

ADAMA GLYPHOSATE 540 SL

Reg. no. L11050 Act/Wet 36 of/van 1947

A non-selective post-emergence herbicide solution for the control of annual weeds and perennial as indicated on the label.

'n Nie selektiewe na-opkoms onkruidodder oplossing vir die beheer van een- en meerjarige onkruid soos op die etiket aangedui.

HRAC HERBICIDE GROUP CODE

9

HRAC ONKRUIDDODER GROEPKODE

ACTIVE INGREDIENT/AKTIEWE BESTANDEEL

Glyphosate (glycine)	540 g/L Glifosaat (glisien)
(glyphosate potassium salt).....	665 g/L(glifosaat kalium sout)

NET VOLUME/NETTO VOLUME

..... L

REGISTRATION HOLDER/REGISTRASIEHOUER

ADAMA South Africa (Pty.) Ltd.
Reg. no. 1992/001741/07
Ground Floor, Simeka House
The Vineyards Office Estate
99 Jip de Jager Drive
Bellville, 7530
T: +27 21 982 1460
infocpt@adama.com

**ADAMA GLYPHOSATE is a trademark of a company of the ADAMA GROUP.
ADAMA GLYPHOSATE is 'n handelsmerk van 'n maatskappy van die ADAMA GROEP.**

CONTACT IN EMERGENCY/KONTAK IN NOOD

Griffon Poison Information Centre: +27 82 446 8946
Tygerberg Poison Information Centre: +27 861 555 777

Batch number
Date of manufacture

Lotnommer
Datum van vervaardiging

UN no.:3082



**CAUTION
VERSIGTIG**





WARNINGS

Withholding periods (Adhere to the following withholding periods between the last application and harvesting.)

Maize (Grazing)	28 days
Maize (Green mealies)	42 days
Soy beans	14 days

- Handle with care.
- May cause mild skin and eye irritation.
- Poisonous by swallowing, inhalation and skin contact.
- Do not mix, store or apply **ADAMA GLYPHOSATE 540 SL** solutions in galvanised steel or unlined steel (except stainless steel) containers or spray tanks, as a reaction will cause hydrogen gas to form, which is highly combustible.
- Store under lock and key in a cool, dry place, away from food, feeds, seed and fertilizers.
- Keep out of reach of children, uninformed persons and animals.
- Re-entry: Do not enter treated area until spray deposit has dried unless wearing protective clothing.
- In case of poisoning, take the patient immediately to a doctor and make this label available to him/her.
- Glyphosate is a highly active herbicide that in very small quantities can cause serious damage to crop seedlings and deciduous fruit trees and grapevines during budding and early season growth stages. Under the following conditions it can cause serious damage as far as 3 to 5 kilometers from the nearest flight path of the aircraft: cloudy weather with relative humidity above 80 % and low air movement of less than 5 km per hour. Where such conditions prevail, aerial application should not be carried out where crop seedlings or deciduous fruit and grapevines in budding or early development stages are present within 5 kilometers of the nearest flight path of the aircraft.

Although this remedy has been extensively tested under a large variety of conditions, the registration holder does not warrant that it will be efficacious under all conditions, because the action and effect thereof may be affected by factors such as abnormal soil, climatic and storage conditions, quality of dilution water, compatibility with other substances not indicated on the label and the occurrence of resistance of the pests against the remedy concerned, as well as the method, time and accuracy of application. The registration holder further more does not accept responsibility for damage to crops, vegetation, the environment or harm to man or animal or for lack of performance of the remedy concerned, due to failure of the user to follow the label instructions or to the occurrence of conditions, which could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

PRECAUTIONS

- Do not inhale the spray mist or fumes.
- Avoid eye and skin contact.

- Wear protective overalls, rubber gloves, gumboots and face shield when the concentrate is handled and during mixing.
- Wash with soap and water after use and after accidental skin contact.
- Wash contaminated clothing after use.
- Do not eat, drink or smoke whilst mixing or applying the product or before washing hands and face and change of clothing.
- Prevent drift onto other crops, grazing, rivers, dams or areas not under treatment or to nearby water sources.
- Thoroughly clean spraying equipment directly after use and dispose of wash water where it will not contaminate food, grazing, boreholes, rivers or dams.
- TRIPLE RINSE empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow draining for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume of water equal to a minimum of 10 % of that of the container. Add the rinsing to the contents of the spray tank before destroying the container in the prescribed manner. Puncture the triple rinsed container and dispose of via an approved collector or recycler (www.croplife.co.za).
- Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages.
- Prevent contamination of food, feed, drinking water and eating utensils.
- Do not add foliar fertilisers to **ADAMA GLYPHOSATE 540 SL**.

FIRST AID TREATMENT

- Swallowed:** Dilute the poison immediately with large amount of water or milk and remove by gastric lavage unless the victim is already vomiting
- Eye:** Wash eyes immediately with large amount of water, occasionally lifting upper and lower lids, until no evidence of chemical remains
- Inhaled:** If inhaled, remove to fresh air and keep at rest. Obtain medical advice if at all worried.
- Skin:** Wash contaminated skin and clothes with plenty of water and soap
- Antidote:** Treat symptomatically

RESISTANCE WARNING

ADAMA GLYPHOSATE 540 SL is a group code 9 Herbicide. Any weed population may contain individuals naturally resistant to **ADAMA GLYPHOSATE 540 SL** and other group code 9 Herbicides. The resistant individuals can eventually dominate the weed population if these Herbicides are used repeatedly. These resistant weeds may not be controlled by **ADAMA GLYPHOSATE 540 SL** or any other group code 9 Herbicide.

To delay herbicide resistance:

- avoid exclusive repeated use of herbicides from the same herbicide group code. Alternate or tank mix with products from different herbicide group codes,
- integrate other control methods (chemical, cultural, biological) into weed control programs.



For specific information on resistance management contact the registration holder of this product.

WEED RESISTANCE MANAGEMENT

- Inconsistent control of certain grass populations and other weeds such as *Lolium* species, *Phalaris* species, *Avena* species (reported known resistance), *Chenopodium* species (plants with waxy leaves), *Conyza bonariensis* (Flax-leaf fleabane), *Commelina benghalensis* (Benghal wandering Jew), *Ipomoea* species (natural resistance) occur, due to resistance against **Glyphosate**.
- Some populations might be resistant to products containing the aryloxyphenoxy propionates, cyclohexanediones and sulfonyleureas, but might also have resistance against the Glyphosate-containing products, e.g. **ADAMA GLYPHOSATE 540 SL**.
- Due to the fact that these resistance populations vary in size and localities and are difficult to ascertain, it is essential that each land must be inspected annually to identify possible resistance early.
- If the above-mentioned preventative measures are not strictly adhered to, the registration holder cannot be held responsible for the failure of **ADAMA GLYPHOSATE 540 SL** to control resistant weeds.

DIRECTIONS FOR USE

Use only as directed.

GENERAL INFORMATION AND USE RESTRICTIONS

Notes

- Use of **ADAMA GLYPHOSATE 540 SL** according to label instructions should result in normal development and growth of glyphosate-tolerant soybean or glyphosate-tolerant maize varieties. Various environmental conditions, agronomic practices and other diverse factors make it impossible to eliminate all risks associated with this product, even when applications are done according to label specifications. In certain cases, these factors can result in unforeseen results including yield loss.
- **ADAMA GLYPHOSATE 540 SL** must only be used for post-emergence, over the top or directed application on to genetically improved soybean maize varieties that have been developed as containing the Pioneer Glyphosate tolerant gene. Severe crop injury or total killing of the maize or soybean crop will result if any variety or hybrid, not properly indicated as containing the glyphosate-tolerant gene, is sprayed with this product.
- Herbicidal action of **ADAMA GLYPHOSATE 540 SL** may become visible from five (5) days after application depending on weed species, growth stage and environmental conditions.
- Apply **ADAMA GLYPHOSATE 540 SL** post-emergence on to vigorously growing weeds, directed to the foliage and immature bark. For difficult to control perennial weeds, application in autumn is recommended when weeds are actively translocating nutrients into their roots, bulbs, rhizomes and stolons. Any re-growth should be spot sprayed.
- Do not spray whilst weeds are wet, dormant or under stress nor when covered in a layer of dust or when damaged by frost.
- Application with low volume sprayers (e.g. self-drive “high boy” sprayers) at high speeds (> 10 km per hour) may produce dust clouds that will affect the activity of the active ingredient adversely due to adsorption onto dust particles on the weeds’ leaf surfaces.



- **ADAMA GLYPHOSATE 540 SL** is rain fast within one (1) hour after application. Rain or irrigation within 1 hour after application can have an adverse effect on efficacy.
- Allow 6 hours after application before planting operation.
- In mixed weed situations (annuals in amongst problem perennials), control annuals by mowing or chemical control. Wait for vigorous re-growth of perennials and then spray or spot spray re-growth.
- When **ADAMA GLYPHOSATE 540 SL** is used in conjunction with any other agricultural remedy, adhere to all WARNINGS, PRECAUTIONS and DIRECTIONS FOR USE mentioned on that label.
- There are no crop rotation restrictions following application of this product.

MIXING INSTRUCTIONS

- Always use clean water. Avoid the use of brackish or muddy water, or water with a high colloid content derived from soils high in organic matter.
- Analysis of the water source is recommended to confirm the levels of sodium, calcium and magnesium salts, as well as carbonate and bicarbonate fractions, as too high levels of these compounds may cause antagonism with the Glyphosate active ingredient.
- For hard and brackish water correction, add ammonium sulphate to the spray water.
- Add the ammonium sulphate to the water first; then add the **ADAMA GLYPHOSATE 540 SL**, followed by the other recommended tank mixture products.
- Ensure agitation during mixing and spraying.

COMPATIBILITY

- **ADAMA GLYPHOSATE 540 SL** can be tank mixed with 2,4-D amine 480 SL, terbuthylazine 900 WDG. Ensure compatibility by preparing a small-scale test mixture before a large scale field application. Observe all label recommendations.
- **ADAMA GLYPHOSATE 540 SL** can also be tank mixed with ammonium sulphate adjuvants;

SURFACTANTS AND/OR ADDITIVES

- For optimum results, a minimum of **1.0 % ADAMA GLYPHOSATE 540 SL** concentration in the total spray volume is recommended. Where the application is based on a percentage solution rather than a dosage per hectare rate, apply as a full cover application (but not to the point of run-off).
- For improved control of Benghal wandering Jew, field bindweed, morning glory and common purslane, **ADAMA GLYPHOSATE 540 SL** can be mixed with 2,4-D amine 480 SL or MCPA 400 SL at a maximum of 500 ml per hectare. Do not add a buffering agent when preparing tank mixtures with any of these 2 products.
- Always add ammonium sulphate to the spray mixture.

APPLICATION INFORMATION

- Correctly calibrate all sprayers under field conditions and ensure that the spraying equipment is in good working order.

- Apply **ADAMA GLYPHOSATE 540 SL** at a maximum volume rate of 200 litres spray mixture per hectare. Where the volume rate is less than 120 litres per, the application must be done with purpose designed low volume spray equipment (e.g. self-drive “high boy” sprayers).
- The application speed of low volume sprayers must not exceed 25 km per hour on an even soil bed. Where the soil bed is more uneven (e.g. due to clods) a maximum application speed of 15 km per hour must be used.
- Ensure that the spray equipment is clean and free of rust, dust and sediment from other chemicals.
- In situations where drift may be hazardous, use low pressures of 100 to 200 kPa or low drift nozzles or add a drift retardant adjuvant when spraying.
- Do not spray when wind speed exceeds 10 km per hour.
- Ensure a fine (NOT a mist spray), even droplet distribution and thorough coverage of the target weeds.
- Thoroughly clean the entire sprayer after application.

CROP RECOMMENDATIONS

GLYPHOSATE-TOLERANT CROPS

Glyphosate-tolerant maize

Broadcast (over the top) application

Broadcast application of **ADAMA GLYPHOSATE 540 SL** can only be done after the ground cracking stage up to the V8 stage (V8 stage = when the first plants in the field have 8 leaves with closed collars around the main stem; however, the actual number of leaves may be more). Do not apply broadcast applications if the spray equipment will cause mechanical crop damage. Broadcast application after the V8 stage may cause yield loss or delayed maturity. Flat fan or twin jet nozzles, suitable for low water volume deliveries, are recommended. If follow-up applications are required to control specific weed species, e.g. *Cyperus esculentus*, the second application should not be made within 10 days of the first application. If the maize has grown beyond the V8 stage at this time, a directed follow-up application will be necessary (refer below).

Directed application

Directed **ADAMA GLYPHOSATE 540 SL** applications can be made after the V8 stage, if row spacing permits the movement of the sprayer without causing mechanical damage to the crop. Row spacing of 1.5 and 2.1 metres are recommended for conventional tractor mounted spray rigs.

For the control of certain broadleaf weeds mentioned above, **ADAMA GLYPHOSATE 540 SL** can be mixed with either 2,4-D amine 480 SL or MCPA 400 SL at 0.5 litre per hectare. Refer to the 2,4-D amine 480 SL or MCPA 400 SL labels for “USE RESTRICTIONS”.

Glyphosate-tolerant soybeans (broadcast application)

ADAMA GLYPHOSATE 540 SL may be applied post-emergent to glyphosate tolerant soybeans from the ground cracking stage through to flowering. Allow a minimum of 2 weeks between application and harvest of the crop. Do not exceed the following **ADAMA GLYPHOSATE 540 SL** application volumes per hectare:

Cumulative total per season for all applications	6.7 litres per hectare
Pre-plant, pre-emergent applications	2.0 litres per hectare
Total in-crop applications from cracking to flowering	4.7 litres per hectare
Maximum pre-harvest application rate	1.3 litres per hectare

Refer recommendations under “APPLICATION DOSAGES’

APPLICATION DOSAGES

Weed spectra in crops are variable according to region, soil type and climatic factors that change seasonally. Therefore, varied and uneven emergence of various weed species may occur at any specific site, where one or more species may dominate. The dosages recommended, aim to cover a broad spectrum of weeds if they are sprayed before upright growing weeds reach 10 cm in height (e.g. Khaki weed), or flat growing weeds reach the 6 to 8 leaf stage (e.g. Common purslane).

Table 1: GLYPHOSATE-TOLERANT MAIZE AND SOYBEANS: GENERAL POST EMERGENCE WEED CONTROL

CROP AND WEED TYPE		STAGE OF WEED GROWTH	DOSAGE RATE
Annual grasses and broad leaf weeds:		Apply before 100 mm height or 8-leaf stage.	1.3 L/ha
		Apply between 100 and 200 mm or up to the 12-leaf stage.	1.7 L/ha
Difficult to control species requiring a follow-up spray (variable control*):	<i>Commelina benghalensis</i> * (Benghal wandering Jew)	Apply at the 3-leaf stage; follow up with 2.0 litres per hectare 10 to 20 days later.	2.0 L/ha
	<i>Ipomoea purpurea</i> * (Morning glory)	Apply at the 4- to 5- leaf stage; follow up with 2.0 litres per hectare 10 to 20 days later.	
	<i>Portulaca oleracea</i> * (Common purslane)	Apply before flowering	
	<i>Tribulus terrestris</i> (Devil's thorn)	Apply before first flowers appear.	

CROP AND WEED TYPE		STAGE OF WEED GROWTH	DOSAGE RATE
Difficult to control biennial and perennial weed species:	<i>Cyperus esculentus</i> Yellow nutsedge	Apply at the 3- to 4-leaf stage follow up with 2.0 litres per hectare, 10 to 20 days later.	2.0 L/ha
	<i>Conyza spp.</i>	Apply before 8-leaf stage.	

Glyphosate-tolerant maize only

Improved residual control of broadleaf weeds.

Above-mentioned General post-emergence weed control dosage rates PLUS 0.53 to 1.1 kg per hectare terbuthylazine 900 WDG .

Consult the terbuthylazine 900 WDG label for WARNINGS, PRECAUTIONS, USE RESTRICTIONS and DIRECTIONS FOR USE.

NOTE

Carefully read “**Broadcast**” and “**Directed application**” above for application spray instructions in maize.

The following weed species will NOT be controlled at these recommended rates:

<i>Cynodon dactylon</i>	Common quick grass
<i>Convolvulus arvensis</i>	Field bindweed
<i>Oenothera stricta</i>	Evening primrose
<i>Panicum maximum</i>	Common buffalo grass
<i>Paspalum spp</i>	Paspalum species

Pre- and post-emergence tank mixture combinations with ADAMA GLYPHOSATE 540 SL at planting when minimum or no-tillage practices are applied in maize

- 2,4-D amine 480 SL can be added to above-mentioned mixtures for improved control of certain difficult to control broadleaf weed species.
- Refer to Table 1 above for **ADAMA GLYPHOSATE 540 SL** dosage rates. Use the higher dosage rate for more difficult weeds or higher weed pressure situations. Apply to young actively growing weeds.
- Follow the registration holder’s recommendations on these labels, except 2,4-D amine 480 SL or MCPA 400 SL , where a maximum of 0.5 litres per hectare should be applied.

Post-plant, post-emergence tank mixture combinations in glyphosate-tolerant maize

- **ADAMA GLYPHOSATE 540 SL** may be tank mixed with or 2,4-D amine 480 SL or MCPA 400 SL for post-emergence weed control applications (before the V8-stage).
- Refer to Table 1 above for **ADAMA GLYPHOSATE 540 SL** dosage rates. Use the higher dosage rate for more difficult weeds or higher weed pressure situations. Apply to young actively growing weeds.
- Follow the registration holder's recommendations on these labels, except 2,4-D amine 480 SL or MCPA 400 SL , where a maximum of 0.5 litres per hectare should be applied.

IMPORTANT NOTES

- This tank mixture of **ADAMA GLYPHOSATE 540 SL** or 2,4-D amine 480 SL or MCPA 400 SL **may only be applied on certified maize cultivars containing glyphosate-tolerant genetic material.**
- **ADAMA GLYPHOSATE 540 SL** must NOT be tank mixed with products containing atrazine.

Table 2: PRE-PLANT APPLICATION OF ADAMA GLYPHOSATE 540 SL IN CEREALS IN WINTER RAINFALL AREA

ADAMA GLYPHOSATE 540 SL	
0.7 to 1.3 L/ha or 1.0 % solution	1.5L/ha or 1.5 % solution
1 to 8-leaf	8-leaf to pre-flower
<i>Arctotheca calendula</i>	Cape marigold
<i>Avena</i> spp.	Wild oats
<i>Bromus diandrus</i>	Ripgut brome
<i>Chenopodium album</i>	White goosefoot
<i>Conyza floribunda</i> *	Tall fleabane
<i>Erodium moschatum</i>	Musk heron's bill
<i>Hypochaeris radicata</i>	Hairy wild lettuce (cat's ear)
<i>Lolium</i> spp.*	Ryegrass
<i>Medicago polymorpha</i>	Clover
<i>Raphanus raphanistrum</i>	Wild radish
<i>Sonchus oleraceus</i>	Sow thistle

Difficult to control / variably controlled annual weeds

- Inconsistent control of certain difficult to control species (refer also “WEED RESISTANCE MANAGEMENT”) may be experienced. Avoid resistance by alternating the use of **ADAMA GLYPHOSATE 540 SL** with products from different chemical classes (refer to “RESISTANCE WARNING”).
- Inconsistent control and resistance may occur with *Conyza* and *Lolium* species.
- Use the higher dosage rate on difficult to control species or on established weeds.
- Add 0.5 litre per hectare maximum MCPA 400 SL or 2,4-D amine 480 SL to control broadleaf weeds that are normally difficult to control.

FORESTRY AND INDUSTRIAL WEED CONTROL

Table 3.1. Dosage rates for weed control in forestry.

SITUATION	WEED SPECIES	DOSAGE RATE			REMARKS
		l/ha	% Solution* (In 100 L water)*	Spot spraying (in 100 L water)**	
Main-tenance weed control in established forests	<i>Acacia mearnsii</i> (Black wattle)	2.0	0.8	1.0 to 1.3	Apply to young trees from 0.1 to 1.5 m high. Apply the lower dosage rate on trees up to 1.0 m height.
	<i>Solanum mauritianum</i> (Bugweed)	1.3	0.5	1.0	Large trees: Cut to 50 cm, allow new growth of at least 50 cm before application. Saplings: Apply directly to foliage.
	<i>Rubus spp.</i> (Bramble)	4.0	1.6	1.0	Cut and remove lush growth in winter. Apply when new growth is more than 0.5 m high. If re-growth occurs, spray with a 1.0 % solution.



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SITUATION	WEED	DOSAGE RATE			REMARKS
<p>Firebreaks Firebreaks preparation, either tracer belts or total area.</p> <p>Band preparation for tree seedlings Situations suitable for such treatments include: a) Virgin veld b) Clear felled forests</p>	<p>In both situations the weed population would include perennials and annuals.</p> <p>For some of the weeds controlled refer to the list under Industrial weed control.</p>	2.8	1.2	1.5	<p>A minimum of 250 litres spray mixture per hectare must be applied when using the 1.2 % solution.</p> <p>A follow-up treatment may be necessary to control some hardy perennials using a 1.5 % solution on a spot spray basis.</p>
<i>Eucalyptus grandis</i> (Blue gum)	Single stem stumps	3.3 % solution			Apply a 50 mL solution to a clean cambium area immediately after felling.
	Multi-stem stumps	4.6 % solution			Apply a 100 ml solution to a clean, fully exposed cambium layer immediately after felling. If re-growth occurs, spray with a 1.3 % solution.

* Based on knapsack application delivering 250 litres spray mixture per hectare. Application of a % solution with a knapsack sprayer must be calibrated such that it will equal the delivery of the corresponding litres per hectare dosage rate.

** Where spot spraying is done using a percentage solution, apply as a full cover application (but not to the point of run-off).

Table 3.2. Dosage rates for Industrial weed control.

BOTANICAL NAME	COMMON NAME	DOSAGE RATE		REMARKS
		L/ha	%	
Perennial grasses:				
<i>Cynodon dactylon</i>	Common couch grass	4	1.6	Apply to vigorously growing plants in summer or autumn when nutrients are actively translocated to roots, rhizomes and stolons. Follow-up with 2.8 litres per hectare (a 1.7 % solution) if any re-growth occurs.
<i>Cynodon nlemfuensis</i>	East African grass	4	1.6	
<i>Pennisetum clandestinum</i>	Kikuyu	2.8	1.2	Spray on active growth in summer. Spray re-growth with 2.0 litres per hectare or a 1.0 % solution.
<i>Paspalum paspalodes</i>	Couch Paspalum	4	1.6	Apply on active growing plants. Follow-up with half the recommended dosage rate if re-growth occurs.
<i>Paspalum dilatatum</i>	Common Paspalum	4	1.6	
Nutsedges:				
<i>Cyperus esculentus</i>	Yellow nutsedge	4	4	Apply during flowering stage. Spray re-growth with 2.0 litres per hectare or a 1.0 % solution.
<i>Cyperus rotundus</i>	Purple nutsedge	4	4	
Annual broadleaf weeds:				
<i>Amaranthus hybridus</i>	Cape pigweed	2.8 to 4	1.0 to 1.6	Use 2.8 litres per hectare (a 1.0 % solution) when weeds are in the early growth stages. Use 3.5 litres per hectare (a 1.4 % solution) when weeds are in the early flowering stage. Use 4.0 litres per hectare (a 1.6 % solution) when weeds are in the seeding stage, but still actively growing. Do not apply on to matured weeds that are in a stage of
<i>Amaranthus spinosus</i>	Thorny pigweed			
<i>Argemone subfusiformis</i>	White flowered Mexican			
<i>Bidens bipinnata</i>	Spanish blackjack			
<i>Bidens pilosa</i>	Blackjack			
<i>Chenopodium album</i>	White goosefoot			



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BOTANICAL NAME	COMMON NAME	DOSAGE RATE		REMARKS
		L/ha	%	
<i>Conyza floribunda*</i>	Tall fleabane			desiccation.
<i>Datura ferox</i>	Large thorn-apple			
<i>Datura stramonium</i>	Thorn-apple			
<i>Oxalis pes-caprae</i>	Yellow sorrel			
<i>Polygonum aviculare</i>	Prostrate knotweed			
<i>Richardia brasiliensis</i>	Tropical richardia			
<i>Senecio ilicifolius</i>	Ragwort			
<i>Schkuhria pinnata</i>	Dwarf marigold			
<i>Tagetes minuta</i>	Tall khaki			

* Even at higher rates, the control of *Conyza* species may be variable, necessitating a follow-up application.

** Based on knapsack application delivering 250 litres spray mixture per hectare. Application of a % solution with a knapsack sprayer must be calibrated such that it will be equal to the corresponding litres per hectare dosage rate (**NOTE** - where spot spraying is done, using a percentage solution, apply as a full cover application (but not to the point of run-off)).

WEEDS CONTROL IN GRAPE VINES

Table 4. Dosage rates for weed control in grape vines.

CROP	DOSAGE RATES	REMARKS
Grape vines	1.0 L/ha PLUS 3.0 L/ha MCPA 400 SL	Early winter: (Weeds under 15 cm height). Not for Small mallow (<i>Malva parviflora</i>), Cape marigold (<i>Arctotheca calendula</i>), Oat seed grass (<i>Ehrharta</i> spp.), Blue echium (<i>Echium vulgare</i>), Ryegrass (<i>Lolium</i> spp.), Sow thistle (<i>Sonchus oleraceus</i>) and Brome spp. (<i>Bromus</i> spp.)
	1.3 L/ha PLUS 4.0 L/ha MCPA 400 SL	Late winter: (Weeds under 30 cm height). Use the higher rates for Bur clover (<i>Medicago polymorpha</i>), Prostrate knotweed (<i>Polygonum aviculare</i>) and Sheep sorrel, (<i>Rumex angiocarpus</i>).

IMPORTANT

- Prevent contact of spray droplets/mist with leaves, green and young bark of stems as well as fruit.
- Allow 10 days after pruning, or the removal of low branches and/or suckers before spraying weeds.

WAARSKUWINGS

Onthoudingsperiodes (Laat die volgende onthoudingsperiodes toe tussen laaste toediening en oes.)

Mielies (Beweiding)	28 dae
Mielies (Groen mielies)	42 dae
Sojabone	14 dae

- Hanteer versigtig.
- Mag vel- en oogirritasie veroorsaak.
- Giftig indien ingesluk, ingeasem of deur die vel opgeneem word.
- Moet nie **ADAMA GLYPHOSATE 540 SL**-oplossings meng, stoor of toedien in gegalvaniseerde staal of ongevoerde staal (behalwe vlekvrystaal) houers of spuittenke nie, aangesien 'n reaksie daartoe kan lei dat waterstofgas vorm, wat baie brandbaar is.
- Berg agter slot en grendel in 'n in 'n koel, droeë plek, weg van voedsel, voer, saad en kunsmis.
- Hou buite bereik van kinders, oningeligte persone en diere.
- **Herbetreding:** Moenie behandelde gebiede betree voor die spuitmengsel droog is nie, tensy beskermde oorklere gedra word.
- In geval van vergiftiging, neem die pasiënt onmiddellik na 'n Geneesheer en toon hierdie etiket aan hom/haar.
- Glifosaat is 'n hoogs aktiewe onkruidodder wat in baie klein hoeveelhede ernstige skade aan gewassaailinge, sagtevrugtebome en druiwestokke gedurende bot en 'n vroeë groeistadium kan aanrig. Onder die volgende toestande kan dit ernstige skade so ver as 3 tot 5 kilometer van die vliegpadd van die vliegtuig aanrig: bewolkte weer met relatiewe humiditeit bo 80 % en beperkte lugbeweging van minder as 5 kilometer per uur. Waar sulke toestande heers, moet lugtoediening nie uitgevoer word as gewassaailinge, sagtevrugtebome en druiwestokke in bot of in 'n vroeë-seisoen groeistadium verkeer, binne 5 kilometer van die naaste vliegpadd van die vliegtuig nie.

Alhoewel hierdie middel omvattend onder 'n groot verskeidenheid toestande getoets is, waarborg die registrasiehouer nie dat dit onder alle toestande doeltreffend sal wees nie. Die werking en doeltreffendheid daarvan kan beïnvloed word deur faktore soos abnormale grond-, klimaats- en bergingstoestande, kwaliteit van die verdunningswater, verenigbaarheid met ander stowwe wat nie op die etiket aangedui word nie en die voorkoms van weerstand van die plaag teen die betrokke middel sowel as die metode, tyd en akkuraatheid van toediening. Verder aanvaar die registrasiehouer nie verantwoordelikheid vir skade aan gewasse, plantegroei en die omgewing of nadelige invloede op mens of dier of vir 'n gebrek aan prestasie van die betrokke middel as gevolg van versuim van die gebruiker om etiketaanwysings na te kom, of as gevolg van die ontstaan van toestande wat nie kragtens die registrasie voorsien kon word nie. Raadpleeg die verskaffer in die geval van enige onsekerheid.

VOORSORGMATREËLS

- Moenie die spuitnewel of dampe inasem nie.
- Vermy oog en velkontak.
- Dra beskermende oorpak, rubberstewels, rubberhandskoene en gesigskerm wanneer die konsentraat hanteer en gemeng word.
- Was met seep en water na gebruik en indien die produk toevalig met die vel in aanraking kom.
- Was gekontamineerde klere na gebruik.
- Moenie eet, drink of rook tydens vermenging of toediening van die produk of voordat die hande en gesig gewas is en voordat klere uitgetrek is nie.
- Vermy wegdrywing van spuitnewel na ander gewasse, weiveld, riviere, damme en plekke wat nie behandel moet word nie en na nabygeleë waterbronne.
- Maak toedieningsapparaat deeglik skoon direk na gebruik. Uitspoelwater moenie voedsel, weiveld, riviere, damme en boorgate besoedel nie.
- Keer die leë houer oor die spuit-of mengtenk om en dreineer vir minstens 30 sekondes nadat die vloei tot 'n drup verminder het. Spoel daarna die leë houer drie keer na mekaar met een kwart van die houervolume vars water en giet die spoelwater in die spuittenk of mengtenk oor. Kap gate in die drie-keer gespoelde houer waarna dit aan 'n goedgekeurde versamelaar of verwerker oorhandig moet word (www.croplife.co.za).
- Moet nie die houer begrawe, verbrand of aan enige ander partye skenk wat dit as houer vir voedsel of drinkgoed mag gebruik nie.
- Voorkom kontaminasie van voedsel, voer, drinkwater en eetgerei.
- Moenie blaarbemesting by **ADAMA GLYPHOSATE 540 SL** voeg nie.

NOODHULPBEHANDELING

Ingesluk: Verdun die gif onmiddellik met 'n groot hoeveelheid water of melk en verwyder dit deur maagspoeling, tensy die slagoffer reeds braak.

Oogkontak: Was oë onmiddellik met 'n groot hoeveelheid water en lig die boonste en onderste ooglede af en toe totdat daar geen bewyse van chemikalieë is nie.

Inaseming: Indien ingeasem, bring slagoffer na vars lug en hou hom/haar rustig. Verkry mediese advies as u bekommerd is.

Velkontak: Was besoedelde vel en klere met baie water en seep.

Teenmiddel: Behandel simptome.

WEERSTANDBESTUUR

ADAMA GLYPHOSATE 540 SL is 'n groepkode 9 onkruiddoder. Enige populasie van 'n spesifieke onkruid mag individueel insluit wat 'n natuurlike weerstand teen **ADAMA GLYPHOSATE 540 SL**, of enige ander groepkode 9 onkruiddoder het. Indien hierdie onkruiddoders in herhaaldelike, eksklusiewe programme aangewend word, kan die weerstandbiedende individue uiteindelik die onkruidpopulasie oorheers. Hierdie weerstandbiedende onkruid sal waarskynlik nie deur **ADAMA GLYPHOSATE 540 SL** of enige ander groepkode 9 onkruiddoder, beheer word nie.

Om weerstand teen onkruidodders te vertraag:

- Vermoed die eksklusiewe herhaaldelike gebruik van onkruidodders in dieselfde groepkode. Wissel af met, of gebruik tenkengels van produkte in verskillende onkruidodder groepkodes.
- Integreer ander beheermaatreëls (chemies, verbouing, biologies) in onkruidodderprogramme.

Vir spesifieke inligting oor weerstandbestuur kontak die registrasiehouer van hierdie produk.

ONKRUIDWEERSTANDBESTUUR

- Wisselvallige beheer van sekere graspopulasies en ander onkruid soos *Lolium*-spesies, *halaris*-spesies, *Avena*-spesies (erkende weerstand aangeteken), *Chenopodium*-spesies (plante met wasagtige blare), *Conyza bonariensis* (Kleinskraalhans), *Commelina benghalensis* (Bengaalse wandelende Jood), *Ipomoea*-spesies (natuurlike weerstand) kom voor as gevolg van weerstand teen glifosaat.
- Sommige populasies mag weerstandbiedend wees teen produkte wat die aryloksifenoksie propionaat, cyclohexanediones en sulfonielureum bevat, maar mag ook weerstandbiedende teenoor glifosaat-bevattende produkte, bv. **ADAMA GLYPHOSATE 540 SL**.
- Aangesien hierdie weerstandbiedende populasies varieër in grootte en ligging en moeilik is om bepaal, is dit belangrik dat elke land jaarliks nagegaan moet word om moontlike weerstandbiedende te identifiseer.
- As die bogenoemde voorkomingsmaatreëls nie streng nagekom word nie, kan die registrasiehouer nie verantwoordelik gehou word vir die mislukking van **ADAMA GLYPHOSATE 540 SL** om weerstandbiedende onkruid te beheer nie.

GEBRUIKSAANWYSINGS

Gebruik slegs soos aangedui.

ALGEMENER INLIGTING EN GEBRUIKSBEPERKINGS

NOTAS

- Die gebruik van **ADAMA GLYPHOSATE 540 SL** volgens etiketaanwysings behoort normale ontwikkeling en groei van die glifosaat-tolerante sojaboon- of glifosaat-tolerante mielievariëteite tot gevolg te hê. Verskeie omgewingstoestande, agronomiese praktyke en ander uiteenlopende faktore maak dit onmoontlik om alle risiko's verbonde aan **ADAMA GLYPHOSATE 540 SL** uit te skakel, selfs as toedienings volgens etiket aanbevelings gedoen word. In sekere gevalle kan hierdie faktore tot onvoorsiene resultate lei, insluitend opbrengsverlies.
- **ADAMA GLYPHOSATE 540 SL** moet slegs vir na-opkoms gebruik word, oor die boonste of direkte toediening van die genetiese verbeterde katoen-, mielie- en sojaboonvariëteite wat ontwikkel is met die Pioneer Glyphosate-tolerante geen. Ernstige gewasskade óf totale uitwissing van die mielie- of sojaboongewas sal voorkom indien enige variëteit of baster, wat nie duidelik aandui dat dit die “ glifosaat-tolerante geen” bevat nie, met **ADAMA GLYPHOSATE 540 SL** gespuit word.
- Die onkruidodderende werking van **ADAMA GLYPHOSATE 540 SL** kan sigbaar word vanaf vyf (5) dae na toediening, afhangende van onkruidspesies, groeistadium en omgewingstoestande.
- Dien **ADAMA GLYPHOSATE 540 SL** na-opkoms toe op aktief groeiende onkruid, gerig op

die blare en onvolwasse bas. Vir moeilik beheerbare meerjarige onkruid, word 'n bespuiting in die herfs aanbeveel wanneer onkruid aktief translokeer vanaf plantvoedingsstowwe na hul wortels, bolle, wortelstokke en uitlopers. Kolbespuiting moet toegepas word vir enige hergroei.

- Moet nie spuit terwyl die onkruid nat, rustend of onder stremmingstoestande is nie en ook nie met 'n stoflaag bedek is of deur ryp beskadig is nie.
- Toediening met lae volume spuite (bv. self-aangedrewe “high boy” toedieners) teen 'n hoë spoed (> 10 km per uur) kan stofwolke veroorsaak wat die werking van die aktiewe bestanddeel nadelig sal beïnvloed as gevolg van adsorpsie van stofdeeltjies op die onkruid se blaaroppervlaktes.
- **ADAMA GLYPHOSATE 540 SL** is reënvas binne een (1) uur na toediening. Reën of besproeiing binne 1 uur na toediening kan 'n nadelige effek op die doeltreffendheid hê.
- Laat 6 ure toe na toediening vóór plant.
- In gemengde onkruidsituasies (eenjarige tussen probleem meerjarige onkruid), kan die eenjariges beheer word deur of te sny of deur chemiese beheer. Wag vir sterk hergroei van meerjariges en dien 'n kolbespuiting op hergroei toe.
- Indien **ADAMA GLYPHOSATE 540 SL** in kombinasie met enige ander landboumiddels gebruik word, moet aan alle **WAARSKUWINGS**, **VOORSORGMAATREËLS** en **GEBRUIKSAANWYSINGS** soos aangedui op daardie etiket, nagekom word.
- Daar is geen gewasrotasie-beperkinge na die toediening van die produk nie.

MENGINSTRUKSIES

- Gebruik altyd skoon water. Vermyn die gebruik van brak- of modderige water, of water met 'n hoë kolloïed inhoud afkomstig van gronde hoog in organiese materiaal
- Analise van die waterbron word aanbeveel om die vlakke van natrium-, kalsium- en magnesiumsoute, asook karbonaat- en bikarbonaatfraksies te bevestig, aangesien te hoë vlakke van hierdie verbindings antagonisties mag wees teenoor die aktiewe bestanddeel glifosaat.
- Vir regstelling van harde en brakwater voeg ammoniumsulfaat by die spuitmengsel.
- Voeg eerste die ammonium-sulfaat by die water, gevolg deur die **ADAMA GLYPHOSATE 540 SL**, gevolg deur die ander aanbevole tenkmengselprodukte.
- Verseker roering tydens vermenging en bespuiting.

VERENIGBAARHEID

- **ADAMA GLYPHOSATE 540 SL** is verenigbaar met 2,4-D amine 480 SL en terbuthylazine 900 WDG. Verseker verenigbaarheid deur 'n kleinerige proefmengsel voor 'n grootskaalse veldtoediening voor te berei. Volg alle etiketaanbevelings.
- **ADAMA GLYPHOSATE 540 SL** is ook verenigbaar met ammonium-sulfaat bymiddels.

BEVORDERINGS EN/OF BYVOEGMIDDELS

- Vir optimale resultate, word 'n minimum van 1.0 % **ADAMA GLYPHOSATE 540 SL** konsentraat in die totale spuitvolume aanbeveel. Waar die toediening gebaseer is op 'n persentasie oplossing eerder as 'n dosis per hektaar, dien toe as 'n voldekbepuiting (maar nie tot die punt van die afloop nie.)

- Vir verbeterde beheer van Bengaalse wandelende Jood, akkerwinde, purperwinde en gewone porslein, kan **ADAMA GLYPHOSATE 540 SL** gemeng word met 2,4-D amine 480 SL of MCPA 400 SL teen 'n maksimum van 500 ml per hektaar. Moet nie 'n buffermiddel byvoeg wanneer tenkmengsels met enige van die 2 bogenoemde produkte voorberei word nie.
- Voeg altyd ammoniumsulfaat by die spuitmengsel.

TOEDIENING

- Maak altyd seker dat die spuittoerusting korrek gekalibreer is onder veldtoestande en verseker dat die spuittoerusting in 'n goeie werkende toestand is.
- Dien **ADAMA GLYPHOSATE 540 SL** teen 'n maksimum volume van 200 liter spuitmengsel per hektaar. Waar die volume minder as 120 liter per hektaar is, moet die toediening met doelgerigte ontwerpte lae volume spuittoerusting (bv. selfaangedrewe "high boy" spuite) toegedien word.
- Die toedieningsspoed van die lae volume toediensers mag nie 25 km per uur op 'n egalige grondoppervlak oorskry nie. Waar die grondoppervlak meer oneweredig is (bv. as gevolg van kluite), moet 'n maksimum toedieningsspoed van 15 km per uur gebruik word.
- Verseker dat die spuittoerusting skoon en vry van roesplekke, stof en neerslag van ander chemikalieë is.
- In situasies waar wegdrywing gevaarlik is, gebruik lae voume druk van 100 tot 200 kPa of lae wegdrywing spuitpunte of 'n spuitwegdrying byvoegmiddel kan gebruik word gedurende bespuiting.
- Moet nie spuit indien die windspoed 10 km/uur oorskry nie.
- Verseker 'n fyn (NIE 'n sproeimis nie), egalige verspreiding van druppels en deeglike bedekking van die teikenonkruid.
- Maak die hele spuitapparaat deeglik skoon na gebruik.

GEWAS AANBEVELINGS

GLIFOSAAT-TOLERANTE GEWASSE

Glifosaat-tolerante mielies

Breedwerpige (oor die kruin) toediening:

Breedwerpige toediening van **ADAMA GLYPHOSATE 540 SL** kan slegs plaasvind na na die grondbrekingstadium tot en met die V8-groeistadium (V8-stadium = wanneer die eerste plante in die lan 8 blare het met geslote/toe krae rondom die hoofstam het, (maar die werklike aantal blare kan egter meer wees). **Moet nie** bespuiting breedwerpig toedien indien die spuittoerusting die gewas meganies sal beskadig nie. **Breedwerpige toediening na die V8-stadium, kan verlies in oesopbrengs tot gevolg hê of volgroeiing van die gewas vertraag.** Die gebruik van platwaaier- of tweestraalspuitpunte, geskik vir lae volume lewerings van water, word aangeveel. Indien opvolgbespuiting nodig is om spesifieke onkruidspesies te beheer, bv. *Cyperus esculentus*, moet die tweede bespuiting binne 10 dae na die eerste bespuiting toedien word. Indien die mielies op hierdie stadium reeds verder as die V8-stadium gegroei het, is 'n gerigte opvolgbespuiting nodig (lees hieronder).

Gerigte toediening:

Gerigte **ADAMA GLYPHOSATE 540 SL** toedienings kan plaasvind na die V8-stadium, as die ryspasiëring die beweging van die spuittoerusting toelaat sonder om meganiese skade aan die

gewas te veroorsaak. Ryspasiëring tussen 1.5 en 2.1 meter word aanbeveel vir konvensionele trekker gemonteerde spuittoerusting.

Vir die beheer van sekere breëblaaronkruid soos hierbo genoem, kan **ADAMA GLYPHOSATE 540 SL** gemeng word met of 2,4-D amine 480 SL of MCPA 400 SL teen 0.5 liter per hektaar. Verwys na die 2,4-D amine 480 SL of MCPA 400 SL etikette vir "GEBRUIKSBEPERKINGS".

Glifosaat-tolerante sojabone (breedwerpige bespuiting)

ADAMA GLYPHOSATE 540 SL kan na-opkoms op glifosaattolerante sojabona toegedien word vanaf die grondkraakstadium tot blom. Laat 'n minimum van twee weke toe tussen toediening en oes van die gewas. Moet nie die volgende **ADAMA GLYPHOSATE 540 SL** toedieningsvolumes per hektaar oorskry nie:

Kumulatiewe totaal per seisoen vir alle toedienings	6.7 liter per hektaar
Voorplant, vooropkoms toedienings	2.0 liter per hektaar
Totaal van in-gewastoedienings vanaf grondbreking tot blom	4.7 liter per hektaar
Maksimum voor-oestoedieningsdosis	1.3 liter per hektaar

Raadpleeg aanbevelings onder "TOEDIENINGSDOSISSE".

TOEDIENINGSDOSISSE

Die onkruidspektrum in gewasse kan wisselvallig wees volgens streek, grondtipe en klimaatsfaktore wat seisoenaal verander. Daarom kan varieërende en oneweredige opkoms van verskillende onkruidspesies in 'n spesifieke gebied voorkom, waar een of meer spesie oorheersend mag wees. Die aanbevole dosisse is bedoel om 'n breë spektrum onkruid te dek as dit gespuit word voordat regop groeiende onkruid 10 cm hoog is (bv. Khaki onkruid), of platgroeiende onkruid die 6 tot 8 blaarstadium bereik (bv. Gewone porslein).

Tabel 1: GLISOFAAT-TOLERANTE MIELIES EN SOJABONE: ALGEMENE NA-OPKOMS ONKRUIDBEHEER

GEWAS EN ONKRUID TIPE		STADIUM VAN ONKRUID GROEI	TOEDIENINGS-HOEVEELHEID
Eenjarige grasse en breëblaaronkruid:		Dien toe voor 100 mm hoog of 8-blaar stadium.	1.3 L/ha
		Dien toe tussen 100 and 200 mm of tot by die 12-blaar stadium.	1.7 L/ha
Moeilik beheerbare spesies wat 'n opvolgbespuiting benodig (wisselvallige beheer*):	Wandelinde Jood* <i>Commelina benghalensis</i>	Dien toe by 3-blaar stadium; volg op met 2.0 liter per hektaar, 10 tot 20 dae later.	2.0 L/ha
	Purperwind* <i>Ipomoea purpurea</i>	Dien toe by die 4- tot 5-blaar stadium; volg op met 2.0 liter per hektaar, 10 tot 20 dae later.	
	Gewone Porslein <i>Portulaca oleracea</i>	Dien toe voor blom.	
	Dubbeltjie <i>Tribulus terrestris</i>	Die toe voor eerste blomme opkom.	
Moeilik beheerbare tweejarige en meerjarige onkruid spesies:	Geeluintjie <i>Cyperus esculentus</i>	Dien toe by die 3- tot 4-blaar stadium; volg op met 2.0 liter per hektaar, 10 tot 20 dae later.	
	<i>Conyza spp.</i>	Dien toe voor die 8-blaar stadium.	

Glifosaat-tolerante mielies alleenlik

Verbeterde residuele beheer van breëblaaronkruid

Bogenoemde algemene na-opkoms onkruidbeheer dosisse PLUS 0.53 tot 1.1 kg per hektaar terbuthylazine 900 WDG .

Raadpleeg die terbuthylazine 900 WDG-etiket vir WAARSKUWINGS, VOORSORGMAATREËLS, GEBRUIKSBEPERKINGS en GEBRUIKSAANWYSINGS.

NOTA

Lees versigtig die “**Breedwerpige bespuiting**” and “**Gerigte toediening**” hierbo vir toediening spuit instruksies in mielies.

Die volgende onkruidspesies sal NIE beheer word by die aanbevele dosisse nie:

<i>Cynodon dactylon</i>	Gewone kweek
<i>Convolvulus arvensis</i>	Akkerwinde
<i>Oenothera stricta</i>	Aandblom
<i>Panicum maximum</i>	Gewone buffelsgras
<i>Paspalum spp</i>	Paspalum spesies

Voor- en na-opkoms tenkmengselkombinasies met ADAMA GLYPHOSATE 540 SL tydens plant wanneer minimum of geen bewerkingspraktyke by mielies toegepas word nie

- 2,4-D amine 480 SL kan by bogenoemde mengsels gevoeg word vir die verbeterde beheer van sekere moeilik beheerbare breëblaaronkruidspesies.
- Verwys na Tabel 1 hierbo vir dosisse van **ADAMA GLYPHOSATE 540 SL**. Gebruik die hoër dosis vir moeiliker onkruid of hoër onkruidruksituasies. Dien toe op jong aktief groeiende onkruid.
- Volg die aanbevelings van die registrasiehouer op hierdie etikette, behalwe 2,4-D amine 480 SL of MCPA 400 SL, waar 'n maksimum van 0.5 liter per hektaar toegedien moet word.

Na-plant, na-opkoms tenkmengselkombinasies in glisofaat-tolerante mielies

ADAMA GLYPHOSATE 540 SL kan in tenkmengsels met of 2,4-D amine 480 SL of MCPA 400 SL gemeng word vir na-opkoms onkruidbeheer toedienings (voor die V8-stadium).

- Verwys na Tabel 1 hierbo vir dosisse van **ADAMA GLYPHOSATE 540 SL**. Gebruik die hoër dosis vir moeiliker onkruid of hoër onkruidruk-situasies. Dien toe op jong aktief groeiende onkruid.
- Volg die aanbevelings van die registrasiehouer op hierdie etikette, behalwe 2,4-D amine 480 SL of MCPA 400 SL, waar 'n maksimum van 0.5 liter per hektaar toegedien moet word.

BELANGRIKE NOTAS

- Hierdie tenkmengsel van **ADAMA GLYPHOSATE 540 SL** of 2,4-D amine 480 SL of MCPA 400 SL **mag slegs toegedien word op gesertifiseerde mieliekultivars wat glifosaat-tolerante genetiese materiaal bevat.**
- **ADAMA GLYPHOSATE 540 SL** moet NIE in die tenk gemeng word met produkte wat atrazine bevat nie.

Tabel 2. VOORPLANT-TOEDIENING VAN ADAMA GLYPHOSATE 540 SL IN GRAANGEWASSE IN WINTERREËNVALGEBIEDE

ADAMA GLYPHOSATE 540 SL	
0.7 tot 1.3 L / ha or 1.0 % oplossing	1.5 L/ha of 1.5 % oplossing
1 tot 8-blaar	8-blaar tot voor blom
<i>Arctotheca calendula</i>	Soetgousblom
<i>Avena</i> spp.	Wildehawer
<i>Bromus diandrus</i>	Predikantsluis
<i>Chenopodium album</i>	Withondebossie
<i>Conyza floribunda</i> *	Skraalhans
<i>Erodium moschatum</i>	Turknael
<i>Hypochaeris radicata</i>	Harige skaapslaai
<i>Lolium</i> spp.*	Raaigras
<i>Medicago polymorpha</i>	Klitsklawer
<i>Raphanus raphanistrum</i>	Ramenas
<i>Sonchus oleraceus</i>	Sydissel

Moeilik om te beheer / wisselvallig beheerde eenjarige onkruid

- Wisselvallige beheer van sekere moeilik beheerbare spesies (verwys ook na "ONKRUIDWEERSTANDBESTUUR") kan ondervind word. Vermyn weerstand deur die gebruik van **ADAMA GLYPHOSATE 540 SL** af te wissel met produkte uit verskillende chemiese klasse (sien "WEERSTANDSWAARSKUWING").
- Daar kan wisselvallige beheer en weerstand kan voorkom met *Conyza* en *Lolium* spesies.
- Gebruik die hoër dosis op moeilik beheerbare spesies of op gevestigde onkruidspesies.
- Voeg 0.5 liter per hektaar maksimum MCPA 400 SL of 2,4-D amine 480 SL om breëblaaronkruid wat normaalweg moeilik is om te beheer.

BOSBOU EN INDUSTRIËLE ONKRUIDBEHEER

Tabel 3.1. Toedieningshoeveelheid vir onkruidbeheer in bosbou.

SITUASIE	ONKRUID-SPESIES	TOEDIENINGSHOEVEELHEID			OPMERKINGS
		L/ha	% Oplossing* (in 100 L) water)*	Kolbe-sputing (in 100 L water)**	
Beheer van onkruidbeheer in gevestigde plantasies	<i>Acacia mearnsii</i> (Swartwattel)	2.0	0.8	1.0 tot 1.3	Dien toe in jong bome vanaf 0.1 to 1.5 m hoog. Gebruik die laer dosis op bome tot 1.0 m hoog.
	<i>Solanum mauritianum</i> (Luisboom)	1.3	0.5	1.0	Groot bome: Sny tot 50 cm, laat nuwe groei van ten minste 50 cm toe voor toediening. Saailinge: Dien direk op die blare toe.
	<i>Rubus</i> spp. (Braambos)	4.0	1.6	1.0	Sny en verwyder welige groei in die winter. Dien toe wanneer nuwe groei meer as 0.5 m hoog is. As hergroei plaasvind, spuit met 'n 1.0% oplossing.



ADAMA

Listen - Learn - Deliver

SITUASIE	ONKRUID-SPESIES	TOEDIENINGSHOEVEELHEID			OPMERKINGS
		L/ha	% Oplossing* (in 100 L water)*	Kolbespuiting (in 100 L water)**	
<p>Voorbrande Voorbereiding van 'n algehele brandbaan of brandstroke.</p> <p>Baanvoorbereiding vir boomsaailinge Situasies geskik vir hierdie tipe behandeling sluit in:</p> <p>a) Natuurlike of onversteurde veld</p> <p>b) Afgekapte plantasies</p>	<p>In albei situasies sal die onkruidpopulasie meerjarige en eenjarige insluit.</p> <p>Raadpleeg die lys onder industriële onkruidbeheer vir sommige van die onkruid wat beheer word.</p>	2.8	1.2	1.5	<p>'n Minimum van 250 liter spuitmengsel per hektaar moet toegedien word wanneer die 1.2 % oplossing gebruik word.</p> <p>'n Opvolgbehandeling mag nodig wees om sekere geharde meerjarige te beheer deur 'n 1.5 % oplossing op 'n kolbespuitingbasis te gebruik.</p>
<i>Eucalyptus grandis</i> (Salignabloekom)	Enkelstam stompe	3.3 % oplossing			Dien 50 ml oplossing toe op 'n skoon kambium-area van die gesnyde oppervlak onmiddellik na afsaag.
	Meerstammige stompe	4.6 % oplossing			Dien 100 ml oplossing toe op 'n skoon kambium-area van elke gesnyde oppervlak onmiddellik na afsaag. Indien hergroei voorkom, spuit met 'n 1.3 % oplossing.

* Gebaseer op 'n rugsaktoediening wat 250 liter spuitmengsel per hektaar lewer. Die toediening van 'n % -oplossing met 'n rugsakspuit moet sodanig gekalibreer word dat dit die aflewering van die toepaslike dosis per liter per hektaar gelyk sal maak.

** Waar kolbespuiting met 'n persentasie oplossing gedoen word, dien toe as 'n volle dekbepuiting (maar nie tot die punt van afloop nie).

Tabel 3.2. Toedieningshoeveelhede vir Industriële onkruidbeheer.

BOTANIESE NAAM	GEWONE NAAM	TOEDIENINGS-HOEVEELHEID		OPMERKINGS
		L/ha	%	
Meerjarige grasse:				
<i>Cynodon dactylon</i>	Kweek	4	1.6	Dien toe op sterk groeiende plante in die somer of herfs, wanneer voedingstowwe aktief getranslokeer word na wortels, risome en uitlopers. Volg op met 2.8 liter per hektaar ('n 1.7% oplossing) indien enige hergroei voorkom.
<i>Cynodon nlemfuensis</i>	Stergras	4	1.6	
<i>Pennisetum clandestinum</i>	Kikoejoe	2.8	1.2	Dien toe in somer op aktiefgroeiende plante. Spuit hergroei met 2.0 liter per hektaar of 'n 1.0 % oplossing.
<i>Paspalum paspalodes</i>	Kweekpaspalum	4	1.6	Dien toe op aktiefgroeiende plante. Volg op met die helfte van die aanbevole dosis indien hergroei voorkom.
<i>Paspalum dilatatum</i>	Gewone Paspalum	4	1.6	
Uintjies:				
<i>Cyperus esculentus</i>	Geeluintjie	4	4	Dien toe tydens blomstadium. Spuit hergroei met 2.0 liter per hektaar of 'n 1.0 % oplossing.
<i>Cyperus rotundus</i>	Rooi-uintjie	4	4	
Eenjarige breëblaaronkruid:				
<i>Amaranthus hybridus</i>	Kaapse misbredie	2.8 to 4	1.0 to 1.6	Gebruik 2.8 liter per hektaar ('n 1.0 % oplossing) wanneer onkruid in die vroeë groeistadium is. Gebruik 3.5 liter per hektaar ('n 1.4 % oplossing) wanneer onkruid in die vroeë blomstadium is. Gebruik 4.0 liter per hektaar ('n 1.6 % oplossing) wanneer die onkruid in die
<i>Amaranthus spinosus</i>	Doring misbredie			
<i>Argemone subfusiformis</i>	Meksikaanse papawer			
<i>Bidens bipinnata</i>	Spaanse knapsekêrel			
<i>Bidens pilosa</i>	Knapsekêrel			



ADAMA

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BOTANIESE NAAM	GEWONE NAAM	TOEDIENINGS-HOEVEELHEID		OPMERKINGS
		L/ha	%	
<i>Chenopodium album</i>	Withondebossie			saadvormingstadium is, maar steeds aktief groei. Moenie toedien op volwasse onkruid wat in 'n stadium van uitdroging is nie.
<i>Conyza floribunda*</i>	Skraalhans			
<i>Datura ferox</i>	Groot stinkblaar			
<i>Datura stramonium</i>	Stinkblaar			
<i>Oxalis pes-caprae</i>	Geelsuring			
<i>Polygonum aviculare</i>	Voëlduisend-knoop			
<i>Richardia brasiliensis</i>	Tropiese Richardia			
<i>Senecio ilicifolius</i>	Sprinkaanbossie			
<i>Schkuhria pinnata</i>	Kleinkakiebos			
<i>Tagetes minuta</i>	Langkakiebos			

* Selfs teen hoër dosisse, kan die beheer van *Conyza*-spesies wisselvallig wees, wat 'n opvolgtoedieining noodsaak maak.

** Gebaseer op 'n rugsaktoediening wat 250 liter spuitmengsel per hektaar lewer. Die toediening van 'n %-oplossing met 'n rugsakspuit moet gekalibreer word sodat dit gelyk is aan die ooreenstemmende dosis van liter per hektaar. (**NOTA** – waar kolbespuiting plaasvind deur gebruik te maak van 'n %-oplossing, dien toe as n volle dekbespuiting (maar nie toe die punt van afloop nie).

ONKRIUDBEHEER IN WINGERDE

Tabel 4. Toedieningshoeveelhede vir onkruidbeheer in wingerde.

GEWAS	TOEDIENINGS- HOEVEELHEID	OPMERKINGS
Wingerde	1.0 L/ha PLUS 3.0L/ha MCPA 400 SL	Vroeg winter: (Onkruid onder 15 cm hoog). Nie vir Kiesieblaar (<i>Malva parviflora</i>), Soetgousblom (<i>Arctotheca calendula</i>), Hawersaadgras (<i>Ehrharta</i> spp.), Blou- echium (<i>Echium vulgare</i>), Raaigras (<i>Lolium</i> spp.), Sydissel (<i>Sonchus oleraceus</i>) and Brome spp. (<i>Bromus</i> spp.)
	1.3 L/ha PLUS 4.0 L/ha MCPA 400 SL	Laat winter: (Onkruid onder 30 cm hoog). Gebruik die hoër dosis vir Klitsklawer (<i>Medicago polymorpha</i>), Voëlduisendknoop (<i>Polygonum aviculare</i>) and Steenboksuring, (<i>Rumex angiocarpus</i>).

BELANGRIK

- Voorkom kontak met spuitdruppels en sproeinewel met blare, groen en jong bas van stingels en met vrugte.
- Laat 10 dae na snoei of die verwydering van lae takke en/of suiers toe voordat onkruid gespuit word.