



LINAGAN[®] SC

Reg. no. L6294 Act/Wet 36 of/van 1947
N-AR 0492

A suspension concentrate: root- and foliar-
absorbed herbicide for the control of the weeds
mentioned in the crops listed.

’n Suspensiekonsentraat: wortel- en blaar-
opneembare onkruidodder vir die beheer van
die onkruid vermeld in die genoemde
gewasse.

HRAC HERBICIDE GROUP CODE

C2

HRAC ONKRUIDDODERGROEPKODE

ACTIVE INGREDIENT/AKTIEWE BESTANDDEEL

linuron (urea) 500 g/l linuron (ureum)

NET VOLUME/NETTO VOLUME

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REGISTRATION HOLDER/REGISTRASIEHOUER

ADAMA South Africa (Pty.) Ltd.

Reg. no. 1992/001741/07

21 Viben Street

7560 Brackenfell

T: +27 21 982 1460 F: +27 21 982 5810

infocpt@adama.com

**LINAGAN[®] is the registered trademark of a company of the ADAMA GROUP.
LINAGAN[®] is die geregistreerde 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 21 931 6129

Batch number

Date of manufacture

Lotnommer

Datum van vervaardiging

UN no: 3082



WARNINGS

- Do not graze treated areas.
- Poisonous by swallowing.
- May irritate eyes, nose, throat and skin.
- Poisonous to fish.
- Store in a cool place away from fertilizers, food and feeds.
- Keep out of reach of children, uninformed persons and animals.
- Although **LINAGAN® SC** has been tested on most important cultivars and no significant effect have been recorded, this does not mean that a more susceptible cultivar cannot be commercialized in the future. Where new cultivars are encountered large areas should not be sprayed without prior testing of **LINAGAN® SC** on that cultivar.
- Aerial application: Notify all inhabitants in the immediate vicinity to be sprayed and issue the necessary warnings. Do not spray over or allow drift to contaminate water or adjacent areas.

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 weeds to the remedy concerned as well as by the method, time and accuracy of application. The registration holder furthermore does not accept responsibility for damage to crops, vegetation, and 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 vapour of spray mist.
- Wear protective clothing, gloves, overall and boots when handling the concentrate and when applying the product.
- Wash immediately after accidental skin contact with soap and cold water.
- Do not eat, drink or smoke whilst applying, mixing or before hands and face have been washed (change of clothing).
- **PREVENT DRIFT ONTO OTHER EDIBLE CROPS, GRAZING, RIVERS, DAMS AND AREAS NOT UNDER TREATMENT.**
- Clean applicator/aircraft thoroughly before re-using with other materials. Invert the empty container over the spray – or mixing tank for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the empty container three times with a volume of water equal to a minimum of 10 % of that of the container and add the rinsing to the contents of the spray tank before disposing of the container in the prescribed manner.
- Destroy empty container by perforation and flattening and never use for another purpose.
- Dispose of wash water where it will not contaminate grazing, food or water.
- Ensure that the spray does not drift over grazing, crops not under treatment or water sources
- Keep animals and children away from stacked and spilt material

- No worker should be engaged in handling or marking operations while suffering from any major complaint or from certain minor complaints such as bronchitis or stomach trouble.

RESISTANCE WARNING

For the purpose of resistance management **LINAGAN® SC** is classified as a group code C2 herbicide. Any weed population may contain individuals naturally resistant to **LINAGAN® SC** and other group code C herbicides. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds may not be controlled by **LINAGAN® SC** or any other group code C herbicides. To delay herbicide resistance:

- Avoid exclusive repeated use of herbicides of the same herbicide group code. Alternate or tank mix with products from different herbicide group codes.
- Integrate control methods (chemical and cultural) into weed control programs or specific information on resistance management contact the registration holder of this product.

DIRECTIONS FOR USE

Use only as directed.

APPLICATION RATES

CROP AND TARGET	APPLICATION AND SOIL TYPE	DOSAGE/HA
Carrots, parsley and parsnips	<p>Pre emergence</p> <p>Loamy sand 11–15 % clay Sandy loam 16–20 % clay Sandy clay loam 21–35 % clay</p> <p>Post emergence</p>	<p>1.0 L in 300 L water 1.5 L in 300 L water 2.0 L in 300 L water</p> <p>1–1.5 L in 300–500 L water. Dosage depends upon growth stage of the weeds</p>
Maize (under irrigation)	<p>Post emergence</p> <p>11–35 % clay 21–35 % clay</p> <p>11–35 % clay 21–35 % clay</p>	<p>Overall treatment as a directed spray to weeds</p> <p>1.5 L in 300 L water for weeds up to 50 mm in height</p> <p>2.5 L in 500 L water only when weeds exceed 50 mm height but are not taller than 75 mm.</p> <p>50 cm band treatment after early cultivation:</p> <p>8.5 ml in 3 L water/100 m row for weeds up to 50 mm in height</p> <p>14 ml in 5 L water/100 m row only when weeds exceeds 50 mm but are not taller than 75 mm.</p> <p>ADD A WETTER.</p>

CROP AND TARGET	APPLICATION AND SOIL TYPE	DOSAGE/HA
Potatoes (under irrigation)	Pre emergence (of crop) Loamy sand 11–15 % clay Sandy loam 16–20 % clay Sandy clay loam 21–35 % clay	2.0 L in 300–500 L water 2.5 L in 300–500 L water 3.0 L in 300–500 L water
Sweet potato transplants (Cuttings)	Pre emergence (of weeds): Loamy sand 11–15 % clay Sandy loam 16–20 % clay Sandy clay loam 21–35 % clay	1.5 L in 300 L water 1.75 L in 300 L water 2.0 L in 300 L water
Gladioli	Post emergence (of weeds):	1.5–2 L in 300–500 L water. Dosage depends upon growth stage of the weeds.
Roses	Pre budburst; pre emergence Loamy sand 11–15 % clay Sandy loam 16–20 % clay Sandy clay loam 21–35 % clay Post budburst Directed post emergence	2.0 L in 300 L water 2.5 L in 300 L water 3.0 L in 300 L water 3–4 L in 300–500 L water Dosage depends upon growth stage of the weeds.

APPLICATION

CROPS

Carrots, parsley and parsnips

Pre emergence: Seed should be sown no less than 1.25 cm deep in a fine seedbed. (See General.)

Post emergence: When spraying do not apply before the carrots have reached the 4-leaf stage. The best time to spray is when the weeds are in the 2- to 3-leaf stage and do not exceed 50 mm in height. Use 300 L spray mixture/ha. Use 500 L mixture/ha on weeds which are in the 3- to 5-leaf stage, but are not taller than 75 mm. Do not apply when temperature exceeds 30 °C. Do not exceed 3 bars pressure as crop injury may result. The addition of full concentration wetter/spreader can result in crop injury.

Respraying: Respraying is permissible for both pre-and post-emergence applications as long as the total dosage is not more than 2 x the prescribed dosage for the situation for which it has been recommended and should in no instance exceed 4 L/ha. ADAMA South Africa (Pty.) Ltd. is not in a position to continuously test **LINAGAN® SC** on all new cultivars. If phytotoxic symptoms such as leaf tip burn should be noticed on any cultivar after a spray it would not be advisable to use this chemical for a second time on that cultivar during the same growing season.

Irrigated maize

Overall application: Make a single application, as a directed spray after maize is at least 350–500 mm high (measured to the highest leaf on freestanding plants). Do not spray over the top of maize. Apply only when there is sufficient differential between height of maize and weeds so that the directed spray (drop arms) thoroughly cover all weed foliage without contact of upper leaves or whorl

of maize by spray or drift. Such contact may cause injury. Early cultivation (rolling tine cultivator or other suitable equipment) can aid in achieving proper differential between height of maize and weeds. Where early cultivation has taken place only a band treatment will be necessary. Weeds should be growing vigorously and not be wilted and suffering from drought stress when the spray is applied.

Band treatment: Apply by means of a tractor-mounted power sprayer properly calibrated to a constant speed and rate of delivery. The use of drop arms is recommended.

For a 50 cm (25 + 25 cm) band:

Dose in 3 L water per 100 m row = 8.5 ml (weeds up to 50 mm high)

Dose in 5 L water per 100 m row = 14 ml (weeds up to 75 mm high)

Replanting: Fields with soil containing in excess of 10 % clay which have been treated with **ALANEX[®]** pre emergence, followed by **LINAGAN[®] SC** post emergence, may immediately be replanted to maize and soybeans if initial seeding fails to produce a satisfactory stand. Thirty days should elapse after treatment before dry or green beans, or sunflowers can be planted. Thoroughly rework soil before replanting. Sorghum should not be replanted into **ALANEX[®]-/LINAGAN[®] SC**-treated soil and a waiting period of six months is recommended in this case. By thoroughly reworking the soil prior to replanting the **ALANEX[®]** will be diluted to such an extent that weed control will be ineffectual. Do not re-treat fields with a second application during the same crop year.

NOTE: Do not plant **LINAGAN[®] SC** susceptible crops within 4 months of treatment.

LINAGAN[®] SC in conjunction with ALANEX[®] for pre- and post-emergence weed control in irrigated maize:

General: Read the **ALANEX[®]** labels before use and apply according to the manufacturer's recommendations. The application of **LINAGAN[®] SC** as a post-emergence spray for the selective control of seedling annual broadleaf weeds in maize is recommended after a pre-emergence spray of **ALANEX[®]** for grass control.

How to use: Make a single application of **ALANEX[®]** as a broadcast or band spray after planting but before maize emerges. Follow up with a post emergence treatment of **LINAGAN[®] SC** as described above.

Winter follow up crops: When **ALANEX[®]/LINAGAN[®] SC** is used in the fashion described above no difficulties can be expected with winter follow up crops planted outside the 4-month safety period. (See point 7 of General.)

Irrigated potatoes

May be sprayed after planting until prior to emergence of first leaves of crop. Seed should be planted at least 5 cm deep and seedbed should be free of clods. Where no weed growth is yet present, or when weeds are in the 2- to 3-leaf stage, and do not exceed 50 mm in height and the potatoes have not yet emerged, use 300 L mixture/ha. Where potatoes have not yet emerged, but weeds are in the 2- to 5- leaf stage but not taller than 75 mm, use 500 L mixture/ha. Grasses should not be allowed to exceed 50 mm in height. Where a band treatment is used proportionally fewer chemicals than for the overall treatment must be used. If weeds have already germinated, it is advisable to ADD A WETTER.

Sweet potatoes

Apply immediately after transplanting before active growth starts. Give light sprinkle irrigation after application to wash herbicide off the leaves of the cuttings. Alternatively, spray first and transplant directly thereafter, ensuring that soil is not unduly disturbed, and that the minimum amount of trampling takes place. The first option is the better one.

ORNAMENTALS

Gladioli

Do not spray later than 2 days before crop emergence. Use 300 L mixture/ha on weeds in the 2- to 3-leaf stage which do not exceed 50 mm in height and 500 L mixture on weeds in the 2- to 5-leaf stage which are not taller than 75 mm. Use lower dose in 300 L water and higher dose in 500 L water/ha.

Roses

Pre bud burst: Apply in spring before roses commence bud-burst. Use 20–30 ml in 3 L water/100 m² (i.e. 2–3 L/ha dependent on soil type). 1 ha = 10 000 m².

Post bud burst, post emergence: For directed post emergence sprays ensure that growing roses are well shielded. Use 3 L in 300 L water/ha for weeds in 2- to 5-leaf stages which do not exceed 50 mm in height and 4 L in 500 L water/ha for weeds in the 5- to 7-leaf stage which do not exceed 75 mm in height.

EQUIPMENT

For field crops: Use a tractor-mounted fixed-boom power sprayer properly calibrated to a constant speed and rate of delivery. Openings in filters should be equal to or larger than 50 mesh. Continuous agitation in the spray tank is required to keep the material in suspension. Agitate by mechanical or hydraulic means. If a by-pass or return line is used, it should terminate at the bottom of the tank to minimize foaming. Do not use air agitation. Avoid over-lapping and shut off booms while starting, turning, slowing or stopping, or injury to the crop may result. 8004 flat fan nozzles for both pre-and post-emergence sprays on crops other than maize are recommended and a spray pressure of 2.5–3 bars in the case of the former, while using 1.5–2 bars in the case of the latter application method. For post-emergence weed control in maize a 6504 flat fan nozzle operating at 1.5–2 bars to spray a 250 mm band on each side of the row is recommended.

For horticultural crops: A knapsack sprayer operated at constant speed using the same nozzle as described above is suitable.

APPLICATION

GENERAL: Do not use LINAGAN on calcific or newly limed soils.

Pre-emergence sprays

- Sprays should be applied either to a moist soil surface or a light irrigation to activate the herbicide should follow shortly after application.
- A good seedbed must be prepared before application of **LINAGAN® SC**. Crop injury may result if application is made to ground, which is cloddy, or compacted resulting in improperly planted seed. Plant seed at depth specified.
- Surface of the soil should not be cultivated or disturbed after application of **LINAGAN® SC** and before emergence of the crop as weed control may be reduced and crop injury may be possible. If soil moisture is insufficient to activate the herbicide, a shallow cultivation should be made after emergence of row crops while weeds are small enough to be controlled by mechanical means.
- Do not use **LINAGAN® SC** pre-emergence where water logging may occur.
- Do not use **LINAGAN® SC** pre-emergence on gravelly soils or exposed subsoil.
- Certain weeds which are able to germinate from lower soil depths, such as *Datura*, (thorn apple) and cosmos are not always effectively controlled by pre-emergence applications of.
- It is recommended that soil treated with **LINAGAN® SC** should not be sown or planted with **LINAGAN® SC** sensitive crops within 4 months of initial treatment. Lettuce is particularly

sensitive and problems may be encountered if it is sown during the same season that the initial treatment with **LINAGAN® SC** took place.

- The pre-emergence control of deep and/or late germinating weeds may sometimes be erratic.

Post-emergence sprays

Optimum results are obtained with post-emergence application under conditions of high humidity and temperatures of 16–25 °C when weeds are growing vigorously.

Aerial application

Aerial application of **LINAGAN® SC** may only be done by a registered Aerial Application Operator using a correctly calibrated, registered aircraft according to the instructions of SABS Code 10118 (Aerial Application of Agricultural Pesticides). Ensure that the spray mixture is distributed evenly over the target area and that the loss of spray material during application is restricted to a minimum. It is therefore essential that the following criteria be met:

- Volume: A spray mixture volume of 30 litres per hectare is recommended. As this product has not been evaluated at a reduced volume rate, the registration holder cannot guarantee efficacy, or be held responsible for any adverse effects if this product is applied aerially at a lower volume rate than recommended above.
- Droplet coverage: 20 to 30 droplets per cm² must be recovered at the target area.
- Droplet size: A droplet spectrum with a VMD of 350 to 400 microns is recommended. Limit the production of fine droplets less than 150 microns (high drift and evaporation potential) to a minimum.
- Flying height: Maintain the height of the spray boom at 3 to 4 metres above the target. Do not spray when aircraft dives, is in a climb or when banking
- Use suitable atomising equipment that will produce the desired droplet size and coverage, but which will ensure the minimum loss of product. The spraying system must produce a droplet spectrum with the lowest possible Relative Span.
- Position all the atomisers within the inner 60 to 75 % of the wingspan to prevent droplets from entering the wingtip vortices.
- The difference in temperature between the wet and dry bulb thermometers, of a whirling hygrometer, should not exceed 8 °C.
- Stop spraying if the wind speed exceeds 15 km/h.
- Stop spraying under turbulent, unstable and dry conditions during the heat of the day.
- Spraying under temperature inversion conditions (spraying in or above the inversion layer) and/or high humidity conditions (relative humidity 80 % and above) may lead to the following:
 - a) Reduced efficacy due to suspension and evaporation of small droplets in the air (inadequate coverage).
 - b) Damage to other sensitive crops and/or non-target areas through drifting of the suspended spray cloud away from the target field.
- Ensure that the Aerial Spray Operator knows exactly which fields to spray.
- Obtain an assurance from the Aerial Spray Operator that the above requirements will be met and that relevant data will be compiled in a logbook and kept for future reference.

BROADLEAF WEEDS CONTROLLED BY LINAGAN® SC

Botanical name	Common name
<i>Acanthospermum hispidum</i>	Upright starbur
<i>Amaranthus deflexus</i>	Perennial pigweed
<i>A. spinosus</i>	Thorny pigweed
<i>A. hybridus</i>	Common pigweed
<i>Amsinckia calycina</i>	Fiddleneck
<i>Arctotheca calendula</i>	Cape marigold
<i>Bidens bipinnata</i>	Spanish blackjack
<i>Bidens pilosa</i>	Common blackjack
<i>Bilderdykia convolvulus</i>	Wild buckwheat
<i>Capsella bursa-pastoris</i>	Sheperd's purse
<i>Cenia turbinata</i>	Mayweed
<i>Chenopodium album</i>	White goosefoot
<i>Cosmos bipinnatus</i>	Cosmos
<i>Datura spp.</i>	Thorn apple
<i>Emex australis</i>	Spiny emex
<i>Euphorbia hirta</i>	Red euphorbia
<i>Galingsoga parviflora</i>	Small flowered quick weed
<i>Lactuca serriola</i>	Wild lettuce
<i>Lepidum africanum</i>	Pepper weed
<i>Physalis angulata</i>	Wild gooseberry
<i>Polygonum aviculare</i>	Prostrate knotweed
<i>Portulaca oleracea</i>	Common purslane
<i>Raphanus raphanistrum</i>	Wild radish
<i>Schkuhria pinnata</i>	Dwarf marigold
<i>Scleranthus annuus</i>	Annual scleranthus
<i>Sisymbrium thellungii</i>	Wild mustard
<i>Sonchus oleraceus</i>	Common sowthistle

Botanical name	Common name
<i>Spergula arvensis</i>	Corn spurry
<i>Stellaria media</i>	Chickweed
<i>Tagetes minuta</i>	Tall khakiweed
<i>Veronica persica</i>	Ironweed
<i>Vicia sativa</i>	Common vetch

GRAS WEEDS CONTROLLED BY LINAGAN® SC

Botanical name	Common name
<i>Chloris pycnothrix</i>	Spiderweb chloris
<i>Echinochloa crusgalli</i>	Barnyard grass
<i>Eleusine indica</i>	Goosegrass
* <i>Lolium multiflorum</i>	Italian ryegrass
* <i>Lolium temulentum</i>	Darnel
<i>Panicum schinzii</i>	Vlei panicum
<i>Phalaris canariensis</i>	Canaryseed grass
<i>Poa annua</i>	Annual bluegrass
<i>Setaria pallide-fusca</i>	Garden bristle grass
<i>Tragus berteronianus</i>	Spike carrotseed grass
<i>Tragus racemosus</i>	Carrotseed grass

NOTE

- **Post emergence:** *Cyperus esculentus* – yellow nutsedge – control in carrots is variable, but can be enhanced by allowing an acceptable leaf area to develop and then adding a wetter at 50 % the recommended concentration. Slight scorching of the carrot leaves may occur but this disappears with time. *Digitaria sanguinalis* – crab fingergrass –, is only controlled by **LINAGAN® SC** under very favourable conditions.
- Variable results are sometimes obtained on *Lolium spp.* – ryegrass and darnel. *Medicago polymorpha* – burr-clover – is not controlled by **LINAGAN® SC**.

ALANEX® SC (Reg. no. L 4752) contains alachlor and is the registered trade mark of a company the ADAMA GROUP.

WAARSKUWINGS

- Moet nie behandelde gebiede laat beweï nie.
- Giftig indien ingesluk.
- Mag oë, neus, keel en vel irriteer.
- Giftig vir visse.
- Hou buite bereik van kinders, oningeligte persone en diere.
- Bewaar in koel plek weg van kunsmisstowwe, voedsel en voer.
- Alhoewel **LINAGAN® SC** op die mees belangrike kultivars getoets is, met geen betekenisvolle fititoksiese simptome nie, beteken dit nie dat 'n meer vatbare kultivar dalk in die toekoms gekommersialiseer kan word nie. Waar nuwe kultivars teëgekomp word, moet groot areas nie behandel word voordat u **LINAGAN® SC** op daardie kultivar getoets het nie.
- Lugtoediening: Stel alle inwoners in die onmiddellike omgewing van die gebied wat gespuit sal word in kennis en reik die nodige waarskuwings uit. Moet nie oor water of aangrensende gebiede spuit of die spuitstof daarheen laat wegdryf 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 aangesien die werking en effek daarvan beïnvloed kan word deur faktore soos abnormale grond, klimaats- en bergingstoestande, kwaliteit van die verdunningswater, verenigbaarheid met ander stowwe wat nie op die etiket aangedui is nie en die voorkoms van weerstand van die onkruid teen die betrokke middel sowel as die metode, tyd en akkuraatheid van toediening. Verder aanvaar die registrasiehouer nie verantwoordelikheid vir skade aan gewasse, plantegroei, die omgewing of vir nadelige effek op mens of dier of vir 'n gebrek aan prestasie as gevolg van die 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.

VOORSORGMAATREËLS

- Vermyn inaseming van dampe en spuitnewel.
- Dra beskermende klere, handskoene, oorpak en stewels wanneer konsentraat hanteer word en wanneer produk toegedien word.
- Was onmiddellik met seep en koue water na toevallige kontak met die liggaam.
- Moet nie eet, drink of rook gedurende aanwending, vermenging of voor hande en gesig gewas is nie (wissel van klere).
- **VERMY DIE OORWAAI NA ANDER EETBARE GEWASSE, WEIDING, RIVEIRE, DAMME EN GEBIEDE WAT NIE ONDER BEHANDELING IS NIE.**
- Maak die spuittoestel/vliegtuig deeglik skoon voor dit weer gebruik word vir die toediening van 'n ander middel.
- Keer die leë houer om oor die spuittenk of mengbak en dreineer vir minstens 30 sekondes nadat die vloeï tot 'n gedrup verminder het. Spoel daarna die leë houer driekeer met 'n volume water gelyk aan 'n minimum van 10 % van die houer en voeg spoelwater by die inhoud van die spuittenk voor houer op die voorgeskrewe wyse vernietig word.
- Vernietig leë houer deur dit te deurboor en plat te slaan en moet nie weer vir enige ander doel gebruik nie.
- Gooi waswater uit waar dit nie voedsel, weiding of water sal besoedel nie.
- Sorg dat die spuitnewel nie ander gewasse of waterbronne besoedel nie.

- Hou kinders en diere weg van opgestapelde en vermorste materiaal.
- Geen werker mag deelneem aan die hantering, of merkproses terwyl hy aan enige groot kwaal ly of selfs sommige kleiner klagtes soos brongitis of maagaandoening het nie.

WEERSTANDSWAARSKUWING

Vir weerstandsbestuur is **LINAGAN® SC** as 'n groepkode C2 onkruidodder geklassifiseer. Enige populasie van 'n spesifieke onkruid mag individue insluit wat 'n natuurlike weerstand teen **LINAGAN® SC** of enige ander groepkode C onkruidodders het. Indien hierdie onkruidodders herhaaldelik aangewend word, kan die weerstandbiedende individue uiteindelik die onkruidpopulasie oorheers. Hierdie weerstandbiedende onkruid sal waarskynlik nie deur **LINAGAN® SC** of enige ander groepkode C onkruidodder beheer word nie.

Om weerstand teen onkruidodders te vertraag:

- Vermy die eksklusiewe herhaaldelike gebruik van onkruidodders met dieselfde groepkode. Wissel af met of gebruik tenkmengsels van produkte in verskillende onkruidodder groepkodes.
- Integreer ander beheermaatreëls (chemies + verbouing) in onkruidodder programme.
- Vir spesifieke inligting oor weerstandsbestuur kontak die registrasiehouer van hierdie produk.

TOEDIENINGSHOEVEELHEDE

GEWAS	METODE EN GRONDSOORT	DOSIS/HA
Wortels, pietersielie en witwortels	<p>Voor opkom</p> <p>Leemsand 11–15 % klei Sanderige leem 16–20 % klei Sanderige klei leem 21–35 % klei</p> <p>Na opkom</p>	<p>1.0 L in 300 L water 1.5 L in 300 L water 2.0 L in 300 L water</p> <p>1–1.5 L in 300–500 L water. Dosis hang van die groeistadium van die onkruid af.</p>
Mielies (onder besproeiing)	<p>Na opkom</p> <p>11–35 % klei 21–35 % klei 11–35 % klei</p>	<p>Algehele behandeling as 'n gerigte toediening op onkruid:</p> <p>1.5 L in 300 L water vir onkruid tot en met 50 mm hoog</p> <p>2.5 L in 500 L water slegs wanneer onkruid 50 mm hoogte oorskry maar nog nie hoër as 75 mm is nie.</p> <p>50 cm strookbehandeling na vroeë bewerking:</p> <p>8.5 ml in 3 L water/100 m ry vir onkruid tot en met 50 mm hoog</p>

GEWAS	METODE EN GRONDSOORT	DOSIS/HA
	21–35 % klei	14 ml in 5 L water/100 m ry slegs wanneer onkruid 50 mm hoogte oorskry maar nog nie hoër as 75 mm is nie. VOEG 'N BENATTER BY.
Aartappels (onder besproeiing)	Voor opkom (van gewas) Leemsand 11–15 % klei Sanderige leem 16–20 % Sanderige kleileem 21–35 % klei	2.0 L in 300–500 L water 2.5 in 300–500 L water 3.0 L in 300–500 L water
Patats (Steggies)	Voor opkom (van onkruid) Leemsand 11–15 % klei Sanderige leem 16–20 % klei Sanderige kleileem 21–35 % klei	1.5 L in 300 L water 1.75 L in 300 L water 2.0 L in 300 L water
Swaardlelies	Na opkom (van onkruid)	1.5–2 L in 300–500 L water. Dosis hang van die groeistadium van die onkruid af.
Rose	Voor knoppe uitloop; voor opkom Leemsand 11–15 % klei Sanderige leem 16–20 % klei Sanderige kleileem 21–35 % klei Na uitloop Na opkom, gerigte bespuiting	2.0 L in 300 L water 2.5 L in 300 L water 3.0 L in 300 L water 3–4 L in 300–500 L water. Dosis hang van die groeistadium van die onkruid af.

TOEDIENING

GEWASSE

Geelwortels, pietersielie en witwortels

Voor opkoms: Saad moet nie minder as 1.25 cm diep in 'n fyn saadbedding gesaai word nie. (Kyk na Algemeen.)

Na opkoms: Wanneer na opkoms gespuit word, moet nie toedien voordat die wortels die 4-blaarstadium bereik het nie. Die beste tyd om te bespuit is wanneer die onkruid in die 2- tot 3-blaarstadium is en nog nie 50 mm hoogte oorskry het nie. 300 L mengsel/ha word aanbeveel. Gebruik 500 L mengsel per ha wanneer onkruid in die 3- tot 5-blaarstadium is maar nog nie hoër as 75 mm is nie. Moet nie spuit as die temperatuur 30 °C oorskry nie. Moet nie 3 bar druk oorskry nie, aangesien beskadiging van gewas mag voorkom. Die byvoeging van 'n benatter/verspeider teen die volle toedieningshoeveelheid mag tot gewasskade lei.

Herbespuitings: Herbespuitings vir beide voor- en na-opkombehandelings is toelaatbaar solank die totale dosis nie 2 keer die voorgeskryde dosis vir die situasie waarvoor dit voorgeskryf is, oorskry nie. Die dosis moet onder geen omstandighede 4 L/ha oorskry nie. ADAMA South Africa (Pty) Ltd. is nie in 'n posisie om aanhoudend **LINAGAN® SC** op alle nuwe kultivars te toets nie. As fititoksiese

simptome soos blaarpuntskroei op enige kultivar na bespuiting opgemerk word, is dit nie raadsaam om die middel vir 'n tweede keer op daardie kultivare binne een groeiseisoen te gebruik nie.

Besproeide mielies

Algehele bespuiting: Spuit 'n enkele toediening as gerigte bespuiting wanneer mielies minstens 300–500 mm hoog is (gemeet tot die hoogste blare op vrystaande plante) MOET NIE bo-oor die mielies spuit nie. Dien slegs toe wanneer daar genoegsame differensiasie tussen die hoogte van die mielies en die onkruid is sodat die gerigte bespuiting (valarms) onkruidblare goed benat sonder dat die boonste blare en kelk van die mielieplante deur bespuiting of spuitnewel geraak word. Sulke kontak mag gewasbeskade veroorsaak. Vroeë bewerking (roltandskoffel of ander geskikte implement) kan help om die regte verskil tussen hoogte van mielies en onkruid te verkry. Waar vroeë bewerking plaasgevind het sal slegs strookbehandeling benodig word. Onkruid moet aktief groei sonder dat hulle verlep of onder droogtestremming is, wanneer die bespuiting plaasvind.

Strookbehandeling: Dien toe deur middel van trekker gemonteerde balkspuit wat akkuraat gekalibreer is vir konstante spoed en leweringstempo. Die gebruik van valarms word aanbeveel. Vir 'n 50 cm (25 + 25 cm) strook:

Dosis in 3 L water per 100 m ry = 8.5 ml (onkruid tot 50 mm hoog)

Dosis in 5 L water per 100 m ry = 14 ml (onkruid tot 75 mm hoog)

Herplanting: Grond met meer as 10 % klei wat met **ALANEX**[®] voor opkoms behandel is, gevolg deur **LINAGAN**[®] **SC** na opkoms, mag onmiddellik met mielies of sojabone herplant word, as die aanvanklike aanplanting 'n swak stand gelewer het. 'n Wagperiode van 30 dae moet toegelaat word voor droëbone, groenbone of sonneblom geplant kan word. Sorghum moet nie op **ALANEX**[®]/**LINAGAN**[®] **SC**-behandelde grond herbeplant word nie en 'n wagperiode van 6 maande word in hierdie geval aanbeveel. Herbewerk die grond deeglik voor herplanting. Deur die grond deeglik te herbewerk voor herbeplanting sal die **ALANEX**[®] tot so 'n mate verdun word dat onkruidbeheer ondoeltreffend sal wees. Moet nie lande gedurende dieselfde oesjaar met 'n tweede bespuiting herbehandel nie.

Belangrik: Moet nie **LINAGAN**[®] **SC**-gevoelige gewasse binne 4 maande na behandeling aanplant nie.

LINAGAN[®] **SC** saam met **ALANEX**[®] vir voor- en naopkomonkruidbeheer in besproeide mielies:

Algemeen: Lees die **ALANEX**[®]-etiket voor toediening en volg die vervaardiger se aanbevelings. **LINAGAN**[®] **SC** word gebruik as 'n vroeë na-opkom opvolg bespuiting op **ALANEX**[®] vir die selektiewe beheer van breëblaaronkruid.

Gebruiksaanwysings: Spuit 'n enkele toediening van **ALANEX**[®] na plant, maar voor die mielies opkom as 'n algehele of strookbespuiting. Volg met 'n naopkomopvolgbespuiting van **LINAGAN**[®] **SC** soos hierbo beskryf.

Winteropvolggewasse: Waar **ALANEX**[®]/**LINAGAN**[®] **SC** soos hierbo beskryf gebruik is, behoort dit geen invloed op winteropvolggewasse te hê nie as dit buite die 4 maande wagperiode aangeplant word. (Sien 7 onder Algemeen.)

Besproeide aartappels

Kan toegedien word tot net voor verskyning van die eerste blare van gewas. Saad moet minstens 5 cm diep geplant word en saadbed moet sonder kluite wees. Waar onkruid nog nie opgekom het nie, of waar onkruid in die 2- tot 3-blaarstadium is en nie 50 mm hoogte oorskry nie en die aartappels nog nie opgekom het nie, gebruik 300 L mengsel/ha. Waar aartappels nog nie opgekom het nie maar waar onkruid reeds in die 2- tot 5-blaarstadium is maar nog nie hoër as 75 mm is nie, gebruik 500 L mengsel/ha. Grasse moet nie toegelaat word om 50 mm hoogte te oorskry nie. Vir

strookbespuiting gebruik proporsioneel minder van die aanbevole algehele dosis. As onkruid alreeds ontkiem het is dit raadsaam om 'N BENATTER BY TE VOEG.

Patats

Dien onmiddellik na uitplant toe; voor aktiewe groei begin. Gee 'n ligte sprinkelbesproeiing direk na bespuiting om onkruid dodend van die steggies se blare af te was. Andersom, spuit eers en plant onmiddellik daarna. Sorg dat grond nie oormatig versteur of vertrap word nie. Die eerste opsie is die beste van die twee.

ORNAMENTELE PLANTE

Swaardlelies

Moet nie later as 2 dae voor opkom van gewas spuit nie. Gebruik 300 L mengsel/ha op onkruid in die 2- tot 3-blaar stadium wat nog nie hoër as 50 mm is nie en 500 L mengsel op onkruid in die 2- tot 5-blaar stadium, wat nog nie hoër as 75 mm is nie. Gebruik laer dosis in 300 L water en hoër dosis in 500 L water/ha.

Rose

Voor knoppe uitloop: Dien in die lente toe voor die blaarknoppe oopbars. Gebruik 20–30 ml in 3 L water/100 m² (d.w.s 2–3 L/ha afhangede van grondsoort) 1 ha = 10 000 m².

Na uitloop; na opkom: Vir gerigte na-opkom bespuiting van onkruid, maak seker dat groeiende rose goed beskerm is. Gebruik 3 L in 300 L water/ha vir onkruid in die 2- tot 5-blaar stadium wat nog nie 50 mm hoogte oorskry nie en 4 L in 500 L water/ha vir onkruid in die 5- tot 7-blaar stadium tot wanneer onkruid 75 mm hoog is.

TOERUSTING

Akkerbougewasse: Gebruik trekkegemonteerde balkspuite wat akkuraat gekalibreer is, vir konstante spoed en leweringstempo. Maasgrootte van filters moet 50 mm of groter wees. Aanhoudende roering in die spuittenk is nodig om die middel in suspensie te hou. Roer deur middel van meganies of hidroliese metodes. As newelsluiting of terugvloeiyp gebruik word, moet die oop punt naby die bodem van die tenk geplaas word, om skuiming te verminder. Moet nie lug omroering gebruik nie. Vermy oorvleueling en skakel spuit af gedurende, draai, spoedvermindering of stilhou, om gewasskade te vermy. 8004 Platwaaierspuitneuse vir albei voor- en na-opkom bespuitings op alle gewasse behalwe mielies word aanbeveel teen 'n spuitdruk van 2.5–3 bar in die geval van die eersgenoemde, en 1.5–2 bar in die geval van die laasgenoemde toedieningsmetode. Vir na-opkom onkruidbeheer in mielies word 'n 6504 platwaaierspuitneus en 'n druk van 1.5–2 bar aanbeveel om 'n 250 mm strook weerskante van die ry te spuit.

Tuinbougewasse: 'n Rugsakspuit wat teen 'n konstante spoed beweeg en wat dieselfde spuitneuse as hierbo gebruik, is geskik vir toediening.

TOEDIENING

ALGEMEEN: LINAGAN® SC moet NIE op kalkagtige grond, of grond wat onlangs bekalk is, toegedien word nie.

Vooropkomsbespuitings

- Hierdie bespuitings moet op 'n klam grondoppervlak toegedien word, of 'n ligte besproeiing om die onkruid dodend te aktiveer, moet na toediening plaasvind.

- 'n Goeie saadbed moet voor toediening van **LINAGAN® SC** voorberei word. Gewasbeskadiging mag voorkom as toediening plaasvind op kluitrige, of vasgetrapte grond, wat veroorsaak dat saad onegalik en vlak geplant word. Plant saad op die gespesifiseerde diepte.
- Die grondoppervlak moet nie bewerk of versteur word na toediening van **LINAGAN® SC** en vooropkom van die gewas nie want onkruidodder mag versteur word en gewasbeskadiging is moontlik. As grondvog te min is om die onkruidodder te aktiveer, kan 'n vlak bewerking na opkom van rygewasse gemaak word solank onkruid nog klein genoeg is om deur middel van meganiese metodes beheer te word.
- Moet nie **LINAGAN® SC** vooropkom, waar grondversuiping mag voorkom, gebruik nie.
- Moet nie **LINAGAN® SC** vooropkom, op gruisgrond of blootgestelde ondergrond, gebruik nie.
- Sekere onkruid wat in dieper grondlae kan ontkiem soos, *Datura* (Stinkblaar) en kosmos word nie deur voor-opkom bespuitings van **LINAGAN® SC** effektief beheer nie.
- Word aanbeveel dat grond wat met **LINAGAN® SC** behandel is, nie met ander **LINAGAN® SC** gevoelige gewase binne 4 maande na toediening gesaai of beplant word nie. Veral blaarslaai is baie gevoelig en beskadiging mag voorkom wanneer dit binne dieselfde groeiseisoen as die aanvanklike **LINAGAN® SC** behandeling, gesaai word.
- Vooropkombeheer van diep en/of laat ontkiemende onkruid mag soms wisselvallig wees.

Naopkombespuitings

Optimum resultate word met naopkombespuitings verkry onder omstandighede van hoë humiditeit en temperature van 16–25 °C, wanneer onkruid aktief groei.

Lugtoediening

LINAGAN® SC kan slegs deur 'n geregistreerde Lugbespuitingsperateur met 'n korrek gekalibreerde, geregistreerde vliegtuig volgens die instruksies van SABS Kode 10118 (Aerial Application of Agricultural Pesticides) uit die lug bespuit word. Verseker dat die spuitmengsel eweredig oor die teikenarea versprei word, en die verlies aan spuitmengsel tydens toediening tot 'n minimum beperk word. Dit is daarom belangrik om aan die volgende vereistes te voldoen:

- Volume: 'n Spuitmengsel volume van 30 liter per ha word aanbeveel. Hierdie produk is nie teen 'n verlaagde volume getoets nie. Die registrasiehouer kan nie effekteititeit waarborg, of verantwoordelik gehou word vir enige nadelige effekte indien hierdie produk teen 'n laer volume, as hierbo aanbeveel, toegedien word nie.
- Druppel bedekking: 20 tot 30 druppels per cm² moet op die teikenarea herwin word.
- Druppelgrootte: 'n Druppelspektrum met 'n VMD van 350 tot 400 mikrons word aanbeveel. Beperk die produksie van druppels kleiner as 150 mikrons (hoë drywing en verdampingspotensiaal) tot 'n minimum.
- Vlieghoogte: Handhaaf die hoogte van die spuitbalk bo die teiken op 3 tot 4 meter. Moet nie spuit wanneer die vliegtuig duik nie, uitklim of draai nie.
- Gebruik geskikte atomiseringsapparaat wat die vereiste druppelgrootte en bedekking sal produseer, maar die minste verlies van produk verseker. Die spuitstelsel moet 'n druppelspektrum met die kleinste moontlike Relatiewe Span produseer.
- Plaas al die atomiseerders in die binnste 60 tot 75 % van die vlerkspan om te verhoed dat druppels binne-in die vlerkpuntvorteks beweeg.
- Die verskil in temperatuur tussen die nat- en droëboltermometer van 'n swaaihigrometer, moet nie 8°C oorskry nie.
- Stop bespuiting indien die windspoed 15 km/h oorskry.

- Stop bespuiting tydens turbulente, onstabiele en droë toestande gedurende die hitte van die dag.
- Bespuiting onder temperatuur inversie toestande (deur bo of binne die inversie laag te spuit) en/of hoë lugvog toestande (relatiewe humiditeit 80% en meer) mag tot volgende probleme aanleiding gee:
 - a) verlaagde effektiwiteit aangesien die druppels as 'n wolk in die lug bly hang en moontlik verdamp (onvoldoende bedekking van teiken).
 - b) skade aan nie-teiken gewasse of sensitiewe areas as gevolg van wegdrywing van die spuitwolk na nie-teiken area.
- Verseker dat die Lugbespuitingsoperateur presies weet watter lande bespuit moet word.
- Dit is noodsaaklik om 'n versekering van die Lugbespuitingsoperateur te verkry dat aan al die bogenoemde vereistes voldoen sal word en dat data van belang in 'n logboek saamgevat is vir toekomstige verwysing

BREËBLAARONKRUIDE DEUR LINAGAN® SC BEHEER

Botaniese naam	Gewone naam
<i>Acanthospermum hispidum</i>	Regopsterklits
<i>Amaranthus deflexus</i>	Meerjarige misbredie
<i>A. spinosus</i>	Doringmisbredie
<i>A. hybridus</i>	Gewone misbredie
<i>Amsinckia calycina</i>	Violnek
<i>Arctotheca calendula</i>	Gousblom
<i>Bidens bipinnata</i>	Spaanse knapsekêrel
<i>Bidens pilosa</i>	Gewone knapsekêrel
<i>Bilderdykia convolvulus</i>	Wilde bokwiet
<i>Capsella bursa-pastoris</i>	Herderstassie
<i>Cenia turbinata</i>	Ganskos
<i>Chenopodium album</i>	Withondebossie
<i>Cosmos bipinnatus</i>	Kosmos
<i>Datura spp.</i>	Olieboom
<i>Emex australis</i>	Emex-dubbeltjie
<i>Euphorbia hirta</i>	Rooi euphorbia
<i>Galingsoga parviflora</i>	Knopkruid
<i>Lactuca serriola</i>	Wildeslaai

Botaniese naam	Gewone naam
<i>Lepidum africanum</i>	Pepperbossie
<i>Physalis angulata</i>	Wilde appelliefie
<i>Polygonum aviculare</i>	Koperdraadgras
<i>Portulaca oleracea</i>	Gewone porselein
<i>Raphanus raphanistrum</i>	Ramenas
<i>Schkuhria pinnata</i>	Kleinkakiebos
<i>Scleranthus annuus</i>	Eenjarige knawel
<i>Sisymbrium thellungii</i>	Wilde mosterd
<i>Sonchus oleraceus</i>	Gewone sydissel
<i>Spergula arvensis</i>	Sporrie
<i>Stellaria media</i>	Gewone sterremuur
<i>Tagetes minuta</i>	Langkakiebos
<i>Veronica persica</i>	Veronica
<i>Vicia sativa</i>	Wilde ertjie

GRASONKRUIDE DEUR LINAGAN® SC BEHEER

Botaniese naam	Gewone naam
<i>Chloris pycnothrix</i>	Spinnerakgras
<i>Echinochloa crusgalli</i>	Hanepoot manna
<i>Eleusine indica</i>	Osgras
* <i>Lolium multiflorum</i>	Italiaanse raaigras
* <i>Lolium temulentum</i>	Drabok
<i>Panicum schinzii</i>	Vlei buffelgas
<i>Phalaris canariensis</i>	Kannariesaadgras
<i>Poa annua</i>	Eenjarige blougras
<i>Setaria pallide-fusca</i>	Tuin setaria
<i>Tragus berteronianus</i>	Gewone wortelsaadgras
<i>Tragus racemosus</i>	Losaar wortelsaadgras

NOTA: Naopkomsbeheer van *Cyperus esculentus* – geeluintjie – in geelwortels is wisselvallig maar kan verbeter word deur 'n aanvaarbare blaaroppervlakte te laat ontwikkel en om dan 'n benatter teen 50 % van die aanbevole dosis by te voeg. Effense skroei van die geelwortelblare mag ontstaan, maar dit verdwyn met tyd. *Digitaria sanguinalis* – kruisvingergras – word slegs deur onder gunstige omstandighede beheer.

* Wisselvallige resultate kan soms op *Lolium spp* (raaigras en drabok) verkry word. *Medicago polymorpha* kliitsklawer word nie deur **LINAGAN® SC** beheer nie.

ALANEX® (Reg. no. L 4752) bevat alachloor en is die geregistreerde handelsmerk van 'n maatskappy van die ADAMA GROEP.