



BITRAD RULIT[®]



Reg. No. L 10716 (Act 36 of 1947)

Reg. No. L 10716 (Wet 36 van 1947)

Read the label before use
Keep out of reach of children and animals

HRAC HERBICIDE GROUP CODE	E	HRAC ONKRUIDDODERGROEPKODE
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A wettable powder herbicide, for the control of broad leaf and grass weeds in crops as indicated.

'n Benatbare poeier onkruidodder, vir die beheer van breëblaar- en grasonkruide in gewasse soos aangedui.

	Hazard statement Causes serious eye irritation Very toxic to aquatic life Very toxic to aquatic life with long lasting effects Precautionary statement Wear protective gloves/protective clothing/eye protection/ face protection
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WARNING

Active ingredient:
OXYFLUORFEN (Diphenyl ether)

250 g/kg

Aktiewe bestanddeel:
OKSIFLUORFEN (Difenieleter)

Net mass

5 kg
(5x 1 kg)

Netto Massa

REGISTERED BY:/
GEREGISTREER DEUR:
BITRAD AGRI (PTY) LTD.
Co. Reg. No. 2008/021787/07
PO Box 51454
WIERDAPARK
0149

National Poisons Centre: 0861 555 777

BATCH NUMBER
DATE MANUFACTURED

LOTNOMMER
DATUM VERVAARDIG

RULIT is a registered trade name / is 'n geregistreerde handelsnaam

WARNINGS

Hazard Statements

Causes serious eye irritation.
Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

- **Withholding period:** Allow a minimum of 133 days between the last application and harvest of onions and garlic.
- **Re-entry:** Do not enter treated area until spray deposit has dried or unless wearing protective clothing.

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 weeds against 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, 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 label instructions or to the occurrence of conditions that could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

PRECAUTIONS

• Prevention

Avoid release to the environment. Prevent drift of spray mist onto other crops, grazing, rivers, dams and areas not under treatment.
Wear protective gloves, clothing, eye and face protection.
Wash hands thoroughly after handling. Do not touch eyes.

• Response

Collect spillage.
If in Eyes: Immediately rinse with water for minimum 15 minutes. Remove contact lenses if present.
If eye irritation persists, get medical help.

• Storage

Store behind lock and key, away from food and feed in cool ventilated area.

• Disposal

Triple rinse empty container in the following manner: Invert the empty container over the spray or mixing tank and allows to drain 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 percent of that of the container. Add the rinsing to the contents of the spray tank.
Dispose empty containers to an approved recycling facility in accordance with local and national regulations.
Clean application equipment after use and dispose of wash water where it will not contaminate the environment.

RELEVANT SUBSTANCES

Hazardous Component	Weight %
Oxyfluorfen Tech	<30 %
Alkyl-naphthalene-sulfonic acid, polymer with formaldehyde, sodium salt	<35 %
Sodium diisobutyl-naphthyl – sulfonate	<5 %

FIRST AID

Refer to **Responses** under PRECAUTIONS and get medical attention immediately. Keep label available for physician.

NOTE TO PHYSICIAN

No acute or delayed symptoms known. Treat symptomatically.

RESISTANCE WARNING

For resistance management **BITRAD RULIT®** is a member of the diphenyl ether group of HRAC herbicides (group E) acting as a protoporphyrinogen oxidase inhibitor. Some naturally occurring weed biotypes resistant to **BITRAD RULIT®** and other group E herbicides may exist through normal genetic variability in a weed population. These resistant weeds can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds will not be controlled by **BITRAD RULIT®** or by other HRAC group E herbicides.

To delay the selection of resistant weeds:

- Integrate tillage or other mechanical control methods (including non-selective herbicides during the fallow period) into weed control programmes whenever practical.
- Avoid repeated use of herbicides from the same mode of action groups. Plan crop rotations to allow the use of herbicides from different mode of action groups.
- Maintain herbicide records for each field to prevent repeated use of the same herbicide on the same field.
- Prevent movement of resistant weed seeds and vegetative material to other fields by cleaning harvesting and tillage equipment and by planting clean seed.
- Inspect each land annually to identify the development of weed resistance early.
- If the above-mentioned preventative measures are not strictly adhered to, the registration holder cannot be held responsible should **BITRAD RULIT®** fail to control resistant weeds.

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

Since the presence of resistant weeds is difficult to detect prior to herbicide application, it is of the utmost importance that treated areas be inspected at regular intervals to identify the occurrence of herbicide-resistant weeds timeously. The registration holder and/or distributor cannot accept liability for performance failures in the event of a build-up of resistant weeds resulting from inadequate resistance management practices. For further advice on the prevention of herbicide resistance, contact the local representative or distributor.

Note: Sub-standard applications of the herbicides will lead to unsatisfactory weed control and assist in the development of resistance.

USE RESTRICTIONS

1. Do not apply **BITRAD RULIT®** in nurseries, nor onto or over or in the vicinity of nursery plant material.
2. Use recommendations of **BITRAD RULIT®** are crop specific and should be followed closely.
3. Incorrect timing of application in terms of crop stage and/or excessive dose rates may damage the crop.
4. **BITRAD RULIT®** should be applied to a clean soil surface, without any plant residues that could impair activity and preferably prior to the emergence of all weeds. It is therefore not suitable for use in minimum tillage systems.
Remove dead plant material from the surface to be sprayed as such organic material will adversely affect the activity of **BITRAD RULIT®**. Satisfactory results will not be obtained if **BITRAD RULIT®** is applied to organic mulch.
5. Soil disturbance after application of **BITRAD RULIT®** will affect weed control detrimentally.
6. Under irrigation, weed control will be variable depending on the type of irrigation and placement of the water. Where drip irrigation is practiced variable weed control may occur because of inadequate moisture at the soil surface to activate the **BITRAD RULIT®** in areas outside the immediate area of the dripper.
7. **BITRAD RULIT®** should not be mixed or used in conjunction with any other herbicide, unless recommended.
8. **Erratic control/regrowth** of weeds may occur under any of the following conditions:
 - Solid objects covering the soil surface e.g. hard clods and stones.
 - Applications that do not coincide with the correct growth stages of weeds as recommended.
 - Large weeds that escaped chemical tillage or cultivation will not be controlled.
 - The residual effect on germinating weeds is limited and depends on factors such as weed species, soil pH, soil moisture and temperature.
9. **Crop stress conditions.** Do not use **BITRAD RULIT®** when crop is growing under any stress condition e.g. water logging, drought, disease, insect damage and nutritional deficiencies. During cool (1 to 15 °C), wet, wind-still conditions, with high levels of soil and atmospheric moisture, co-distillation of **BITRAD RULIT®** may occur and the vapour may then be absorbed by crop leaves, which may also result in leaf scorching.
10. **Sensitive crops:** Ensure that NO spray drift reaches any sensitive crops.
11. **Water quality:** Use only water of good quality as suitable for irrigation, i.e. neutral pH, and without excessive salts/chemicals.

THE USAGE OF BITRAD RULIT® ON ONIONS AND GARLIC

- **BITRAD RULIT®** must be applied as a pre-emergence or early post-emergence treatment after transplanting or emergence of crops.
- Refer to recommendation tables for directions for use with the different planting techniques and crop stages.
- Temporary retarded growth, slight leaf scorching and pig tailing of leaves may occur shortly after application under certain climatic conditions such as prolonged cold, wet periods but disappears within a few weeks and has no long-term effect.
- Direct seeded crops sown on soil that has been treated with **BITRAD RULIT®** within the preceding months must not be treated with acetamide herbicides.

THE USAGE OF BITRAD RULIT® ON BRASSICA

- **BITRAD RULIT®** should be applied as a pre-plant overall treatment to fields into which brassica crops are to be transplanted, prior to any transplanting.
- The soil surface to be treated should be well prepared with no large soil clods. A light irrigation of the prepared soil is recommended prior to application of **BITRAD RULIT®**.
- Transplant brassica crops into the treated soil only 7 to 10 days after application of **BITRAD RULIT®**. The plants must be planted as erect as possible and soil disturbance must be kept to the minimum.
- Irrigate immediately after transplanting to prevent excessive wilting and lodging of the transplanted plants. A slight degree of leaf scorch may occur. This scorch normally is of a temporary nature and plants normally recover within a short period. New growth, under normal conditions, is not affected.
- **Do not apply BITRAD RULIT® after transplanting. Direct contact of BITRAD RULIT® with these crops will lead to severe damage.**
- The application of **BITRAD RULIT®** is not recommended where a machine is used for transplanting. This normally leads to excessive soil disturbance and breaks up the herbicidal layer, resulting in poor weed control.
- Heavy irrigation or rain with large droplets shortly after transplanting may splash **BITRAD RULIT®**-containing soil particles onto young leaves resulting in scorching of the leaves of the crop.
- Cool (1 to 15 °C), wet, windless conditions with concomitant high humidity which promotes co-distillation of **BITRAD RULIT®**, occurring shortly after transplanting of the crop plants, may cause injury to the crop that may lead to yield reduction.
- Waterlogging conditions resulting from extended rainfall and/or irrigation causing wet, saturated soil conditions will result in plants not growing actively and crop injury where **BITRAD RULIT®** is applied.
- Favourable growing conditions after transplanting, will promote rapid wax layer development of leaves which will reduce the risk of the above-mentioned injuries.
- Untimely plantings of brassica crops which could possibly be exposed to the above mentioned adverse climatic conditions must not be treated with **BITRAD RULIT®**.
- **BITRAD RULIT®** has only been tested on the following brassica crop cultivars and the safety for use on other cultivars is unknown. **Contact your seed supplier or Bitrad representative if necessary.**
Cabbage: Gloria Osen, NS Cross, Hercules, Bonanza, Drum Head, Green Coronette, Cape Spitz, Glory of Enkhuizen, Rolan, Shamrock, Rodelle.
Cauliflower: Snowking, Snowcrown, Snow February, Snowcap, Couchamp, Igloo.
Broccoli: Green Sprouting Calabrese, Late Corona.
Brussel Sprouts: Long Island, Jade Cross.

DIRECTIONS FOR USE:

USE ONLY AS DIRECTED

Compatibility

BITRAD RULIT® is compatible with **BITRAD IOXYNIL** (Reg. No. L9889).

Mixtures with fertilisers are not recommended.

Do not use **BITRAD RULIT®** in a tank mixture with post emergence grass herbicides. Excessive phytotoxicity to the crop may occur. If tank mixtures with other registered products are required, it is advised that the physical compatibility with the complimentary product be tested.

Mixing instructions

1. Fill spray tank to half full with water. Use clean water only.
2. Mix the required quantity of **BITRAD RULIT®** as recommended in the APPLICATION TABLE below with enough water to form a soft paste. Add this to the water in the spray tank while agitating the water in the spray tank.
3. Top up to the required volume with water while agitating continuously.
4. When **BITRAD RULIT®** is tank mixed with **BITRAD IOXYNIL**, add the **BITRAD IOXYNIL** last, just before filling the spray tank to capacity with water.
5. When mixing and spraying, the spray mix must be agitated continuously.

Application

Ground application

Ensure an even coverage of the target area, using a tractor-mounted boom sprayer or knapsack sprayer fitted with flat fan nozzles which should deliver the indicated volume of spray mixture per hectare at the pressure indicated.

Ensure that the spray apparatus is correctly calibrated and that only clean water is used.

Apply at least 300 litres spray mixture per hectare at a constant operating pressure not exceeding 300 kPa and constant ground speed.

The spray mixture must be continuously well agitated.

Uniform distribution of the spray material over the surface being treated is essential for effective control.

Do NOT apply at high pressures, limiting atomisation of the spray droplets.
Do NOT use a concentrated spray mixture.
Do NOT leave excessive spray mixture overnight in spray tank for later use.

Aerial application

Aerial application is NOT recommended.

IMPORTANT NOTES

- 1) The action and weed control of **BITRAD RULIT®** is closely related to soil moisture regimes. The product should ideally be applied to damp soil and optimum residual effect is obtained when soil is not allowed to dry out completely at any stage.
- 2) **Follow-up crops:** **BITRAD RULIT®** is a long residual herbicide. After a **BITRAD RULIT®** application, a pre-plant interval of 2 months for every kilogram product applied per hectare, must be adhered to, before planting of any follow-up crops.
- 3) Deep ploughing is recommended before planting follow-up crops.
- 4) Do not tank mix **BITRAD RULIT®** with post emergence grass herbicides. Excessive phytotoxicity to the crop may occur.

APPLICATION TABLE

REFER TO "IMPORTANT NOTES".

CROP	PLANTING PRACTICE	DOSAGE/HA	APPLICATION TIMING
ONIONS & GARLIC	TRANSPLANTED BULBS	3.0 kg BITRAD RULIT®	PRE-EMERGENCE TO WEEDS: Apply to weed free seed bed prior to planting of bulbs. Apply light irrigation after application
		3.0 KG BITRAD RULIT® + 2.0 litre BITRAD IOXYNIL	If "difficult-to-control" BROAD LEAF WEEDS are present at time of application. (See list below)
	TRANSPLANTED SEEDLINGS	3.0 kg BITRAD RULIT®	PRE-EMERGENCE to WEEDS: Transplant to weed free seed bed. Apply light irrigation after application Apply when seedlings are well settled in. Allow transplanted seedlings to settle i.e. good rooting and vigorous upright leaves – which takes up to 10 to 14 days.
		TANK MIXTURE of 3.0 kg BITRAD RULIT® + 2.0 litre BITRAD IOXYNIL	POST EMERGENCE: When "difficult-to-control" broad leaf weeds are present. (See list of broad leaf weeds known to be tolerant to post-emergence BITRAD RULIT® applications.)
	DIRECT SEEDED	TANK MIXTURE of: 1.5 kg BITRAD RULIT® + 2.0 litre BITRAD IOXYNIL	EARLY POST- EMERGENCE APPLICATION: Weed control at early stage of crop growth. Apply when the crop has reached the 2-leaf stage. Apply in the 2-3 leaf stage of broad leaf weeds.
		REPEAT APPLICATION	Repeat application 6 weeks later to extend residual weed control and control of possible late germinating broad leaf and grass weeds. Also read " USE RESTRICTIONS " and " THE USAGE OF BITRAD RULIT® ON ONIONS AND GARLIC ".
BRASSICA CROPS	TRANSPLANTED BRASSICAS	3.0 kg BITRAD RULIT®	Apply light irrigation to weed free fields to stabilise soils before applying BITRAD RULIT® . Apply BITRAD RULIT® 7- 10 days before transplanting Brassicas. DO NOT APPLY BITRAD RULIT® AFTER CROP HAS BEEN PLANTED. DIRECT CONTACT OF BITRAD RULIT® WITH BRASSICA LEAVES WILL RESULT IN SEVERE CROP DAMAGE. Also read " USE RESTRICTIONS " and " THE USAGE OF BITRAD RULIT® ON BRASSICA ".

BROAD LEAF WEEDS CONTROLLED PRE-EMERGENCE BY BITRAD RULIT® APPLICATION OF 3.0 KG PRODUCT PER HECTARE:

Common name	Scientific name	Common name	Scientific name
Apple of Peru	<i>Nicandra physaloides</i>	Perennial pigweed	<i>Amaranthus deflexus</i>
Blackjack	<i>Bidens pilosa</i>	Purslane	<i>Portulaca oleracea</i>
Billy goat/Invading ageratum	<i>Ageratum conyzoides</i>	Ragwort	<i>Senecio latifolius</i>
Chick weed	<i>Stellaria media</i>	Red pigweed	<i>Amaranthus thunbergii</i>
Common pigweed	<i>Amaranthus hybridus</i>	Shephards purse	<i>Capsella bursa-pastoris</i>
Cape marigold	<i>Arctotheca calendula</i>	Sowthistle	<i>Sonchus oleraceus</i>
Common wild mustard	<i>Sisymbrium thellungii</i>	Thorny pigweed	<i>Amaranthus spinosus</i>
Corn spurry	<i>Spergula arvensis</i>	Tropical ricardia	<i>Richardia brasiliensis</i>
Dwarf marigold	<i>Schkuhria pinnata</i>	Upright starbur	<i>Acanthospermum hispidum</i>
Evening primrose	<i>Oenothera stricta</i>	White flowered Mexican poppy	<i>Argemone ochroleuca</i>
Gallant soldier	<i>Galinsoga parviflora</i>	White goosefoot	<i>Chenopodium album</i>
Khaki weed	<i>Tagetes minuta</i>	Wild radish	<i>Raphanus raphanistrum</i>
Large thornapple	<i>Datura ferox</i>	Wild sunflower	<i>Verbisina hispidum</i>

EXAMPLES OF BROAD LEAF WEEDS DIFFICULT TO CONTROL POST EMERGENCE BY 3.0 KG PER HECTARE BITRAD RULIT®, BUT WELL CONTROLLED WITH A TANK MIXTURE OF BITRAD RULIT® 1.5 KG PLUS BITRAD IOXYNIL 2.0 LITRE PRODUCT PER HECTARE.

Common name	Scientific name	Common name	Scientific name
Dwarf marigold	<i>Schkuhria pinnata</i>	White flowered Mexican poppy	<i>Argemone ochroleuca</i>
Gallant soldier	<i>Galinsoga parviflora</i>	White goosefoot	<i>Chenopodium album</i>
Ragwort	<i>Senecio latifolius</i>	Wild sunflower	<i>Verbisina hispidum</i>
Upright Starbur	<i>Acanthospermum hispidum</i>		

GRASSES WELL CONTROLLED BY 3.0 KG BITRAD RULIT® PER HECTARE AS PRE-EMERGENCE APPLICATION

Common name	Scientific name	Common name	Scientific name
Barnyard grass	<i>Echinochloa crus-galli</i>	Marsh grass	<i>Echinochloa colona</i>
Common paspalum	<i>Paspalum dilatatum</i>	Sticky bristle grass	<i>Setaria verticillata</i>
Crab finger grass	<i>Digitaria sanguinalis</i>	Wild oats	<i>Avena fatua</i>
Goose grass	<i>Eleusine indica/coronate</i>	Winter grass	<i>Poa annua</i>

WAARSKUWINGS

Gevaarstelling

Veroorsaak erge oog irritasie.
Baie giftig vir waterlewe.
Baie giftig vir waterlewe met langdurige effek.

- **Onthoudingsperiodes:** Laat minimum 133 dae toe tussen laaste toediening en oes van uie en knoffel.
- **Herbetreding:** Moet nie behandelde gebied betree voordat bespuiting afgedroog/ingewerk is tensy beskermende klere gedra word 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 verdunningswater; verenigbaarheid met ander stowwe wat nie op die etiket aangedui is nie en die voorkoms van weerstand van onkruid teen die betrokke middel sowel as die metode, akkuraatheid van toediening. Verder aanvaar die registrasiehouer nie verantwoordelikheid vir skade aan gewasse, plantegroei, en omgewing of vir nadelige effek op mens of dier of vir 'n gebrek aan prestasie van die betrokke middel 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

• Voorkoming

Voorkom vrystelling in die omgewing, wegdrywing van spuitnewel na ander gewasse, weiding, waterbronne en gebiede wat nie behandel word nie.
Dra beskermende handskoene, -klere, oog- en gesigskerm.
Was hande deeglik na hantering. Moet nie oë aanraak nie.

• Reaksie

Versamel gemorsde produk.
Indien in Oë: Spoel onmiddelik met water vir ten minste 15 minute. Verwyser kontaklense soos nodig.
Indien irritasie voortduur, kry mediese hulp.

• Storing

Stoor agter slot en grendel, weg van voedsel en voer in goed deurlugte area.
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• Wegdoening

Spoel die leë houer driekeer as volg: Keer die leë houer om oor die spuit- of mengtenk en dreineer vir minstens 30 sekondes nadat die vloei tot 'n gedrup verminder het. Spoel die houer daarna driekeer uit met 'n volume water gelykstaande aan 'n minimum van 10 persent van die inhoud van die houer. Gooi die spoelwater by die inhoud van die spuittenk.
Verskaf leë houters aan goedgekeurde hersikleringsfasiliteit volgens plaaslike en nasionale regulasies.
Maak toediening toerusting skoon na gebruik en doen weg met waswater waar dit nie die omgewing kan besoedel nie.

BETROKKE MATERIALE

Gevaarlike Komponent	Massa %
Oksifluorfen Tegnies	<30 %
Alkielnaftaleen-sulfoonsuur, polimeer met formalien, natriumsout	<35 %
Natriumdiisobuthyl-naftiel – sulfonaat	<5 %

NOODHULP:

Verwys na **Reaksie** onder VOORSORGMAATREËLS en kry onmiddelik mediese hulp. Hou etiket beskikbaar.

NOTA AAN GENEESHEER:

Geen akkute of verlengsaamde simptome is bekend nie. Behandel simptome.

WEERSTANDWAARSKUWING

Vir weerstandsbestuur behoort **BITRAD RULIT®** tot die difenieleter HRAC onkruidodergroep (groep E) met protoporfirinogeenoksidase-inhiberende aksie. Sommige natuurlike onkruidbiotipes, wat weerstandig teen **BITRAD RULIT®** en ander groep E onkruidodders is, mag natuurlik voorkom deur normale genetiese variasie in die onkruidpopulasie. Hierdie weerstandige onkruid kan uiteindelik die populasie domineer indien hierdie onkruidodders herhaaldelik gebruik word. Hierdie weerstandige onkruid sal nie deur **BITRAD RULIT®** of ander HRAC groep E onkruidodders beheer word nie.

Om die seleksie van weerstandige onkruid te vertraag:

- Integreer grondbewerking of ander meganiese beheermetodes (insluitend die gebruik van nie-selektiewe onkruid doders op braaklande) met onkruidbeheerprogramme waar prakties moontlik.
- Voorkom die herhaaldelike gebruik van onkruid doders met dieselfde metode van werking. Beplan wisselbou om die gebruik van ander onkruid doders (uit ander groepe) met verskillende werkingsaksie moontlik te maak.
- Hou rekord van die onkruid doders wat in elke land toegedien is en gebruik dit om te voorkom dat dieselfde onkruid doder herhaaldelik op dieselfde land gebruik word.
- Voorkom die verspreiding van die weerstandige onkruid se saad of steggies na ander lande deur implemente en oesmasjiene skoon te hou en plant skoon saad.
- Inspekteer elke land jaarliks om die ontwikkeling van onkruid weerstandigheid vroeg te identifiseer.
- Indien bovermelde voorkomende maatreëls nie streng nagekom word nie, kan die registrasiehouer nie verantwoordelik gehou word indien **BITRAD RULIT®** nie weerstandige onkruid beheer nie. Vir spesifieke inligting oor weerstandsbestuur kontak die registrasiehouer van hierdie produk.

Aangesien die teenwoordigheid van weerstandige onkruid moeilik is om voor die onkruid doder toegedien is, te bespeur, is dit van uiterste belang dat die behandelde gebiede met gereelde tussenposes geïnspekteer word om die voorkoms van onkruid weerstandigheid betyds te identifiseer. Die registrasiehouer, nog die verspreider kan verantwoordelikheid aanvaar vir die mislukking van die beheer van onkruid weens die opbou van weerstandige onkruid as gevolg van onvoldoende weerstandsbestuurpraktyke. Vir die voorkoming van onkruid doder weerstandigheid, kontak die verteenwoordiger of verspreider.

Nota: Sub-standaard toediening van die onkruid doders sal aanleiding tot onbevredigende onkruidbeheer gee en bydra tot die ontwikkeling van weerstandigheid.

GEBRUIKSBEPERKINGS

1. Moet NIE **BITRAD RULIT®** in kwekerye of in die omgewing van kwekeryplantmateriaal toedien nie.
2. Die gebruiksaanwysings vir **BITRAD RULIT®** is gewasspesifiek en moet streng gevolg word.
3. Foutiewe tydsberekening van toediening sover dit gewasstadium, en/of te hoë dosisse mag die gewas beskadig.
4. Dien **BITRAD RULIT®** toe op 'n skoon grondoppervlak sonder enige plantreste wat die aktiwiteit van die onkruid doder kan benadeel en verkieslik voor die opkoms van die onkruid. Dit is dus nie geskik om in minimumbewerkingspraktyke te gebruik nie.
Verwyder dooie plantmateriaal van die grondoppervlak wat bespuit gaan word aangesien sodanige organiese materiaal die aktiwiteit van **BITRAD RULIT®** negatief affekteer. Bevredigende resultate sal nie gekry word indien **BITRAD RULIT®** op organiese plantmateriaal toegedien word nie.
5. Die versteuring van die grond na **BITRAD RULIT®** daarop toegedien is, sal onkruidbeheer nadelig affekteer.
6. Onder besproeiing sal onkruidbeheer wisselvallig wees weens die tipe besproeiing wat gebruik word en die plasing van die water. Waar drupbesproeiing gebruik word kan wisselvallige onkruidbeheer voorkom weens onvoldoende vog op die grondoppervlak wat **BITRAD RULIT®** moet aktiveer in areas buite die onmiddellike gebied van die drupper.
7. **BITRAD RULIT®** moet nie gemeng of saam met enige ander onkruid doder gebruik word nie, tensy aanbeveel.
8. **Wisselvallige beheer/hergroei** van onkruid mag voorkom onder die volgende toestande:
 - Soliede voorwerpe wat die grondoppervlak bedek soos harde kluite en klippe.
 - Toedienings wat nie saamval met die aanbeveelde en korrekte groeistadiums van onkruid nie.
 - Groot onkruid wat chemiese of ploegbewerking ontsnap, sal nie beheer word nie.
 - Die nabylwende effek op ontkiemende onkruid is beperk en hang af van faktore soos onkruidspesies, grond-pH, grondvog en -temperatuur.
9. **Gewasstremmingstoestande.** Moet nie **BITRAD RULIT®** gebruik indien gewasse onder stremming groei nie soos toestande van versuiping, droogte, siekte, insekskade en voedingstekorte. Gedurende koel (1 tot 15 °C), nat, windstil toestande met hoë vlakke van grond- en lugvog, kan ko-distillasie van **BITRAD RULIT®** vanuit die grond plaasvind en deur die gewasse se blare opgeneem word wat blaarbrand kan veroorsaak.
10. **Gevoelige gewasse:** dra sorg dat GEEN spuitnewel gevoelige gewasse bereik nie.
11. **Waterkwaliteit:** Gebruik slegs water van goeie kwaliteit vir besproeiing, bv. water met 'n pH en sonder 'n oormaat van sout en chemikalieë.

DIE GEBRUIK VAN BITRAD RULIT® OP UIE EN KNOFFEL

BITRAD RULIT® moet as 'n voor- of vroeg na-opkomsbehandeling na uitplant of opkoms van die gewasse toegedien word.

Verwys na aanbevelingstabel vir gebruiksaanwysings vir die verskillende plantmetodes en gewasstadiums. Tydelike vertraagde groei, ligte blaarskroei of varkstertvorming van blare mag kort na toediening van **BITRAD RULIT®** onder sekere weerstoestande soos langdurige koue, nat periodes voorkom maar verdwyn binne 'n paar weke en het geen langdurige effek nie.

Gewasse wat direk gesaai word op grond wat binne die voorafgaande maande met **BITRAD RULIT®** behandel is, moet nie met asetamiedonkruidodors bespuit word nie.

DIE GEBRUIK VAN BITRAD RULIT® IN KOOLGEWASSE

- **BITRAD RULIT®** moet as 'n vooropkoms algehele bespuiting voor die uitplant van enige koolgewasse, toegedien word.
- Die grondoppervlak vir behandeling moet goed voorberei en sonder enige groot kluite wees. 'n Ligte besproeiing van die voorbereide grond word aanbeveel voor **BITRAD RULIT®** toegedien word.
- Die koolplantjies moet eers 7 tot 10 dae na die toediening van **BITRAD RULIT®** in die behandelde grond geplant word. Die plantjies moet so regop as moontlik geplant word en grondversteuring moet tot 'n minimum beperk word.
- Besproei onmiddellik na uitplant om oormatige verwelking en platlê van die uitgeplante plantjies te voorkom. Matige skroei van blare kan voorkom maar is gewoonlik van 'n tydelike aard en plante herstel binne 'n kort tydperk. Nuwe groei word onder normale toestande nie benadeel nie.
- **Moet nie BITRAD RULIT® na uitplant toedien nie. Direkte kontak van hierdie gewasse met BITRAD RULIT® sal tot ernstige skade lei.**
- Die toediening van **BITRAD RULIT®**, waar 'n masjien vir die uitplant van plantjies gebruik word, word nie aanbeveel nie. Dit lei gewoonlik tot 'n oormatige versteuring van die grondoppervlak en die onkruidodende laag wat swak onkruidbeheer tot gevolg sal hê.
- Swaar besproeiing of reën met groot druppels kort na uitplant kan **BITRAD RULIT®**-bevattende gronddeeltjies tot op die jong blare spat en brandskade aan die gewas veroorsaak.
- Koel (1 tot 15 °C), nat en windstil toestande wat gepaard gaan met hoë humiditeit en ko-distillasie van **BITRAD RULIT®** bevorder kort na uitplant van koolplantjies, kan skade aan koolgewasse veroorsaak wat tot oesverliese mag lei.
- Versuip-toestande a.g.v. langdurige reën en/of besproeiing met nat, deurdrenkte grondtoestande as gevolg, kan veroorsaak dat plante nie aktief groei nie en gewasskade mag voorkom waar **BITRAD RULIT®** toegedien is.
- Gunstige groeitoestande na uitplant sal vinnige waslaagontwikkeling van blare bevorder wat die risiko van bogenoemde skade sal beperk.
- Ontydige aanplantings van koolgewasse wat moontlik aan bogenoemde nadelige klimaattoestande blootgestel mag word, moet nie met **BITRAD RULIT®** behandel word nie.
- **BITRAD RULIT®** is slegs op die volgende koolgewaskultivars getoets en die veiligheid vir gebruik op ander kultivars is onbekend. **Kontak u saadverskaffer of Bitrad verteenwoordiger indien nodig.**
Blomkool: Snowking, Snowcrown, Snow February, Snowcap, Couchamp, Igloo.
Brokkolie: Green Sprouting Calabrese, Late Corona.
Kopkool: Gloria Osen, NS Cross, Hercules, Bonanza, Drum Head, Green Coronette, Cape Spitz, Glory of Enkhuizen, Rolan, Shamrock, Rodelle.
Spruitkool: Long Island, Jade Cross.

GEBRUIKSAANWYSINGS:

GEBRUIK SLEGS SOOS AANGEDUI

Verenigbaarheid

BITRAD RULIT® is verenigbaar met **BITRAD IOXYNIL** (Reg. No. L9889).

Menging met misstowwe word nie aanbeveel nie.

Moet nie **BITRAD RULIT®** met na-opkomgrasonkruidodors in 'n tenkmengsel gebruik nie. Oormatige plantskade (fitotoksiteit) mag op gewas voorkom.

Indien tenkmengsels met ander geregistreerde produkte nodig is, word dit aanbeveel dat die fisiese verenigbaarheid met die ander produkte eers getoets word.

Menginstruksies

1. Maak die spuittenk halfvol met water. Gebruik net skoon water.
2. Meng die verlangde hoeveelheid **BITRAD RULIT®** soos aanbeveel in die TOEDIENINGSTABEL hieronder met genoeg water om 'n sagte pasta te vorm. Voeg hierdie by die water in die spuittenk terwyl die water in die spuittenk geroer word.
3. Vul die spuittenk tot die verlangde volume met water terwyl voortdurend geroer word.
4. Wanneer **BITRAD RULIT®** met **BITRAD IOXYNIL** in die spuittenk gemeng word, voeg die **BITRAD IOXYNIL** laaste, net voor die spuittenk tot die verlangde volume met water gevul word, by.
5. Wanneer gemeng en gespuut word, moet die spuitmengsel voortdurend geroer word.

Toediening

Grondtoediening

Verseker egalige bedekking van die teikenarea deur gebruik te maak van 'n trekkegemonteerde of rugsakspuit toegerus met platwaaierspuitpunte wat die aangeduide volume spuitmengsel per hektaar teen die aangeduide drukking kan lewer.

Verseker dat die spuitapparaat korrek gekalibreer is en dat slegs skoon water gebruik word.

Dien minstens 300 liter spuitmengsel per hektaar teen 'n konstante werkdruk wat nie 300 kPa oorskry nie, toe.

Die spuitmengsel moet aanhoudend goed geroer word.

Egalige verspreiding van die spuitmengsel oor die oppervlak wat behandel word, is noodsaaklik vir doeltreffende beheer.

Moet NIE teen 'n hoë druk toedien nie om sodoende atomisering van spuitdruppels te beperk.

Moet NIE 'n gekonsentreerde spuitmengsel gebruik nie.

Moet NIE oortollige spuitmengsel oornag in spuittenk los vir gebruik later nie.

Lugtoediening

Lugtoediening word NIE aanbeveel nie.

BELANGRIKE NOTAS

- 1) Die werking en onkruidbeheer van **BITRAD RULIT®** is nou verwant aan grondvogregimes. Dit is ideaal om hierdie produk op klam grond toe te dien en optimale nawerkende effek word gekry wanneer grond nie toegelaat word om in enige stadium heeltemal uit te droog nie.
- 2) **Opvolggewasse:** **BITRAD RULIT®** is 'n lang-nawerkende onkruidodder. Na 'n **BITRAD RULIT®** toediening moet aan 'n voorplanttussenpose van 2 maande vir elke kilogram produk wat per hektaar toegedien is, voldoen word, voor die plant van opvolggewasse.
- 3) Diep ploeg word aanbeveel voor die plant van opvolggewasse.
- 4) Moet nie **BITRAD RULIT®** met na-opkomgrasonkruidodders in 'n tenkmengsel gebruik nie. Oormatige plantskade (fitotoksiteit) aan die gewasse mag voorkom.

TOEDIENINGSTABEL

LEES "BELANGRIKE NOTAS".

GEWAS	PLANTPRAKTYK	DOSIS/HA	TYD VAN TOEDIENING
UIE EN KNOFFEL	VERPLANTE BOLLE	3.0 kg BITRAD RULIT®	VOOR OPKOM VAN ONKRUIDE: Dien toe op onkruidvrye saadbed voor die plant van die bolle. Besproei liggies na toediening.
		3.0 kg BITRAD RULIT® + 2.0 liter BITRAD IOXYNIL	Indien "moeilik-om-te-beheer" BREËBLAARONKRUIDE teenwoordig is met toediening. (Kyk na lys hieronder)
	VERPLANTE SAAILINGE	3.0 kg BITRAD RULIT®	VOOR OPKOM VAN ONKRUIDE: Verplant in onkruidvrye saadbed. Besproei liggies na toediening. Dien toe as saailinge goed gevestig is. Laat verplante saailing vestig, dit is met goeie wortelvorming en sterk regop blare. Dit kan ongeveer 10 tot 14 dae neem.
		TENKMENGSEL van 3.0 kg BITRAD RULIT® + 2.0 liter BITRAD IOXYNIL	NA-OPKOM: Wanneer "moeilik-om-te-beheer" BREËBLAARONKRUIDE teenwoordig is met toediening. (Kyk na die lys van breëblaaronkruid wat bekend is om verdraagsaam te wees teenoor na-opkom- BITRAD RULIT® -toedienings.

	DIREK GESAAI	TENKMENGSEL van 1.5 kg BITRAD RULIT® + 2.0 liter BITRAD IOXYNIL HERHAALTOEDIENING	VROEE NA-OPKOMTOEDIENING: Onkruidbeheer teen vroeë stadium van groei van die gewas. Dien toe wanneer die gewas die 2-blaarstadium en die breëblaaronkruid die 2-3-blaarstadium bereik het. Herhaal bespuiting 6 weke later om die nawerkende onkruidbeheer en beheer van breëblaar- en grasonkruid, wat moontlik laat ontkiem, te verleng. Lees ook “ GEBRUIKSBEPERKINGS ” en “ DIE GEBRUIK VAN BITRAD RULIT® OP UIE EN KNOFFEL ”.
KOOL-GEWASSE	VERPLANTE KOOLGEWASSE	3.0 kg BITRAD RULIT®	Besproei onkruidvrye landery om grond te stabiliseer voor toediening van BITRAD RULIT®. Dien BITRAD RULIT® 7-10 dae voor verplanting van koolgewasse toe. MOET NIE BITRAD RULIT® NA GEWAS GEPLANT IS NIE. DIREKTE KONTAK VAN BITRAD RULIT® MET DIE BLARE VAN KOOLGEWASSE SAL ERGE GEWASSKADE TOT GEVOLG HÊ. Lees ook “ GEBRUIKSBEPERKINGS ” en “ DIE GEBRUIK VAN BITRAD RULIT® IN KOOLGEWASSE ”.

BREËBLAARONKRUIDE WAT VOOROPKOM DEUR BITRAD RULIT®-TOEDIENING TEEN 3.0 KG PRODUK PER HEKTAAR BEHEER WORD:

Gewone naam	Wetenskaplike naam	Gewone naam	Wetenskaplike naam
Basterappelliefie	<i>Nicandra physaloides</i>	Meksikaanse papawer	<i>Argemone ochroleuca</i>
Bokkruid	<i>Ageratum conyzoides</i>	Meksikaanse ricardia	<i>Richardia brasiliensis</i>
Doringmisbriedie	<i>Amaranthus spinosus</i>	Nagblom	<i>Oenothera stricta</i>
Gewone misbriedie	<i>Amaranthus hybridus</i>	Porslein	<i>Portulaca oleracea</i>
Gewone wildemosterd	<i>Sisymbrium thellungii</i>	Ramenas	<i>Raphanus raphanistrum</i>
Grootstinkblaar	<i>Datura ferox</i>	Regopsterklits	<i>Acanthospermum hispidum</i>
Herderstassie	<i>Capsella bursa-pastoris</i>	Rooimisbriedie	<i>Amaranthus thunbergii</i>
Kakiebos	<i>Tagetes minuta</i>	Soetgousblom	<i>Arctotheca calendula</i>
Kleinkakiebos	<i>Schkuhria pinnata</i>	Sporrie	<i>Spergula arvensis</i>
Knapsekêrel	<i>Bidens pilosa</i>	Sterremuur	<i>Stellaria media</i>
Knopkruid	<i>Galinsoga parviflora</i>	Sydissel	<i>Sonchus oleraceus</i>
Krakerbossie	<i>Senecio latifolius</i>	Wilde sonneblom	<i>Verbisina hispidum</i>
Meerjarige misbriedie	<i>Amaranthus deflexus</i>	Withondebossie	<i>Chenopodium album</i>

VOORBEELDE VAN BREËBLAARONKRUIDE WAT MOEILIK IS OM NA-OPKOM TE BEHEER TEEN 3.0 KG PER HEKTAAR BITRAD RULIT® MAAR GOED BEHEER WORD DEUR 'N TENKMENGSEL VAN BITRAD RULIT® 1.5 KG PLUS BITRAD IOXYNIL 2.0 LITER PRODUK PER HEKTAAR.

Gewone naam	Wetenskaplike naam	Gewone naam	Wetenskaplike naam
Kleinkakiebos	<i>Schkuhria pinnata</i>	Regopsterklits	<i>Acanthospermum hispidum</i>
Knopkruid	<i>Galinsoga parviflora</i>	Withondebossie	<i>Chenopodium album</i>
Krakerbossie	<i>Senecio latifolius</i>	Wilde sonneblom	<i>Verbisina hispidum</i>
Meksikaanse papawer	<i>Argemone ochroleuca</i>		

GRASSE GOED BEHEER DEUR 3.0 KG BITRAD RULIT® PER HEKTAAR AS VOOROPKOMTOEDIENING

Gewone naam	Wetenskaplike naam	Gewone naam	Wetenskaplike naam
Gewone paspalum	<i>Paspalum dilatatum</i>	Klitsborselgras	<i>Setaria verticillata</i>
Hanepootmanna	<i>Echinochloa crus-galli</i>	Kruisingergras	<i>Digitaria sanguinalis</i>
Jongosgras	<i>Eleusine indica/coronate</i>	Wildehawer	<i>Avena fatua</i>
Kleinwatergras	<i>Echinochloa colona</i>	Wintergras	<i>Poa annua</i>