

***Knockdown and  
residual weed control  
that stays where  
you put it***

**VALOR® 500WG is the herbicide for cane and bean growers that stays where you put it. It can either be used with knockdown herbicides to improve burndown control, or at higher rates for long-term residual control.**



**TECHNICAL MANUAL**

Valor 500WG contains 500 g/kg Flumioxazin, a Group 14 herbicide with excellent soil residual activity.

At lower rates, Flumioxazin enhances the knockdown of non-selective herbicides when used in a mixture. At higher rates it provides residual control of a range of broadleaf weeds and certain grasses.

Some of the key characteristics of Valor that make it a powerful tool for cane and bean growers include:

### VALOR STAYS WHERE YOU PUT IT

Flumioxazin has low solubility in water. The formulation of Valor means this isn't a problem in terms of mixing in the tank and applying the product. The advantage is that once it has been physically moved into the top layer of the soil by rainfall or irrigation, it won't be leached down through the soil profile or end up in local waterways. Valor will only move with soil that is washed away.

ACTIVE	SOLUBILITY (g/L) Higher number means more soluble
Valor	0.8
Trifluralin	0.22
Pendimethalin	0.33
Isoxaflutol	36
Atrazine	35
S-metolachlor	480
Imazapic	2230
Hexazinone	33000

### VALOR IS NOT VOLATILE

This means that Valor doesn't need immediate incorporation to stop it from being lost to the atmosphere. It also reduces the likelihood of drift onto other crops when spraying. Valor can also be used as a replacement for 2,4-D in knockdown mixes. Where legume weeds are present adding Valor plus atrazine with a knockdown herbicide will provide excellent control.

### VALOR IS UV STABLE

Valor won't be broken down by the sun before it can be incorporated into the top of the soil for at least three weeks.

### VALOR CONTROLS A WIDE RANGE OF BROADLEAF AND GRASS WEEDS IN CANE AND BEANS.

*Valor providing excellent weed control where a trash blanket is present*



*Valor treated row after flooding*



## Valor for enhanced knockdown and long-term residual weed control in cane

### SUMMARY OF VALOR LONG-TERM RESIDUAL WEED CONTROL USES IN CANE

**Cane, no trash:** 350-560 g/ha directed spray after filling in.

**Cane, with trash:** 560-700 g/ha directed spray.



**1**

The lower range **350-560 g/ha** is for use when conditions are favourable for Valor to perform. These conditions include:

- Bare soil – no trash. Trash limits the amount of Valor reaching the soil.
- High rainfall areas such as the wet tropics or where supplementary overhead irrigation is used and Valor will be more readily incorporated into the soil surface.



*Untreated control 85 DAT*



*Valor @ 480 g/ha 85 DAT*

**2**

The upper range rates of **560-700 g/ha** are used when conditions are a bit tougher. This includes:

- Ratoon crops with a trash blanket that restricts Valor from readily reaching the soil surface.
- Bare soil with low rainfall or flood irrigation (e.g. the Burdekin region) where Valor is less readily incorporated into the soil surface..



*Untreated control 42 DAT*



*Valor @ 560 g/ha + Gramoxone® @ 1.5 L/ha + Hasten™ @ 0.4 L/100 L of water 42 DAT*

**REGARDLESS OF THE SITUATION, THERE ARE A NUMBER OF POINTS TO CONSIDER TO GET THE MOST OUT OF VALOR WHEN USED FOR RESIDUAL CONTROL IN CANE:**

- Valor needs water for activation when used for residual weed control. Valor should be applied to moist soil and requires follow-up rain or irrigation of at least 15 mm within 3 weeks to ensure continued good control.
- Valor can be applied over the trash blanket (at the higher rate), but will need rainfall or irrigation within 1 week of application to take it down to the soil surface and control germinating weeds.
- Apply in a minimum of 200 L spray solution per hectare using droppers with directed nozzles targeted for even coverage up to the base of the cane.
- Application over the top of young cane or young ratoon will cause a temporary burn of the cane.
- Once the Valor layer on top of the soil has been applied, soil movement may allow weed escapes to occur. Soil movement can be from mechanical means, by flood irrigation or flood water washing soil away, or soil cracking.
- The weeds present at the time of spraying will influence the choice of mixing partner. Any weeds with 2-8 leaf will require a non-selective herbicide partner such as Paraquat.
  - If grasses are larger than the 3-leaf stage then adding a low rate of Diuron to the Paraquat will improve knockdown. This needs to be done before the summer period when use of Diuron is restricted.
  - If Calopo or Sicklepod are present then the addition of Atrazine will help.
- Long dry conditions after rain or irrigation can reduce the performance of Valor. In these situations reliability may be improved by adding a lower rate of Valor 500WG to other more water soluble herbicides that move further down into the soil profile such as S-metolachlor, metolachlor or atrazine.



*Untreated control 54 DAT*



*Valor @ 400 g/ha + Paraquat @ 1.5 L/ha + Dual Gold® (s-metolachlor) @ 1.8 L/ha + Hasten @ 0.4 L/100 L of water 54 DAT*



## Enhanced knockdown of vine and broadleaf weeds in cane

### RATE

**Cane:** 90-120 g/ha of Valor plus the label rate of the mixing partner.

### SITUATION

Sugarcane; plant after filling in or ratoons.

### WEEDS CONTROLLED (<9 LEAF)

Calopo, Wild rose, Square weed/Borreria, Billygoat weed/Bluetop, Pig weed, Sicklepod, Common sida, Spider flower, *Amaranthus* spp., *Ipomoea* spp., Pink convolvulus, Red convolvulus, Bell vine, Morning glory and Star of Bethlehem.

### HOW TO GET THE BEST FROM VALOR WITH NON-SELECTIVE HERBICIDES

- Use as a direct spray at the base of the plant.
- Choose the mixing partner based on the weeds present.
- If Calopo or Sicklepod are present the addition of atrazine may improve knockdown.
- While Valor enhances the knockdown of glyphosate herbicides, care needs to be taken to avoid glyphosate drift onto crops.
- To control vines the growing tip needs to be sprayed.
- Non-ionic surfactants may be used but addition of a crop oil concentrate such as Hasten will generally give a better knockdown result.
- Use as a replacement for 2,4-D in knockdown mixes.

Valor can also be used for enhanced knockdown at 30 g/ha plus label rate of tank mix partner plus an adjuvant prior to sowing beans and other rotational crops.



### TRIAL RESULTS

Knockdown control of Calopo, Square weed and Pink convolvulus



Untreated control 14 DAT



Valor @ 120 g/ha +  
Atrazine 1350 gai (1.5 kg/ha) +  
Hasten @ 0.4 L/100 L of water 14 DAT



## Long-term residual weed control in beans and other rotational crops with cane

Valor provides highly effective long-term weed control in a range of crops commonly grown in rotation with sugarcane at use rates substantially lower than those recommended in cane. Valor offers growers the flexibility to use in cane and rotation crops without restrictive plant-back periods seen with some other herbicides.



**Valor is an excellent choice for residual control when applied in fallow 2 months prior to sowing Mungbeans keeping the fallow clean leading up to sowing and often controlling weeds into the emerged crop.**



**With Soybeans and Peanuts Valor has no re-cropping interval recommendation and can be applied at sowing or immediately post sowing but prior to emergence (PSPE), often keeping the crop clean through until harvest.**

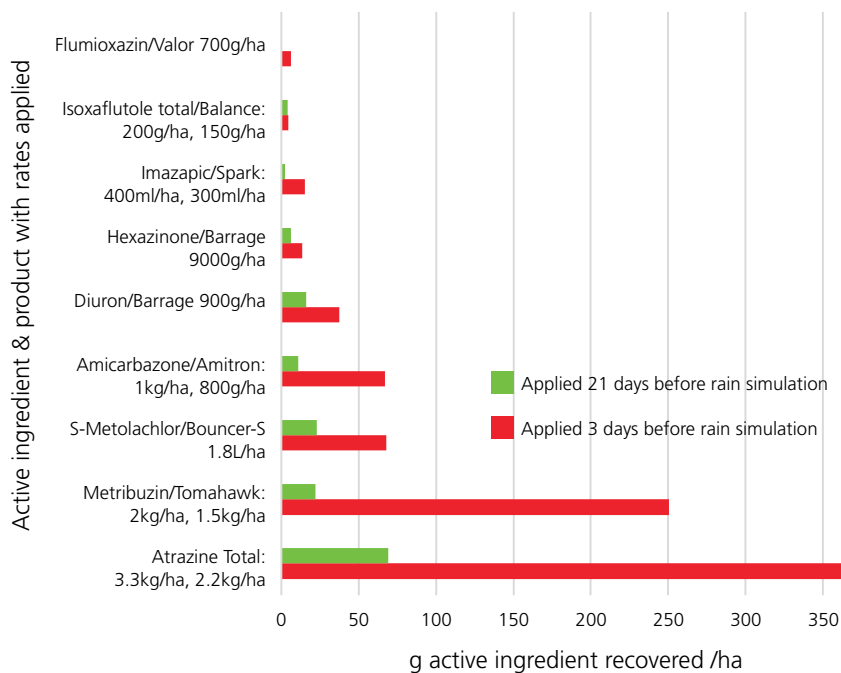
## Valor stays where you put it

Recent herbicide run-off simulation trials conducted by Sugar Research Australia (SRA) highlighted that Valor binds very strongly to the soil posing a much lower risk of run-off and contamination to waterways and the reef than other alternative herbicides.

### SRA trial at Gordonvale, Qld, 2018, Billing, B

This chart shows runoff from residual herbicides applied at 21 days and 3 days before rainfall simulations carried out to the point of runoff. 100mm of natural rainfall fell between application at 21 days and rainfall simulation. Note Valor's very low level of off field movement, as illustrated by the low recovered active ingredient.

SRA Rainfall simulation trial Bartle Frere 2018



## Compatibility

### Valor 500WG Herbicide is compatible with:

Glyphosate 450, Roundup® Ready Herbicide with Plant Shield®, Nufarm Weedmaster® DST® or Nufarm Weedmaster Argo® Dual Salt Technology Herbicide, Spray.Seed® 250 Herbicide or Nufarm Revolver® Herbicide, Gramoxone® 250 Herbicide or Nufarm Nuquat® 250 Non-residual Knockdown Herbicide, Dual Gold®, 2,4-D Ester Herbicide or Nufarm Estercide® Xtra 680 or Nufarm Estercide 800 Herbicide, Nufarm Amicide® Advance 700 Selective Herbicide, Hasten, Kwickin® and Banjo® at 0.5-1 L/100 L and with Uptake™ at 0.5 L/100 L.



## Decontaminating spray equipment

**EQUIPMENT WITH VALOR RESIDUE REMAINING IN THE SYSTEM MAY RESULT IN CROP INJURY TO THE SUBSEQUENTLY TREATED CROP, IF THE EQUIPMENT IS TO BE USED ON CROPS OTHER THAN CANE.**

Spray equipment, including mixing vessels and nurse tanks, must be cleaned following Valor application.

After Valor is applied, it is important to follow the decontamination steps as outlined on the Valor label.



**To enhance removal of Valor from the spray system, add a tank cleaner such as All Clear™ DS or Kleenup™ Granular in place of ammonia. Follow the instructions on the product label for these products. All-Clear DS has very detailed instructions on how to achieve effective decontamination. They can be viewed on the AgNova website here:**

<http://www.agnova.com.au/content/custom/products/downloads/All-Clearflowchart-AgNote.pdf>

## Directions for use

DO NOT apply by air.

DO NOT apply for enhanced knockdown if weeds are stressed from drought, frost or waterlogging.

DO NOT apply for residual weed control until the start of summer rains when significant soil wetting rain has occurred (> 15 mm) or the soil has been irrigated.

DO NOT apply in high pH water (pH >7) or allow the spray mix to stand overnight.

DO NOT disturb treated soil surface after application.

DO NOT make more than one application per season at the 700 g/ha maximum rate.

### Directions for use – Enhanced knockdown in cane

CROP SITUATION	WEED CONTROLLED	RATE g/sprayed ha	CRITICAL COMMENTS
<p><b>Sugarcane</b></p> <p>Plant – after filling in or Ratoons</p> <p>To enhance knockdown of vines and broadleaf</p>	<p><b>Broadleaf and vines</b></p> <p>&lt;9 leaf stage</p> <p>Including: Calopo, Wild rose, Square weed/Borreria, Billygoat weed/Bluetop, Pig weed, Sicklepod, Common sida, Spider flower, <i>Amaranthus</i>, <i>Ipomoea</i> spp., Pink convolvulus, Red convolvulus, Bell vine, Morning glory, Star of Bethlehem</p>	<p>90-120 g/ha Valor 500WG plus the label rate of tank mix partner plus an adjuvant</p>	<p>Apply Valor 500WG herbicide as a directed spray to the base of the cane plants.</p> <p>Non-ionic surfactants may be used but addition of a crop oil concentrate such as Hasten may give a better result.</p> <p>If Calopo or Sicklepod are present then the addition of atrazine may improve knockdown.</p> <p>To ensure knockdown in vines the growing tip of the weed needs to be sprayed.</p> <p>Valor 500WG also enhances the knockdown of glyphosate on broadleaved weeds and vines, but great care must be taken not to allow glyphosate to drift on to cane.</p>



**Valor is now available in larger 1.75 kg and 10.5 kg packs, with 350 g water soluble sachets inside**



Directions for use – Sugarcane residual weed control

CROP SITUATION	WEED CONTROLLED	RATE g/sprayed ha	CRITICAL COMMENTS
<p><b>Sugarcane</b> Plant – after filling in or Ratoon – no trash blanket</p> <p>Bare soil situations in higher rainfall areas such as wet tropics or with supplementary irrigation</p> <p>Enhanced knockdown of vines and broadleaf and residual control of vines, broadleaf and grasses</p>	<p><b>Broadleaf and vines</b> &lt;9 leaf stage</p> <p>Including: Calopo, Fleabane, Blackberry nightshade, Wild rose, Square weed/Borreria, Billygoat weed/ Bluetop, Balsam pear, Pig weed, Giant pigweed, Milkweed, Sicklepod, Common sida, Spider flower, Amaranthus, Ipomoea spp., Pink convolvulus, Red convolvulus, Morning glory, Star of Bethlehem</p>	350-560 g/ha	<p>Apply Valor 500WG herbicide as a directed spray to the base of the cane plants. If existing weeds are present at the 2-8 leaf stage then non-selective herbicides e.g. Paraquat should be added to ensure adequate knockdown. If grasses greater than 3 leaf are present the addition of a low rate of diuron to paraquat will improve knockdown. If Calopo or Sicklepod are present then the addition of atrazine may improve knockdown. Non-ionic surfactants may be used but addition of a crop oil concentrate such as Hasten will generally give a better knockdown result.</p> <p>Valor 500WG also enhances the knockdown of glyphosate on broadleaved weeds and vines and then provides on going residual control, but great care must be taken not to allow glyphosate to drift on to cane.</p> <p>A minimum of 200 L/ha of spray mixture is recommended.</p>
<p><b>Sugarcane</b> Ratoon with trash blanket, or Plant and ratoon with bare soil with low rainfall and flood irrigation e.g. Burdekin area</p> <p>Enhanced knockdown of vines and broadleaf and residual control of vines, broadleaf and grasses</p>	<p><b>Grasses</b> Summer grass, Green summer grass, Feather top Rhodes grass, Barnyard grass, Crowsfoot</p>	560-700 g/ha	<p>Valor 500WG herbicide should be applied to moist soil and needs follow up rain or irrigation of at least 15 mm within 3 weeks to ensure continued good control particularly on trash Efficacy may be reduced by:</p> <ul style="list-style-type: none"> <li>- Soil movement</li> <li>- Very thick trash</li> <li>- Flood irrigation or flood water moving top soil or trash</li> <li>- Long dry conditions after rain or irrigation</li> </ul> <p>In these situations reliability may be improved by adding a lower rate of Valor 500WG to other more water soluble herbicides that move further down in the soil profile such as S-metolachlor, metolachlor or atrazine.</p>



## Directions for use – Residual weed control in beans and rotational crops

CROP SITUATION	WEED CONTROLLED	RATE g/sprayed ha	CRITICAL COMMENTS
<p><b>Soybeans and peanuts</b></p> <p>Pre-sowing enhanced burndown and residual 210-280 g/ha</p> <p>Post Sowing Pre-emergence (PSPE) enhanced burndown and residual 210 g/ha</p>	<p>Wide range of broadleaf and grass weeds 6-8 weeks control</p> <p>Good on shallow germinating wind-blown seeding types like: Feathertop Rhodes grass, fleabane and milk/sow thistle</p>		<p>Needs 15 mm rain to activate and incorporate within 3 weeks.</p> <p>For PSPE apply within 2 days of planting as rain at germination can wash chemical in around seed and cause crop damage.</p>
<p><b>Maize and navybeans</b></p> <p>Late fallow – at least one month prior to sowing enhanced burndown and residual</p>	<p>Some large seeded deep germinating grasses like liverseed and barnyard grass may get through dry surface soil</p> <p>Some deep germinating broadleaved weeds like wireweed and caltrop may germinate through cracks in soil</p>	<p>210-280 g/ha Valor 500WG</p> <p>If emerged weeds are present apply with glyphosate or paraquat, plus Hasten spray oil</p>	<p>Efficacy can be reduced by: Soil movement, trash, big clods and long dry conditions.</p>
<p><b>Mungbeans</b></p> <p>Late fallow – at least two months prior to sowing enhanced burndown and residual</p>	<p>These may require follow up application of knockdown herbicides</p>		<p>Can be mixed with other more soluble herbicides like S-metolachlor to improve deep seeded grass control.</p>

### WITHHOLDING PERIODS

**SUGARCANE: DO NOT** GRAZE OR HARVEST FOR 22 WEEKS AFTER APPLICATION.

**SOYBEANS, MUNGBEANS, PIGEON PEA AND NAVY BEANS: DO NOT** GRAZE OR CUT FOR STOCK FOOD FOR 6 WEEKS AFTER APPLICATION.

**MAIZE AND PEANUTS: DO NOT** GRAZE OR CUT FOR STOCK FOOD FOR 8 WEEKS AFTER APPLICATION.



## Crop rotation recommendations

The following re-cropping intervals apply to crops that may be grown after using Valor. Valor's short re-cropping intervals means it is the ideal choice to use in the final cane ratoon, offering the flexibility to follow with a wide variety of crops.

### Minimum plant back or re-cropping intervals

	CANE RESIDUAL RATES# 350-700 g/ha	ROTATIONAL CROP RESIDUAL RATES 210-280 g/ha
<b>Peanuts</b>	5 months	0 months
<b>Soybeans</b>	5 months	0 months
<b>Maize</b>	*	1 month
<b>Navy beans</b>	*	1 month
<b>Pumpkin</b>	5 months	*
<b>Rice</b>	5 months	*
<b>Shallot</b>	5 months	*
<b>Sweet corn</b>	5 months	*
<b>Mungbeans</b>	8 months	2 months
<b>Cabbage</b>	8 months	*
<b>Capsicum</b>	8 months	*
<b>Lettuce</b>	8 months	*
<b>Sweet potato</b>	8 months	*
<b>Tomato</b>	8 months	*
<b>Zucchini</b>	8 months	*
<b>Rockmelon</b>	12 months	*

\* Insufficient data, contact Sumitomo for advice.

# The intervals after using in cane are based on the assumption that the soil will be thoroughly cultivated after cane has been grown and before other crops are planted.





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