2.2 – 3.2L/ha +2.2 -2.6 kg/ha	When a combination of 2 applications is required - consider using atrazine bases mixes first and complete the task with mixes of balance+ soccer or flame+ soccer.
Certain Grasses & Broadleaf weeds Add knockdowns for larger weeds	Treflan™ 480	2.3 – 3.0 L/ha	
Grasses & Broadleaf weeds Add knockdowns for larger weeds	Treflan™ 480 Soccer® 700 WG	2.3 – 3.0 L/ha +1.5 – 2.0 kg/ha	
Certain Grasses & Broadleaf weeds Add knockdowns for larger weeds (Directed application)	Flame® 240	300 – 400ml/ha	Effective against paspalum and wild sorghum, poor against crowsfoot grass and thickhead. For crowsfoot grass control, use mix below (flame and Stomp). Provides good suppression of nutgrass. Add Paraquat and 2,4-D if grasses & broadleaves present. 5 – 10 weeks control. Apply to moist soil or need rain in 10 days. Suitable for tank mixing with grass residuals such as Dual Gold & Balance.
	Flame/Atrazine	300ml/ha+1.5kg/ha	
	Soccer 700 WG	1.1 – 2.2 kg/ha	
	Flame + Soccer	300ml/ha + 1.1 – 1.6kg/ha	
Grasses & Broadleaf weeds Add knockdowns for larger weeds (Directed application)	Flame® 240 + Stomp® Xtra	300 – 400ml/ha +2.2 kg/ha	
Control and suppression of certain Grasses & Broadleaf weeds Add knockdowns for larger weeds (Directed application)	Balance® 750 WG	200 g/ha	
Grasses & Broadleaf weeds Add knockdowns for larger weeds (Directed application)	Soccer® 700 WG + Balance® 750 WG	1.5 – 2.2kg/ha 100 – 200 g/ha	Balance is UV stable, Soccer incorporate by rain or irrigation between 2 to 7 days.

**PRE EMERGENT WEED CONTROL - cont.**

Situation	Herbicide	Rate	Comments
Grasses & Broadleaf weeds Add knockdowns for larger weeds (Directed application)	Balance <sup>®</sup> 750 WG +Actril <sup>®</sup> DS	100 – 200g/ha +0.5 L/ha	
Grasses & Certain Broadleaf weeds Apply as an early post emergent	Asulox <sup>®</sup> + Actril <sup>®</sup> DS	5.0 – 8.5 L/ha + 1.5l/ha	Good moisture essential at the time of application.
Grasses & Broadleaf weeds Add knockdowns for larger weeds (Directed application)	Soccer <sup>®</sup> 700 WG + Stomp <sup>®</sup> Xtra	1.5 – 2.2 kg/ha + 2.2 L/ha	
Control of certain Broadleaf weeds and suppression of a range of grasses Add knockdowns for larger weeds (Directed application)	Krismat <sup>®</sup> WG	1.5 – 2.0 kg/ha	
Control of certain annual Grasses & Broadleaf weeds Add knockdowns for larger weeds (Directed application)	Metolachlor 720 EC + 2,4-D Amine 625	2.2 – 2.9 L/ha + 1.6 L/ha	
	Metolachlor + Atrazine	2.2 – 2.9	
	Dual Gold + Atrazine	2.2 – 2.6	
Controls certain annual Grasses & Broadleaf weeds Add knockdowns for larger weeds (Directed application)	Dual Gold 960	1.45 – 1.8 L/ha	
Controls certain Grasses & Broadleaf weeds	Soccer Soccer + Actril	1.5 – 2.2 kg/ha 1.1 – 1.6L/ha(Nutgrass)	
Grasses only	Stomp Xtra	2.2 – 3.3 L/ha	6 – 10 weeks control. Add Paraquat and 2,4-D if grasses & broadleaves present when spraying.

**INTER ROW WEED MANAGEMENT**

	Herbicide	Rate	Comments
Grasses & Broadleaf weeds Inter row application with a shielded or hooded sprayed (Directed application)	Roundup <sup>®</sup> Attack <sup>™</sup> 570	1.1 – 4.7 L/ha	Addition of a compatible 2,4-D will assist broadleaf control.
Grasses, annuals & perennial Inter row application with a shielded or hooded sprayed (Directed application)	Propon 740 (2,2-DPA)	4.0 – 10.0 kg/ha	

## NUT GRASS CONTROL

Situation	Herbicide	Rate	Comments
Blanket application	Sempra® Herbicide	65 – 130 g/ha	Add non-ionic wetter at 200ml/100L
	Actril® DS	1.5 – 2.0 L/ha	
Directed application	Hero®	250 g/ha	Apply in at least 250L water /Ha to actively growing nut grass at 4-6 leaf stage. Do not cultivate for 3-5 weeks. Use a 1000g/L non-ionic wetter at 100ml/100L.  Krismat is incompatible with ph buffers eg LI-700 and Primabuff.
	Krismat® WG	1.5 – 2.0 kg/ha	
	Krismat® WG + 2,4-D Amine 625	1.5 kg/ha + 0.8 L/ha	
Nut Grass Suppression	Flame	300 to 400L/ha	
Double Knock Treatments	Hero	2,4-D – 1.5 L	Initially apply Krismat or Hero or Sempra to actively growing nutgrass.  Then 2 to 4 weeks later apply 2,4-D or Actril DS to regrowth.
	Sempra	Actril – 1.5 L	
	Krismat Follow up with 2 4-D or Actril DS	Refer above for rates of Krismat, Hero or Sempra	

## SPOT SPRAYING

Situation	Herbicide	Rate	Comments
Perennial grasses (including guinea grass)	Daconate® 800 (MSMA) (Best results in hot dry conditions with Temperature above 25° C)	1 L/ 100 L of water	
Perennial grasses (including guinea grass)	Roundup Attack 570	0.9 – 1.3 L/100 L of water	
Sicklepod & vines	Tordon™ 75-D + 2,4-D Amine 625	300 ml +150 ml/ 100 L of water	
Perennial grasses (Including guinea grass and vines)	Asulox® + Actril® DS (needs temp above 17° C & 80 % humidity for best results)	2 L + 200 mls / 100 L of water	
Perennial grasses (including guinea grass, phragmites & sorghum)	Propon 740 (2, 2-DPA) Follow up spraying may be necessary	1kg/ 100L of water	

## GENERAL WEED CONTROL

### Established Grass and broadleaf weeds in Ratoon (>10cm tall) "Salvage Operation"

Situation	Herbicide	Rate	Comments
Can be applied over cane (4-5 leaf stage or larger) <ul style="list-style-type: none"> <li>Will burn cane foliage</li> </ul>	Daconate <sup>®</sup> 800 (MSMA)	6L/ha	
Can be applied over cane <ul style="list-style-type: none"> <li>May burn cane foliage</li> </ul>	Asulox <sup>®</sup> + Actril <sup>®</sup> DS	5.5 – 8.5 L/ha + 1.5 L/ha	

### Small Grass (3-4 leaf), broadleaf weeds and vines

Situation	Herbicide	Rate	Comments
Can be used over small cane May burn cane foliage	Krismat <sup>®</sup> WG +2,4-D Amine 625	1.5 – 2.0 kg/ha + 0.8 L/ha	
Can be used over small cane May burn cane foliage	Soccer <sup>®</sup> 700 WG + Actril <sup>®</sup> DS	1.5 – 2.2 kg/ha + 1.5 L/ha	

**Amount of damage to cane foliage depends on the variety of cane present.**

Situation	Herbicide	Rate	Comments
Cane early spiking or as directed	Gramoxone <sup>®</sup> 250	1.2 – 1.6 L/ha	For best results use daconate in hot stressed conditions.
	Sprayseed <sup>®</sup> 250	1.6 – 3.2 L/ha	
	Daconate <sup>®</sup> 800 (MSMA)	3.0 – 6.0 L/ha	
	Soccer <sup>®</sup> 700 WG + Gramoxone <sup>®</sup> 250	0.85 kg/ha + 1.2 L/ha	
Shielded sprayer – inter row	Roundup <sup>®</sup> Attack™ 570	1.1 – 4.7 L/ha	
	Propon 740 (2,2-DPA)	4 – 10 kg/ha	

**FALLOW MANAGEMENT/RATOON SPRAYOUT**

<b>Situation</b>	<b>Herbicide</b>	<b>Rate</b>	<b>Comments</b>
<p>Cane control in Fallows  <b>Cane should be fully emerged and actively growing</b>                      (+ annual and perennial weeds)</p> <p><b>Use low water rates (100 – 150 L/ha) with nozzles producing Coarse to very coarse droplets.</b></p> <p><b>If broadleaf weeds are present add a compatible broadleaf herbicide such as 2,4-D Advance 7000.</b></p>	Roundup Attack 570	3.8– 7.5 L/ha	The addition of starane instead of 2, 4-D amine as an additive with the new glyphosphate formulations is known to give a better result.
Broad spectrum control in Fallows (annual grass, vines, sicklepod etc).	Sprayseed® 250 + 2,4-D Amine 625	1.6 – 3.2 L/ha + 1 L/ha	
Control cane volunteers & grasses Controls grasses in legume crops.	Fusilade Forte™ 128 EC	0.82 – 1.65 L/ha	
Control cane volunteers & grasses Controls grasses in legumes crops Use with uptake spraying oil.	Verdict™ 520	150 –800 ml/ha	
Broad spectrum control in Fallows (annual & perennial grass, vines, & Broadleaf weeds).	Basta®	3 – 5 L/ha Or 500 mls/100 L for spot spraying	
Broad spectrum control in Fallow & for cane inter row application (annual & perennial grass).	Propon 740 (2,2-DPA)	4 – 10kg/ha Or 1 kg/ 100L for spot spraying	

**Always read the product label before using any pesticide!**

## PESTICIDES

### Fungicides for planting

Product	Pack size	Application Rate	Comments
Shirtan® 120	6 x 250ml or 5 L	250 ml/200 L applied	
Throttle® 500	5 L	20 ml/200 L applied	
Bumper 250 EC	5 L	40 ml/200 L applied	
Tilt® 250 EC	5 L	40 ml/200 L applied	

### Insecticides

Product	Pack size	Insects controlled	Application rate	Comments
Lorsban™ 500 EC	20 L	Armyworms Australian Plague Locusts Spur-throated Locust Symphylids Wireworms	700 – 900 ml/ha 350 ml/ha 1.25 – 1.5 L/ha 2.0 L/ha 1.5 L/ha	Apply as a low pressure or gravity feed spray on to plant sett adjacent to the soil at the point of exit from the planter prior to the soil covering the sett.
Regent® 200SC	2.5 L	Wireworms	1.1 – 1.8 ml/100 M row Or 73 – 100 ml/ha	
Talstar® 250 EC	5 L	Wireworms	150 ml/ha	

### Greyback cane Grub management

Product	Pack size	Application Rate	Comments
suSCon® Blue	10 kg	21 kg/ha	Plant cane
suSCon® Maxi	15 kg	10 – 15 kg/ha	Plant cane
Confidor® Guard	10 L	1.05 – 1.45 L/ha	Plant and ratoons
Shield systemic insecticide	20 L	1.75 – 2.5 L/ha	Plant cane

#### CRITICAL COMMENTS:

For best results when spraying 2,4-D formulations always avoid spraying in the heat of the day and use high water rates to avoid crop damage.

When using pre-emergents such as stomp, atrazine and dual gold - be very conscious of incorporation times to achieve good weed control.

When spot spraying tank mixes that use diuron as an additive - half that rate of soccer will have the same benefit.

Refer to label for application requirements (nozzles, volumes, etc.).



TANK MIXING GUIDE		
STEP	What to do	Example Products
1.		Fill spray tank to at least 70% full. Run agitation
2.	Add water conditioners	Liase or LI700
3.	Add Water Dispersible Granule (WDG) products	Granula products such as: Diurex, Ametrex 800 WG, Atradex, Velpar K4, Barrage, Soccer, Balance
4.	If you have added in any WDG products – Allow up to 10 minutes for complete dispersion	
5.	Add suspension Concentrate products	Liquid flowable Diuron, Atrazine, Gesapax Combi
6.	Add Emulsifiable Concentrate products	Trifluralin (Treflan, TriflurX), Flame, Pendimethalin, (Stomp Xtra, Rifle 440)
7.	Add Soluble Liquid products	Paraquat (Gramoxone, Nuquat etc.), 2,4-D products (Amicide), Kamba M
8.	Fill the spray tank to nearly full	
9.	Add any Glyphosate based products	Roundup, Glypho360, Roundup Attack etc.
10.	Add wetting agents or adjuvants and fill tank	Activator, Shirwet

Always check the compatibility statement on the label before tank mixing multiple products.

Above information sourced from Nufarm Multiple Tank Mix Solutions Guide <http://www.nufarm.com>

WATER RATE SELECTION		
Target	Water Rate (L/Ha)	Comments
Small Emerged weeds	50-100 L	Low water rates are effective on small grass (2-3 leaf stage) and broadleaf weeds (less than 4 leaves).
Established seedlings	100-200 L	Increase the water rate for grass which has tillered and mature broadleaf weeds.
Large Grass	200-300 L	High water rates are required to ensure good coverage on all leaves.
Nutgrass in fallow (using glyphosate)	50-80 L	Glyphosate is more effective at low water rates.
Ratoon spray-out using glyphosate	80-150 L	Higher water rates may be needed to ensure good coverage for ratoon spray-out using glyphosate.
Residual application to soil	300-400 L	High water rates are required to give adequate coverage of the soil surface to maximise the length of residual control.

Sourced from BSES Weed Management Manual 2010 edition, by Barry Callow, Emilie Fillols and Trevor Willcox  
[www.bses.com.au](http://www.bses.com.au)

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# Pre Emergent spray options for Plant Cane

Crop Stages	Plant to spike	Spike to 3-4 leaf	Hill up	Close over	Out of Hand
<b>Timing of use</b>					
	Balance or Soccer or Balance + Soccer or Balance + Atrazine or Stomp Extra + Soccer or Stomp Extra + Atrazine or Dual Gold + Soccer or Dual Gold + Atrazine or Atrazine			Balance or Soccer or Balance + Soccer or Balance + Atrazine or Flame or Flame + Atrazine or Flame + Soccer or Stomp Extra + Soccer or Stomp Extra + Atrazine or Dual Gold + Soccer or Dual Gold + Atrazine or Atrazine or Atrazine	
	Flame or Flame + Atrazine or Flame + Soccer				
<b>Spray programs Options</b>					
<b>Option 1</b>	Balance		→	Soccer	
				Atrazine	
<b>Option 2</b>	Soccer		→	Balance or Balance + Atrazine or Flame or Flame + Atrazine or Stomp Extra + Atrazine or Dual Gold + Atrazine	
<b>Option 3</b>	Balance + Soccer		→	Balance + Soccer	
				Atrazine	
<b>Option 4</b>	Stomp Extra + Atrazine or Dual Gold + Atrazine		→	Balance + Soccer	
<b>Option 5</b>	Flame or Flame + Atrazine	→		Balance + Soccer or Soccer	
<b>Option 6</b>	Knockdown		→	Balance + Soccer or Soccer	
<b>Option 7</b>	Knockdown		→	Any of the above herbicides or combinations	