

Now with all new winter crop uses

UPDATED 2022 EDITION



NORTHERN CROPPING ZONE
TECHNICAL GUIDE



RESIDUAL AND BURNDOWN CONTROL WITH FLEXIBILITY



 **SUMITOMO CHEMICAL**
AgroSolutions Division

Overview

VALOR® is a highly flexible group 14 herbicide from Sumitomo Chemical Australia, now with all new high rate residual weed control registrations prior to planting summer crops.

It has a number of unique attributes making it one of the most versatile compounds in this group.



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

- Contains flumioxazin 500 g/kg as a WG (Wettable Granule).
- PPO mode of action with zero resistance recorded in Australia to date.
- Excellent residual pre-emergent action against weeds in fallow and prior to sowing certain crops.
- Rapid burndown and outstanding activity as a knockdown spike.
- Robust long-term residual control of weeds on irrigation channels, drainage ditches and fence lines.
- Strength against difficult to control weeds.
- Compatible with a wide range of knockdown and pre-emergent herbicides.
- Packed in convenient water-soluble bags – no exposure to chemical when mixing.

MODE OF ACTION AND CHEMICAL PROPERTIES

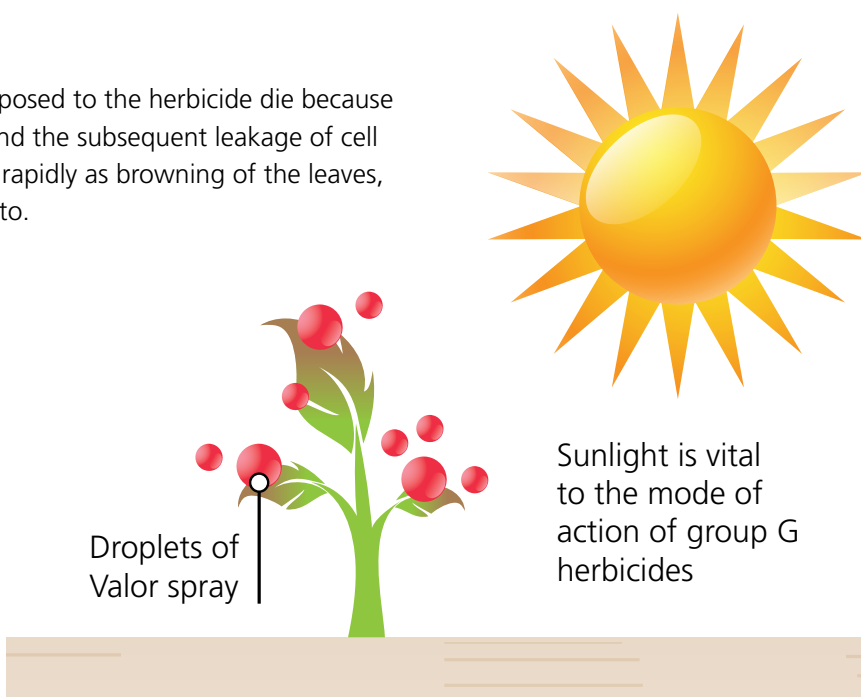
Parameter	Flumioxazin
Concentration	500 g/kg
Herbicide Mode of Action group	14
MoA	Inhibitor of protoporphyrinogen oxidase (PPOs)
Uptake pathway	Foliar and epicotyl
Systemic activity	None
Speed of action	Rapid
Soil degradation	DT ₅₀ : 17 to 21 days
Volatility	Non-volatile
UV stability	Very stable
Soil mobility	Koc = 889 (slightly mobile)
Mammalian toxicity	Oral LD ₅₀ (mg kg ⁻¹) = >5000 (low risk)

How does Valor work?

FOLIAR UPTAKE

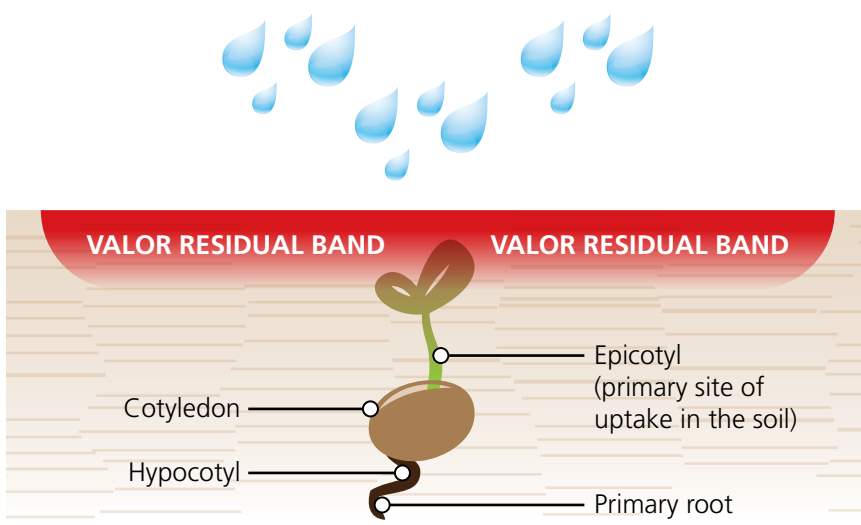
Valor is a group 14 herbicide. Weeds exposed to the herbicide die because of disruption to plant cell membranes and the subsequent leakage of cell content. The herbicidal effect expresses rapidly as browning of the leaves, or bleaching as it is sometimes referred to.

Brownout is caused by the inhibition of photosynthesis and bleaching of the chloroplasts. Affected leaves turn yellow soon after application, followed by desiccation, necrosis and browning. Sunlight is vital to initiate symptoms and instrumental to herbicidal efficacy because of its role in the formation of the chemical agent responsible for the cell wall disruption.



RESIDUAL UPTAKE

Residual control occurs as the weeds begin to germinate and Valor is taken up by the epicotyl, where it accumulates. Symptoms then occur as soon as the shoot breaks through the soil surface and is exposed to sunlight. With higher residual rates being used with a knockdown mixing partner, emerged weeds can sometimes suffer antagonism under high light intensity. Germinating weeds will normally not be seen as sunlight filters into the top layer of soil activating the herbicide and killing weeds before they emerge.



Summer crop weed control

Valor is registered for long lasting pre-emergence weed control in fallow and prior to planting summer crops.

- Summer crop residual registrations include prior to planting cotton, sorghum, soybeans, mungbeans, peanuts, pigeon peas, navy beans and sunflowers.
- Short plant-back intervals with minimal rainfall requirements.
- Flexibility to alter cropping plans when opportunities or contingencies require it.
- Robust residual control of difficult weeds such as fleabane, feathertop Rhodes grass and milk/sow thistle.
- Outstanding resistance management tool for summer cropping systems over-reliant on glyphosate and other older chemistry.
- Excellent fit in Roundup® Ready Flex cotton systems.
- Can be used more than once in a season as long as minimum plant-back and rainfall requirements are observed.



SUMMARY OF SUMMER CROP USES

Rate	Use-timing	Crops	Weeds	Comments
Valor 210-280 g/ha Plus glyphosate or paraquat Plus Hasten™ spray oil	Pre-sowing enhanced burndown and residual 210-280 g/ha	Soybean Peanuts	Wide range of summer and winter broadleaf and grasses 6-8 weeks control	Needs 15 mm rain to activate and incorporate within 3 weeks.
	PSPE enhanced burndown and residual 210 g		Good on shallow germinating wind-blown seeding types like: Feathertop Rhodes grass, fleabane and milk/sow thistle	For PSPE apply within 2 days of planting as rain at germination can wash chemical in around seed and cause phyto.
	Late fallow – at least one month prior to sowing enhanced burndown and residual	Pigeon pea Maize Sorghum Navybean	Some large seeded deep germinating grasses like liverseed and barnyard may get through dry surface soil	Efficacy reduced by: Soil movement, trash, big clods and long dry conditions.
	Late fallow – at least two months prior to sowing enhanced burndown and residual	Cotton Sunflower Mungbeans	Some deep germinating broadleaf like wireweed and caltrop may germinate through cracks in soil These may require follow up application of knockdown herbicides	Can be mixed with other more soluble herbicides like S-metolachlor to improve deep seeded grass control.

Read label for full details.

Refer to weeds table on page 16 for full list of weeds controlled.

MINIMUM RE-CROPPING INTERVALS (MONTHS)

Crop	Valor rate g/ha				
	30	120	180	210-280	560 - 700
Faba beans, Peanuts, Soybean	0	0	0	0	5
Chickpeas, Field peas, Pigeon Pea, Maize, Navy beans, Sorghum	0	0	0	1	
Wheat	0	0	1	2	
Vetch	0	1	1	2	
Cotton, Sunflowers, Mungbeans	0			2	8
Durum Wheat	0	1	1	3	
Barley, Lupins, Oats, Triticale	0	1	2	3	
Lentils	0	2	3	4	
Lucerne (seedling), Medic, Sub Clover	0	3	4	6	
Canola	5	9	9	9	12

Note: 15 - 25 mm of rainfall required in addition to minimum time-period for all residual rate re-cropping intervals.

VALOR FOR RESISTANCE MANAGEMENT AND CONTROL OF HERBICIDE TOLERANT VOLUNTEERS

For resistance management Valor is a Group 14 herbicide with the PPO mode of action. To date Australia has no recorded cases of resistance to this mode of action making Valor an ideal choice to manage weeds with known resistance to other modes of action.

Valor is also registered at 45 g/ha for the control of Roundup Ready Flex volunteer cotton.



Valor is an excellent choice for helping control Roundup Ready Flex cotton volunteers.

RULES OF THUMB FOR RESIDUAL APPLICATION

1. Valor needs 15 mm + of rain or overhead irrigation to incorporate and activate.
2. Avoid excessively cloddy soil with high trash cover.
3. Remove emerged weeds prior to application with a non-selective herbicide if coverage is greater than 20%.
4. Use a minimum of 80 L per ha of water. Use more when heavy trash or stubble cover is present.
5. Significant rainfall following application and sowing can heighten the chance of negative crop effects, particularly in flood irrigated watered-up scenarios.



ROUNDUP READY PLUS®

WEED MANAGEMENT SOLUTIONS

Cotton growers may be eligible for a rebate on Valor sprayed in the Roundup Ready FLEX® cotton system under the Roundup Ready PLUS® program.

Visit www.roundupreadyplus.com.au for full terms and conditions.

VALOR HAS EXCELLENT CROP SAFETY ON SUMMER CROPS

Narrabri.

Sorghum and cotton planted minimum till.

Valor applied at 280 g/ha 30 days pre-sowing.

*Photo: 26 days after sowing (No observable phyto).
Sumitomo recommend not applying Valor at residual rates within 2 months of planting cotton and 1 month of planting sorghum to ensure no risk of crop affect.*



VALOR GIVES EXTENDED WEED CONTROL IN SUMMER FALLOW

Darling Downs.

Photo: Untreated control.



Photo: 12 weeks after treatment.

Valor plot is still weed free with the exception of 2 healthy sorghum plants illustrating the selectivity of Valor to sorghum.



OUTSTANDING WEED CONTROL IN PIGEON PEA

Condamine Plains, S. Qld – black clay.
Valor applied just prior to sowing.

*Photo: 6 weeks after treatment
(Untreated plot shows significant
Amaranth pressure, while Valor treated
area is weed free).*



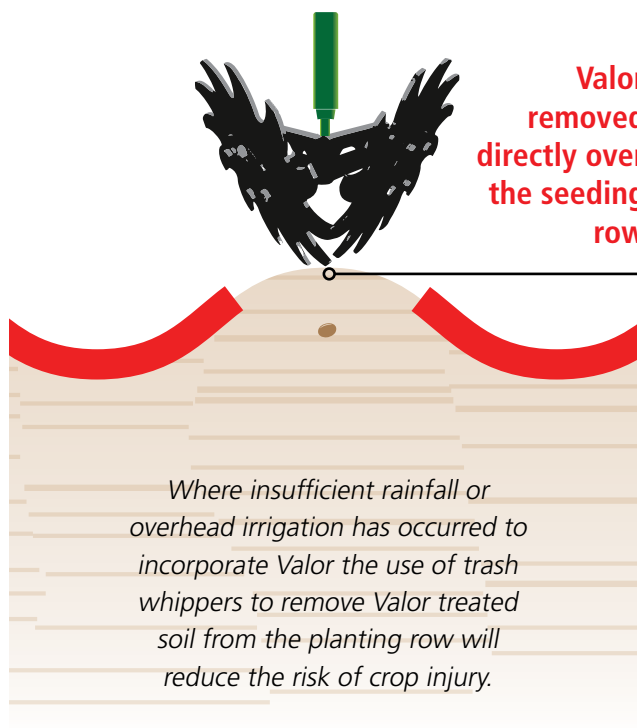
WATERING UP

Flood irrigation will not incorporate Valor on the top of the bed. If there has been no rain Valor will remain on the surface of the soil while the soil underneath becomes saturated. If rain then falls as crop emergence is taking place the water often pools on the surface and seedlings are exposed to a high concentration of Valor in water. This may cause crop damage particularly if accompanied by cooler temperatures that slow down emergence.

If there is doubt about when rainfall may occur prior to planting, it may be preferable to apply residual rates of Valor (210-280g/ha) two or three months before sowing to allow incorporation by winter or spring rain. This will reduce germination of hard to control weeds like Feathertop Rhodes grass prior to sowing. Knockdown rates of Valor (30-45 g/ha) can still be applied just prior to sowing.

Pigeon peas often do not emerge well if they are sown dry, then watered up if rain also falls during emergence. If Valor remains unincorporated on the soil surface in this situation significant damage can also result. It is safer to flood irrigate first then sow the pigeon pea into moisture.

If Valor has been applied and there has been insufficient overhead irrigation or rain to incorporate it prior to planting, then trash whippers or wide tynes that move about 1 cm of soil (with the Valor) away from the seeding zone may reduce the risk of damage from heavy rain falling at crop emergence.



Winter crop weed control

Valor is now registered for pre-emergence residual weed control when planting winter crops and lucerne, including when planting wheat (excluding durum varieties), faba beans, chickpeas, field peas and lentils. In these situations Valor allows:

- Short plant-back intervals prior to other winter and summer crops with minimal rainfall requirements.
- Flexibility to alter cropping plans when opportunities or contingencies require it.
- Control and suppression of a range of key grass and broadleaf weeds
- Use more than once in a season if minimum plant-back and rainfall requirements are observed. Valor is an outstanding resistance management tool for winter cropping systems where resistance is present to other herbicide groups. No known resistance has been identified to Valor in Australia.
- New registration for fallow commencement, providing long lasting residual weed control post-harvest.

**NEW
WINTER CROP
REGISTRATIONS
FOR 2022**

VALOR USES IN WINTER CROPPING AND LUCERNE

Crop situation	Use-timing	Rate per ha	Weeds	Comments
Fallow	Fallow commencement (Residual weed control)	210-280 g	Residual and burndown control of a range of weeds. See weeds table or label.	Ideally applied following crop harvest when commencing fallow period.
Pre-plant burndown spike	Prior to sowing a range of winter and summer crops	30 g	For increased speed of brownout and improved final control of a range of weeds. See weeds table or label.	Apply as a spike with non-selective herbicides.
Wheat [#] and Lentils	IBS (Incorporated by sowing)	120 g	Residual suppression of a range of weeds. See weeds table or label.	Control emerged weeds with a knockdown herbicide before applying Valor. Sowing (IBS) should occur within 7 days of application. Residual control may be reduced unless 25mm of rain occurs within 3 weeks following sowing.
Wheat [#]		120 g + 2 L Triflur X + 3.2 L Avadex Xtra	Residual control and suppression of a range of weeds. See weeds table or label.	
Faba beans, Chickpeas and Field peas		180 g	Residual suppression of a range of weeds. See weeds table or label.	
Lucerne (at least 12 months old)	Use after heavy grazing, cutting or application of Paraquat or Paraquat/Diquat for winter cleaning	280 g	Residual control and suppression of a range of weeds. See weeds table or label.	Only apply to pure lucerne stands. Do not apply to lucerne with greater than 15cm of growth.

Read label for full details.
Except Durum varieties.

INCORPORATION BY SOWING (IBS)

1. Whilst Valor has a very high safety margin with crops like Faba beans, Soybeans and Peanuts others like wheat and lentils have a lower tolerance and can show side effects from the herbicide if adequate separation does not occur. The best way to ensure suitable separation between these emerging winter crops and Valor is to utilise the Incorporation By Sowing (IBS) method.
2. Use only with knife/blade points and press wheels. Sow at speeds slow enough to ensure treated soil is not thrown into adjacent furrows excessively.
3. Use high sowing rates and good fertiliser levels to encourage vigorous crops and thereby assist with weed control.
4. Sow seed below the treated soil band; in wheat crops 3 cm below.
5. Dry weather following application may reduce effectiveness.
6. Avoid sowing and treating if heavy rain is forecast, crop damage can occur when heavy rainfall occurs soon after application.
7. Residual control may be reduced unless at least 25 mm rainfall occurs in the three weeks following sowing, including at least a single day of over 5 mm, to maximise activity.
8. DO NOT use on lighter soil types (sand) as shorter periods of residual control and unacceptable risks to crop safety may occur.
9. Avoid soils which are non-wetting or are likely to become clumpy or cloddy during sowing as they will reduce activity.
10. Stubble coverage greater than 40 percent ground cover can reduce activity.



Photo: Typical knife point and press wheel setup that is ideal for incorporating Valor prior to sowing winter crops.

Pre-plant spike

One of Valor's main uses is as a spike for glyphosate and paraquat-based herbicides – for the control or burndown of unwanted weeds before planting a range of winter broadacre and summer row crops. It can be used immediately prior to sowing wheat, oats, barley, chickpeas, fababeans, field peas, lentils, lupins, maize, mungbeans, sorghum, soybeans, navy beans, pigeon peas, cotton, peanuts and sunflower.

- Valor offers consistent control of a wide variety of broadleaf weeds, as well as certain grasses.
- Valor has good knockdown strength against a number of problem weeds including wild radish (*Raphanus raphanistrum*), vines (*Ipomoea* spp.) and wireweed (*Polygonum aviculare*).
- Valor assists in seed bed preparation through rapid removal of existing weeds when mixed with a non-selective herbicide prior to sowing.
- At 30 g/ha burndown rate, Valor has negligible soil residual carryover and with the exception of canola has no plant-back restrictions (refer to table on page 5).

SUMMARY OF PRE-PLANT SPIKE USES

Rate	Use-timing	Crops		Weeds	Comments
Valor 30 g/ha Plus glyphosate or paraquat Plus Hasten spray oil	Pre-plant enhanced burndown	SUMMER: Cotton Sorghum Maize Soybeans Peanuts Mungbeans Navybeans Pigeon pea Sunflower	WINTER: Wheat Barley Oats Chickpeas Fababeans Fieldpeas Lentils Lupins	2-6 leaf weeds Wide range of summer and winter broadleaf	5 months plant back for canola.
Valor 45 g/ha Plus Hasten spray oil	Pre-plant volunteer cotton-burn down including Roundup® Ready	Sorghum Maize Soybean Mungbean Sunflower		Will control small broadleaf weeds	Allow at least one hour before sowing. Do not use post sowing.
	Pre-plant or PSPE volunteer cotton burn-down including Roundup® Ready	Cotton			Allow at least one hour before sowing, or apply PSPE up to two days before crop emergence.

Read label for full details. Refer to weeds table on page 16 for full list of weeds controlled.

Rules of thumb for knockdown spike

1. Apply in 100 L water per ha.
2. Always use Hasten spray oil.
3. Use flat fan nozzles.
 - Air induction nozzles can give poor coverage when oil is used.
4. Target appropriate sized weeds.
 - Targeting young/small weeds gives best results.
 - Check roots (avoid older established plants).
5. Use correct rate of mixing partner.



Roundup PMAX 1 L + Valor 30 g + Hasten 0.5%, 35 DAA.

VALOR FOR COTTON VOLUNTEERS

Valor makes an outstanding choice where a non-volatile spike is required to control Roundup Ready Flex cotton volunteers and other summer weeds.

Valor provides robust control of cotton volunteers up to 4 leaf stage including Roundup Ready Flex volunteers.



Valor gives robust control of key summer weed species such as peachvine, milk/sow thistle and volunteer cotton. when used with knockdown sprays.

- Valor's low volatility and contact action make it a safer option for summer fallow spraying in cotton growing areas, with the risk of damage to nearby cotton crops minimised.
- Valor is not limited by restrictive environmental conditions that highly volatile herbicides require to avoid spray drift. Waiting for these conditions can take over a week in summer with the weeds still growing.

This makes it a valuable summer herbicide for cotton growers and their neighbours.

- ✓ **Be conscious of cotton and other crops sensitive to 2,4D.**
- ✓ **Be conscious of your neighbours.**
- ✓ **Be conscious that Valor is non-volatile and only causes a slight risk of drift.**
- ✓ **Be conscious of weather conditions during spraying even when using Valor.**



Typical 2,4-D drift damage to cotton.



Valor can be used in knockdown tankmixes prior to sowing: Barley, chickpeas, cotton, faba beans, field peas, lentils, lupins, maize, mungbeans, oats, sorghum, soybeans, sunflowers and wheat.

Cotton lay-by

Valor is a valuable tool for the control of weeds in emerged cotton. A strategic lay-by application can control difficult or resistant weeds that may have escaped previous control measures. Weed escapes if left unchecked can rob valuable nutrients and moisture from the crop as well as harbouring insect pests. Valor's soil applied selectivity to cotton combined with its residual and contact activity make it an ideal lay-by herbicide in cotton.

SUMMARY OF COTTON LAY-BY USE

Rate	Use-timing	Crops	Weeds	Comments
Valor 60-90 g/ha Plus Hasten spray oil	Lay-by application	Cotton	Hard to kill broadleaf weeds and vines such as peachvine and bladder ketmia 2-12 leaf depending on species	Use shielded sprayer, avoid contact with green leaves and green bark.

Read label for full details.

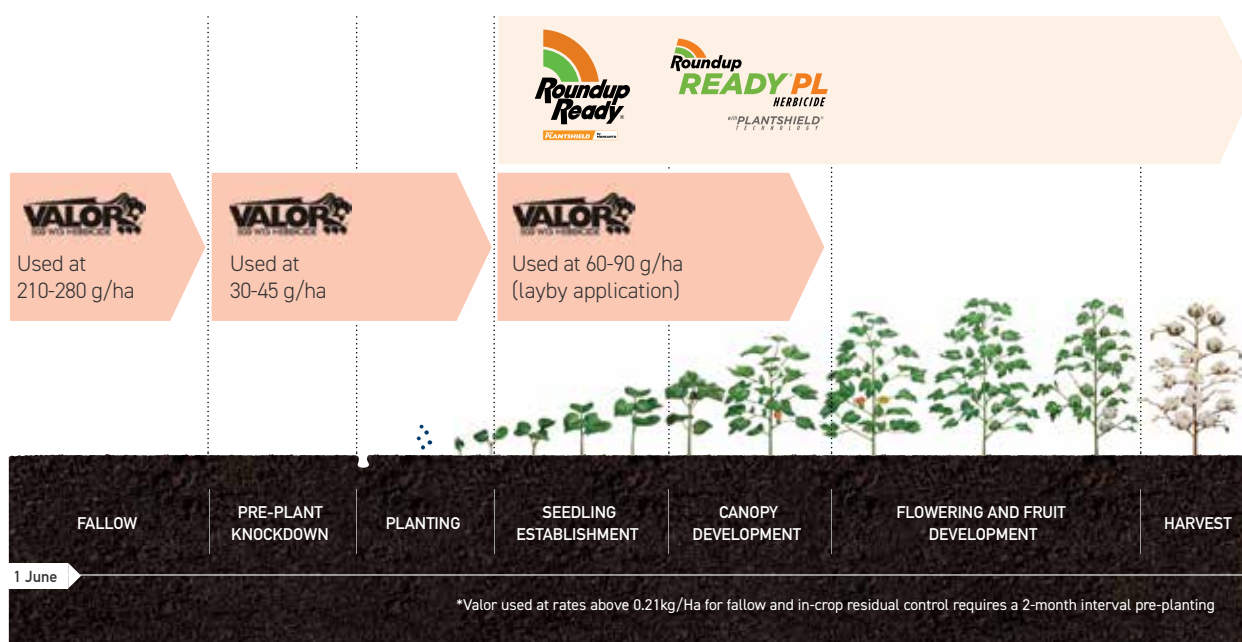
Refer to weeds table on page 16 for full list of weeds controlled.

- Apply as a shielded spray underneath the cotton foliage and to the inter rows to control late germinating weeds, or already emerged weeds.
- Best results are obtained if emerged weeds are less than 6 leaf stage.
- Do not spray until cotton plants are 40 cm high.
- Valor will burn any cotton foliage that is contacted by the spray.
- Ideal herbicide resistance management option when used in the Roundup Ready Flex growing system.
- Do not apply in conditions conducive to drift.



Lay-by application using shielded sprayer.

VALOR USE TIMING IN ROUNDUP READY FLEX COTTON



Channel banks and drainage ditches

Valor is a highly valuable and safe tool for residual weed control and enhanced knockdown in irrigation channel banks and drainage ditches.

For best results:

- Channels should be empty at time of application.
- Needs 15 mm of rain within 3 weeks after application to incorporate (once this occurs – its ok to fill channel and irrigate).
- If required rain has not fallen in time, then fill channel with water, allow to stand for 24 hrs, drain water off to waste and refill channel for irrigation.
- Remove weeds with a separate knockdown herbicide application prior to applying Valor if weed coverage is greater than 20%.

Note: Valor is not taken up by plant roots, therefore there is no risk of residues in any emerged crop through soil from the channel inadvertently moving into the field.

SUMMARY OF CHANNEL BANK USES

Rate	Use-timing	Weeds	Comments
Valor 560-700 g/ha	Channel banks	Wide range of summer and winter broadleaf and grasses	Channel must be empty at spraying Needs 15 mm rain to activate and incorporate within 3 weeks.
Plus glyphosate or paraquat		Several months control	If dry, fill channel for 24 hours, drain to waste, then irrigate.
Plus Hasten spray oil			

Read label for full details.

Refer to weeds table on page 16 for full list of weeds controlled.

CHANNEL BANK TRIAL – RED CRACKING CLAY SOIL, SWAN HILL, VIC 2015

Photos: 155 days after treatment.



Untreated.



Alternative knockdown and residual herbicide.



Valor 700 g/ha.

Fallow commencement

An ideal time to apply Valor at residual rates is after harvest and at the commencement of a fallow period where weed control of 2-3 months can be achieved, while still providing the flexibility for planting a range of crops and pastures the following autumn or spring.

Note: Canola is one of the only exceptions to Valor's short plant-back periods, requiring a 9 month re-cropping interval when used at residual rates. This means applying Valor immediately following canola harvest is the ideal use situation as it is very unlikely canola will be sown in that field again the following autumn. As most cropping programs are carefully planned well in advance, Valor can also be used with confidence following other winter crops where canola is not planned to be grown the following season.

VALOR USED AT RESIDUAL RATES IN FALLOW REDUCES THE NEED FOR MULTIPLE SUMMER KNOCKDOWN APPLICATIONS

Even one application of glyphosate alone costs approximately \$25-\$30/ha when application costs are included, and once tank-mix partners such as 2,4-D amine, 2,4-D ester or fluroxypyr are added, the applied cost can total well over \$40/ha.

Whilst 210 g/ha of Valor plus glyphosate or paraquat costs around \$50/ha including application, the length of control achieved can remove the need for a second or even a third knockdown application, saving growers valuable time and money. Reducing applications also removes the need to find multiple safe application windows, meeting buffer zone restrictions and the need to have extra labour on hand on multiple occasions. Valor is also non-volatile and can be used at all times of the year, even in herbicide control zones such as those present over summer in Victoria.

Fence lines

Valor is a valuable tool for the control of weeds on fence lines and non-crop boundary areas. Fence lines act as a sink for weed seeds, becoming a significant source of in-field contamination, hence practicing good hygiene by using Valor for long term weed control makes excellent sense. With a Group 14 PPO mode of action Valor is also an ideal choice for resistance management on fence lines, helping reduce the pressure on valuable knockdown chemistry and extending their life for in field use.



Valor used at 700 g/ha along fence lines and non-crop boundary areas can provide extended weed control for up to 12 months.

Lucerne

When used at 280 g/ha Valor offers robust long term weed control in established lucerne. Applied in autumn prior to the main germination of winter weeds Valor will provide up to 16 weeks residual weed control in lucerne, improving dry matter production and feed quality. A short 4-week WHP on grazing lucerne needs to be observed, however.

For best results when applying Valor to established lucerne:

- Apply evenly to predominantly bare earth, before significant ground cover occurs from germinating winter weeds.
- Apply after much of the growth has been removed by grazing or cutting to maximise soil coverage.
- Time the application in front of a moderate rainfall event or irrigation to incorporate and activate the herbicide.
- Valor should be applied in a tank mixture with either paraquat or a paraquat/diquat mixture to control weeds that have already emerged.
- Valor should be applied using a minimum of 80 L/ha of water.



Applying Valor to established lucerne in autumn before winter weeds germinate will maximise weed control and productivity of your lucerne stand.

Weeds controlled

Valor controls an extensive list of weeds. See table below where weeds are listed by registered use pattern and rate.

Weed species	30 g/ha spike	45 g/ha knock-down	60 g/ha cotton lay-by	90 g/ha cotton lay-by	120 g/ha (Wheat and Lentils)#
<i>Amaranthus</i> spp.	✓				
Annual rye grass (<i>Lolium rigidum</i>)					
Annual polymerica (<i>Polymerica pusilla</i>)	✓			✓	
Barley grass (<i>Hordeum leporinum</i>)					
Barley grass (<i>Echinochloa colona</i>)					
Balsam pear (<i>Mormordica charantia</i>)					
Bellvine (<i>Ipomoea pulebia</i>)	✓			✓	
Bifora (<i>Bifora testiculata</i>)					
Black bindweed (<i>Fallopia convolvulus</i>)	✓				✓▲
Black pigweed (<i>Trianthema portulacastrum</i>)	✓			✓	
Bladder ketmia (<i>Hibiscus trionum</i>)	✓			✓	
Bluetop/Billygoat weed (<i>Ageratum houstonianum</i>)					
Bromegrass (<i>Bromus diandrus</i>)					
Calopo (<i>Calopogonium mucunoides</i>)					
Caltrop/Yellowvine (<i>Tribulus terrestris</i> & <i>T. micrococcus</i>)	✓		✓	✓	
Canola volunteers (<i>Brassica napus</i>)	✓				✓▲
Capeweed (<i>Arctotheca calendula</i>)	✓				✓▲
Carrot weed (<i>Cotula australis</i>)					
Clammy goosefoot (<i>Chenopodium pumilio</i>)					
Common chickweed (<i>Stellaria media</i>)					✓▲
Corn gromwell (<i>Buglossoides anvensis</i>)					
Cotton volunteers (including Roundup Ready Flex volunteers)		✓			
Cow/Peach vine (<i>Ipomoea lonchophylla</i>)	✓			✓	
Crassula (<i>Crassula sieberiana</i>)					✓▲
Crowsfoot (<i>Eleusine indica</i>)					
Dead nettle (<i>Lamium amplexicaule</i>)	✓				
Doublegee (<i>Emex australis</i>)	✓				
Erodium/Storksbill (<i>Erodium cicutarium</i>)	✓				
False castor oil (<i>Datura stromonium</i>)	✓				
Fat hen (<i>Chenopodium album</i>)					
Feathertop rhodes grass (<i>Chloris virgata</i>)					
Fleabane (<i>Conyza bonariensis</i>)					
Fumitory (<i>Fumaria</i> spp.)					
Green summer grass (<i>Brachiaria subquadriflora</i>)					
Heliotrope (<i>Heliotropium europaeum</i>)					
Indian hedge mustard (<i>Sisymbrium orientale</i>)					✓▲
<i>Ipomea</i> spp.	✓			✓	
Lesser loosestrife (<i>Lythrum hyssopifolia</i>)	✓				
Liverseed grass (<i>Urochloa panicoides</i>)	✓				
Lucerne (seedling only) (<i>Medicago sativa</i>)	✓				
Marshmallow (<i>Malva parviflora</i>)	✓				
<i>Medicago</i> spp.	✓				
Milk/Sow thistle (<i>Sonchus oleraceus</i>)					
New Zealand spinach (<i>Tetragonia tetragonioides</i>)					✓▲
Milk weed (<i>Euphorbia heterophylla</i>)					
Noogoora burr (<i>Xanthium occidentale</i>)	✓		✓	✓	
Oats (<i>Avena sativa</i>)					
Paradoxa grass (<i>Phalaris paradoxa</i>)					
Paterson's curse (<i>Echium plantagineum</i>)	✓				
<i>Phyllanthus</i> spp.					
Prickly lettuce (<i>Lactuca serriola</i>)					✓▲
Red pigweed (<i>Portulaca oleracea</i>)	✓			✓	
Redroot amaranth (<i>Amaranthus retroflexus</i>)	✓				
Rough poppy (<i>Papaver hybridum</i>)					
Sand fescue (<i>Vulpia fasciculata</i>)					
Seedling lucerne (<i>Medicago sativa</i>)	✓				
Shepherd's purse (<i>Capsella bursa-pastoris</i>)	✓				
Sicklepod (<i>Cassia obtusifolia</i>)					
Silver grass (<i>Vulpia bromoides</i>)					
Slender celery (<i>Ciclospermum leptophyllum</i>)					
Speedwell (<i>Veronica</i> spp.)					
Sowthistle (<i>Sonchus oleraceus</i>)	✓				✓▲
Spurred vetch (<i>Vicia monantha</i>)	✓				
Square weed (<i>Spemacoe latifolia</i>)					
Stinging nettle (<i>Urtica urens</i>)					
Subterranean clover (<i>Trifolium subterraneum</i>)					
Summer grass (<i>Digitaria ciliaris</i>)					
Sunflower (<i>Helianthus annuus</i>)	✓				
Subterranean clover* (<i>Trifolium subterraneum</i>)	✓				
Tarvine (<i>Boerhavia dominii</i>)	✓				
Three horned bedstraw (<i>Galium tricornatum</i>)					✓▲
Toadrush (<i>Juncus bufonius</i>)					✓▲
Turnip weed (<i>Rapistrum rugosum</i>)	✓				
Wild radish (<i>Raphanus raphanistrum</i>)	✓				✓▲
Wild rose (<i>Cleome aculeata</i>)					
Wild oats (<i>Avena</i> spp.)					
Winter grass (<i>Poa annua</i>)					
Wireweed (<i>Polygonum aviculare</i>)	✓				✓▲
Yellow burr weed (<i>Amsinkia</i> spp.)					

✓▲ = Suppression only ✓ = Control # Not durum varieties

Valor 500WG Herbicide Northern Cropping Zone Technical Guide

Weed species	120 g/ha + 2 L/ha Triflur® X + 3.2 L/ha Avadex® Xtra (Wheat)#	180 g/ha (Faba beans, Chickpeas and Field peas)	210 g/ha - 280 g/ha (Fallow com- mencement)	280 g/ha (Lucerne)	560 g/ha - 700 g/ha (Channel Banks)	700 g/ha (Fence lines)
<i>Amaranthus</i> spp.						
Annual rye grass (<i>Lolium rigidum</i>)	✓			✓		✓
Annual polymeria (<i>Polymeria pusilla</i>)						
Barley grass (<i>Hordeum leporinum</i>)	✓▲					
Barnyard grass (<i>Echinochloa colona</i>)			✓	✓▲	✓	✓
Balsam pear (<i>Mormordica charantia</i>)					✓	
Bellvine (<i>Ipomoea plebeia</i>)						
Bifora (<i>Bifora testiculata</i>)		✓▲				
Black bindweed (<i>Fallopia convolvulus</i>)		✓▲				
Black pigweed (<i>Trianthema portulacastrum</i>)						
Bladder ketmia (<i>Hibiscus trionum</i>)			✓		✓	
Bluetop/Billygoat weed (<i>Ageratum houstonianum</i>)			✓		✓	
Bromegrass (<i>Bromus diandrus</i>)	✓▲					
Calopo (<i>Calopogonium mucunoides</i>)			✓		✓	
Caltrop/Yellowvine (<i>Tribulus terrestris</i> & <i>T. micrococcus</i>)	✓▲		✓		✓	✓
Canola volunteers (<i>Brassica napus</i>)	✓▲	✓▲				
Capeweed (<i>Arctotheca calendula</i>)	✓▲	✓▲		✓▲		✓
Carrot weed (<i>Cotula australis</i>)				✓		✓
Clammy goosefoot (<i>Chenopodium pumilio</i>)				✓▲		✓
Common chickweed (<i>Stellaria media</i>)	✓▲	✓▲				
Corn gromwell (<i>Buglossoides anvensis</i>)	✓					
Cotton volunteers (including Roundup Flex cotton volunteers)						
Cow/Peach vine (<i>Ipomoea lonchophylla</i>)					✓	
Crassula (<i>Crassula sieberiana</i>)	✓▲	✓▲				
Crowsfoot (<i>Eleusine indica</i>)			✓		✓	
Dead nettle (<i>Lamium amplexicaule</i>)	✓▲			✓		✓
Doublegee (<i>Emex australis</i>)						
Erodium/Storksbill (<i>Erodium cicutarium</i>)						✓
False castor oil (<i>Datura stromonium</i>)						
Fat hen (<i>Chenopodium album</i>)				✓▲		✓
Feathertop rhodes grass (<i>Chloris virgata</i>)			✓	✓▲	✓	✓
Fleabane (<i>Conyza bonariensis</i>)		✓▲	✓	✓	✓	✓
Fumitory (<i>Fumaria</i> spp.)	✓	✓▲				
Green summer grass (<i>Brachiaria subquandripara</i>)					✓	
Heliotrope (<i>Heliotropium europaeum</i>)				✓▲		✓
Indian hedge mustard (<i>Sisymbrium orientale</i>)	✓▲	✓▲				
<i>Ipomea</i> spp.			✓		✓	
Lesser loosestrife (<i>Lythrum hyssopifolia</i>)						✓
Liverseed grass (<i>Urochloa panicoides</i>)						
Lucerne (seedling only) (<i>Medicago sativa</i>)						
Marshmallow (<i>Malva parviflora</i>)				✓▲		✓▲
<i>Medicago</i> spp.						
Milk/Sow thistle (<i>Sonchus oleraceus</i>)			✓		✓	
New Zealand spinach (<i>Tetragonia tetragonioides</i>)	✓▲	✓▲				
Milk weed (<i>Euphorbia heterophylla</i>)			✓		✓	
Noogoora burr (<i>Xanthium occidentale</i>)						
Oats (<i>Avena sativa</i>)	✓					
Paradoxa grass (<i>Phalaris paradoxa</i>)						
Paterson's curse (<i>Echium plantagineum</i>)						
<i>Phyllanthus</i> spp.			✓		✓	
Prickly lettuce (<i>Lactuca serriola</i>)	✓▲	✓▲				✓
Red pigweed (<i>Portulaca oleracea</i>)			✓		✓	
Redroot amaranth (<i>Amaranthus retroflexus</i>)					✓	
Rough poppy (<i>Papaver hybridum</i>)	✓	✓▲				
Sand fescue (<i>Vulpia fasciculata</i>)	✓					
Seedling lucerne (<i>Medicago sativa</i>)						
Shepherd's purse (<i>Capsella bursa-pastoris</i>)				✓		✓
Sicklepod (<i>Cassia obtusifolia</i>)			✓		✓	
Silver grass (<i>Vulpia bromoides</i>)	✓			✓		✓
Slender celery (<i>Ciclospermum leptophyllum</i>)		✓▲				
Speedwell (<i>Veronica</i> spp.)	✓▲					
Sowthistle (<i>Sonchus oleraceus</i>)	✓▲	✓▲		✓		
Spurred vetch (<i>Vicia monantha</i>)						
Square weed (<i>Spemacoce latifolia</i>)			✓		✓	
Stinging nettle (<i>Urtica urens</i>)				✓▲		✓▲
Subterranean clover (<i>Trifolium subterraneum</i>)				✓▲		
Summer grass (<i>Digitaria ciliaris</i>)			✓		✓	
Sunflower (<i>Helianthus annuus</i>)						
Subterranean clover* (<i>Trifolium subterraneum</i>)						
Tarvine (<i>Boerhavia dominii</i>)						
Three horned bedstraw (<i>Galium tricornatum</i>)	✓▲	✓▲				
Toadrush (<i>Juncus bufonius</i>)	✓▲	✓▲				✓
Turnip weed (<i>Rapistrum rugosum</i>)						✓
Wild radish (<i>Raphanus raphanistrum</i>)	✓▲	✓▲				
Wild rose (<i>Cleome aculeata</i>)			✓		✓	
Wild oats (<i>Avena</i> spp.)	✓					
Winter grass (<i>Poa annua</i>)	✓			✓		✓
Wireweed (<i>Polygonum aviculare</i>)	✓	✓▲				
Yellow burr weed (<i>Amsinkia</i> spp.)	✓▲					

✓▲ = Suppression only ✓ = Control

Mixing and handling

For ease of use Valor has now been conveniently packed into 350 g water soluble sachets, each in an outer foil envelope. Two carton sizes are available, a 1.75 kg carton (including 5 x 350 g sachets) and a 10.5 kg carton (including 6 x 1.75 kg foil envelopes each with 5 x 350 g sachets).

Simply tear the foil envelope starting from the notch and empty the contents into the spray tank. Avoid contacting the sachet with wet hands.

When pre-mixing chemicals in a separate mixing vessel, concentration and saturation time might limit the number of sachets that can be added to the vessel at a time. Users are advised to add one sachet at a time, while employing strong agitation, to determine the optimal mixing regime.

Field testing has confirmed that Valor dissolves easily, even in very cold water. Strong agitation in the spray tank aids and accelerates this process.



Decontaminating spray equipment

EQUIPMENT WITH VALOR RESIDUE REMAINING IN THE SYSTEM MAY RESULT IN CROP INJURY TO THE SUBSEQUENTLY TREATED CROP.

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>

Compatibility

Valor is a highly compatible formulation with no known incompatibilities. The herbicides and adjuvants listed below have been tested and proven as physically and biologically compatible with Valor. Brand names are used, as alternative products containing the same actives, whilst likely to be compatible, were not tested.

Amicide® 500
Amicide® Advance 700
Avadex®
Atrazine 900WG
Balance®
Basta®
Boxer Gold®
BS 1000
Diuron 900DF
Dual® Gold
Du-Wett®
Factor® WG
Flame®
Gramoxone®
Hasten
Janitor® 700WG
Kwickin®
Kyte™ 700 WG
LI-700®

Nuquat®
Revolver™
Roundup® CT
Roundup® Ultra MAX
Roundup® Ready Herbicide with Plantshield
Sencor®
Sequence®
Simazine 900WG
Spinnaker® 700WG
Spray.Seed®
Stomp®
Stomp Xtra
Terbyne® Xtreme
Triflur® X
Uptake®
Weedmaster® Duo

GENERAL APPLICATION GUIDELINES

Since herbicides from this chemical group do not translocate in susceptible plants, complete coverage of the weed foliage is necessary for control. Proper calibration and setup of mechanical sprayers is therefore required.

- Use only nozzles that are rated to deliver COARSE, VERY COARSE or EXTREMELY COARSE droplet size category.
- Do not apply with air induction nozzles if using Hasten oil as coverage and herbicide performance may be compromised.
- For best results Sumitomo recommend using no larger than COARSE droplets combined with high water rates and reduced travel speeds.
- Do not apply in less than 80 L water/ha. Always use a recommended adjuvant when targeting emerged weeds.
- Even though Valor is non-volatile avoid applying in surface temperature inversion conditions.



ADJUVANT

The addition of an adjuvant, usually a crop oil, aids the penetration of Valor through the waxy leaf surface to improve control of emerged weeds. For enhanced knockdown Valor is recommended to be used with Hasten Spray Adjuvant, Kwickin™ Spray Adjuvant, Uptake™ Spraying Oil, BS1000. The use of organosilicone-type adjuvants is not recommended.

GROWTH STAGE OF WEEDS

As a pre-plant burndown, Valor is most effective when applied to small weeds. Do not treat weeds under poor growing or dormant conditions (such as drought, waterlogging, following frosts, disease or insect damage).

Weeds recovering from a non-lethal dose of a previous herbicide may not respond to Valor Herbicide.

CHOICE AND RATE OF NON-SELECTIVE HERBICIDE PARTNER

Always choose the appropriate rate for the partner herbicide for the conditions – taking weed spectrum, growth stage, and environmental conditions into consideration.

It is the non-selective herbicide partner that does most of the work; the addition of Valor accelerates and enhances its performance.

APPLICATION TIMING

When Valor is applied it will typically be for enhanced knockdown of emerged weeds or enhanced knockdown plus in-crop residual control prior to sowing. To ensure adequate uptake of Valor on emerged weeds do not undertake sowing for 1-hour post application, or longer if the knockdown partner requires it. When using Valor in summer on emerged weeds, avoid spraying during the hottest times of the day – apply late in the afternoon instead.

RE-ENTRY

Do not enter treated areas until the spray has dried, unless wearing suitable protective clothing. Refer to the registered product label for details.

CHANNEL BANKS AND DRAINAGE DITCH APPLICATION

For application to channel banks and drainage ditches follow the general application guidelines above although make sure channels are completely empty of water at time of application.

RAINFAST

Valor is rainfast after one hour but when using for enhanced knockdown follow the recommendations of the partner herbicide.

AERIAL APPLICATION

Do not apply by air.

Rules of thumb when applying Valor

Knockdown spike

1. Apply in 100 L water per ha.
2. Always use Hasten spray oil.
3. Use flat fan nozzles.
 - Air induction nozzles can give poor coverage when oil is used.
4. Target appropriate sized weeds.
 - Targeting young/small weeds gives best results.
 - Check roots (avoid older established plants).
5. Use correct rate of mixing partner.

Residual application

1. Valor needs 15 mm + of rain or overhead irrigation to incorporate and activate.
2. Avoid excessively cloddy soil or high trash cover.
3. Remove emerged weeds prior with a non-selective herbicide if coverage is greater than 20%.
4. Use a minimum of 80 L per ha of water. Use more when heavy trash or stubble cover is present.
5. Prolonged wet weather following application and sowing can heighten the chance of negative crop effects.



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**Scan here to see more
information about
Valor 500WG Herbicide**



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