BEFORE USING THIS PRODUCT READ ENTIRE LABEL CAREFULLY

1. WARNINGS:

- Withholding periods: (Minimum number of days between last application and feeding)
  
  Sugarcane (feeding and grazing) ............................ 21 days

- Keep out of reach of children, uninformed persons and animals.
- Handle with care.
- Flammable.
- Harmful by inhalation, in contact with skin and if swallowed.
- Toxic in contact with skin and if swallowed.
- Very toxic by inhalation.
- Irritating to eyes, respiratory system and skin.
- Risk of serious damage to eyes.
- Toxic: danger of serious damage to health by prolonged exposure if swallowed.
- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- In case of poisoning contact a doctor and make this label available to him.
- Re-entry: Do not enter treated area within 1 day after application unless wearing protective clothing.
- Aerial application: (for seedbed preparation only) Notify all inhabitants in the immediate vicinity of the area to be sprayed and issue the necessary warnings. Do not spray over all inhabitants in the immediate vicinity of the area to be sprayed and issue the necessary warnings. Do not spray over

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, the environment, or harm to man or animal or for lack of performance of the remedy concerned due to failure of the user to follow the label instructions or to the occurrence of conditions which could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

2. PRECAUTIONS:

- Do not eat, drink or smoke while handling this product.
- Avoid contamination of food, feed, drinking water and eating utensils.
- Do not use application equipment or spray pressures which result in the formation of a fine spray mist e.g. mistblowers, ULV applicators and other similar equipment.
- Do not use muddy water.
- With knapsack and hand-held sprayers, mix each 1 part of GRAMOXONE with at least 40 parts of water.
- Wear rubber gloves and face shield when handling the concentrate. If you get it in your eyes, flush it out at once. If you get it on your skin, wash it off at once. If you spill it on your clothes, change and wash them. (See first aid).
- Invert the empty container over the spray or mixing tank and allow 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 % of that of the container. Add the rinsings to the contents of the spray tank before destroying the container.
- Wear rubber gloves and face shield while spraying.
- Do not inhale the spray mist and avoid contact with the spray as much as you can.
- Avoid spray drift onto other crops, grazing rivers or dams.
- Avoid spray drift onto adjacent crops because the spray will damage green plant tissues.
- Do not use the empty container for any other purpose. Crush or cut it then burn or bury it. Keep unused GRAMOXONE in this container, tightly closed, away from food.
- Dispose of wash water where it will not contaminate crops, grazing, rivers or dams.
- Change and wash your work clothes.
- Wash yourself.

Symptoms of human poisoning

Epigastric discomfort and vomiting. General malaise and weakness. There may be irritation of mouth, pharynx and oesophagus with local burning. After one or two days, signs of kidney and possible liver damage will appear if appreciable quantities have been swallowed, and after 1 - 2 weeks there may be dyspnoea with pulmonary oedema leading to massive pulmonary fibrosis and death due to respiratory insufficiency. With very large doses there may be excitement and convulsions.

First aid treatment

Make person vomit if not already occurring. Take patient to hospital immediately, show the doctor the label.

Medical Treatment:

No antidote is available.

Give 1 l suspension of Fuller’s Earth (15 %) or Bentonite (7 %) or activated charcoal. Also give purgative e.g. Mannitol (20 % solution).

Continue with purging until feacal matter shows signs of the adsorbent. Blood dialysis or blood perfusion may be necessary

See booklet “Paraquat Poisoning. A practical Guide to diagnosis, first aid and Hospital treatment.” (available from GRAMOXONE distributors) or contact Batelieur 911 at +27 (0) 8312 33 911.

Eye contact: Immediately irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 15 minutes. Obtain immediately medical attention.
The height of the spray boom should be a) Application parameters:

- **Volume**: A volume of 35 - 45 l/ha 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 the product is applied at a lower volume rate than recommended above.
- **Droplet coverage**: A droplet coverage of 35 - 40 droplets per cm² must be recovered at the target.
- **Droplet size**: A droplet spectrum with a VMD of 350 - 400 microns is recommended. Ensure that the production of fine droplets (less than 150 microns - high drift & evaporation potential) is restricted to a minimum.
- **Flying height**: The height of the spray boom should be maintained at 3 - 4 metres above the target. Do not spray when aircraft is in a climb, at the top or during a dive, or when banking.

b) Equipment:

Use suitable atomising equipment (hydraulic nozzles) that will produce the desired droplet size and coverage but which will ensure the minimum loss of product either through endodrift (within target field) or exodrift (outside target field). The operator must use a setup that will produce a droplet spectrum with the lowest possible relative span.

All nozzles / atomisers should be positioned within the inner 60% to 75% of the wingspan to prevent droplets from entering the wingtip vortices.

c) Meteorological conditions:

The difference in temperature between the wet and dry bulb thermometers, of a whirling hygrometer, should not exceed 8°C. The addition of a suitable anti-evaporant is recommended if the VMD of the droplets is less than 200 - 250 microns.

Stop spraying if the wind speed exceeds 15 km/h or reduces to less than 5 km/h.

Aerial application of this product must not be done under turbulent, unstable conditions during the heat of the day when rising thermals and downdraughts occur.

Also note that the application of this product under temperature inversion conditions (spraying in or above the inversion layer) 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 the movement of the suspended spray cloud away from the target field.

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.

Avoid drift onto adjacent crops as green plant tissue will be damaged by the spray.

**NOTE:**

Repeat application of GRAMOXONE may be necessary for suppression of deep rooted weeds such as:

- *Convolvulus arvensis* (field bind weed).
- *Malva parviflora* (small mallow).
- *Plantago lanceolata* (narrow-leaved ribwort).
- *Rumex angiocarpus* (sheep sorrel).

5. DIRECTIONS FOR USE:

**5.1 Compatibility:**

GRAMOXONE is compatible with COMPLEMENT SUPER (L8196), DUAL GOLD (L5749), FALCON GOLD (L5750), GARDOMIL GOLD (L6246), GESAPRIM SUPER (L3914), LUMAX (L7432), MEDAL GOLD (L6396), METAGAN GOLD (L5748), MIDSTREAM (L4532), PREGGLONE (L3304), PRIMAGRAM GOLD (L6247), REGLONE (L1115) and TEBUZIN 600 SC (L4683).

If GRAMOXONE needs to be used in tankmix combinations with other herbicides, first mix small quantities of the chemicals in the same ratio in which they will be used, separately with water. Add these mixtures together while agitating and check for any signs of incompatibility e.g. flocculation, etc. In this instance, full cognisance must be taken of all warnings, precautions and directions for use mentioned on the labels of the products concerned.

**5.2 Mixing instructions:**

Mix the required quantity of GRAMOXONE with clean water in the spray tank.

When GRAMOXONE is used in a tank mixture with another herbicide(s) follow the mixing instructions on that label. Continuous agitation is essential when applying tank mixtures.

GRAMOXONE is a contact herbicide and should only be applied
to weeds in the early growth stages for optimum control. **AVOID** spraying large established weeds since the control will not be satisfactorily and more than one application may be needed. Re-growth may also occur under these conditions.

### 5.3 Application rates
- Apply by ground sprayers or by knapsack sprayer.
- USE HIGH VOLUME AND HIGH DOSAGE RATE FOR SPRAYING DENSE WEED GROWTH.
- Ensure thorough coverage of the weeds.
- Do not spray buds or green parts of any crop. **GRAMOXONE** kills green tissue but does not harm brown mature bark.

### A. HERBICIDE - ROW CROPS
Add Complement Super at 100 m/ha.

<table>
<thead>
<tr>
<th>CROP</th>
<th>DOSAGE / ha</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A1. Maize</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-emergence weed control during the fallow period i.e. between harvest and planting</td>
<td>1.25 - 5 l GRAMOXONE / ha</td>
<td>Apply in 200 - 500 l water/ha. The dosage rate will depend on weed size and density. Where the control of well established winter weeds is required apply 2 - 3 / 2,4-D/ha followed by 2 - 3 / GRAMOXONE/ha 3 to 4 weeks later.</td>
</tr>
<tr>
<td><strong>A2. Maize</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inter-row weed control</td>
<td>1.25 - 5 l GRAMOXONE / ha</td>
<td>For residual weed control use 1 - 2 / GRAMOXONE plus a suitable registered residual herbicide</td>
</tr>
<tr>
<td><strong>A3. Sugarcane</strong></td>
<td>1.25 - 5 l GRAMOXONE / ha</td>
<td>The dosage will depend on weed size and density.</td>
</tr>
</tbody>
</table>

**IMPORTANT:** Consult all the label(s) of the product(s) in the mixture with **GRAMOXONE** for directions for use, safety precautions, rates, use restrictions, mixing instructions and weeds controlled.

**NOTE:** Scorch of the lower leaves of the maize plant will occur. Care must be taken to avoid spray contact with more than the 2 lower leaves as more damage to the maize plant may result in yield reduction.

### B. HERBICIDE - TREE CROPS (Fruit crops)
Add Complement Super at 100 m/ha.

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td><strong>B1. Deciduous fruit orchards</strong></td>
<td>1.25 - 5 l GRAMOXONE / ha</td>
<td>Apply in 200 - 750 l water/ha as necessary in spring. Mix with simazine for residual effect. (In pome fruit only). Where Cape marigold is present, replace half <strong>GRAMOXONE</strong> with MIDSTREAM. (Refer to MIDSTREAM label).</td>
</tr>
<tr>
<td><strong>B2. Ribworts</strong></td>
<td>1.5 - 2.5 l GRAMOXONE / ha plus 5 l MCPA / ha</td>
<td>Apply in 200 - 750 l water/ha for the control of ribwort (Plantago spp.). Convulvulus spp. as well as annual winter grasses.</td>
</tr>
</tbody>
</table>

**FREE TEXT:**
- **GRAMOXONE** (cont.)
  - Sugarcane
    - 0.5 l/ha GRAMOXONE / ha for early post emergence weed control.
    - Add Complement Super at 100 m/ha or adjuvants as specified on the LUMAX label.
  - Applications with LUMAX + **GRAMOXONE** can be applied broadcasted in ratoon cane up to a height of 30 cm.
  - In plant cane **GRAMOXONE** should not be applied later than the spike stage of the crop.
## C. Vegetable crops

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>C1. Vegetables</td>
<td>1.25 - 5 / GRAMOXONE / ha</td>
<td>Apply in 200 - 500 / water/ha as a directed inter-row spray for all row crops where weeds have already germinated but are not bigger than 10 cm or use a knapsack sprayer fitted with a shield.</td>
</tr>
<tr>
<td>C2. Cassava Post-emergence weed control</td>
<td>1.25 - 5 / GRAMOXONE / ha</td>
<td>Apply as a directed spray after plants have lost their leaves. The application rate depends on the growth stages of the weeds.</td>
</tr>
<tr>
<td>C3. Potatoes Weed control (early post-emergence)</td>
<td>1.25 - 5 / GRAMOXONE / ha</td>
<td>Apply in 300 - 500 / water/ha. For residual grass control, spray land with a mixture of 1 / GRAMOXONE plus Dual Gold or Meta-gan Gold at the registered rates before the crop has reached 10% emergence.</td>
</tr>
</tbody>
</table>

## D. HERBICIDE - NON ROW CROPS

Add Complement Super at 100 m/ha.

<table>
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<th>CROP</th>
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</tr>
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<tbody>
<tr>
<td>D1. Lucerne (over 6 months old)</td>
<td>1.25 - 5 / GRAMOXONE / ha</td>
<td>Apply in 300 / water/ha just before dormancy breaks or after harvesting before re-growth of lucerne occurs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Apply when 85% of the seedheads have emerged from the leaf sheath. (Not later than soft dough stage). Keep livestock out of treated area for 7 days.</td>
</tr>
</tbody>
</table>

## E. OTHER USES

Add Complement Super at 100 m/ha.

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<tr>
<td>E. Industrial areas</td>
<td>2.5 - 5 /</td>
<td>Apply in 500 - 1 000 / water/ha. Use high spray volume and high dosage rates for dense weeds.</td>
</tr>
</tbody>
</table>
NB: Avoid drift onto adjacent crops as green plant tissue will be damaged by the spray.

Weeds which are controlled by GRAMOXONE:
Most annual weeds that have already germinated.

Weeds mentioned below will only be controlled variable:
perennial grasses and broadleaf weeds, volunteer maize, peanuts and potatoes, Domonia weed, Commelina benghalensis, Chenopodium spp., Conyza bonariensis, Lolium spp., Plantago lanceolata, Portulaca oleracea and tuft-grasses (>15 cm diameter)

GRAMOXONE scorches and controls the green above soil parts of most annual weeds. Regrowth often happens due to subsoil parts regenerating e.g. from stolons or bulbs.
Inconsistent and variable control of weeds even at these high rates may be experienced due to a number of reasons namely:
• drought stress,
• cold or heat stress,
• plants with waxy layers e.g. Portulaca oleracea, Chenopodium album, Gisekia pharnecoides,
• natural resistance to the control with paraquat based products e.g. Commelina bengalensis, Ipomoea spp., Malva parviflora and Conyza bonariensis,
• acquired resistance due to the repeated use of paraquat and/or glyphosate e.g. Lolium spp. and Conyza bonariensis (confirmed resistance in the RSA),
• poor coverage and penetration of exposed leaves e.g. Artemon subfusiformis,
• plants with bulbs and tubers e.g. Cyperus spp. (regrowth),
• growth tips being protected either by leaf sheets covering growth points or subsurface growth points and
• inconsistent relationship between above soil parts and below soil parts e.g. Conyza bonariensis after dry periods or growth during the winter.

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