



syngenta

An emulsifiable concentrate herbicide for the selective pre-emergence control of ryegrass, certain annual grasses and broadleaf weeds in barley and wheat in the Western and Southern Cape.

GROUP 15 HERBICIDE

Active Ingredient:
prosulfocarb (thiocarbamate).... 800 g/l

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DANGER

Reg. No. L8222 Act No. 36 of 1947

Hazard statements: May be fatal if swallowed and enters airway. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Very toxic to aquatic life with long-lasting effects.

Precautionary statements: Prevention: Avoid breathing dust/fumes/gas/mist/vapour/spray. Wear protective gloves/eye protection/face protection.

Response: If swallowed, immediately call a POISON CENTRE/doctor. Do NOT induce vomiting. If skin irritation or rash occurs, get medical advice/attention.

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1. WARNINGS:

Hazard statements: May be fatal if swallowed and enters airway. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Very toxic to aquatic life with long-lasting effects.

Withholding periods: Minimum number of days between last application and harvest or feeding.

WHEAT (Animal feed)..... 84 days
BARLEY..... 83 days

NOTE: Compliance with these withholding periods will ensure that residues do not exceed local maximum residue limits (MRL).

- Keep out of reach of children, uninformed persons and animals.
- Keep away from food, drink and animal feed.
- When using do not eat, drink, or smoke.
- This container must be disposed of in the prescribed manner
- **Flammable:** Keep away from flames.
- Harmful if swallowed. If swallowed, seek medical advice immediately and present this container or label.
- Irritating to eyes and skin. May cause sensitisation by skin contact. Risk of serious damage to eyes.
- Repeated exposure may cause skin dryness or cracking.
- Wear suitable gloves and eye/face protection.
- Irritating to respiratory system.
- **Harmful:** May cause lung damage if swallowed.
- Vapours may cause drowsiness and dizziness.
- Very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.
- Use appropriate containment to avoid environmental contamination.
- To avoid risks to man and the environment, comply with the INSTRUCTIONS FOR USE.
- **Re-entry:** Do not enter treated area until spray deposit has dried 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 the weed 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 and the environment, or harm to people or animals 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 the event of any uncertainty.

2. PRECAUTIONS:

Precautionary statements: Prevention: Avoid breathing dust/fumes/gas/mist/vapour/spray. Wear protective gloves/eye protection/face protection. **Response:** If swallowed, immediately call a POISON CENTRE/doctor. Do NOT induce vomiting. If skin irritation or rash occurs, get medical advice/attention.

- Do not contaminate surface water or ditches with chemicals or used containers.
- Do not inhale vapour or spray mist.
- Avoid any contact with skin, eyes, or clothing with concentrate or spray mixture.
- Wash with soap and water after use.
- Wash contaminated clothing after use.
- Do not eat, drink, or smoke while handling the product, wash hands and face before doing so.
- Avoid drift of spray onto other crops, grazing, rivers, dams and areas not under treatment.
- Avoid prolonged or repeated exposure to the spray mist.
- Wear protective clothing, i.e., impermeable gloves, overalls, and eyes/face protection, hat or cap, and solid footwear.
- Prevent contamination of food, feed, drinking water and eating utensils.
- Clean applicator after use. Dispose of rinsate where it will not contaminate crops, grazing, rivers, dams and boreholes.

- Thoroughly wash protective equipment and clothing after use.
- Rinse the empty container three (3) times with a volume of clean water equal to a minimum of 10% of the container. Add the rinsate to the contents of the spray tank before destroying the container in the prescribed manner.
- Do not use the empty container for any other purpose.

Symptoms of human poisoning: Irritating to skin (dryness or cracking). Drowsiness and dizziness.

First Aid and Medical Treatment:

Have the product container, label or MSDS with you when calling the Syngenta emergency number, a poison control centre or doctor, or going for treatment.

- **Inhalation:** Remove patient to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at ease. Call a poison control centre or doctor immediately.
- **Skin contact:** Immediately remove all contaminated clothing and wash skin with plenty of water. If skin irritation persists, call a doctor. Wash contaminated clothing before re-use.
- **Eye contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.
- **Ingestion:** If swallowed, seek medical advice immediately and present this container or label. Do NOT induce vomiting.

Note to doctor: There is no specific antidote available. Treat symptomatically.

3. RELEVANT SUBSTANCES:

Chemical name	
prosulfocarb (ISO)	
Classification	Concentration (% w/w)
Acute Tox. 4; H302 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 2; H411	≥ 70 - < 90
M-Factor (Acute aquatic toxicity): 1	

4. RESISTANCE MANAGEMENT:

BOXER is a group code 15 herbicide. Any weed population may contain individuals naturally resistant to **BOXER** and other group code 15 herbicides. The resistant individual can eventually dominate the weed population if these herbicides are used repeatedly and exclusively in programs. These resistant weeds may not be controlled by **BOXER** or any other group code 15 herbicides which inhibits lipid synthesis.

To delay herbicide resistance:

- Avoid exclusive repeated use of herbicides from the same herbicide group code. Alternate or tank mix with products from different herbicide group codes.
- Refer to individual product labels when alternating products or when using tank mixtures.

- Integrate other control methods (chemical, cultural, biological) into weed control programs.
- Maintain herbicide use records for each field.
- Prevent movement of resistant weed seeds and vegetative material to other fields by cleaning harvesting and tillage equipment and planting clean seed.
- Inspect each land annually in order to identify the development of resistance early.

The occurrence of resistant weeds is difficult to detect prior to use. If the above measures are not strictly adhered to Syngenta cannot accept responsibility for any losses that may result from the failure of **BOXER** plus LOGRAN to control resistant weeds.

- Always use **BOXER** plus LOGRAN as part of an integrated crop and resistance management program (strategy) in order to prevent weed resistance.
- This crop and resistance management strategy should always include sequences with herbicides of alternative modes of action.
- **BOXER** plus LOGRAN should only be used once a year per field. If it becomes necessary to spray escapee target plants, use herbicides from another chemical class.
- To control and eliminate resistant grasses e.g., ryegrass, the aim should be a total prevention of seeding by these resistant biotypes.
- **BOXER** plus LOGRAN should be used as a tool to manage grass weed populations in order to prevent or delay resistance to products of various chemical classes and control various levels of resistance to different products and chemical classes e.g., mainly class A (fops and dims) and class B (Su's).

A local farm strategy for preventing and managing resistance should be adopted. Guidelines have been produced by the herbicide resistance action group (HRAC) and copies are available from HRAC, your distributor or agents, independent crop adviser or SYNGENTA.

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

5. USE RESTRICTIONS:

- Do not apply the tank mixture of **BOXER** plus LOGRAN on fields where the wheat might grow under stress e.g., fields that are prone to water logging, frost prone areas, very low temperature or drought, or when soil is known to have high levels of nematodes.
- Do not apply the spray mixture directly onto the wheat seed. Thus, do not allow the wheat seed to germinate on the surface of the soil. It should be covered by 2 - 3 cm of soil before the application of **BOXER** plus LOGRAN.
- Under certain conditions, crop damage may occur. See APPLICATION RATES.

5.1 Minimum Re-cropping Intervals and Crop Rotation Guidelines

- The minimum re-cropping interval is the time between the last application of **BOXER** plus LOGRAN and the anticipated planting date of subsequent crop.
- When using **BOXER** plus LOGRAN, the re-cropping

intervals of LOGRAN should be adhered to. Refer also to the LOGRAN label.

- To avoid injury to subsequent crops the following re-cropping intervals should be observed after applications of **BOXER** plus LOGRAN:

Crop	3 l BOXER /ha (months)	3 l BOXER + 37.5 g LOGRAN /ha (months)
Wheat	0	0
Canola	11	11
All other crops	24	24

- When using **MONITOR 75 WG** in combination with **BOXER** and **LOGRAN** the rotational cropping interval of 18 months for all crops, other than wheat, as described on the **MONITOR 75WG** label should be adhered to.

6. DIRECTIONS FOR USE: Use only as indicated.

6.1 Compatibility

The compatibility of **BOXER** plus **LOGRAN** with other products may be influenced by the formulation of the products involved as well as the quality of the water. Since the formulation of other products may change without the knowledge of Syngenta and the quality of water may vary from farm to farm, a physical compatibility test should always be carried out prior to application.

As variations may exist between formulations of products containing the same active ingredients, the trade names and registration numbers of the approved products are shown.

BOXER is compatible with **LOGRAN (L3600)**, **TOUCHDOWN FORTE HITECH (L7305)**, **GRAMOXONE (L1174)**, **PREEGLONE (L3304)** and **MONITOR 75 WG (L6003)**.

Do not mix **BOXER** with any other product other than indicated above.

6.2 Mixing Instructions

- Half-fill the spray tank with water, and pour the required amount of **BOXER** into the spray tank while the water is being agitated.
- Top-up with water to the final volume required.
- When tank mixing **BOXER** and **LOGRAN**, **LOGRAN** must be added first, well-mixed and be in suspension before **BOXER** is added.
- Ensure thorough agitation of the mixture in the tank during mixing and spraying.
- Tank mixtures must be sprayed out immediately and not allowed to stand overnight in the spray tank.

6.3 Application Techniques

Apply **BOXER** plus **LOGRAN** at planting or within two (2) days after planting but definitely pre-emergence of the crop and weeds.

Rain after application is necessary to activate **BOXER** plus **LOGRAN**.

6.3.1 Tractor application

BOXER plus **LOGRAN** may be applied with any medium to high volume boom sprayer equipped with an efficient agitation mechanism. Choice and arrangement of spray nozzles should be such as to ensure even distribution and optimal recovery of the herbicide. For optimal control a water volume of at least 200 l/ha should be used.

To calibrate a knapsack sprayer:

- Mark a representative area of 10 m x 10 m (100 m²) on the soil to be sprayed.
- Fill the sprayer with water up to a calibration mark e.g., 20 l.
- Spray the marked area evenly.
- Calculate the water volume sprayed.
- Add the spray rate e.g., 30 ml/100 m² to the volume of water applied in the 100 m².

6.4 Application Rates

6.4.1 General weeds and pre-plant situations

When weeds have emerged at planting, **BOXER** plus **LOGRAN** and **BOXER** plus **LOGRAN** plus **MONITOR 75 WG** can be applied in tank mixtures with either **TOUCHDOWN FORTE HITECH** or **GRAMOXONE** or **PREEGLONE** to control the emerged weeds. For the application rates of **TOUCHDOWN FORTE HITECH** or **GRAMOXONE** or **PREEGLONE** refer to the relevant registered labels.

TARGET GRASSES

(*Lolium multiflorum*)

TABLE 1: PRE-EMERGENCE APPLICATION RATES OF BOXER PLUS LOGRAN

Crop	Rates	
	BOXER	LOGRAN
Wheat Barley	3 l/ha	30 g/ha
Knapsack sprayers 30 ml BOXER plus 0.30 g LOGRAN /100 m ²		
WEEDS Botanical name		WEEDS Common name
<i>Anagallis arvensis</i> <i>Arctotheca</i> spp. <i>Chenopodium muralis</i> <i>Coronopis didymus</i> <i>Cotula australis</i> <i>Emex australis</i> (65 - 90%) <i>Erodium moschatum</i> <i>Fumaria muralis</i> <i>Galium</i> spp. <i>Lolium multiflorum</i> <i>Medicago polymorpha</i> <i>Phalaris canariensis</i> <i>Polygonum aviculare</i> <i>Raphanis raphanistrum</i> <i>Silene</i> spp. <i>Vulpia myuros</i>		scarlet pimpernel Cape marigold nettled leaf goosefoot twin cress brass buttons spiny Emex Musk heron's bill fumitory Gallium Italian ryegrass bur clover canaryseed grass prostrate knotweed wild radish gunpowder weed rat's tail Fescue

- Care should be taken to cover the wheat and barley seed completely with 2 - 3 cm of soil after planting before the application of **BOXER** plus LOGRAN.
- Follow the RECOMMENDATIONS on the LOGRAN label carefully.

TARGET GRASSES

(*Lolium multiflorum* and *Bromus diandrus*)

TABLE 2 : THE APPLICATION RATES OF BOXER PLUS LOGRAN AND MONITOR 75 WG:

(Only to be used in wheat, not to be used in barley or any other cereal crop)

Pre-emergence application			Post-emergence application
BOXER ℓ/ha	LOGRAN g/ha	MONITOR 75 WG g/ha	MONITOR 75 WG g/ha
3	30	20	20
3	30	40	-
WEEDS			
Botanical names		Common names	
<i>Bromus diandrus</i>		ripgut brome	
<i>Emex australis</i>		spiny Emex	

The weed spectrum for MONITOR 75 WG would apply as described in the MONITOR 75 WG label.

Weed growth stage: The second application of MONITOR 75 WG should be done at the 2-leaf stage of the *Bromus diandrus* seedlings (see the MONITOR 75 WG label for detailed instructions).

When **BOXER** plus LOGRAN is included in a tank mix with MONITOR 75 WG, all WARNINGS, RESTRICTIONS and DIRECTIONS on all labels apply.

Remarks

- It is of utmost importance that **BOXER** plus LOGRAN is applied to a well-prepared, firm seedbed that is free of weeds, clods and stones. The presence of clods and stones will lead to irregular control.
- Weeds that have germinated will not be adequately controlled by **BOXER** plus LOGRAN.
- During the application of **BOXER** plus LOGRAN take care that no multiple applications or overlapping of the spray boom takes place as this would increase the possibility of crop damage.
- BOXER** plus LOGRAN should be used as part of an appropriate management strategy, including sequences with herbicides of alternative modes of action e.g., fops and dms.
- Application of **BOXER** plus LOGRAN is recommended pre-emergence of both the crop and the weeds.
- The use of **BOXER** plus LOGRAN can also be recommended for pre-emergence control of ALS/ ACCase resistant grasses e.g., *Lolium* spp. and general broadleaf weeds.
- BOXER** plus LOGRAN should preferably be applied at planting or within two (2) days after planting.
- Wheat seed should be adequately covered by 2 - 3 cm

of soil after planting or sowing.

Crop damage

- BOXER** plus LOGRAN applied pre-emergence may slow crop emergence or even reduce the crop stand or cause yellowing. These affects are transient and crops recover quickly and should not affect the yield adversely.
- This recovery is due to the ability of wheat to compensate by increased tillering and ear numbers.
- BOXER** plus LOGRAN may result in reductions in plant emergence:
 - Under wet and cold conditions especially after excessive rain showers (> 40 mm).
 - When seed germinate on the surface of the soil (inadequate coverage or incorporation when seeding).
- The possibility of crop damage is greatly reduced when wheat seed is planted with a wheat planter. Crop damage may be more frequent when seed is sown by means of broadcasting especially when seed is inadequately covered by soil after sowing.
- Various external stress factors e.g., high rainfall or cold weather snaps would cause increased herbicidal damage and cannot be attributed to only **BOXER** plus LOGRAN.

BOXER™ is a proposed tradename of a Syngenta Group Company. **LOGRAN®** is a registered trade mark of a SYNGENTA Group Company. **MONITOR®** is a registered trade mark of the Monsanto Company.

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