

STARKEM™ 600 WG

Reg. No. L8697 Act/Wet No. 36 of/van 1947

Read the label before use

Keep out of reach of children and animals

HRAC HERBICIDE GROUP CODE	B	HRAC ONKRUIDDODER GROEPKODE
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A post-emergence herbicide for the control of annual broadleaf weeds as listed in wheat and barley in the winter rainfall areas as well as for the control of Eucalyptus stumps and American bramble in conservation areas and pastures.

'n Na-opkomsonkruidodder vir die beheer van eenjarige breëblaaronkruides soos aangedui in koring en gars in die winterreënvalgebiede asook die beheer van Eucalyptus stompe en Amerikaanse braam in bewaringsgebiede en weidings.

	Hazard Statements: Causes serious eye damage. Very toxic to aquatic life with long lasting effects. Precautionary Statements: Wash hands and face thoroughly after handling. Do not touch eyes. Avoid release to the environment.
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Signal Word: Danger

Active Ingredient / Aktiewe Bestanddeel:

Metsulfuron-methyl (sulfonyl urea) / Metsulfuron-metiel (sulfonielureum) 600 g/kg

Net Mass

..... kg

Netto Massa

Registration Holder:

DVA Chemicals South Africa
Reg. No 2006/000931/07
26 Quantum Street, Unit 2D. Block D
Carpe Diem Building, Techno Park;
Stellenbosch (7600), South Africa.
Tel: 021 880 0676

Emergency number: 0861 555 7777

Manufactured date:
Batch number:
UN number: 3077

Vervaardigings datum:
Lot nommer:

WARNINGS

- Causes serious eye damage.
- Very toxic to aquatic life with long lasting effects.
- Keep out of reach of children, uninformed persons and animals.
- Store in a cool, dry place in original container away from direct sunlight, food and feed.
- Where lengthy cold and wet periods after application prevail, yellowing of the leaves of the crop plants and even temporarily retarded growth may occur.
- Do not apply more than once per season in the same growing area.
- To prevent damage to the crop the dosage rate should not be exceeded and the recommended application timing should be adhered to.
- Re-entry: Do not enter the treated field until the spray deposit has dried unless wearing protective clothing.
- Aerial Application: Notify all inhabitants in the immediate vicinity of the area 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 effected 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 pest against the remedy concerned as well as by the method, time and accuracy of the application. The registration holder furthermore 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 that could not have been foreseen in terms of the registration. Consult the supplier in event of any uncertainty.

PRECAUTIONS

- Wash hands and face thoroughly after handling. Do not touch eyes.
- Avoid release to the environment.
- Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
- IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get emergency medical help.
- Collect spillage.
- Avoid spray drift onto susceptible crops, rivers, dams or areas not under treatment.
- To avoid damage to susceptible crops, the applicator, spray tank and mixing container must be thoroughly cleaned out immediately after use as follows:
 - Drain the system completely.
 - Flush system with clean water and drain system again.
 - Fill spray tank to approximately 25% of its capacity with clean water and add 1,0-liter sodium hypochlorite (5,2% solution) for every 200 liters of water.
 - Circulate the solution through the spray system for at least 10 minutes.
 - Spray solution through nozzles for at least 1 minute.
 - Drain the system.
 - Rinse the spray system with clean water to remove traces of the bleaching agent.
- Ensure that all aluminium bags which will be disposed are empty and do not contain any unused water-soluble bags before disposing of the outer container and aluminium bags.
- Destroy the empty outer container and aluminium bags by perforation and flattening and do not use these containers for any other purpose.
- Avoid contamination of food, feed, drinking water and eating utensils.

RELEVANT SUBSTANCES:

Substance Name	Concentration
Metsulfuron-Methyl	55 - 60 %
Sodium Isopropyl Naphthalene Sulfonate	5 - 15 %

RESISTANCE WARNINGS

For resistance management STARKEM™ 600 WG is a group code B herbicide from the sulfonylurea group of herbicides and an acetolactate synthase or ALS inhibitor. The continuous use of herbicides which have the same mode of action, in this case group code B herbicides in the same area, might lead to the selection of resistant weed species in a natural occurring weed population. Because these resistant species are not controlled effectively, it will propagate and eventually dominate the weed population. A weed species is resistant to a herbicide if it survives a treatment which was carried out correctly at the recommended dosage rate and application timing. Resistance of certain weed species against the group code B herbicides e.g. sulfonyl-ureas, has been confirmed. It is important to note that if a weed species is resistant to one group code B herbicide sulfonyl-urea it will be resistant to all group code B herbicide herbicides.

To avoid the development of resistance against STARKEM™ 600 WG

- it should be alternated, or tank mixed, with products with a different mode of action from group code B herbicides;
- integrate other control methods (chemical, cultural, biological) into weed control programmes.

Since the occurrence of resistant weeds is difficult to detect prior to use, it is of the importance that all of the above precautions are strictly adhered to. The registration holder or distributor cannot be held responsible if STARKEM™ 600 WG fails to control resistant weeds. For further advice on the prevention of herbicide resistance, contact the distributor's local representative.

USE RESTRICTIONS

1. Wheat and barley

Withdrawal period: FOLLOW UP CROPS

- Allow 12 months to elapse after the application of STARKEM™ 600 WG before planting any crop other than wheat or barley.
- Allow one month to elapse before planting wheat.
- Allow 6 months to elapse before planting barley or oats.
- Soils with a pH (water) of 7,0 and more, or soils that contain free lime can result in longer residual activity which may cause damage to follow-on crops.
- STARKEM™ 600 WG has a limited residual activity in the soil on germinating weeds.
- STARKEM™ 600 WG must not be applied to cereals undersown with legumes.
- Do not apply STARKEM™ 600 WG to cereals under stress caused by heat, drought, water logging, disease, insect damage, or nutrient deficiencies, etc.
- Unused spray mixtures must never be kept overnight.

2. Undersown cereals

STARKEM™ 600 WG must not be applied to cereals undersown with pastures.

3. Conservation areas and pastures

- No other crop must be planted within 10 months after the last application of STARKEM™ 600 WG.
- Unused spray mixtures must never be kept overnight.
- Only use water of a high quality with a pH of not higher than 7,0. It is recommended to use a suitable buffer to correct the pH if higher than 7,0.

TIMING OF APPLICATION

- STARKEM™ 600 WG should not be applied to wheat within 14 days before or after a diclofop-methyl, or a fenoxaprop-P-ethyl application.
- Do not apply diclofop-methyl, or fenoxaprop-P-ethyl after a STARKEM™ 600 WG application.
- STARKEM™ 600 WG should not be applied within 10 days before or after a tralkoxydim application.

FACTORS AFFECTING WEED CONTROL

Variable weed control or regrowth may occur should one or more of the following conditions occur or be present:

- Do not treat under any stress conditions such as wilting of the weeds and/or crop resulting from, for example drought, water logged soils, cold weather conditions, disease, insect damage, wind or hail damage or mineral element deficiencies. Allow a period of 14 days or longer for the crop of weed to recover.
- Where the crop plant population density (stand) is low.
- Should an application of STARKEM™ 600 WG take place later than the recommended timing (growth stage of crop or weeds).
- Light sandy acid soils which have a tendency to leach or become waterlogged.
- Do not apply within 24 hours of a predicted cold front or if a cold front is present. Continue application only after normal day / night temperatures have set in.
- An excessive number of stones covering the soil surface.
- Under risky conditions as described previously, the herbicide should not be applied in the summer rainfall region later than 2 weeks after germination of the weeds.
- A very dense weed stand could cause poor penetration of the droplets and could result in poor control of the weeds. In such instances the use of ground spraying equipment is recommended.
- Use only clean water with a pH of not more than 7,0. It is recommended to use a suitable buffer solution to rectify the water Ph should it be more than 7,0.

DIRECTIONS FOR USE: Use only as indicated

COMPATIBILITY

Mixtures with insecticides containing chlorpyrifos components could result in severe scorching and stunting of the crop STARKEM™ 600 WG is compatible with MCPA (400 g/kg potassium salt SL), mineral oils and adjuvants.

The compatibility of STARKEM™ 600 WG may be influenced by the formulation of the other products as well as the quality of the dilution water. Since it is not possible for DVA CHEMICALS SOUTH AFRICA (PTY) LTD to test all possible combinations, it is recommended to carry out a compatibility test on a small scale if tank mixtures are considered. Consult the supplier if in doubt.

When STARKEM™ 600 WG is used in combination with any other agrochemical, the warnings, precautions and directions for use mentioned on that label of the other agrochemical, must be adhere to.

GENERAL

STARKEM™ 600 WG must be applied post-emergence of the crop and weeds. The crop and the weeds should not have been developed beyond the 3- to 5-leaf stage at time of application in wheat, barley and oats.

Established weeds not killed by pre-plant cultivations and showing signs of regrowth will not be controlled.

Moderate chlorosis and/or retarded growth may occur after application. DO NOT exceed the recommended dosage rate.

Best control will be obtained when weeds are growing actively.

A suitable adjuvant must be added to the spray mixture as recommended in the application tables.

MIXING INSTRUCTIONS

- Do not handle the water-soluble sachet with wet hands or gloves.
- Half fill the spray tank with clean water and establish the pH of the water. It is recommended to use a suitable buffer solution to rectify the water pH should it be more than 7,0.
- Pre-mix the required quantity STARKEM 600 WG with a small volume of water to form a smooth cream. Add the creamed product to the water in the spray tank through a sieve while agitating.
- Flush the mixing container thoroughly with clean water and add rinsings to spray tank.
- Fill the spray tank with clean water to the required volume while agitating.
- High volume (e.g. ground sprayer): Add the required quantity of MCPA (400 g/kg potassium salt SL) and volume of adjuvant to the mixture in the spray tank and ensure thorough mixing by agitating the contents of the spray tank.
- Prepare only sufficient spray mixture for immediate use.

NOTE: Ensure that thorough agitation of the spray mixture is maintained at all times.

APPLICATION

1. Wheat and barley:

1.1 Ground application:

Application can be done by any medium or high-volume tractor mounted boom sprayer which is fitted with an efficient agitator and which is capable of delivering an even spray deposit over the target weeds. To ensure adequate coverage of the spray deposit the applicator must be correctly calibrated to deliver a minimum 200-liter spray mixture per hectare.

Avoid overlapping of spray swaths to prevent over application.

1.2 Aerial application:

Aerial application of STARKEM™ 600 WG may only be done by a registered Aerial Application Operator using a correctly calibrated, registered aircraft according to the instructions of SABS Code 10118:2009 (Aerial Application of 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 to 35 liters 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: 30 to 40 droplets per cm² must be recovered at the target area.
- Droplet size: A droplet spectrum with a VMD of 300 to 350 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 smallest possible spectrum width.
- Position all the atomisers within the inner 60 to 75 % of the wingspan to prevent droplets from entering the wingtip vortices.
- The use of a registered drift retardant and / or low drift aerial spraying nozzle (e.g. straight stream nozzle) is recommended.
- 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 per hour.
- 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:
 - Reduced efficacy due to suspension and evaporation of small droplets in the air (inadequate coverage).
 - 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.

2. Conservation areas and pastures:

Apply as a full cover spray on actively growing plants. Ensure thorough wetting of all plant parts to the point of run-off. Avoid runoff onto the soil.

Application can be done by knapsack sprayer or any other suitable sprayer fitted with a solid cone nozzle and operated at a constant pressure of 200 - 250 kPa.

Do not spray over desired plants and trees.

Avoid spray drift onto trees or leaves or any other part of desired plants.

It is essential that a suitable spray adjuvant based on a mineral soil should be added to the tank mix.

CROP	DOSAGE RATE g/ha	REMARKS
Wheat, Oats & Barley Ground and aerial application Winter rainfall area only.	Ground application: 3,5 – 4,2g + 0,01% adjuvant OR 3,5 – 4,2g + 0,01% adjuvant PLUS 500ml MCPA (400g potassium salt) Aerial application: 4,0 - 5,0g + 0,05% adjuvant	Apply STARKEM 600 WG as a post-emergence spray at the 3- to 5-leaf stage of the crop when weeds and crop are growing actively. Apply the higher rate where Emex, Fumaria and Raphanus are a problem or where weed growth stage exceeds the 3-leaf stage or where soil moisture conditions are deteriorating.

CONSERVATION AREAS AND PASTURES

Where Pinus and Eucalyptus species are to be planted into areas treated with STARKEM 600 WG the following waiting periods must be observed:

Coppice and cut stump applications: 8 weeks.

In the event of areas treated with STARKEM 600 WG being transplanted to other tree species (seedlings) a withholding period of 12 months after application is recommended.

TARGET SPECIE	DOSAGE RATE	REMARKS
Eucalyptus coppice (<i>E. grandis</i>) Knap sack application	80g / 100l water + 500ml mineral oil adjuvant / 100l spray mixture.	Apply to actively growing coppice between 0,5 - 2,0 m high. Do not apply when plants are subjected to stress conditions e.g. low temperatures, drought, etc. Ensure thorough wetting of all plant parts, but avoid run-off onto the soil. Should re-growth occur, it should be treated by a spot spray application
Eucalytus cut stump (<i>E. grandis</i>)	180g / 100l water + 500ml mineral oil adjuvant / 100l spray mixture.	A directed application to the cambium layer of the stumps should be made directly after felling but definitely within two hours. Efficacy will be reduced if application is made more than two hours after felling. Apply 15 to 20 ml spray mixture for every 10 cm stump diameter measured at ground level. For multistem trees a minimum of 15 ml spray mixture must be used for every 10 cm stem diameter. Aknapsack sprayer or dosing gun can be used for application. Avoid run-off onto the soil
American bramble (<i>Rubus cuneifolius</i>)	25g / 100l water + 500ml mineral oil adjuvant / 100 l spray mixture.	Apply to the leaves and canes of actively growing plants during the latter part of summer. A follow- up spot treatment might be necessary for up to three years after the initial treatment if regrowth appears. Application can be done by knapsack or any other suitable applicator.
Triffid Weed (<i>Chromolaena odorata</i>) Knapsack application	20g / 100l water + adjuvant	Plants should be 0,5 to 0,75 m high at application and actively growing. Plants taller than 0,75 m should be slashed and regrowth treated when 0,5 to 0,75 m high. Timing: Apply to active growing plants during spring and summer and do not apply during the dry months of April through till the onset of first good spring rains. Regrowth: Spot-spraying may be necessary where regrowth occurs.

Bracken Fern <i>(Pteridium aquilinum)</i> Knapsack application	20g / 100l water + adjuvant	Timing: Application to be made at the end of summer, well before the onset of winter senescence. Target: Apply to the fronds of actively growing plants. Regrowth: Spot-spraying may be necessary where regrowth occurs.
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WEED CONTROLLED IN CEREALS

BOTANICAL NAME	COMMON NAME
<i>Anagallis arvensis</i>	Pimpernel
<i>Chenopodium album</i>	White goosefoot
<i>Emex australis</i> *	Spiny emex
<i>Fumaria muralis</i> *	Fumitory
<i>Oxalis latifolia</i> *	Red garden sorrel
<i>Pentzia suffruticosa</i>	Karoobush
<i>Plantago lanceolata</i> *	Narrow leaved ribwort
<i>Polygonum aviculare</i>	Prostrate knotweed
<i>Raphanus raphanistrum</i>	Wild radish
<i>Sisymbrium thellungii</i>	Common mustard
<i>Spergula arvensis</i>	Corn spurry
<i>Stellaria media</i>	Chickweed

*Weeds suppressed

WAARSKUWINGS

- Veroorsaak ernstige oogskade.
- Baie giftig vir waterlewe met langdurige effekte.
- Hou buite bereik van kinders, oningeligte persone en diere.
- Berg in 'n koel, droë plek in oorspronklike houer weg van direkte sonlig, voedsel en voer.
- Waar lang koue en nat periodes na toediening heers, vergeling van die blare van die gewas plante en selfs tydelike vertraagde groei kan voorkom.
- Moet nie meer as een keer per seisoen in dieselfde groeigebied toedien nie.
- Om skade aan die gewas te voorkom, moet die dosis nie oorskry en aanbeveel word nie toedieningstydskerekening moet nagekom word.
- Herbetreding: Moenie die behandelde veld betree voordat die spuitneerslag droog is nie, tensy dit drabeskermende klere.
- Lugtoediening: Stel alle inwoners in die onmiddellike omgewing van die gebied wat gespuit gaan word in kennis en die nodige waarskuwings uitreik. Moet nie oor spuit of toelaat dat wegdrywing water of aangrensende besoedel nie gebiede.

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-, klimaat-, en bergingtoestande; kwaliteit van verdunningswater, verenigbaarheid met ander stowwe wat nie op die etiket aangedui is 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, 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 kan word nie. Raadpleeg die verskaffer in geval van enige onsekerheid.

VOORSORGMAATREËLS

- Was hande en gesig deeglik na hantering. Moenie aan oë raak nie.
- Vermoed vrystelling na die omgewing.
- Dra beskermende handskoene/beskermende klere/ oogbeskerming/ gesigbeskerming/ gehoorbeskerming.
- INDIEN IN OË: Spoel dadelik uit met water vir 'n paar minute. Verwyder kontakklense indien teenwoordig en maklik om te doen. Gaan voort met spoel. Kry nood mediese hulp.
- Versamel gemors.
- Vermoed wegdrywing van spuitnewel na vatbare gewasse, riviere, damme of gebiede wat nie onder behandeling is nie.
- Om skade aan vatbare gewasse te voorkom, moet die toediener, spuittenk en menghouer wees deeglik skoongemaak onmiddellik na gebruik soos volg:
 - Dreineer die stelsel heeltemal.
 - Spoel stelsel weer met skoon water en dreineer stelsel.
 - Vul spuittenk tot ongeveer 25% van sy kapasiteit met skoon water en voeg 1,0 liter natrium by hipochloriet (5,2% oplossing) vir elke 200 liter water.
 - Sirkuleer die oplossing deur die spuitstelsel vir ten minste 10 minute.
 - Spuit oplossing deur spuitpunte vir ten minste 1 minuut.
 - Dreineer die stelsel.
 - Spoel die spuitstelsel uit met skoon water om spore van die bleikmiddel te verwyder.
- Maak seker dat alle aluminiumsakke wat weggedoen gaan word, leeg is en geen ongebruikte bevat nie wateroplosbare sakke voordat die buitenste houer en aluminiumsakke weggedoen word.
- Vernietig die leë buitenste houer en aluminiumsakke deur gate daarin te kap en plat te slaan en moenie gebruik hierdie houe vir enige ander doel.
- Vermoed kontaminasie van voedsel, voer, drinkwater en eetgerei.

RELEVANTE STOWWE:

Stofnaam	Konsentrasie
Metsulfuron-metiel	55 - 60 %
Natriumisopropylnaftaleensulfonaat	5 - 15 %

WEERSTANDSWAARSKUWING

Vir weerstandsbestuur is STARKEMTM 600 WG 'n groepkode B onkruidodder van die sulfonielureum groep onkruidodders en 'n asetolaktaat sintase of ALS inhibeerder. Die voortdurende gebruik van onkruidodders wat dieselfde manier van werking het, in hierdie geval groepkode B onkruidodders in dieselfde area, kan lei tot die seleksie van weerstandbiedende onkruidspesies in 'n natuurlike onkruidpopulasie. Omdat hierdie weerstandbiedende spesies nie doeltreffend beheer word nie, sal dit voortplant en uiteindelik die onkruid oorheers bevolking. 'n Onkruidspesie is bestand teen 'n onkruidodder as dit 'n behandeling wat uitgevoer is, oorleef korrek teen die aanbevole dosis en toedieningstyd. Weerstand van sekere onkruidspesies teen die groepkode B onkruidodders bv. sulfoniel-ureum, is bevestig. Dit is belangrik om daarop te let dat as 'n onkruidspesie is bestand teen een groepkode B onkruidodder sulfoniel-ureum dit sal bestand wees teen alle groepe kode B onkruidodder onkruidodders.

Om die ontwikkeling van weerstand teen STARKEMTM 600 WG te vermy:

- dit moet afgewissel word, of tenkgemeng word, met produkte met 'n ander manier van werking as groepkode B onkruidodders;
- ander beheermetodes (chemies, verbouing, biologies) in onkruidbeheerprogramme te integreer.

Aangesien die voorkoms van weerstandbiedende onkruid moeilik is om voor gebruik op te spoor, is dit van die belang dat alle bogenoemde voorsorgmaatreëls TM word streng nagekom. Die registrasiehouer of verspreider kan nie gehou word nie verantwoordelik indien STARKEMTM 600 WG versuim om weerstandbiedende onkruid te beheer. Vir verdere advies oor die voorkoming van onkruidodderweerstand, kontak die verspreider se plaaslike verteenwoordiger.

GEBRUIKSBEPERKINGS

1. Koring en gars

Onttrekkingstydperk: OPVOLGWASSE

- Laat 12 maande verloop na toediening van STARKEMTM 600 WG voordat enige gewas geplant word anders as koring of gars.
- Laat een maand verloop voordat koring geplant word.
- Laat 6 maande verloop voordat gars of hawer geplant word.
- Gronde met 'n pH (water) van 7,0 en meer, of gronde wat vrye kalk bevat, kan langer oorblyfsels tot gevolg hê aktiwiteit wat skade aan opvolggewasse kan veroorsaak.
- STARKEMTM 600 WG het 'n beperkte nawerking in die grond op ontkiemende onkruid.
- STARKEMTM 600 WG moet nie toegedien word op graan wat met peulgewasse ondergesaai is nie.
- Moet nie STARKEMTM 600 WG toedien op graan onder stremming wat veroorsaak word deur hitte, droogte, water nie houtkap, siekte, insekskade, of voedingstoftekorte, ens.
- Ongebruikte spuitmengsels moet nooit oornag gehou word nie.

2. Ondergesaaide graankosse

STARKEMTM 600 WG moet nie toegedien word op graan wat met weiding ondergesaai is nie.

3. Bewaringsgebiede en weivelde

- Geen ander gewas moet binne 10 maande na die laaste toediening van STARKEMTM 600 WG geplant word nie.
- Ongebruikte spuitmengsels moet nooit oornag gehou word nie.
- Gebruik slegs water van 'n hoë gehalte met 'n pH van nie hoër as 7,0 nie. Dit word aanbeveel om 'n geskikte buffer om die pH reg te stel indien hoër as 7,0.

GEBRUIKSBEPERKINGS -KLEINGRAAN

1. Moet geen ander gewasse binne 10 maande van toediening saai nie. Koring mag een maand na toediening gesaai word, terwyl gars en hawer eers na ses maande gesaai mag word.
2. Langer nawerking ten opsigte van opvolggewasse mag lei tot grond waarin die pH vlakke 6,5 oorskry en/of grond wat kalk bevat.
3. Wisselvallige onkruidbeheer mag plaasvind waar daar ligte, sanderige, suur grond is; oormatige klipbedekking op die grondoppervlakte; of waar toediening later as 6 tot 7 weke na plantdatum plaasvind.
4. Moet nie die produk toedien op graan wat onder abnormale stremming groei nie.
5. Moet nie die produk toedien op graan wat ondergesaai is met weiding nie.
6. Gebruik slegs water geskik vir oorhoofse besproeiing.
7. Moet nie 'n benatter by die spuitmengesel voeg indien EK-formulasies met **Metsulfuron** gemeng is nie.

TYD VAN TOEDIENING

- STARKEMTM 600 WG moet nie binne 14 dae voor of na 'n diklofopmetiel- of fenoksaprop-P-etiel toediening op koring toegedien word nie.
- Moenie diklofop-metiel, of fenoksaprop-P-etiel na 'n STARKEMTM 600 WG toediening toedien nie.
- STARKEMTM 600 WG moet nie binne 10 dae voor of na 'n tralkoxydim toegedien word nie aansoek.

FAKTORE WAT ONKRUIDBEHEER BEÏNVLOED

Veranderlike onkruidbeheer of hergroei mag voorkom indien een of meer van die volgende toestande voorkom of is teenwoordig:

- Moet nie behandel onder enige strestoestande soos verwelking van die onkruid en/of gewas as gevolg van, byvoorbeeld droogte, versuipde gronde, koue weerstoestande, siektes, insekskade, wind of haelskade of mineraalelementtekorte. Laat 'n tydperk van 14 dae of langer toe vir die oes van onkruid om te herstel.
- Waar die gewasplantbevolkingsdigtheid (stand) laag is.
- Indien 'n toediening van STARKEMTM 600 WG later as die aanbevole tydsberekening plaasvind (groeistadium van gewas of onkruid).
- Ligte sanderige suurgronde wat geneig is om te loog of versuip te raak.
- Moet nie toedien binne 24 uur na 'n voorspelde kouefront of indien 'n koue front teenwoordig is nie. Aanhoutoediening slegs nadat normale dag/nag temperature ingetree het.
- 'n Oormatige aantal klippe wat die grondoppervlak bedek.
- Onder riskante toestande soos voorheen beskryf, moet die onkruid doder nie in die somerreënvalstreek later as 2 weke na ontkieming van die onkruid.
- 'n Baie digte onkruidstand kan swak penetrasie van die druppels veroorsaak en kan swak tot gevolg hê beheer van die onkruid. In sulke gevalle word die gebruik van grondspuittoerusting aanbeveel.
- Gebruik slegs skoon water met 'n pH van nie meer as 7,0 nie. Dit word aanbeveel om 'n geskikte buffer te gebruik oplossing om die water Ph reg te stel indien dit meer as 7,0 is.

GEBRUIKSAANWYSINGS: Gebruik slegs soos aangedui

VERENIGBAARHEID

Mengsels met insekdoders wat chlorpirifos bevat mag brand en verdwering van die gewas veroorsaak. STARKEM 600 WG is verenigbaar met MCPA (400 g/kg natriumsout SL), minerale olies en hulpmiddels. Die verenigbaarheid van STARKEM 600 WG mag beïnvloed word deur die formulering van ander landboumiddels asook die kwaliteit van die verdunningswater. Aangesien dit nie vir DVA CHEMICALS SOUTH AFRICA(PTY) LTD moontlik is om alle moontlike kombinasies te toets nie, word dit aanbeveel om 'n verenigbaarheidstoets op 'n klein skaal te doen indien tenkmengsels oorweeg word. Raadpleeg dieverkaffer indien twyfel bestaan.

Indien STARKEM 600 WG saam met enige ander landbouchemiese middel gebruik word, moet al die waarskuwings, voorsorgmaatreëls en gebruiksaanwysings, soos aangedui op die etiket van die ander middel, nagekom word.

ALGEMEEN

STARKEM 600 WG moet na-opkom van die gewas en onkruid toegedien word. In koring, gars en hawer moet die gewas en die onkruid nie verder as die 3- tot 5-blaarstadium ontwikkel het, wanneer bespuit word nie.

Gevestigde onkruid wat nie deur die voorplant-bewerkings gedood is nie en hergroei toon, sal nie beheer word nie.

Matige vergeling en / of vertraagde groei mag voorkom na behandeling. MOET NIE aanbevole dosis oorskry nie.

Die beste beheer sal verkry word wanneer onkruid aktief groei.

'n Geskikte hulpmiddel moet gebruik word soos aanbeveel in die toedieningstabelle.

MENGINSTRUKSIES

- Moet nie die wateroplosbare sakkies met nat hande of handskoene hanteer nie.
- Maak die spuittenk halfvol met skoon water en stel die pH van die water vas.
- Meng die benodigde hoeveelheid STARKEM 600 WG apart in 'n klein hoeveelheid water om 'n gladde room te vorm. Voeg die verroomde produk deur 'n sif by die water in die spuittenk terwyl geroer word.
- Spoel die menghouer deeglik uit met skoon water en voeg die spoelwater in die spuittenk.
- Maak die spuittenk vol met skoon water tot die verlangde volume terwyl geroer word.
- Hoë volume (bv. grondbespuitingstoerusting): Voeg die verlangde hoeveelheid MCPA (400 g/kg natriumsout SL) en volume benattingsmiddel by die mengsel in die spuittenk en meng deeglik deur die inhoud van die spuittenk te roer.
- Maak net genoeg spuitmengsel aan vir onmiddellike gebruik.

LET WEL: Dra sorg dat die spuitmengsel deurentyd deeglik geroer word.

TOEDIENING

1. Koring en gars:

1.1 Grondtoediening:

STARKEM 600 WG kan met enige medium- of hoëvolume trekkegeremonteerde spuit toegedien word wat met 'n doeltreffende roermeganisme toegerus is en wat in staat is om goeie bedekking te verseker en 'n eweredige spuitneerslag oor teikenonkruidete lewer.

Die toediener moet korrek gekalibreer wees en in staat wees om ten minste 200 liter spuitmengsel per hektaar te lewer.

Verhoed dat spuitbane oorvleuel en oordosering te voorkom.

1.2 Lugtoediening:

STARKEM 600 WG kan slegs deur 'n geregistreerde Lugbespuitingsoperateur met 'n korrek gekalibreerde, geregistreerde vliegtuig volgens die instruksies van SABS Kode 10118:2009 (Aerial Application of Pesticides) uit die lug bespuit word. Verseker dat die spuitmengsel eweredig oor die teikenarea versprei word, en dat 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 tot 35 liter per hektaar word aanbeveel. Hierdie produk is nie teen 'n verlaagde volume getoets nie. Die Registrasiehouer kan nie effektiwiteit waarborg, of verantwoordelik gehou word vir enige nadelige effekte indien hierdie produk teen 'n laer volume as wat hierbo aanbeveel word, toegedien word nie.
- Druppel bedekking: 30 tot 40 druppels per cm² moet op die teikenarea herwin word.
- Druppelgrootte: 'n Druppelspektrum met 'n VMD van 300 tot 350 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. Moenie spuit wanneer die vliegtuig duik, 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 spektrumwydte produseer.
- Plaas al die atomiseerders in die binneste 60 tot 75% van die vlerkspan om te verhoed dat druppels binne-in die vlerkpuntvorteks beweeg.

- Die gebruik van 'n geregistreerde drywingsbeheer middel en / of 'n lae drywing lugbespuiting spuitneus (bv. "Straight stream nozzle") word aanbeveel.
- Die verskil in temperatuur tussen die nat- en droëboltermometer van 'n swaaihigrometer, moet nie 8°C oorskry nie.
- Staak bespuiting indien die windspoed 15 km per uur oorskry.
- Staak 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 die volgende probleme aanleiding gee:
 - verlaagde effektiwiteit aangesien die druppels as „n wolk in die lug bly hang en moontlik verdamp (onvoldoende – bedekking op teiken).
 - 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 word vir toekomstige verwysing.

2. Bewaringsgebiede en weivelde:

Dien toe as 'n volle dekbespuiting op aktief groeiende plante. Verseker deeglike benatting van alle plantdele na die punt van afloop. Vermoed afloop op die grond.

Toediening kan met rugsakspuit of enige ander geskikte spuit met 'n soliede keël gedoen word mondstuk en werk teen 'n konstante druk van 200 - 250 kPa.

Moenie oor gewenste plante en bome spuit nie.

Vermoed wegdrywing van spuitnewel na bome of blare of enige ander deel van verlangde plante.

Dit is noodsaaklik dat 'n geskikte spuitadjuvans gebaseer op 'n minerale grond by die tenkmengsel gevoeg moet word.

GEWAS	DOSIS	OPMERKINGS
Koring, gars & hawer Grond- en lugtoediening Slegs winterreënval-gebied	Grondtoediening: 3,5 - 4,2 g + 0,01% Verspreidingsmiddel OF 3,5 - 4,2 g + 0,01% verspreidingsmiddel PLUS 500 ml MCPA (400 g natriumsout) Lugtoediening: 4,0 - 5,0 g + 0,05% verspreidingsmiddel	Dien STARKEM 600 WG toe as 'n na-opkombespuiting teen die 3- tot 5-blaarstadium van die gewas wanneer die onkruid en die gewas aktief groei. Dien die hoër dosis toe waar Emex, Fumaria en Raphanus 'n probleem is of waar die onkruidstadium die 3-blaarstadium oorskry of waar grondvogtoestande versleg.

BEWARINGSGBEBIEDE EN WEIVELD

Waar Pinus en Eucalyptus spesies in gebiede geplant word wat met STARKEM 600 WG behandel is, moet die volgende onttrekkingsperiodes nagekom word:

Hergroei- en gesaagde stompe toedienings: 8 weke.

In die geval van gebiede wat met STARKEM 600 WG behandel is vir die aanplant van ander boomsoorte (saailinge) word 'n wagperiode van 12 maande na toediening aanbeveel.

TEIKENSPEISIE	STARKEM 600 WG DOSIS g/ha	OPMERKINGS
Eucalyptus hergroei (<i>E. grandis</i>) Rugspuittoediening	80g / 100l water + 500ml minerale olie hulpmiddel / 100l spuitmengsel.	Dien toe op aktiefgroeiende hergroei tussen 0,5 - 2,0m hoog. Moet nie toedien as hergroei onderhewig is aan stremmingstoestande veroorsaak deur koue, droogte, ens., nie. Verseker dat alle plantdele deeglik benat word, sonder afloop op die grond. Indien hergroei voorkom, moet dit d.m.v 'n kolbespuiting beheer

		word.
Eucalytus gesaagde stompe (<i>E. grandis</i>)	180g / 100l water + 500ml minerale olie hulpmiddel / 100l spuitmengsel.	'n Gerigte bespuiting moet op die kambium van die stomp gemaak word direk na maar definitief binne twee uur na boom afgesaag is. Dien 15 tot 20ml spuitmengsel toe vir elke 10cm stamdeursnee, soos op die grondoppervlak gemeet. In die geval van meerstammige bome moet 15ml spuitmengsel vir elke 10cm stamdeursnee soos op grondoppervlak gemeet, toegedien word. 'n Rugsak- of doseerspuit kan vir hierdie doel gebruik word. Verhoed afloop tot op die grond.
Amerikaanse braam (<i>Rubus cuneifolius</i>)	25g / 100l water + 500ml minerale olie hulpmiddel / 100 l spuitmengsel.	Dien toe op die blare en lote van aktiefgroeïende plante in die laatsomer. 'n Opvolg kolbespuiting kan tot drie jaar na die aanvanklike bespuiting nodig wees indien hergroei voorkom. 'n Rugsakspuit of enige ander geskikte toediener kan gebruik word vir die toediening.
Cromolaena (<i>Chromolaena odorata</i>) Rugsaktoediening	20g / 100l water + hulpmiddel	Plant moet 0,5 tot 0,75m hoog by toediening wees en aktief groei. Plante groter as 0,75m moet gekap word en hergroei behandel word wanneer 0,5 - 0,75m hoog. Tyd van toediening: dien toe op aktief groeiende plante tydens lente en somer. Moenie in die droë maande vanaf April tot en met die eerste goeie lentereëns toedien nie. Hergroei: Kolbehandeling mag nodig wees vir beheer van hergroei.
Adelaarsvaring (<i>Pteridium aquilinum</i>) Rugsaktoediening	20g / 100l water + hulpmiddel	Dien toe op blare van aktief groeiende plante in somer maande voor die plante begin terugsterf. Hergroei: Kolbehandeling mag nodig wees vir beheer van hergroei.

ONKRUIDE WAT IN KLEINGRAAN BEHEER WORD

BOTANICAL NAME	COMMON NAME
<i>Anagallis arvensis</i>	Pimpernel
<i>Chenopodium album</i>	Withondebossie
<i>Emex australis</i> *	Kaapse dubbeltjie
<i>Fumaria muralis</i> *	Duiwekerwel
<i>Oxalis latifolia</i> *	Rooituinsuring
<i>Pentzia suffruticosa</i>	Klein stikkruid
<i>Plantago lanceolata</i> *	Smal weëblaar
<i>Polygonum aviculare</i>	Voëlduisendknoop
<i>Raphanus raphanistrum</i>	Remenas
<i>Sisymbrium thellungii</i>	Gewone wildemostert
<i>Spergula arvensis</i>	Sporrie
<i>Stellaria media</i>	Sterremuur

* Onkruid wat onderdruk word.