



## TRIGRAS

Reg.No. L 6552 (Act No. 36 of 1947)  
An emulsifiable concentrate  
post-emergence herbicide for the  
control of grass weeds on crops  
as listed.

### ACTIVE INGREDIENT

Diclofop - methyl  
(aryloxylenoxypyropionate)

.....378 g/l.....

### Net Volume

REGISTERED BY :/  
GEREGISTREER DEUR:

20 ℥

### AKTIEWE BESTANDDEEL

Diklofop - metiel  
(arieloksiefenoksiepropionaat)

### Netto Volume

DISTRIBUTED BY:/  
VERSPREI DEUR:

BITRAD CONSULTING (PTY) LTD

Reg. No. 2002/025636/07

PO Box 51454

Wierda Park, 0149

BATCH NUMBER

DATE MANUFACTURED

UN NO./NR.: 3082


LOTNOMMER

DATUM VERVAARDIG



HARMFUL  
SKADELIK



## **WARNINGS:**

- Withholding periods: Allow the following number of days between application and grazing or harvesting of Barley, Wheat and Triticale - 60 days. Peas - 42 days.
- If Hormone herbicides are used, allow a 7 day interval before or after the TRIGRAS application.
- **Flammable** - keep away from open flames.
- Harmful when swallowed, inhaled and by contact with skin and eyes.
- Store away from food and feedstuffs in a cool, dry place.
- Keep out of reach of children, uninformed persons and animals.
- Toxic to fish.
- **AERIAL APPLICATION** - Notify all inhabitants of the immediate area to be sprayed and issue the necessary warnings. Do not spray over - or allow drift to contaminate areas not under treatment.

## **RESISTANCE WARNING:**

Natural occurring resistant weeds may be present in fields. This phenomenon is often difficult to detect and evaluate before herbicide application(s). The Registration holder and Distributor cannot accept responsibility for any losses resulting from poor weed control of resistant types. The probability of resistance development can be limited by: Applying only a single spray of **TRIGRAS** (Diclofop - methyl) on a specific area per season.

Rotate the use of **TRIGRAS** over seasons with herbicides from different chemical group(s) and mode of action.

Practice crop rotation - allowing different herbicide programmes and/or tillage practices.

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

In cases of known weed resistance, the use of herbicides from different chemical group(s) and mode of action and/or different cultural practices are recommended.

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 which could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

## **PRECAUTIONS:**

- Do not inhale the fumes or spray mist.
- Do not eat, drink or smoke whilst mixing and applying or before washing hands and face.
- Wear protective clothing when handling the concentrate i.e. overalls, gloves and face shield.
- Wash contaminated clothing daily.
- Wash with soap and water after use and accidental skin contact.
- In case of eye contact, immediately flush with large volumes of water.
- Avoid drift of spray onto other crops, grazing, rivers, dams and areas not under treatment.
- Clean application equipment (tractor sprayer/aircraft) and measuring equipment before using with other products and dispose of wash water where it will not contaminate crops, grazing, rivers and dams.
- Rinse empty container three times with water with at least 10 percent of the container volume and add the rinsings to the spraytank before disposing the container in the prescribed manner.
- Destroy empty containers by perforation and dispose it in a safe and responsible way. Never use for any other purpose.
- Prevent contamination of food, feedstuffs, drinking water and eating utensils.

## **DIRECTIONS FOR USE: Use only as directed.**

Refer to the tables below for dosage rates for various weed species, development stage of weeds and crop as well as climatic region applicable.

Weed control with **TRIGRAS** is best under good growing conditions with optimal soil moisture and favourable temperatures. The effect of **TRIGRAS** is visible after approx. 14 days, whilst mortality occurs after approx. 40 days. After application, yellow spots may occur on leaves under certain climatic conditions. The crop grows out of this yellowing and it has no influence on yield.

## **USE RESTRICTIONS:**

Poor and/or unacceptable control of grass weeds can be experienced under one or more of the following set of conditions;

- If the grass weeds are under physiological stress conditions i.e. poor aerated soil conditions like excessive soil moisture or waterlogging, saline conditions, heat and drought conditions as well as mechanical damage, which negatively influence the penetration and metabolism of the herbicide.
- If grass weeds are in an advanced growth stage at time of application. (Larger than recommended growth stage.)
- If grass weeds germinate after application has been done. The same situation may occur where germination takes place over a long time period.
- If it rains within 3 hours after application. **TRIGRAS** needs 3 hours for optimal penetration into leaves.

- If the crop is so dense that leaves of the crop shields the weeds, resulting in poor penetration and recovery of herbicide on the target area.
- In case of high weed populations (>2 000 seedlings/m<sup>2</sup>), the numbers and density are so high, that said penetration and recovery on the target is hampered. In such cases, high mortality of grass weed seedlings still occur, but numbers are not sufficiently reduced to result in satisfactory visual weed control.

In the latter two cases i.e. dense crop and/or grass weed populations, ground application is recommended in order to concentrate on techniques that will increase penetration and recovery of the spray cloud on the target area.

#### **COMPATIBILITY:**

**TRIGRAS** is NOT compatible with many other agrochemicals.

In cases where mixtures are imperative, also with adjuvants and/or micro nutrients, it is recommended that compatibility is tested or that the Distributor is consulted before commercial applications commence. **TRIGRAS** is not compatible with hormone herbicides. Equipment used for application of hormone herbicides, must be thoroughly washed and flushed with diluted solution of ammonia and left for at least one hour to dry before it is used for spraying **TRIGRAS**. Tankmixes of **TRIGRAS** with sulfonyl ureas are not recommended. (Trial results indicate that the addition of sulfonyl ureas may inhibit the activity of **TRIGRAS**.) If the above herbicides are used in a program, allow a waiting period of 7 days, preceding - or following the **TRIGRAS** application.

**TRIGRAS** is not compatible with certain organophosphates eg. chlorpyrifos and parathion.

**TRIGRAS** is physically compatible in tank mixture with bromoxynil, although control of grasses can occasionally be negatively affected under certain stress conditions. Add the bromoxynil to the spray tank first and ensure thorough dispersion. Then add the **TRIGRAS**. Apply immediately after mixing and do not allow mixture to stand overnight.

#### **MIXING INSTRUCTIONS:**

- Shake the container before decanting/measuring.
- Fill spray tank to approx. 50% of capacity with water.
- Measure the required volume of **TRIGRAS** into the spray tank and mix thoroughly whilst filling the tank to capacity.
- Do not use alkaline - or muddy water.
- Do not leave spray mixture overnight for later use.
- In case of tankmixes with other agrochemicals - refer to **COMPATIBILITY**.

#### **GROUND APPLICATION:**

Apply in 150 to 300 litre spray mixture per hectare at an operating pressure of 100 to 200 kPa and constant ground speed of approx. 6km/h ± 1 km.

Ensure an even coverage of the target area, using boom fitted with solid or hollow cone nozzles to deliver a

droplet size with VMD of approx. 250 micron. Limit the number of atomised droplets (very small droplets) by using lower spray pressure, correct nozzle orifices and evaporation reducing adjuvants.

Use higher spray volume in cases of dense crop and/or weeds and direct nozzles at a forward angle for better penetration into foliage.

#### AERIAL APPLICATION:

**TRIGRAS** can be applied aerially, provided that; **the crop is not so dense that it limits the penetration and recovery of the spray cloud on the target**, the spray mixture is distributed evenly over the target area and the loss of spray material during application is restricted to a minimum. To achieve this, it is necessary that the following requirements be met:

- Use a minimum of 30 litre spray mixture/ha.
- Use a conventional boom.
- Nozzles must be equipped with hollow cone or flat fan tips.
- A minimum spray volume of 30 litres per ha must be applied and minimum 30 - 35 droplets per cm<sup>2</sup> must be recovered on the target area and a droplet size VMD of 250 micron.
- The CV for droplet distribution must not exceed 50%.
- The following flying heights must be maintained above the target area:

At wind speeds of:      0 - 8 km per hour = 3 m

                          8 - 15 km per hour = 2 m

                          more than 15 km per hour = do not spray.

- The difference between the wet and dry bulb readings, as determined by a whirling hygrometer, must not exceed 8° C.
- Do not spray during the heat of the day.
- Ensure that the fields are accurately marked and that the aerial spray operator knows exactly which fields to spray.
- Obtain assurance from the aerial spray operator that the above requirements are met.

CONSULT YOUR REPRESENTATIVE IF ANY UNCERTAINTIES PREVAIL REGARDING THE RECOMMENDATIONS.

## WINTER RAINFALL REGION (Western Cape & Southern Cape - as far west as Humansdorp)

Crop	Dosage/ha	Remarks
WHEAT	Wild Oats ( <i>Avena fatua</i> ) Canary seed grass ( <i>Phalaris spp.</i> )	Apply post emergence of the grass weeds between the 1 - 3 leaf stage, but before the crop reaches the 5 leaf stage. Use the lower rate for smaller weeds and the higher rate for larger weeds.
BARLEY	<b>Ground application:</b> 0,9 - 1,0 ℥ in 150 - 300 ℥ water	
TRITICALE	<b>Aerial application:</b> 1,1 - 1,25 ℥ in minimum 30 ℥ water	
PEAS	Italian ryegrass ( <i>Lolium multiflorum</i> ) Darnel ( <i>Lolium temulentum</i> )  <b>Ground application:</b> 0,9 ℥ in 150 - 300 ℥ water <b>Aerial application:</b> 1,0ℓ in minimum 30 ℥ water	Refer to USE RESTRICTIONS and COMPATIBILITY clauses.  For Peas apply at the correct weed stage i.e. 1-3 leaves.

## SUMMER RAINFALL REGION (Irrigated fields only)

Crop	Dosage/ha	Remarks
WHEAT	Wild Oats ( <i>Avena fatua</i> )  <b>Ground application:</b> 2,5 ℥ in 150 - 300 ℥ water <b>Aerial application:</b> 2,5ℓ in minimum 30 ℥ water	Apply post emergence of the grass weeds between the 2 - 4 leaf first tiller stage.

## WAARSKUWINGS:

- Onthoudingsperiodes: Laat die volgende aantal dae toe tussen toediening en beweiding/oes van Gars, Koring en Korog - 60 dae. Erte - 42 dae.
- Indien Hormoononkruiddoders gebruik word, laat 7 dae toe voor-, of na die TRIGRAS bespuiting.
- Vlambaar - hou weg van oop vlamme.
- Skadelik wanneer ingesluk, ingeasem en deur kontak met vel en oë.
- Bewaar weg van voedsel en voer in 'n koel, droë plek.
- Hou buite bereik van kinders, oningesigte persone en diere.
- Giftig vir visse.
- LUGTOEDIENING - Stel alle inwoners, in die onmiddellike gebied wat behandel gaan word, in kennis en reik die nodige waarskuwings uit. Moet nie oor gebiede sput wat nie onder behandeling is nie en moet nie toelaat dat sputnewel daarheen dryf nie.

## WEERSTANDWAARSKUWING:

Weerstandbiedende onkruide mag natuurlik voorkom in lande. Hierdie verskynsel is dikwels moeilik om te bepaal en te evalueer voordat onkruiddertoediening(s) plaasvind. Die Registrasiehouer en Verspreider kan nie verantwoordelikheid aanvaar vir enige verliese wat mag voortspruit uit swak onkruidbeheer van weerstandbiedende tipes nie. Die waarskynlikheid van weerstandont-wikkeling kan beperk word deur:

Toediening van 'n enkel bespuiting **TRIGRAS** (Diklofop-metiel) op 'n spesifieke area per seisoen.

Wissel die gebruik van **TRIGRAS** af oor seisoene, met onkruiddoders van verskillende chemiese groep(e) en werkingsmetode(s).

Pas wisselbou toe waar moontlik - wat die gebruik van verskillende onkruiddoderprogramme en/of bewerkingsmetodes toelaat.

Nota: Ondoeltreffende toediening sal aanleiding gee tot onbevredigende beheer en die ontwikkeling van weerstand aanhelp.

In gevalle waar onkruiddoderweerstand bekend is, word die gebruik van onkruiddoders van verskillende chemiese groep(e) en werkingsmetode(s) en/of verskillende verbouingspraktyke aanbeveel.

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 onkruide teen die betrokke middel sowel as die metode, tyd en akkuraatheid van toediening. Verder aanvaar die registrasiehouer nie verantwoordelikheid vir skade aan gewasse,

plantegroei en 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.

#### VOORSORGMAATREELS:

- Moet nie die dampel of sputnewel inasem nie.
- Moet nie eet, drink of rook tydens meng en toediening of voordat hande en gesig gewas is nie.
- Dra beskermende klere as die konsentraat hanteer word nl. oorklere, handskoene en gesigskerm.
- Was besoedelde klere daagliks.
- Was onmiddellik met seep en water na gebruik en toevallige velkontak.
- In geval van oogkontak, was onmiddellik met groot hoeveelhede water.
- Voorkom wegdrywing van sputnewel na ander gewasse, weiding, riviere, damme en gebiede wat nie onder behandeling is nie.
- Maak toedieningapparaat (trekkerspuit/vliegtuig) en maathouers skoon voordat dit vir ander produkte gebruik word en raak ontslae van waswater waar dit nie ander gewasse, weiding, riviere en damme sal besoedel nie.
- Spoel leë houers drie keer uit met ten minste 10 persent van die houer se volume water en voeg die spoelwater by die sputtenk voordat die houer op die voorgeskrewe manier vernietig word.
- Vernietig leë houers d.m.v. perforasie en raak ontslae daarvan op 'n veilige en verantwoordelike wyse. Moet nooit vir enige ander doel gebruik nie.
- Voorkom besoedeling van voedsel, voer, drinkwater en eetgerei.

#### GEBRUIKSAANWYSINGS: Gebruik slegs soos aangedui.

Verwys na onderstaande tabelle t.o.v dosisse vir verskeie onkruidspecies en die ontwikkelingstadium van onkruide en gewasse, sowel as klimaatstreek van toepassing.

Onkruidbeheer met **TRIGRAS** is die beste onder goeie groeitoestande met optimale grondvog en gunstige temperature. Die effek van **TRIGRAS** is sigbaar na ongeveer 14 dae terwyl mortaliteit intree na ongeveer 40 dae. Na toediening mag geel kolle verskyn op die gewas se blare onder sekere klimaatstoestande. Die gewas ontgroei hierdie kolle en dit het nie 'n invloed op opbrengs nie.

#### GEBRUIKSBEPERKINGS:

**Swak en/of onaanvaarbare beheer van grasonkruid kan ondervind word onder een of meer van die volgende stel toestande;**

- Indien die grasonkruid onder fisiologiese strestoestande verkeer nl. swak deurlugte grondtoestande soos onmatige grondvog of versuiping, braktoestande, hitte en droogtetoestande, asook meganiese beskadiging

wat die penetrasie en metabolisme van die onkruiddoder negatief beïnvloed.

- Indien grasonkruide reeds in 'n gevorderde groei stadium is tydens bespuiting. (Groter as die aanbevole ontwikkelingstadium)
- Indien grasonkruide ontkiem nadat bespuiting gedoen is.  
Dieselfde situasie mag voorkom waar onkieming oor 'n lang periode plaasvind.
- Indien dit reën binne 3 uur na behandeling. **TRIGRAS** benodig 3 uur vir optimale penetrasie in blare.
- Indien die gewas so dig is dat die blare van die gewas die onkruid afskerm sodat swak penetrasie en herwinning van onkruiddoder op die teikengebied verky word.
- In die geval van hoë onkruidpopulasies ( $> 2\ 000$  saailinge/m<sup>2</sup>), die stand en digtheid so hoog is dat genoemde penetrasie en herwinning op die teiken bemoeilik word. In sulke gevalle kom hoë mortaliteit van grasonkruidsaailinge steeds voor, maar die getalle word nie genoegsaam verminder om bevredigende visuele onkruidebeheer te gee nie.

In laasgenoemde twee situasies nl. digte gewas en/of grasonkruidstand, word grondtoediening aanbeveel sodat aandag gegee kan word aan tegnieke wat penetrasie en herwinning van die sputnewel op die teikengebied kan verhoog.

## MENGBAARHEID:

**TRIGRAS** is NIE mengbaar met verskeie ander landbouchemikalië nie.

In gevalle waar tenkmengsels noodsaaklik is, ook met byvoegmiddels en/of mikro-element voedingstowwe, word aanbeveel dat mengbaarheid getoets word of die Verspreider geraadpleeg word, voordat kommersiële toedienings plaasvind.

**TRIGRAS** is nie mengbaar met hormoononkruiddoders nie. Toerusting gebruik vir die toediening van hormoononkruiddoders, moet deeglik gewas en gespoel word met verdunde ammoniakoplossing en vir ten minste een uur gelaat word om af te droog voordat dit gebruik word om **TRIGRAS** mee te spuit.

Tenkmengsels van **TRIGRAS** met sulfonielureas word nie aanbeveel nie.

(Proefresultate dui aan dat die byvoeging van sulfonielureas die aktiviteit van **TRIGRAS** mag inhibeer.) Indien bogenoemde onkruiddoders in 'n program gebruik word, laat 'n wagperiode van 7 dae toe, voor of na die **TRIGRAS** toediening.

**TRIGRAS** is nie mengbaar met sekere organofosfate nie bv. chlorpirifos en paration.

**TRIGRAS** is fisies mengbaar in 'n tenkmengsel met bromoksinil, alhoewel beheer van grasse soms negatief beïnvloed kan word onder sekere strestoestande. Voeg die bromoksinil eerste in die sputtent en verseker goeie vermenging. Voeg dan die **TRIGRAS** by. Dien onmiddellik toe na vermenging en moet nie toelaat dat die sputmengsel oornag staan nie.

## MENGINSTRUKSIES:

- Skud die houer voordat produk uitgegooi/uitgemeet word.
- Vul die spuittenk ongeveer half-vol met water.
- Meet die verlangde volume **TRIGRAS** af in die spuittenk en meng deeglik terwyl die tenk gevul word tot kapasiteit.
- Moet nie alkaliiese of modderige water gebruik nie.
- Moet nie spuitmengsel oornag laat vir latere gebruik nie.
- In geval van tenkmengsels met ander landboumiddels - verwys na MENGBAARHEID

## GRONDOEDIENING:

Dien toe in 150 tot 300 liter spuitmengsel per hektaar teen 'n spuitdruk van 150 tot 200 kPa en konstante grondspoed van ongeveer  $6 \text{ km/u} \pm 1 \text{ km}$ .

Verseker 'n eweredige bedekking van die teikengebied. Gebruik 'n spuitbalk wat toegerus is met soliede of holkeël spuitpunte om 'n druppelgrootte VMD van 250 mikron te lewer. Beperk die aantal ge-atomiseerde druppels (baie klein druppels) deur laer spuitdruk, die regte spuitpunte en teenverdampingsmiddels te gebruik.

Gebruik hoër spuitvolumes in gevalle waar digte gewas- en/of onkruidstand voorkom en rig die spuitpunte teen 'n hoek vorentoe om beter penetrasie in die blare te verkry.

## LUGTOEDIENING:

**TRIGRAS** kan d.m.v. lugbespuiting toegedien word, mits; **die gewas nie so dig is dat die penetrasie en herwinning van die spuitnewel op die teiken beperk word nie**, die spuitstof egalig oor die teikengebied versprei word en die verlies aan spuitmiddel tot 'n minimum beperk word. Ten einde hieraan te voldoen moet die volgende vereistes nagekom word:

- Gebruik 'n minimum van 30 liter spuitmengsel per hektaar.
- Gebruik 'n konvensionele spuitbalk wat met holkeël- of platwaaierspuitpunte toegerus is.
- Dien 'n minimum van 30 liter spuitmengsel per ha toe en verseker dat 30 druppels per vk. cm op die teikengebied herwin word met druppelgrootte VMD van 250 mikron.
- Die KV vir druppelverspreiding moet nie 50% oorskry nie.
- Die volgende vlieghoogtes bo die teikengebied moet gehandhaaf word:  
Teen windsnelheid van:                   $0 - 8 \text{ km per uur} = 3 \text{ m}$   
     $8 - 15 \text{ km per uur} = 2 \text{ m}$   
    meer as  $15 \text{ km per uur} = \text{staak bespuiting}$

- Die verskil tussen die nat- en die droëbollesing, soos met 'n swaaihigrrometer bepaal, moet nie  $8^\circ \text{ C}$  oorskry nie.
- Moenie tydens die hitte van die dag spuit nie.

- Sorg dat die lande akkuraat gemerk is en dat die sputtoer operator presies weet watter lande gespuit moet word.
- Verkry versekering van die sputtoer operator dat aan die bogenoemde vereistes voldoen sal word.

RAADPLEEG U VERTEENWOORDIGER INDIEN ENIGE ONSEKERHEID OOR DIE AANBEVELINGS BESTAAN.

### WINTER REËNVALSTREEK (Weskaap & Suidkaap-weswaarts to by Humansdorp)

Gewas	Dosis/ha	Opmerkings
KORING	Wildehawer ( <i>Avena fatua</i> ) Kanariesaadgras ( <i>Phalaris spp.</i> )	Dien na-opkoms toe op die grasonkruid tussen die 1 - 3 blaar groei stadium, maar voordat die gewas die 5 blaar stadium bereik. Gebruik die laer dosis vir kleiner onkruid en hoër dosis vir groter onkruid. Verwys na GEBRUIKSBEPERKINGS en MENGBAARHEID. Klousules. Vir Erte dien toe op die regte onkruidstadium nl. 1 - 3 blaar.
GARS	<b>Grondtoediening:</b> 0,9 - 1,0 ℥ in 150 - 300 ℥ water	
KOROG	<b>Lugtoediening:</b> 1,1 - 1,25 ℥ in minimum 30 ℥ water	
ERTE	Italiaanse raaigras ( <i>Lolium multiflorum</i> ) Drabok ( <i>Lolium temulentum</i> )  <b>Grondtoediening:</b> 0,9 ℥ in 150 - 300 ℥ water <b>Lugtoediening:</b> 1,0 ℥ in minimum 30 ℥ water	

### SOMERREËNVALSTREEK (Besproeiingslande alleenlik)

Gewas	Dosis/ha	Opmerkings
KORING	Wildehawer ( <i>Avena fatua</i> )  <b>Grondtoediening:</b> 2,5 ℥ in 150 - 300 ℥ water <b>Lugtoediening:</b> 2,5 ℥ in minimum 30 ℥ water	Dien na-opkoms toe op grasonkruid in die 2 - 4 blaar tot eerste syhalm stadium.

