

READ THE LABEL BEFORE USE. KEEP OUT OF REACH OF CHILDREN AND ANIMALS. SHAKE THE BOTTLE WELL BEFORE USE



Herbicide

# TERBUCLEAR 600 SC

Reg. No. L 10506 Act No. 36 of 1947  
W1301416 / N-AR 2240

4: 13/03/2024 – May2024

A suspension concentrate herbicide for selective control of annual broadleaf weeds as well as grasses in grain sorghum and maize.

**GROUP 5;15 HERBICIDE**

## ACTIVE INGREDIENTS

terbuthylazine and related compounds (triazine) 497.2 g/l  
s-metolachlor (chloroacetanilide) 102.8 g/l



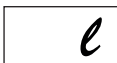
**WARNING**

### Hazard Statements:

Harmful if swallowed.  
May be harmful in contact with skin.  
Causes skin irritation.  
May cause an allergic skin reaction.  
Very toxic to aquatic life.  
Very toxic to aquatic life with long lasting effects.

### Precautionary Statements:

Avoid breathing dust, fumes, mist, gas, vapours or spray.  
Wash hands thoroughly after handling.  
Avoid release into the environment.  
Wear impervious rubber gloves and boots, protective clothing, and chemical safety goggles.



**villa**

UN Number: 3082

Registration holder: VILLA CROP PROTECTION (PTY) LTD.  
Co. Reg. No. 1992/002474/07  
65 Botes Road, Glen Marais, Kempton Park 1619  
Tel. (011) 396 2233  
Website: [www.villacrop.co.za](http://www.villacrop.co.za)

**IN CASE OF POISONING / 24 HR EMERGENCY NUMBERS:**  
Griffon Poison Information Centre (National): +27 82 446 8946  
Poison Information Helpline (National): +27 861 555 777  
24 Hr Transport / Spill emergency no: (Hazcall24) +27 86 044 4411  
(Client: Villa Crop Protection)

REFER TO DETAILS AS PRINTED ON CONTAINER / BAG

DIRECTIONS FOR USE ENCLOSED  
Batch Number:  
Date of Manufacture:

**TERBUCLEAR 600 SC**

Reg. No. L 10506 Act No. 36 of 1947

W1301416 / N-AR 2240

HRAC HERBICIDE GROUP CODE : 5/15

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**SAFETY INFORMATION****Withholding periods:**

Minimum number of days between the last application and harvest:	
Grain sorghum	40 days

**WITHHOLDING PERIODS ARE BASED ON GOOD AGRICULTURAL PRACTICE AND WHEN FOLLOWED, LOCAL (SA) MRL'S WILL BE MET. FOR PRODUCE DESTINED FOR EXPORT, CONSULT YOUR EXPORT AGENT OR SUPPLIER FOR THE LATEST WITHHOLDING PERIODS RELEVANT TO YOUR EXPORT MARKET.**

**Hazard Statements:**

Harmful if swallowed.
May be harmful in contact with skin.
Causes skin irritation.
May cause an allergic skin reaction.
May cause damage to organs through prolonged or repeated exposure
Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

- Handle with care.
- Store under lock and key in a cool, dry, well-ventilated place, away from food, feeds, seed, fertilizers and other agricultural remedies.
- Keep out of reach of children, uninformed persons and animals.
- Re-entry: Do not enter treated area within 1 day after treatment unless wearing protective clothing.

**Aerial application:**

Notify all inhabitants in the immediate vicinity of the area to be sprayed and issue the necessary warnings. Do not spray over or allow the drift to contaminate water or adjacent areas.

**Although this remedy has been extensively tested under a large variety of conditions, the registration holder does not warrant that it will be efficacious under all conditions. 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, 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 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.**

**PRECAUTIONS****Precautionary statements:**

Do not breathe dust, fume, gas, mist, vapours, and spray.
Avoid breathing dust, fumes, mists, gas, vapours, or spray. (Respiratory sensitization).
Wash hands thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.

Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
IF SWALLOWED: Get medical help.
IF ON SKIN: Get medical help.
IF ON SKIN: Wash with plenty of water and non-abrasive soap
Get medical help if you feel unwell.
Rinse mouth.
If skin irritation or rash occurs: Get medical help.
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical help.
Collect spillage.
Dispose of content/container to suitable landfill in accordance with local regulations

- Avoid contact with skin and eyes.
- Do not eat, drink or smoke while mixing, applying or before washing hands and face or change of clothing.
- Prevent drift onto other crops, grazing, rivers, dams or areas not under treatment or to nearby water sources by using a suitable drift retardant such as **INTERLOCK®** (L 10254 / W 130875 / N-AR 1856).
- Do not apply where roots of desirable plants can absorb the chemical.
- Do not mix and load within at least 15 m from boreholes, streams, rivers and dams.
- Do not apply within at least 60 m from dams.
- Ensure that no back siphoning to boreholes or dams takes place, where **Atrazine** is applied through the irrigation system.
- Clean the applicator thoroughly after use and before using with other products - dispose of wash water where it will not contaminate food, grazing, rivers or dams.
- **Triple rinse the empty container as follows:** invert the empty container over the spray or mixing tank and drain for at least 30 seconds after the flow has slowed down to dripping. thereafter rinse the empty container three times in succession with one quarter of the container volume fresh water and decant the rinsate into the spray or mixing tank. puncture the triple rinsed container and dispose of via an approved collector or recycler ([www.croplife.co.za](http://www.croplife.co.za)). do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages.
- Prevent contamination of food, feeds, drinking water and eating utensils.

<b>Relevant hazardous components</b>	
<b>Terbutylazine</b>	<b>497.2 g/l</b>
<b>S-metolachlor</b>	<b>102.8 g/l</b>
SoprophorFL	<1.0%
Sapogenate T080	<5.0%
Sapogenate T110	<1.0%
Mono ethylene Glycol	<5.0%
Proxel	1.0%

**NOTE:** The ingredients listed above contribute to the overall GHS classification, the remaining ingredients do not have to be listed according to the South African Regulations for Hazardous Chemical Agents 2021, Regulation 14(b).

**In case of poisoning, call the following number:** +27 82 446 8946 (Griffon Poison Information Centre) or +27 861 555 777 (Poison Information Helpline).

**In case of a chemical spill call the following 24 Hr Transport / Spill emergency number:** +27 86 044 4411 (Hazcall24 / Client: Villa Crop Protection).

#### **FIRST AID TREATMENT**

- Remove the victim from the area of exposure. Wash off remaining material with plenty of water. In the event of any complaints or symptoms, avoid further exposure. Immediately consult a doctor.
- **Inhalation:** Remove person from contaminated area to fresh air and assist if breathing is needed. Seek medical attention if irritation occurs.
- **Skin:** Remove contaminated clothing and shoes. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. If irritation persists, obtain medical attention.
- **Eyes:** Immediately flush eyes with clean water for at least 15-20 minutes. Lift eyelid (s) to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing.

- **Ingestion:** If the person is alert, rinse mouth thoroughly with water and administer activated charcoal. Do not give anything by mouth to an unconscious person. Seek medical attention or call a poison control centre for treatment advice if you feel unwell. Do NOT induce vomiting unless instructed to do so by a poison control centre or doctor.

#### Mode of action:

Terbutylazine: Photosynthetic electron transport inhibitor at the photosystem II receptor site.

S-Metolachlor: Cell division inhibitor.

#### **RESISTANCE MANAGEMENT**

**TERBUCLEAR 600 SC** is a group code 5/15 herbicide. Any weed population may contain individuals naturally resistant to **TERBUCLEAR 600 SC** and other group code 5/15 herbicides. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds may not be controlled with **TERBUCLEAR 600 SC** or any other group code 5/15 herbicide.

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,
- integrate other control methods (chemical, cultural, biological) into weed control programmes.

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

#### **IMPORTANT**

- Certain weed populations may have developed resistance to **TERBUCLEAR 600 SC**, which could lead to inconsistent control.
- Due to the fact that these resistant populations vary in size and localities and are difficult to ascertain, it is essential that each land must be inspected annually to identify possible resistance early.
- **IF THE ABOVE-MENTIONED PREVENTATIVE MEASURES ARE NOT STRICTLY ADHERED TO, THE REGISTRATION HOLDER CANNOT BE HELD RESPONSIBLE FOR THE FAILURE OF TERBUCLEAR 600 SC TO CONTROL RESISTANT WEEDS.**

#### **USE RESTRICTIONS**

- **Pre-emergence applications:**

**Pre-treatment of the sorghum seed with the safener NOTION 960 EC will be required before TERBUCLEAR 600 SC, Pentium Plus 915 EC or Palladium 960 EC can be applied pre-emergence on Grain sorghum crops.**

<b>Observe the following waiting periods to avoid injury to follow-up crops as listed below:</b>	
a) Maize, Grain sorghum and Sugarcane	None
c) Sunflowers, Groundnuts, Soybeans, Potatoes, Dry Beans, Forage Sorghum and Small Grains	18 months
d) All Other Crops a testing planting is recommended)	24 months

#### **IMPORTANT**

The above-mentioned withholding periods are valid only if the correct dosage rate of **TERBUCLEAR 600 SC** according to soil type was applied and normal or above average rainfall occurred after the **TERBUCLEAR 600 SC** application. **TERBUCLEAR 600 SC** may damage triazine sensitive follow-up crops such as groundnuts, dry beans, soybeans, sunflowers, wheat, vegetables, cotton and tobacco.

- On soils with 0 to 10 % clay in the North West Province and North Western Free State and high lime content soils (refer below), the lower rates of **TERBUCLEAR 600 SC** may still damage follow-up crops. These low rates may result in poorer broadleaf weed control and shorter residual effect especially on soils with more than 20 % clay.
- When **TERBUCLEAR 600 SC** is applied to soils that expand on wetting and crack or crumble on drying out, such as turf soils, the **TERBUCLEAR 600 SC** may remain active in the soil for much longer than the above-mentioned waiting periods. Thus, **TERBUCLEAR 600 SC** should not be used on such soils if sensitive crops might be planted in the foreseeable future. On such soils **TERBUCLEAR 600 SC** may also give poor control of the weeds when applied pre-emergence.
- Do not apply **TERBUCLEAR 600 SC** to inbred parent plants of maize and grain sorghum hybrids or experimental or newly released maize and grain sorghum cultivars without first consulting the registration holder or seed supplier.
- **TERBUCLEAR 600 SC** can cause damage to maize on poorly drained soils or soils which tend to form a compaction layer / crust.

- Stubble from previous harvest or dead plant material (e.g. dead weeds) on the soil surface at the time of application may have an adverse effect on weed control and the time of residual action of the herbicide. This adverse effect is thus not uncommon where minimum / no tillage practices are followed.
- **Risk of damage to triazine sensitive crops:**
  - The risk of crop injury increases dramatically in fields where triazine herbicides were previously applied if soils have been treated with lime to adjust the soil pH. This is caused by the triazine molecules being replaced with calcium cations on the clay particles and the triazine thus becoming more readily available in the soil-water system.
  - Where triazine sensitive crops are to be planted as follow-up crops, the application rate of **TERBUCLEAR 600 SC** should not exceed 2.1 litres per hectare (refer below to Table).
  - Only maize should be planted in the season directly after soil pH adjustment with lime.
  - No triazine sensitive crops should be planted in the season after the soil pH adjustment has been done with lime. This applies even if triazines were used within crop rotation limitation rates in previous years.
  - Triazine sensitive crops include all broadleaf crops e.g. different bean crops, sunflowers and all cereals.
  - These warnings however do not guarantee that no damage would be experienced to even the following maize crop as large volumes of previously applied triazines might now be available depending on the volume of lime applied and the rainfall experienced.
- **Risk of increased efficacy, phytotoxicity and residual action:**
  - If soil pH levels are increased above 7, conditions for increased efficacy and reduced selectivity can be created. The higher soil pH may also cause increase soil residual action by certain herbicides, which will influence the choice of follow-up crops (especially under irrigation).
- **Contact your agrichemical representative to discuss crop rotation and follow-up crop protection programmes before a pH adjustment programme is implemented.**
- If dry conditions prevail for a period of one to two weeks after application, weeds may emerge and develop. In such cases it is recommended that a light cultivation be carried out with a rotary cultivator to destroy these weeds and to mix the herbicide into the top 10 to 20 mm of soil.
- Optimal weed control is obtained when application is followed by at least 10 to 20 mm of soft penetrating rain or irrigation to leach the herbicide into the soil prior to the emergence of weeds (normally 7 to 10 days after ploughing). More rain or irrigation is required on heavier soils to obtain good results.

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

**NOTICE TO USER:**

Read the entire label before application. This agricultural remedy is to be used only in accordance with the instructions on the label. It is an offence under the Act to use this agricultural remedy for any purpose in a manner contrary with the directions on the label.

**Compatibility:**

- **TERBUCLEAR 600 SC** is compatible with **Palladium Plus 915 EC, Palladium 960 EC, Halo 750 WDG, Campatop® 225 EC** and **Villa 51**.
- The compatibility of **TERBUCLEAR 600 SC** may be influenced by several factors. As factors influencing compatibility may vary, a physical compatibility test must always be performed before a tank mixture is sprayed. If the products are physically compatible, this does **NOT** indicate they will be biologically active (effective against the target weeds), thus the registration holder will not take responsibility for ineffective control in these scenarios.
- Water quality and formulation properties of other products may influence compatibility.
- **The product may flocculate when tank mixed with paraquat, therefore do not mix with Paraquat.**
- When **TERBUCLEAR 600 SC** is used in conjunction with any other agricultural remedy, all **WARNINGS, PRECAUTIONS** and **DIRECTIONS FOR USE** mentioned on that label, must be adhered to.

**Mixing instructions:**

- Half fill the spray tank with water.
- Add the required amount of **TERBUCLEAR 600 SC** through a 50-mesh sieve to the tank, while agitating.
- Fill the spray tank with water to the required level.
- When mixing **TERBUCLEAR 600 SC** with other herbicides (as registered on this label), use the following procedure:

- a. Mix the required quantity of **WDG** or **WP** products in a small quantity of water to make a smooth cream and add this to the spray mixture or add the water-soluble bags to the spray mixture.
  - b. In the following order add any additional products: **SC** or **SE** formulations, followed by **EC**, **EW** or **ME** formulations. Lastly add product of **SL**, **SG** or **SP** formulation types. Ensure to pre-mix products individually before adding them to the spray mixture.
- Maintain continuous suspension in the spray tank by means of proper agitation.
  - Prepared spray mixtures must not be left in the spray tank for any length of time, e.g. overnight.

### **Post Spray Equipment Cleaning**

It is essential to rinse the spray tank and all hoses with a 0.1 % solution of either calcium chloride or ammonium hydroxide or the recommended rate of **Protank® liquid cleaner** according to the product label. Allow this solution to stand in the spray equipment for 15 minutes; empty the spray equipment; repeat the rinsing with a 0.1 % solution of calcium chloride or ammonium hydroxide for 15 minutes; rinse all equipment with water. Nozzles and fitters must be cleaned individually. Rinse water and solution should be drained in a cesspool or drain where it will not contaminate any water source.

### **APPLICATION (Ground and Aerial):**

- Pre-emergence application of **TERBUCLEAR 600 SC** must be applied within 3 days after planting.
- The soil must have a fine and smooth surface, free of clods.

#### **Ground application:**

**TERBUCLEAR 600 SC** can be applied with any medium or high volume sprayer, with efficient agitation and which is capable of adequate coverage and even distribution. Best results are obtained using flat fan-type spray nozzles and applying a minimum spray volume of 200 litres per hectare spray mixture.

#### **Aerial application:**

**TERBUCLEAR 600 SC** aerial application must be done according to the instructions of SANS Code 10118 (Aerial Application of Agricultural Pesticides) by a registered aerial application operator with a correctly calibrated registered aircraft. Ensure that the spray mixture is distributed evenly over the target area and that the loss of spray material during application is restricted to a minimum. It is therefore essential that the following criteria be met:

- Volume: A spray mixture volume of 30 litres per hectare is recommended. As this product has not been evaluated at a reduced volume rate, the registration holder cannot guarantee efficacy, or be held responsible for any adverse effects if this product is applied aerially at a lower volume rate than recommended above.
- Droplet coverage: 20 to 30 droplets per cm<sup>2</sup> must be recovered at the target area.
- Droplet size: The following droplet spectrum is recommended – a VMD of 350 to 400 micron. Limit the production of fine droplets less than 150 micron (high drift and evaporation potential) to a minimum.
- Flying height: Maintain the height of the spray boom at 3 to 4 meters above the target. Do not spray when aircraft dives, is in a climb or when banking.
- Use suitable atomizing equipment that will produce the desired droplet size and coverage, but which will ensure the minimum loss of product. The spraying system must produce a droplet spectrum with the lowest possible Relative Span.
- Position all the atomizers within the inner 60 to 75 % of the wingspan to prevent droplets from entering the wingtip vortices.
- The difference in temperature between the wet and dry bulb thermometers, of a whirling hygrometer, should not exceed 8°C.
- Stop spraying if the wind speed exceeds 15 km per hour.
- Stop spraying under turbulent, unstable and dry conditions during the heat of the day.
- Spraying under temperature inversion conditions (spraying in or above the inversion layer) and/or high humidity conditions (relative humidity 80 % and above) may lead to the following:
  - a) reduced efficacy due to suspension and evaporation of small droplets in the air (inadequate coverage),
  - b) damage to other sensitive crops and/or non-target areas through drifting of the suspended spray cloud away from the target field.
- Ensure that the aerial spray operator knows exactly which fields to spray.

Obtain an assurance from the aerial spray operator that the above requirements will be met and that relevant data will be compiled in a logbook and kept for future reference.

## 1. PRE-EMERGENCE APPLICATION IN GRAIN SORGHUM AND MAIZE:

**Table 1.1:** Pre-emergence application rates of **TERBUCLEAR 600 SC** or **TERBUCLEAR 600 SC PLUS Palladium Plus 915 EC** or **Palladium 960 EC** in grain sorghum.

### NOTES

- Pre-treatment of the sorghum seed with the safener **NOTION 960 EC**, will be required before **TERBUCLEAR 600 SC**, **Palladium Plus 915 EC** or **Palladium 960 EC** can be applied as a pre-emergence application.
- If adverse weather conditions (i.e. cool and moist) prevail before or during planting, **Palladium Plus 915 EC** should be used as it contains an extra built in safener.
- This tank mixture with **Palladium Plus 915 EC** or **Palladium 960 EC** may be used to control grasses other than those listed above as well as Yellow *nutsedge* (*Cyperus esculentus*) under certain conditions.
- Refer to the **Palladium Plus 915 EC** or **Palladium 960 EC** labels for **WARNINGS, PRECAUTIONS, ADDITIONAL WEEDS, USE RESTRICTIONS** and **DIRECTIONS FOR USE**.

<b>Soil type</b>	<b>% Clay</b>	<b>TERBUCLEAR 600 SC €/ ha</b>	<b>OR TERBUCLEAR 600 SC €/ ha</b>	<b>PLUS Palladium Plus 915 EC / Palladium 960 EC €/ ha</b>
Sand / Sandy loam	0 to 20	<b>Not recommended</b>		
Sandy clay loam	21 to 30	3.0	3.0	0.5
Sandy clay loam	31 to 35	3.7	3.7	0.6
Sandy clay loam	> 35	<b>Not recommended</b>		
<b>WEEDS NORMALLY CONTROLLED BY TERBUCLEAR 600 SC (Pre-emergence application):</b>				
<b>Broadleaf weeds:</b>				
<i>Amaranthus deflexus</i>		Perennial pigweed		
<i>Amaranthus hybridus</i>		Common pigweed		
<i>Bidens bipinnata</i>		Spanish blackjack		
<i>Bidens pilosa</i>		Blackjack		
<i>Chenopodium album</i>		White goosefoot		
<i>Chenopodium carinatum</i>		Green goosefoot		
<i>Cleome monophylla</i>		Spindlepod		
* <i>Commelina benghalensis</i>		Bengal wandering Jew		
<i>Crotalaria sphaerocarpa</i>		Mealie Crotalaria		
* <i>Datura ferox</i>		Large thorn apple		
<i>Portulaca oleracea</i>		Purslane		
<i>Richardia brasiliensis</i>		Tropical Richardia		
<i>Schkuhria pinnata</i>		Dwarf marigold		
<i>Tagetes minuta</i>		Khaki weed		
<b>Grasses:</b>				
<b>Reliable control of grasses is only obtained with pre-emergence applications of TERBUCLEAR 600 SC.</b>				
<b>This also implies reliable control if application is done after an interrow cultivation.</b>				
<i>Chloris virgata</i>		Feathertop Chloris		
<i>Digitaria sanguinalis</i>		Crab finger-grass		
<i>Eleusine indica</i>		Goose grass		
<i>Panicum schinzi</i>		Sweet buffalo grass		
* If dry conditions prevail for a period of 7 to 14 days after pre-emergence application these weed species may not be adequately controlled, especially on heavy soils: Under abnormal wet conditions late-season weed control may be inadequate.				

**Table 1.2:** Pre-emergence application rate of **TERBUCLEAR 600 SC** in maize.

<b>Soil type</b>	<b>% Clay</b>	<b>TERBUCLEAR 600 SC €/ ha</b>
Sand	0 to 10	2.2
Sandy loam	11 to 20	2.6
Sandy clay loam	21 to 30	3.0
Heavier soil (turf soils included)	> 30	<b>NOT RECOMMENDED</b>
<b>WEEDS NORMALLY CONTROLLED BY TERBUCLEAR 600 SC (Pre-emergence application):</b>		
<b>Broadleaf weeds:</b>		
<i>Amaranthus deflexus</i>		Perennial pigweed
<i>Amaranthus hybridus</i>		Common pigweed
<i>Bidens bipinnata</i>		Spanish blackjack
<i>Bidens pilosa</i>		Blackjack
<i>Chenopodium album</i>		White goosefoot
<i>Chenopodium carinatum</i>		Green goosefoot
<i>Cleome monophylla</i>		Spindlepod
* <i>Commelina benghalensis</i>		Bengal wandering Jew
<i>Crotalaria sphaerocarpa</i>		Mealie Crotalaria
* <i>Datura ferox</i>		Large thorn apple
<i>Portulaca oleracea</i>		Purslane
<i>Richardia brasiliensis</i>		Tropical Richardia
<i>Schkuhria pinnata</i>		Dwarf marigold
<i>Tagetes minuta</i>		Khaki weed
<b>Grasses:</b>		
<b>Reliable control of grasses is only obtained with pre-emergence applications of TERBUCLEAR 600 SC.</b>		
<b>This also implies reliable control if application is done after an interrow cultivation.</b>		
<i>Chloris virgata</i>		Feathertop Chloris
<i>Digitaria sanguinalis</i>		Crab finger-grass
<i>Eleusine indica</i>		Goose grass
<i>Panicum schinzi</i>		Sweet buffalo grass
* If dry conditions prevail for a period of 7 to 14 days after pre-emergence application these weed species may not be adequately controlled, especially on heavy soils: Under abnormal wet conditions late-season weed control may be inadequate.		

## 2. **POST-EMERGENCE APPLICATION IN GRAIN SORGHUM AND MAIZE:**

**Table 2.1:** Post-emergence application rates of **TERBUCLEAR 600 SC** applied post-emergence in grain sorghum and maize.

### **NOTES**

- **TERBUCLEAR 600 SC** may be applied post-emergence in grain sorghum and maize.
- However, the crop must at least be at the 5-leaf stage before application.
- Pre-treatment of the sorghum seed with the safener **NOTION 960 EC** will not be required for post-emergence application.
- Always add the surfactant **Villa 51** to post-emergence **TERBUCLEAR 600 SC** spray mixtures.
- The treatments listed below will not provide adequate control of grass weeds.
- Refer to the **Palladium Plus 915 EC** or **Palladium 960 EC** labels for **WARNINGS, PRECAUTIONS, ADDITIONAL WEEDS, USE RESTRICTIONS** and **DIRECTIONS FOR USE**.



Soil type	% Clay	TERBUCLEAR 600 SC ℓ/ ha	PLUS Villa 51
Sand / laomy sand	0 to 15	Not recommended	0.1 %
Sandy loam	16 to 20	2.6	
Sandy clay loam	21 to 30	3.0	
Heavier soil (turf soils included)	> 35		
WEEDS NORMALLY CONTROLLED			
<i>Amaranthus deflexus</i>		Perennial pigweed	
<i>Amaranthus hybridus</i>		Common pigweed	
<i>Bidens bipinnata</i>		Spanish blackjack	
<i>Bidens pilosa</i>		Blackjack	
<i>Chenopodium album</i>		White goosefoot	
<i>Chenopodium carinatum</i>		Green goosefoot	
<i>Cleome monophylla</i>		Spindlepod	
* <i>Commelina benghalensis</i>		Bengal wandering Jew	
<i>Crotalaria sphaerocarpa</i>		Mealie Crotalaria	
* <i>Datura ferox</i>		Large thorn apple	
<i>Portulaca oleracea</i>		Purslane	
<i>Richardia brasiliensis</i>		Tropical Richardia	
<i>Schkuhria pinnata</i>		Dwarf marigold	
<i>Tagetes minuta</i>		Khaki weed	

**Table 2.2:** Post-emergence application rates of **TERBUCLEAR 600 SC** in a tank mixture with **Campatop® 225 EC**, applied post-emergence in grain sorghum.

#### NOTES

- The use of **Campatop® 225 EC** in combination with adjuvants (i.e. wetting agents, drift retardants etc.) is not advisable as this may lead to unwanted leaf scorch
- Where triazine sensitive crops are to be planted as follow-up crops the application rate of **TERBUCLEAR 600 SC** should not exceed 2.1 litre per hectare.
- Apply when weeds are fully germinated, but not older than the 4- to 6-leaf stage.
- Do not apply **Campatop® 225 EC** to weeds under drought or nutrient stress conditions. Application of **Campatop® 225 EC** following extended periods of overcast / cloudy conditions (low light intensity) could also result in increased amounts of leaf scorch
- Do not apply when rain is expected within the following twelve (12) hours.
- Irrigation should be withheld for 48 hours after **Campatop® 225 EC** application.
- Refer to the **Campatop® 225 EC** label for **WARNINGS, ADDITIONAL WEEDS, PRECAUTIONS, USE RESTRICTIONS** and **DIRECTIONS FOR USE**.

Soil clay %	TERBUCLEAR 600 SC ℓ/ ha	Campatop® 225 EC ℓ/ ha
0 to 15%	DO NOT SPRAY	1.0
16 to 20%	2.6	
21 to 30%	3.0	
>30%	3.0	

WEEDS NORMALLY CONTROLLED	
Botanical name	Common name
<i>Acanthospermum hispidum</i>	Upright starbur
<i>Amaranthus hybridus</i>	Common pigweed
<i>Bidens pilosa</i>	Common blackjack
<i>Dactyloctenium aegyptium</i>	Crowfoot
<i>Datura ferox</i>	Large thorn apple
<i>Datura stramonium</i>	Common thorn apple
<i>Digitaria sanguinalis</i>	Crab finger-grass
<i>Dysphania carinata</i>	Keeled goosefoot
<i>Galinsoga parviflora</i>	Gallant soldier
<i>Nicandra physalodes</i>	Apple-of-Peru
<i>Portulaca oleracea</i>	Purslane
<i>Richardia brasiliensis</i>	Mexican Richardia
<i>Schkuhria pinnata</i>	Dwarf marigold
<i>Stellaria media</i>	Chick weed
<i>Tagetes minuta</i>	Tall Khaki weed

**Table 2.3:** Post-emergence application rates of **TERBUCLEAR 600 SC** in a tank mixture with **Halo 750 WDG** for *Cyperus* spp. plus broadleaf weed control in maize and grain sorghum.

#### NOTES

- In the event that cool, wet weather prevails following an application, grain sorghum and maize plants may exhibit signs of yellowing of the funnel leaves and slight stunting. These symptoms will be outgrown over time and will have no impact on the yield.
- Add **Villa 51** at 0.1 % v/v (100 ml per 100 litres water) or **Summit Super** at 0.15 % to 0.3 % v/v (150 ml to 300 ml per 100 litres water) to the spray mixture as adjuvant. Addition of other adjuvants to **Halo 750 WDG** may result in less effective control of *Cyperus* spp.
- Two applications of **Halo 750 WDG** may be necessary to achieve effective control of late germinating Nutsedge.
- To obtain best results, apply **Halo 750 WDG** on actively growing Nutsedge under moist conditions 3 to 5 weeks after planting, after the majority of the Nutsedges have germinated but before flowering. New germination of Nutsedge may occur if application was performed too early. Later applications when the Nutsedge is in flower, will also give suboptimal results.
- The optimal time of application is determined by the development stage of the Nutsedges. Broadleaf weeds, however, should not exceed the 4-leaf stage or 100 mm in height.
- If cultivation will be part of the normal practice, it must preferably be postponed until 2 to 7 days after application of **Halo 750 WDG** with **Triazine** herbicides such as **TERBUCLEAR 600 SC**.
- Weeds overshadowed by other weeds or the crop may not be controlled effectively due to insufficient coverage. This must be considered during the time of application.
- The degree and duration of weed control obtained will depend on weed size, growing conditions during and time after application, soil pH (H<sub>2</sub>O) and rainfall.
- Refer to the **Halo 750 WDG** label for **WARNINGS, ADDITIONAL WEEDS, PRECAUTIONS, USE RESTRICTIONS** and **DIRECTIONS FOR USE**.

TERBUCLEAR 600 SC ℓ/ha	Halo 750 WDG g/ha
1.0* to 2.0	50

\*Apply only 1.0 ℓ/ha to grain sorghum.

## PRE-EMERGENCE APPLICATION FOLLOWED BY POST-EMERGENCE APPLICATIONS

**Table 3.1** Palladium Plus 915 EC applied pre-emergence or pre-plant incorporated followed by TERBUCLEAR 600 SC early post-emergence in a crop rotation scenario.

### NOTES

- Where triazine sensitive crops are to be planted as follow-up crops the application rate of **TERBUCLEAR 600 SC** should not exceed 2.1 litre per hectare.
- If adverse weather conditions (i.e. cool and moist) prevail before or during planting, **Palladium Plus 915 EC** should be used as it contains an extra built in safener.
- Refer to the **Palladium Plus 915 EC** label for **WARNINGS, ADDITIONAL WEEDS, PRECAUTIONS, USE RESTRICTIONS** and **DIRECTIONS FOR USE**.

Soil type	% Clay	PRE-EMERGENCE: Palladium Plus 915 EC ℓ/ ha	POST-EMERGENCE: TERBUCLEAR 600 SC ℓ/ ha
Sand	0 to 10	0.3 to 0.5	2.1
Loamy sand / Sandy loam	11 to 20	0.5 to 0.6	
Sandy clay loam	21 - 30	0.6 to 0.8	
Sandy clay loam / sandy clay	31 to 40	0.8 to 0.9	
Sandy clay / turf	41 to 50	0.9 to 1.1	

**Table 3.2:** Pre-emergence application rates of **Palladium Plus 915 EC** or **Palladium 960 EC** followed by a post-emergence application of **TERBUCLEAR 600 SC** in grain sorghum.

### NOTES

- **TERBUCLEAR 600 SC** may be applied early post-emergence in grain sorghum as a follow-up treatment after the pre-emergence application of **Palladium Plus 915 EC** or **Palladium 960 EC**.
- **Pre-treatment of the sorghum seed with the safener NOTION 960 EC, will be required before Palladium Plus 915 EC or Palladium 960 EC can be applied pre-emergence.**
- **If adverse weather conditions (i.e. cool and moist) prevail before or during planting, Palladium Plus 915 EC should be used, as it contains an extra built in safener.**
- Always add the surfactant **Villa 51** to post-emergence **TERBUCLEAR 600 SC** spray mixtures.
- The higher dosage rate of **Palladium Plus 915 EC** or **Palladium 960 EC** on heavier soils can be used to improve the control of Yellow nutsedge (*Cyperus esculentus*) and Sweet signal grass (*Brachiaria eruciformis*) on turf.
- Application of sufficient fertilizer, band placed near the seed at planting, is recommended to enhance vigorous seedling growth.
- Refer to the **Palladium Plus 915 EC** or **Palladium 960 EC** label for **WARNINGS, ADDITIONAL WEEDS, PRECAUTIONS, USE RESTRICTIONS** and **DIRECTIONS FOR USE**.

Soil type	% Clay	Pre-emergence: Palladium Plus 915 EC / Palladium 960 EC ℓ/ ha	Post-emergence: TERBUCLEAR 600 SC ℓ/ ha	PLUS Villa 51
Sand / loamy sand	0 to 15	<b>Not recommended</b>		
Sandy loam	16 to 20	0.5	2.6	0.1 %
Sandy clay loam	21 to 30	0.6	3.0	
Heavier soil (turf soils included)	> 35	0.7 to 1.0	3.0	
<b>WEEDS CONTROLLED</b>				
<b>Botanical name</b>		<b>Common name</b>		
<i>Amaranthus hybridus</i>		Common pigweed		
<i>Chenopodium album</i>		White goosefoot		
<i>Bidens pilosa</i>		Common blackjack		
<i>Datura ferox</i>		Large thorn apple		
<i>Digitaria sanguinalis</i>		Crab finger-grass		

<i>Dysphania carinata</i>	Keeled goosefoot
<i>Convolvulus farinosus</i>	Wild bindweed
<i>Galinsoga parviflora</i>	Gallant soldier
<i>Hibiscus trionum</i>	Bladderweed
<i>Ipomoea purpurea</i>	Common morning glory
<i>Lepidium africanum</i>	Pepper cress
<i>Nicandra physalodes</i>	Apple-of-Peru
<i>Portulaca oleracea</i>	Purslane
<i>Richardia brasiliensis</i>	Mexican Richardia
<i>Schkuhria pinnata</i>	Dwarf marigold
<i>Stellaria media</i>	Chick weed

**Table 3.3:** Palladium Plus 915 EC applied pre-emergence or pre-plant incorporated followed by TERBUCLEAR 600 SC in a tank mixture with Campatop® 225 EC early post-emergence in grain sorghum.

#### NOTES

- The use of Campatop® 225 EC in combination with adjuvants (i.e. wetting agents, drift retardants etc.) is not advisable as this may lead to unwanted leaf scorch
- Where triazine sensitive crops are to be planted as follow-up crops the application rate of TERBUCLEAR 600 SC should not exceed 2.1 litre per hectare.
- Apply when weeds are fully germinated, but not older than the 4- to 6-leaf stage.
- Do not apply Campatop® 225 EC to weeds under drought or nutrient stress conditions. Application of Campatop® 225 EC following extended periods of overcast / cloudy conditions (low light intensity) could also result in increased amounts of leaf scorch
- Do not apply when rain is expected within the following 12 hours.
- Irrigation should be withheld for 48 hours after Campatop® 225 EC application.
- Refer to the Campatop® 225 EC and Palladium Plus 915 EC labels for **WARNINGS, ADDITIONAL WEEDS, PRECAUTIONS, USE RESTRICTIONS** and **DIRECTIONS FOR USE**.

Soil type	% Clay	Pre-emergence:	Post-emergence:	PLUS
		Palladium Plus 915 EC €/ ha	TERBUCLEAR 600 SC €/ ha	Campatop® 225 EC €/ ha
Sand / laomy sand	0 to 15	<b>Not recommended</b>		
Sandy loam	16 to 20	0.5	2.6	1.0
Sandy clay loam	21 to 30	0.6	3.0	
Heavier soil (turf soils included)	> 35	0.7 to 1.0	3.0	
<b>WEEDS NORMALLY CONTROLLED</b>				
<b>Botanical name</b>		<b>Common name</b>		
<i>Amaranthus hybridus</i>		Common pigweed		
<i>Chenopodium album</i>		White goosefoot		
<i>Bidens pilosa</i>		Common blackjack		
<i>Datura ferox</i>		Large thorn apple		
<i>Digitaria sanguinalis</i>		Crab finger-grass		
<i>Dysphania carinata</i>		Keeled goosefoot		
<i>Convolvulus farinosus</i>		Wild bindweed		
<i>Galinsoga parviflora</i>		Gallant soldier		
<i>Hibiscus trionum</i>		Bladderweed		
<i>Ipomoea purpurea</i>		Common morning glory		
<i>Lepidium africanum</i>		Pepper cress		
<i>Nicandra physalodes</i>		Apple-of-Peru		
<i>Portulaca oleracea</i>		Purslane		
<i>Richardia brasiliensis</i>		Mexican Richardia		
<i>Schkuhria pinnata</i>		Dwarf marigold		
<i>Stellaria media</i>		Chick weed		

Consult all products labels mentioned in this label for **WARNINGS, PRECAUTIONS, ADDITIONAL WEEDS, USE RESTRICTIONS** and **DIRECTIONS FOR USE**.

The following products mentioned in this label may be replaced with equivalent products:

- **PALLADIUM PLUS 915 EC** (L 9359) = **PENTIUM PLUS 915 EC** (L 9741) = **PARTISAN PLUS 915 EC** (L 9942) (**S-metolachlor + benoxacor**),
- **PALLADIUM 960 EC** (L 9360) = **PENTIUM 960 EC** (L 9830) = **PARTISAN 960 EC** (L 9964) (**S-metolachlor**),
- **CAMPATOP® 225 EC** (L 5320 / N-AR 1115) = **BROMOXYNIL 225 EC** (L 4466 / W 130530) = **BROMOXYNIL 225 EC** (L 8340),
- **GLYGRAN 710 SG** (L 8449) = **SLASH 710 SG** (L 8450 / W 130058) = **LYNCH 710 SG (L 8450)** (**Glyphosate**),
- **VILLA 51** (L 8050 / W 130454 / N-AR 1090) = **WEN 51** (L 8315) and
- **THEORY 960 EC** (L 10494) = **NOTION 960 EC** (L 10495) (**fluxofenim**).

**PENTIUM 960 EC, PENTIUM PLUS 915 EC, SLASH 710 SG, BROMOXYNIL 225 EC , LYNCH 710 SG, PARTISAN 960 EC, PARTISAN PLUS 915 EC** and **NOTION 960 EC** are registered products of  
**UNIVERSAL CROP PROTECTION (PTY) LTD.**

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