

BEFORE USING THIS PRODUCT READ THE LABEL CAREFULLY!

Herbicide



PALLADIUM 960 EC

Reg. No. L 9360 Act/Wet No. 36 of/van 1947
W130772

2:28/3/2018 - Oct2020

A pre-emergence emulsifiable concentrate herbicide for the control of most annual grasses and certain broad-leaved weeds in dry beans, groundnuts, soybeans, sunflowers, grain- and forage sorghum, sugarcane, potatoes, tobacco, lupins and forestry plantations/areas as well as early post emergence in maize .

'n Emulgeerbare konsentraat vooropkomsonkruidodder vir die beheer van meeste eenjarige grasse en sekere breëblaaronkruid in droëbone, grondbone, sojabone, sonneblomme, graan- en voersorghum, suikerriet, aartappels, tabak, lupiene en bosboupplantasies/areas asook vroeg na-opkoms in mielies .

ACTIVE INGREDIENT / AKTIEWE BESTANDDEEL

s-metolachlor (chloroacetamide) **960 g/l** s-metolachloor (chloorasetamied)

HRAC HERBICIDE GROUP CODE **K3** HRAC ONKRUIDDODER GROEPKODE

Registration holder / Registrasiehouer:

Villa Crop Protection (Pty) Ltd.

Co. Reg. No. / Mpy. Reg. Nr. 1992/002474/07

PO Box / Posbus 10413, Aston Manor, 1630

Tel: 011 396 2233

Website / Webblad: www.villacrop.co.za

24 HR EMERGENCY NUMBERS:

Griffon Poison Information Centre: +27 82 446 8946

Villa Crop Protection Emergency number: +27 63 698 0668

24 Hr Transport / Spill emergency no: Envirosure +27 31 205 4918

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(Client: Villa Crop Protection)



villa

UN Number: 2902



HARMFUL
SKADELIK

Willow Set & Print 011 394-4486



GERUUKSAANWYSYNGS INGESLUIT

VERWYS NA BESONDERHEDE
GEDRUK OP HOUER/SAK

Date formulated:

Formuleringsdatum:

DIRECTIONS FOR USE ENCLOSED

REFER TO DETAILS PRINTED
ON CONTAINER/BAG

Batch number:

Lotnommer:

PALLADIUM 960 EC

Reg. No. L 9360 / W 130772 Act/Wet No. 36 of/van 1947

HRAC HERBICIDE GROUP CODE / HRAC ONKRUIDDODER GROEPKODE: K3

ACTIVE INGREDIENT / AKTIEWE BESTANDEEL:

s-metolachlor (chloroacetamide) / s-metolachloor (chloroasetamied)..... 960 g/l

Registration holder / Registrasiehouer:

VILLA CROP PROTECTION (PTY) LTD.

Co. Reg. No. 1992/002474/07 Mpy. Reg. Nr.

PO Box / Posbus 10413, ASTON MANOR, 1630

Tel. (011) 396 2233.

**WARNINGS**

- Handle with care.
- Harmful if inhaled. Harmful if swallowed.
- May cause eye and skin irritation.
- May cause skin sensitization.
- Toxic to fish.
- Store in a cool place away from food, feeds, seed, fertilizers and other agricultural chemicals.
- Keep out of reach of children, uninformed persons and animals.
- **In case of poisoning call a doctor and make this label available to him/her.**
- **Re-entry:** Do not enter treated field within 1 day after application unless wearing protective clothing.

Aerial application:

Notify all inhabitants in the immediate vicinity of the lands to be sprayed and issue the necessary warnings. Do not spray over or allow 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, 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 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 event of any uncertainty.

PRECAUTIONS

- Do not inhale fumes or the spray mist.
- Wear protective clothing: rubber gloves, rubber boots and a suitable face shield, when handling the concentrate, preparing the spray mixture and during application.
- Wash contaminated clothing after use.
- In case of accidental contact with skin or eyes, flush with plenty of cold water and get medical attention if necessary.
- Do not eat, drink or smoke whilst mixing or applying the product or before washing hands and face and change of clothing.
- Prevent spray drift and/or contamination onto susceptible crops, grazing, rivers, dams or any other areas not under treatment.
- Thoroughly clean spraying equipment directly after use and dispose of wash water where it will not contaminate food, grazing, boreholes, 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 (3) 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). Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages.

- Destroy the empty container by perforation and flattening and dispose of it in a safe way.
- **Never** re-use the empty container for any other purpose.
- Prevent contamination of food, feeds, drinking water and eating utensils.

SYMPTOMS OF HUMAN POISONING

Irritation effects on skin and mucous membranes are the most common reactions. May cause irritation to the eyes. Allergic skin reaction may occur. May cause skin sensitization. Large ingestions can cause nausea, vomiting, abdominal distress and diarrhoea.

FIRST AID TREATMENT

- **Skin contact:** Remove contaminated clothing, shoes and leather goods immediately. Wash skin gently and thoroughly with non-abrasive soap and large amounts of water. Seek medical advice if necessary.
- **Eye contact:** Rinse eyes immediately with large amounts of gently flowing cold water or normal saline solution, for approximately 15 to 20 minutes. Occasionally lift the upper and lower lids. If irritation persists, get medical attention.
- **Inhalation:** Immediately remove source of contamination or move victim to fresh air. Perform artificial respiration and administer oxygen if necessary. Keep person warm and at rest. **Seek medical advice immediately.**
- **Ingestion:** **Do not induce vomiting.** Get medical attention immediately. Qualified medical personnel should perform administration of gastric lavage or oxygen.

NOTE TO PHYSICIAN

No specific antidote. Treat symptomatically and supportively. Keep patient under observation. Perform gastric lavage and catharsis if the victim is not unconscious. If less than 10 mg per kg body weight was ingested, administer 30 to 60 g activated charcoal in 150 to 300 ml water.

RESISTANCE WARNING

PALLADIUM 960 EC is a group code K3 herbicide. Any weed population may contain individuals naturally resistant to **PALLADIUM 960 EC** and other group code K3 herbicides. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds may not be controlled by **PALLADIUM 960 EC** or any other group code K3 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.

USE RESTRICTIONS

- Do not apply **PALLADIUM 960 EC** to poorly drained soils or soils with a compaction layer, as waterlogging and herbicide injury may occur.
- Heavy rain (25 mm per day or 50 mm over a 3- to 7-day period) on very sandy soils (< 15 % clay) low in organic matter (< 1 %), as well as flood irrigation can reduce weed control performance.
- **PALLADIUM 960 EC** may damage the following crops under conditions as mentioned: Dry beans on fields where monoculture is practiced and soil borne diseases are prevalent, also dry beans and sunflowers on shallow, sandy, waterlogged soils with an impermeable clay layer at less than 100 cm depth. **PALLADIUM 960 EC** damage to dry beans is sometimes associated with hot, dry weather and a plough-sole in the soil.
- When **PALLADIUM 960 EC** is applied to dry beans or grain sorghum, the seed must be treated with effective fungicides to control seedling diseases, such as *Pythium* spp., *Rhizoctonia* spp., etc.
- Use restrictions for any herbicides used in combination with **PALLADIUM 960 EC**, must be adhered to.

DIRECTIONS FOR USE: Use only as directed.

Compatibility:

- **PALLADIUM 960 EC** is compatible with **Sundry 500 WP, Rapid 250 EC, SKOFFEL® 145 SL (L 4347), Ametryn 500 SC, MCPA 400 SL, 2,4-D Amine 480 SL, DIURON 800 SC (L 3200), SENCOR® 480 SC (L 3034), Agrazine 500 SC, Cantron® 480 SC, TERBUSIEN SUPER 600 SC (L 5435 / N-AR 1110), Campatop® 225 EC, Terbucide 600 WDG, Nicoron 750 WDG and Halo 750 WDG.**
- If tank mixtures are performed with other products, small quantities of the products in the correct ratio should be mixed with the appropriate quantity of water, to determine compatibility.

- Water quality and formulation of other products, may influence compatibility.

Mixing instructions:

- Shake container well before use. Close container after use.
- Half fill the spray tank with clean water; add the required amount of **PALLADIUM 960 EC**, while maintaining agitation. Then complete the filling operation.
- When mixing **PALLADIUM 960 EC** with other herbicides, use the following procedure:
 1. fill the spray tank three quarters with clean water. Add the required amount of complementary herbicide to the water, agitating continuously,
 2. continue filling the spray tank with water, and add the required amount of **PALLADIUM 960 EC** just before the tank is filled, to its full level.
- Ensure thorough agitation of the mixture in the tank during mixing and spraying.
- Spray mixtures must be sprayed out immediately and not allowed to stand in the spray tank overnight.
- Thoroughly flush out spraying equipment at the end of the spraying operation.

Application recommendation:

- Use accurately calibrated equipment with properly arranged, suitable nozzles and an efficient agitation mechanism.
- Prepare a fine, even and firm seedbed free of weeds, trash and clods.
- Apply **PALLADIUM 960 EC** or its tank mixtures preferably at planting or immediately after planting, but not later than three days after planting. Use 200 litres spray mixture per hectare for overall ground application and 30 to 40 litres per hectare for aerial application.
- **PALLADIUM 960 EC** can also be shallowly incorporated early in the season to improve reliability of weed control.
- **10 to 20 mm rain within 7 to 10 days after application is necessary for good results.**
- Under dry conditions, weed seedlings may emerge. These are usually stunted and can be controlled with a shallow cultivation, which also mixes the herbicide with the top 10 to 20 mm of soil.
- If soil crusting becomes a problem, rotary harrow in the same direction that the rows are planted, to assist emergence.
- Harrowing after application may reduce weed control, if untreated soil is thrown into deep planter furrows.
- **PALLADIUM 960 EC** has no post-emergence activity and can be applied post-emergence to the crop after a cultivation, when no weeds are present.
- Ensure that sufficient fertilizer is placed near the seed at planting, to promote vigorous seedling growth.

Aerial Application:

Aerial application of **PALLADIUM 960 EC** may only be done by a registered aerial application operator using a correctly calibrated, registered aircraft according to the instructions of SANS Code 10118 (Aerial Application of Agricultural Pesticides). It is important to 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:

- Flying height: The height of the spray boom should be maintained at 3 to 4 metres above the target. Do not spray when aircraft is in a climb, at the top of, or during a dive, or when banking.
- Use suitable atomising equipment (hydraulic nozzles or rotary atomisers) 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.
- 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.
- 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) and/or high humidity conditions (relative humidity 80 % and above) 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.
- Ensure that the fields are accurately marked and 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 spray log and kept for future reference.

Pre-emergence aerial application:

- **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:** Droplet coverage of 20 to 30 droplets per cm² must be recovered at the target.
- **Droplet size:** A droplet spectrum with a VMD of 350 to 400 micron is recommended. Ensure that the production of fine droplets (less than 150 micron with high drift & evaporation potential) is restricted to a minimum.

APPLICATION RATES

Refer to “USE RESTRICTIONS” and “DIRECTIONS FOR USE” above.

1.1. GROUNDNUTS, DRY BEANS, SUNFLOWERS, SOYBEANS AND LUPINS

Table 1.1: PALLADIUM 960 EC recommendations for use in broadleaf crops.

Soil Type	% Clay	PALLADIUM 960 EC ℓ / ha
Sand / loamy sand / sandy loam	0 to 20	0.6 to 0.8
Sandy clay loam	21 to 30	0.8 to 1.0
Sandy clay loam / sandy clay	> 30 %	1.0 to 1.3

NOTE

- The higher application rates of **PALLADIUM 960 EC** are recommended for control of Yellow nutsedge (*Cyperus esculentus*) and Crabfinger-grass (*Digitaria sanguinalis*) and also on soils with > 1.0 % organic matter.

1.2. GROUNDNUTS

Table 1.2: PALLADIUM 960 EC plus Sundry 500 WP recommendations for use in Groundnuts.

Soil Type % Clay	Dosage per hectare	Remarks
11 to >30	0.65 to 1.0 ℓ PALLADIUM 960 EC PLUS 70 to 80 g Sundry 500 WP	Apply at planting, or within 48 hours after planting. Use the lower dosage rates on more sandy soils and higher rates on heavier soils as indicated above. Refer to the Sundry 500 WP label for “ USE RESTRICTIONS ”, “ DIRECTIONS FOR USE ” and “ CROP RECOMMENDATIONS ”.

1.3. SOYBEANS

Table 1.3: PALLADIUM 960 EC Plus Sundry 500 WP recommendations for use in Soybeans.

Soil Type % Clay	Dosage per hectare	Remarks
11 to >30	0.65 to 1.0 ℓ PALLADIUM 960 EC PLUS 80 to 100 g Sundry 500 WP	Apply at planting, or within 48 hours after planting. Use the lower dosage rates on more sandy soils and higher rates on heavier soils as indicated above. Seed size: Smaller sized seed may be more susceptible to herbicide damage than larger seeds. The PALLADIUM 960 EC plus Sundry 500 WP mixture may be applied 2 weeks prior to planting. By doing this, the risk of crop injury will be reduced but the residual efficacy and thus control of weeds in the planting row may be compromised. Refer to the Sundry 500 WP label for “ USE RESTRICTIONS ”, “ DIRECTIONS FOR USE ” and “ CROP RECOMMENDATIONS ”.

Table 1.4: Weeds normally controlled in Groundnuts and Soybeans with a tank mixture of PALLADIUM 960 EC Plus 80 g Sundry 500 WP per hectare:

Annual grasses:	
<i>Eleusine indica</i>	Goose grass
Broadleaved weeds:	
<i>Amaranthus hybridus</i>	Common pigweed
<i>Chenopodium album</i>	White goosefoot
<i>Chenopodium carinatum</i>	Green goosefoot
<i>Crotalaria sphaerocarpa</i>	Mealie Crotalaria
<i>Schkuhria pinnata</i>	Dwarf marigold
<i>Tribulus terrestris</i>	Devil's thorn
Weeds controlled variably:	
<i>Datura ferox</i>	Large thorn apple
<i>Tagetes minuta</i>	Khakiweed

Table 1.5: Weeds normally controlled in Groundnuts and Soybeans with a tank mixture of PALLADIUM 960 EC Plus 100 g Sundry 500 WP per hectare:

Annual grasses:	
<i>Brachiaria eruciformis</i>	Sweet signal grass
<i>Chloris virgate</i>	Feathertop Chloris
<i>Digitaria sanguinalis</i>	Crab finger grass
<i>Echinochloa crusgalli</i>	Barnyard grass
<i>Eleusine indica</i>	Goose grass
<i>Panicum maximum</i>	Common buffalo grass
<i>Panicum schinzii</i>	Sweet buffalo grass
<i>Setaria pallide-fusca</i>	Red bristle grass
<i>Setaria verticillata</i>	Sticky bristle grass
<i>Tragus racemosus</i>	Large carrotseed grass
<i>Urochloa panicoides</i>	Herringbone grass

Table 1.5 (continued): Weeds normally controlled in Groundnuts and Soybeans with a tank mixture of PALLADIUM 960 EC Plus 100 g Sundry 500 WP per hectare:

Broadleaved weeds:	
<i>Amaranthus deflexus</i>	Perennial pigweed
<i>Amaranthus hybridus</i>	Common pigweed
<i>Amaranthus spinosus</i>	Thorny pigweed
<i>Amaranthus thunbergii</i>	Red pigweed
<i>Chenopodium album</i>	White goosefoot
<i>Chenopodium carinatum</i>	Green goosefoot
<i>Cleome menophylla</i>	Spindlepod
<i>Crotalaria sphaerocarpa</i>	Mielie Crotalaria
<i>Flaveria bidentis</i>	Smelter's bush
<i>Portulaca oleraceae</i>	Purslane
<i>Schkuhria pinnata</i>	Dwarf marigold
<i>Tribulus terrestris</i>	Devil's thorn
Weeds controlled variably:	
<i>Anthemis cotula</i>	Stink mayweed
<i>Bidens pilosa</i>	Common blackjack
<i>Commelina benghalensis</i>	Bengal wandering jew
<i>Cosmos bipinnatus</i>	Cosmos
<i>Datura ferox</i>	Large thorn apple
<i>Datura stamonium</i>	Common thorn apple
<i>Stellaria media</i>	Chickweed
<i>Tagetes minuta</i>	Khakiweed
<i>Xanthium strumarium</i>	Cocklebur

NOTE

As **Sundry 500 WP** controls annual broadleaved weeds, other broadleaved weed species not listed above may be controlled to a greater or lesser extent. The registration holder however does not accept any liability in respect of the control of unlisted weeds.

2. SUNFLOWERS**Table 2: PALLADIUM 960 EC plus Rapid 250 EC recommendations for use in Sunflowers.**

Soil Type & % Clay	PALLADIUM 960 EC ℓ / ha	Rapid 250 EC ℓ / ha
5 to 20	0.6 to 0.8	1.0
> 20	0.8 to 1.3	1.25
REMARKS		
Do not use Rapid 250 EC:		
<ul style="list-style-type: none"> - in seed, birdseed or confectionary type sunflowers. - on sunflowers which have been planted in very shallow soil. 		

3. POTATOES**NOTES**

- **Pre-emergence in respect of weeds:**
Apply 1.2 litres per hectare, under dry land conditions, pre-emergence to potatoes and weeds, after the first summer rains.
- **Early post-emergence in respect of weeds:**
 - **PALLADIUM 960 EC** is a pre-emergence herbicide. However, for early post weed emergence apply 1.2 litres per hectare under dry land conditions, after the first summer rains in a tank mixture with **Skoffel® 145 SL** at 1 to 2 litres per hectare.
 - **PALLADIUM 960 EC / Skoffel® 145 SL** mixtures **must not** be applied after 10 % potato emergence.
 - A rate of 1.0 litres per hectare **PALLADIUM 960 EC** can be applied under irrigation.
 - **PALLADIUM 960 EC** can also be applied post-emergence to the potatoes after ridging.

4. **MAIZE**

4.1 Post-emergence applications of **PALLADIUM 960 EC** that can be used after a pre-emergence application of **Palladium Plus 915 EC** are given in Table 4. (Consult the **Palladium Plus 915 EC** label).

Table 4.1: Palladium Plus 915 EC applied pre-emergence followed by **PALLADIUM 960 EC** plus **Terbusien Super 600 SC** early post-emergence.

Soil Type	% Clay	Palladium Plus 915 EC ℓ / ha	PALLADIUM 960 EC ℓ / ha	PLUS	Terbusien Super 600 SC ℓ / ha
Sand	0 to 10	0.4 to 0.5	0.3	+	2.2
Loamy sand / sandy loam	11 to 20	0.5 to 0.7	0.3	+	2.5
Sandy clay loam	21 to 30	0.7 to 0.8	0.35	+	3.0
Sandy clay loam / sandy clay	31 to 40	0.8 to 0.9	0.35 to 0.5	+	3.0
Sandy clay / turf	41 to 50	0.9 to 1.0	0.35 to 0.5	+	3.0

NOTES

- Use the higher application rates of **Palladium Plus 915 EC** for improved control of *Cyperus esculentus* (Yellow nutsedge), or for improved control of heavy infestations of *Digitaria sanguinalis* (Crabfinger-grass), or where **Palladium Plus 915 EC** is pre-plant incorporated, or where organic matter in the soil exceeds 1.0 %.
- Apply **PALLADIUM 960 EC + Terbusien Super 600 SC** (Table 4) early post-emergence, after the first cultivation.
- Early post-emergence treatments give more effective broadleaf weed control on soils with > 30 % clay.
- Under adverse weather conditions or with poor initial control, on soils with 31 to 40 % and 41 to 50 % clay, the application rates of **Terbusien Super 600 SC** can be increased to 4.0 and 5.0 litres per hectare, respectively.
- If **Triazine** sensitive crops such as groundnuts, dry beans, soybeans, sunflowers, wheat, vegetables, cotton and tobacco are planted as follow-up crops, the application rates of **Agrizine 500 SC** and **Terbusien Super 600 SC** should not exceed 2.0 litres per hectare. These low rates may still damage follow-up crops on the very sandy soils of the North-Western Free State or on calcareous soils and weed control may not always be satisfactory.
- If heavy rain occurs on light, sandy soils (< 15 % clay and < 0.5 % organic matter) poor weed control may result and a split application is preferred.
- Use a suitable penetrant with all post-emergence applications, with the exception of mixtures containing **2,4-D Amine 480 SL**.
- Consult the **Terbusien Super 600 SC**, **Agrizine 500 SC** and **2,4-D Amine 480 SL** labels for more particulars.

4.2 **PALLADIUM 960 EC plus Terbusien Super 600 SC preceded by EPTC 720 EC (L 4859):**

NOTES

- Apply **EPTC 720 EC** at normal recommended rates on soils up to 30 % clay and follow up early post-emergence with a tank mixture containing **PALLADIUM 960 EC** and **Terbusien Super 600 SC** (Table 5).

Table 4.2: PALLADIUM 960 EC plus Terbusien Super 600 SC applied early post-emergence as a tank mixture after initial application of **EPTC 720 EC**.

Soil Type	% Clay	PALLADIUM 960 EC ℓ / ha	PLUS	Terbusien Super 600 SC ℓ / ha
Sand	0 to 10	0.6	+	2.2
Loamy sand / sandy loam	11 to 20	0.8	+	2.5
Sandy clay loam	21 to 30	0.9	+	3.0

4.3 Post-emergence application of PALLADIUM 960 EC plus Cantron® 480 SC plus Terbusien Super 600 SC plus Villa 51 in maize for extended control of annual grass weeds:

NOTES

- Apply this post-emergence application as a follow up to a pre-emergence application of **Cantron® 480 SC** in a tank mixture with **Palladium Plus 915 EC / Pentium Plus 915 EC** or **Platinum Plus 915 EC / Metolachlor 915 EC** as indicated on the registered labels.
- To improve control of larger broadleaf weeds, Morning glory and other problem weeds add 250 ml **Amino 480 SL / 2,4-D Amine 480 SL** to the tank mixtures as listed below (do not add **Villa 51** or any other surfactant when **Amino 480 SL / 2,4-D Amine 480 SL** is used in a tank mixture).
- Certain weeds may not be controlled effectively at the lower dosage rates.
- Refer to the **Cantron® 480 SC** label for a list of additional weeds controlled by these products, as well as for **USE RESTRICTIONS** and **DIRECTIONS FOR USE**.
- Higher dosage rates of **Terbusien Super 600 SC** may be applied for control of additional broadleaf weed species and longer residual control of broadleaf weeds. Refer to the **Terbusien Super 600 SC** label for dosage rates and a list of additional weeds controlled by this product, as well as for **USE RESTRICTIONS** and **DIRECTIONS FOR USE**.

Table 4.3:

PALLADIUM 960 EC 410 to 510 ml / ha	PLUS	PLUS	PLUS
	Cantron® 480 SC 210 to 260 ml / ha	Terbusien Super 600 SC 800 ml / ha	Villa 51 (0.1 %)
WEEDS CONTROLLED Above-mentioned plus:			
Botanical name		Common name	
<i>Amaranthus hybridus</i>		Common pigweed	
<i>Bidens bipinnata</i>		Spanish blackjack	
<i>Bidens pilosa</i>		Blackjack	
<i>Chloris virgata</i> **		Feathertop Chloris	
<i>Citrullus lanatus</i>		Wild watermelon	
<i>Cleome monophylla</i>		Spindlepod	
<i>Commelina benghalensis</i> *		Benghal wandering Jew	
<i>Crotalaria sphaerocarpa</i>		Mealie crotalaria	
<i>Cyperus esculentus</i> **		Yellow nutsedge	
<i>Datura ferox</i>		Large thorn apple	
<i>Datura stramonium</i>		Thorn apple	
<i>Digitaria sanguinalis</i>		Crab fingergrass	
<i>Eleusine indica</i>		Goose grass	
<i>Galinsoga parviflora</i>		Gallant soldier	
<i>Hibiscus cannabinus</i> **		Kenaf	
<i>Hibiscus trionum</i>		Bladder weed	
<i>Ipomoea purpurea</i>		Common morning glory	
<i>Tagetes minuta</i>		Tall Khaki weed	
<i>Tribulus terrestris</i> **		Dubbeltjie	
<i>Urochloa panicoides</i> **		Herringbone grass	
<i>Xanthium strumarium</i> **		Cocklebur	

* Only at highest dosage rate.

** Variable control of these weeds (up to 80 % suppression for a period of 8 weeks):

4.4 Post-emergence application of PALLADIUM 960 EC plus Cantron® 480 SC plus Gatling 700 SC / Brenno 700 SC in maize for extended control of annual grass and broadleaf weeds:

NOTES

- Apply this post-emergence application as a follow up to a pre-emergence application of **Cantron® 480 SC** in a tank mixture with **Palladium Plus 915 EC / Pentium Plus 915 EC** or **Platinum Plus 915 EC / Metolachlor 915 EC** as indicated on the registered labels.
- To improve control of larger broadleaf weeds, Morning glory and other problem weeds add 250 ml **Amino 480 SL / 2,4-D Amine 480 SL** to the tank mixtures as listed below (do not add **Villa 51** or any other surfactant when **Amino 480 SL / 2,4-D Amine 480 SL** is used in a tank mixture).
- Certain weeds may not be controlled effectively at the lower dosage rates.
- Higher dosage rates of **Gatling 700 SC / Brenno 700 SC** may be applied for control of additional broadleaf weed species and longer residual control of broadleaf weeds. Refer to the **Gatling 700 SC / Brenno 700 SC** label for dosage rates, and a list of additional weeds controlled by this product, as well as for **USE RESTRICTIONS** and **DIRECTIONS FOR USE**.

Refer to the **Cantron® 480 SC** and **Gatling 700 SC / Brenno 700 SC** labels for a list of additional weeds controlled by these products, as well as for **USE RESTRICTIONS** and **DIRECTIONS FOR USE**.

Table 4.4:

PALLADIUM 960 EC 410 ml / ha	PLUS	PLUS	PLUS
		Cantron® 480 SC 210 to 260 ml / ha	Gatling 700 SC / Brenno 700 SC 1.0 l / ha
WEEDS CONTROLLED			
Botanical name		Common name	
<i>Amaranthus hybridus</i>		Common pigweed	
<i>Chenopodium album</i>		White goosefoot	
<i>Commelina benghalensis</i> *		Bengal wandering jew	
<i>Eleusine indica</i>		Goose grass	
<i>Portulaca oleracea</i>		Purslane	
<i>Tribulus terrestris</i>		Dubbeltjie	
<i>Urochloa panicoides</i>		Garden Urochloa	

* Only at highest dosage rate.

4.5 Post-emergence application of PALLADIUM 960 EC plus Cantron® 480 SC plus Campatop® 225 EC / Bromoxynil 225 EC plus Terbuticide 600 WDG / Terbuweed 600 WDG or Terbusien Super 600 SC in maize:

NOTES

- This treatment can be applied as a post-emergence application or as a follow up to a pre-emergence application of **Cantron® 480 SC** in tank mixture with **Palladium Plus 915 EC / Pentium Plus 915 EC** or **Metolachlor 800 EC** or **Platinum Plus 915 EC / Metolachlor 915 EC** or as indicated on the registered labels.
- **Do not** add **Villa 51** or any other wetting agent to any mixture containing **Campatop® 225 EC / Bromoxynil 225 EC** as this may cause damage to the crop.
- Refer to the **Campatop® 225 EC / Bromoxynil 225 EC** and **Terbusien Super 600 SC** or **Terbuticide 600 WDG / Terbuweed 600 WDG** labels for a list of additional weeds controlled by these products, as well as for **USE RESTRICTIONS** and **DIRECTIONS FOR USE**.

Higher dosage rates of **Terbusien Super 600 SC** or **Terbuticide 600 WDG / Terbuweed 600 WDG** may be applied for control of additional broadleaf weed species and longer residual control of broadleaf weeds. Refer to the **Terbusien Super 600 SC** or **Terbuticide 600 WDG / Terbuweed 600 WDG** labels for dosage rates, and a list of additional weeds controlled by this product, as well as for **USE RESTRICTIONS** and **DIRECTIONS FOR USE**.

Table 4.5:

PALLADIUM 960 EC 400 to 520 ml / ha	PLUS	PLUS	PLUS	
	Cantron® 480 SC 210 to 260 ml / ha	Campatop® 225 EC / Bromoxynil 225 EC 500 ml / ha	Terbuweed 600 WDG / Terbucide 600 WDG 800 g / ha	OR Terbusien Super 600 SC 800 ml / ha
WEEDS CONTROLLED:				
Botanical name		Common name		
<i>Acanthospermum hispidium</i>		Upright starbur		
<i>Amaranthus hybridus</i>		Common pigweed		
<i>Bidens pilosa</i>		Common blackjack		
<i>Chenopodium album</i>		White goosefoot		
<i>Commelina benghalensis</i> *		Wandering jew		
<i>Cyperus esculentus</i> *		Yellow nutsedge		
<i>Digitaria sanguinalis</i>		Crab finger grass		
<i>Datura ferox</i>		Large thorn apple		
<i>Eleusine indica (africana)</i>		Goose grass		
<i>Galinsoga parviflora</i>		Gallant soldier		
<i>Emex australis</i> **		Spiny Emex		
<i>Richardia brasiliensis</i>		Mexican Richardia		
<i>Tagetes minuta</i>		Tall Khaki weed		
<i>Urochloa panicoides</i>		Herringbone grass / garden urochloa		
<i>Xanthium strumarium</i> *		Cocklebur*		

* Only at highest dosage rate.

** *Emex australis* needs 750 ml Campatop® 225 EC / Bromoxynil 225 EC to be controlled.

4.6 Post-emergence application of PALLADIUM 960 EC plus Cantron® 480 SC plus Terbucide 600 WDG / Terbuweed 600 WDG plus Villa 51 in maize:

NOTES

- This treatment can be applied as a post-emergence application or as a follow up to a pre-emergence application of Cantron® 480 SC in tank mixture with Palladium Plus 915 EC / Pentium Plus 915 EC or Platinum Plus 915 EC / Metolachlor 915 EC as indicated on the registered labels.
- A Villa approved adjuvant or the adjuvant Villa 51 at 0.1 % must be used with all post-emergence applications of CANTRON® 480 SC plus Terbucide 600 WDG / Terbuweed 600 WDG, as indicated on the registered label.
- Refer to the Terbucide 600 WDG / Terbuweed 600 WDG labels for list of additional weeds controlled by these products, as well as for USE RESTRICTIONS and DIRECTIONS FOR USE.
- Higher dosage rates of Terbucide 600 WDG / Terbuweed 600 WDG may be applied for control of additional broadleaf weed species and longer residual control of broadleaf weeds. Refer to the Terbucide 600 WDG / Terbuweed 600 WDG label for dosage rates, and a list of additional weeds controlled by this product, as well as for USE RESTRICTIONS and DIRECTIONS FOR USE.

Table 4.6:

PALLADIUM 960 EC 260 to 520 ml / ha	PLUS <i>Terbucide 600 WDG</i> <i>/ Terbuweed 600 WDG</i> 800 g / ha	PLUS <i>Cantron® 480 SC</i> 210 to 260 ml / ha	PLUS <i>Villa 51</i> (0.1 %)
WEEDS CONTROLLED			
Botanical name		Common name	
<i>Acanthospermum hispidum</i>		Upright starbur	
<i>Amaranthus hybridus</i>		Common pigweed	
<i>Bidens pilosa</i>		Common blackjack	
<i>Chenopodium album</i>		White goosefoot	
<i>Commelina benghalensis*</i>		Wandering jew	
<i>Cyperus esculentus*</i>		Yellow nutsedge	
<i>Datura ferox</i>		Large thorn apple	
<i>Galinsoga parviflora</i>		Gallant soldier	
<i>Portulaca oleracea</i>		Purslane	
<i>Richardia brasiliensis</i>		Mexican Richardia	
<i>Tagetes minuta</i>		Tall Khaki weed	
<i>Xanthium strumarium*</i>		Cocklebur	

* Only at highest dosage rate.

4.7 Post-emergence application of PALLADIUM 960 EC plus Cantron® 480 SC plus Nicoron 750 WDG / Nicosulfuron 750 WDG plus Terbucide 600 WDG / Terbuweed 600 WDG or Terbusien Super 600 SC plus Villa 51 for control of Sorghum species and certain broadleaf weeds in maize:

NOTES

- This treatment can be applied as a stand-alone post-emergence application or as a follow up to a pre-emergence application of **Cantron® 480 SC** in tank mixture with **Palladium Plus 915 EC / Pentium Plus 915 EC** or **Platinum Plus 915 EC / Metolachlor 915 EC** as indicated on the registered labels.
- **Premium 900 EC / Acetochlor 900 EC** can be added at 400 to 800 ml per hectare to this tank mixture for residual control of grass weeds.
- A Villa approved adjuvant or the adjuvant **Villa 51** at 0.1 % must be used with all post-emergence applications of **Cantron® 480 SC** plus **Nicoron 750 WDG / Nicosulfuron 750 WDG**, as indicated on the registered label.
- This mixture cannot be applied by means of aerial application.
- Apply with dropped nozzles (directed spray) in order to avoid spraying directly into plant funnel and to ensure that the weeds are not shielded from the spray by the crop's leaves.
- Refer to the **Nicoron 750 WDG / Nicosulfuron 750** label for a complete list of weeds controlled by **Nicoron 750 WDG / Nicosulfuron 750 WDG**.
- Adhere to all **USE RESTRICTIONS** and **DIRECTIONS FOR USE** as indicated on the **Nicoron 750 WDG / Nicosulfuron 750 WDG, Terbucide 600 WDG / Terbuweed 600 WDG or Terbusien Super 600 SC** labels.
- Higher dosage rates of **Terbusien Super 600 SC** or **Terbucide 600 WDG / Terbuweed 600 WDG** may be applied for control of additional broadleaf weed species and longer residual control of broadleaf weeds. Refer to the **Terbusien Super 600 SC or Terbucide 600 WDG / Terbuweed 600 WDG** labels for dosage rates, and a list of additional weeds controlled by this product, as well as for **USE RESTRICTIONS** and **DIRECTIONS FOR USE**.

Table 4.7:

PALLADIUM 960 EC 260 to 520 ml / ha	PLUS	PLUS		PLUS
	Nicoron 750 WDG / Nicosulfuron 750 WDG 60 g / ha	Terbucide 600 WDG / Terbuweed 600 WDG 800 g / ha	OR Terbusien Super 600 SC 800 ml / ha	Cantron® 480 SC 260 ml / ha
PLUS 0.1 % Villa 51				
WEEDS NORMALLY CONTROLLED From seedling (1 to 2 leaves) to stage as indicated.				
Botanical name		Common name		Maximum size of weeds at time of application
Grasses:				
<i>Panicum schinzii</i>		Sweet buffalo grass		Up to tillering stage
<i>Rottboellia cochinchinensis</i>		Guineafowl grass		Up to 4 leaves
<i>Setaria pallide-fusca</i>		Red bristle grass		Up to 4 leaves
Broadleaf weeds:				
<i>Acanthospermum hispidum</i>		Upright starbur		6 leaf
<i>Amaranthus hybridus</i>		Common pigweed		4 leaves
<i>Amaranthus thunbergii</i>		Red pigweed		4 leaves
<i>Amaranthus deflexus</i>		Perennial pigweed		4 leaves
<i>Bidens pilosa</i>		Common blackjack		6 leaf
<i>Cleome monophylla</i>		Spindlepod		6 leaves
<i>Commelina benghalensis</i> *		Wandering Jew		6 leaf
<i>Datura ferox</i>		Large thorn apple		3 leaves
<i>Datura stramonium</i>		Thorn apple		4 leaves
<i>Galinsoga parvilifera</i>		Gallant soldier		6 leaf
<i>Portulaca oleracea</i>		Purslane		6 leaf
<i>Richardia brasiliensis</i>		Tropical Richardia		6 leaf
<i>Schkuhria pinnata</i>		Dwarf marigold		3 leaves
<i>Tagetes minuta</i>		Tail khakiweed		4 leaves
<i>Tribulus terrestris</i>		Common dubbeltjie		4 leaves
<i>Xanthium strumarium</i> *		Cocklebur		6 leaf
Sorghum species:				
<i>Sorghum bicolor</i>		Wild grain sorghum		Up to 7 leaves
<i>Sorghum halepense</i>		Johnson grass		Up to 7 leaves

* Only at highest dosage rate.

4.8 Post-emergence application of PALLADIUM 960 EC plus Cantron® 480 SC plus Halo 750 WDG / Crown 750 WDG plus Terbucide 600 WDG / Terbuweed 600 WDG or Terbusien Super 600 SC plus Villa 51 or Summit Super for the control of Yellow and Purple nutsedge and certain broadleaf weeds in maize:

NOTES

- Apply this post-emergence application as a follow up to a pre-emergence application of **Cantron® 480 SC** in tank mixture with **Palladium Plus 915 EC / Pentium Plus 915 EC** or **Platinum Plus 915 EC / Metolachlor 915 EC** as indicated on the registered labels.
- A Villa approved adjuvant or the adjuvant **Villa 51** or **Summit Super** must be used with all post-emergence applications of **Cantron® 480 SC** plus **Halo 750 WDG / Crown 750 WDG** plus **Terbucide 600 WDG / Terbuweed 600 WDG** or **Terbusien Super 600 SC**, as indicated on the registered product labels.
- For optimum control of Nutsedge, apply **Cantron® 480 SC** plus **Halo 750 WDG / Crown 750 WDG** plus **Terbucide 600 WDG / Terbuweed 600 WDG** or **Terbusien Super 600 SC** on actively growing Nutsedge under moist conditions, 3 to 5 weeks after planting. Ensure that the application is made 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 sub-optimal results.

- Refer to the **Halo 750 WDG / Crown 750 WDG**, **Terbucide 600 WDG / Terbuweed 600 WDG** or **Terbusien Super 600 SC** labels for **USE RESTRICTIONS** and **DIRECTIONS FOR USE**.
- Higher dosage rates of **Terbusien Super 600 SC** or **Terbucide 600 WDG / Terbuweed 600 WDG** may be applied for control of additional broadleaf weed species and longer residual control of broadleaf weeds. Refer to the **Terbusien Super 600 SC** or **Terbucide 600 WDG / Terbuweed 600 WDG** labels for dosage rates, and a list of additional weeds controlled by this product, as well as for **USE RESTRICTIONS** and **DIRECTIONS FOR USE**.

Table 4.8:

PALLADIUM 960 EC 260 to 520 ml / ha	PLUS	PLUS	PLUS
	Halo 750 WDG / Crown 750 WDG 50 g / ha	Terbucide 600 WDG / Terbuweed 600 WDG 800 g / ha OR Terbusien Super 600 SC 800 ml / ha	Cantron® 480 SC 260 ml / ha
PLUS 0.1 % Villa 51			
WEEDS CONTROLLED THE FOLLOWING WEEDS ARE NORMALLY CONTROLLED AT THE DOSAGE RATE AS INDICATED ABOVE:			
Botanical name		Common name	
<i>Acanthospermum hispidum</i>		Upright starbur	
<i>Amaranthus hybridus</i>		Common pigweed	
<i>Amaranthus spinosus</i>		Thorny pigweed	
<i>Bidens pilosa</i>		Common blackjack	
<i>Cleome monophylla</i>		Single leaved cleome	
<i>Chenopodium album</i>		White goosefoot	
<i>Chenopodium carinatum</i>		Green goosefoot	
<i>Commelina benghalensis</i> *		Wandering Jew	
<i>Cyperus esculentus</i> *		Yellow nutsedge	
<i>Cyperus rotundus</i> *		Purple nutsedge	
<i>Datura ferox</i>		Large thorn apple	
<i>Galinsoga parviflora</i>		Gallant soldier	
<i>Ipomoea purpurea</i>		Common morning glory	
<i>Portulaca oleracea</i>		Purslane	
<i>Richardia brasiliensis</i>		Tropical Richardia	
<i>Tagetes minuta</i>		Tall Khaki weed	
<i>Xanthium strumarium</i> *		Cocklebur	

* Only at highest dosage rate.

4.9 Post-emergence application of PALLADIUM 960 EC plus Cantron® 480 SC plus Slash Plus 540 SL / Panga Plus 540 SL plus Terbucide 600 WDG / Terbuweed 600 WDG plus in GLYPHOSATE TOLERANT maize cultivars:

NOTES

- **Important:** This tank mixture of **PALLADIUM 960 EC plus Cantron® 480 SC plus Slash Plus 540 SL / Panga Plus 540 SL** plus **Terbucide 600 WDG / Terbuweed 600 WDG** may only be applied on certified maize cultivars containing **GLYPHOSATE TOLERANT** genetic material.
- This treatment can be applied as a stand-alone post-emergence application or as a follow up to a pre-emergence application of **Cantron® 480 SC** in tank mixture with **Palladium Plus 915 EC / Pentium Plus 915 EC** or **Platinum Plus 915 EC / Metolachlor 915 EC**, as indicated on the registered labels.
- Use the higher dosage rate for more difficult weeds or higher weed pressure situations. Apply to young actively growing weeds.
- Refer to the **Panga Plus 540 SL / Slash Plus 540 SL** and **Terbucide 600 WDG / Terbuweed 600 WDG** labels for **USE RESTRICTIONS** and **DIRECTIONS FOR USE**.

- Higher dosage rates of **Terbucide 600 WDG / Terbuweed 600 WDG** may be applied for control of additional broadleaf weed species and longer residual control of broadleaf weeds. Refer to the **Terbucide 600 WDG / Terbuweed 600 WDG** label for dosage rates, and a list of additional weeds controlled by this product, as well as for **USE RESTRICTIONS** and **DIRECTIONS FOR USE**.

Table 4.9:

PALLADIUM 960 EC 330 to 490 ml / ha	PLUS <i>Slash Plus 540 SL / Panga Plus 540 SL</i> 1300 to 1700 ml / ha	PLUS <i>Terbucide 600 WDG / Terbuweed 600 WDG</i> 800 g / ha	PLUS <i>Cantron® 480 SC</i> 210 to 260 ml / ha
WEEDS CONTROLLED			
Botanical name		Common name	
<i>Acanthospermum hispidium</i>		Upright starbur	
<i>Amaranthus hybridus</i>		Common pigweed	
<i>Amaranthus spinosus</i>		Thorny pigweed	
<i>Bidens pilosa</i>		Common blackjack	
<i>Chenopodium album</i>		White goosefoot	
<i>Chenopodium carinatum</i>		Green goosefoot	
<i>Commelina benghalensis</i> *		Bengal wandering Jew	
<i>Cyperus esculentus</i> *		Yellow nutsedge	
<i>Datura ferox</i>		Large thorn apple	
<i>Digitaria sanguinalis (adscendens)</i>		Crab finger grass	
<i>Eleusine indica</i>		Goose grass	
<i>Galinsoga parviflora</i>		Gallant soldier	
<i>Ipomoea obscura</i>		Wild Petunia	
<i>Portulaca oleracea</i>		Purslane	
<i>Richardia brasiliensis</i>		Mexican richardia	
<i>Tagetes minuta</i>		Tall Khaki weed	
<i>Xanthium strumarium</i> *		Cocklebur	

* Only at highest dosage rate.

5. GRAIN- AND FORAGE SORGHUM

PALLADIUM 960 EC can be used in sorghum provided the seed has been pretreated, as prescribed, with a suitable, registered seed treatment to prevent phytotoxicity by **PALLADIUM 960 EC**.

Table 5: PALLADIUM 960 EC applied pre-emergence in sorghum after seed treatment.

Soil Type	% Clay	PALLADIUM 960 EC l / ha
Sand / loamy sand / sandy loam	0 to 20	Not recommended
Sandy clay loam	21 to 30	0.8
Sandy clay loam / sandy clay	31 to 40	1.0
Turf	> 40	1.0 to 1.3

NOTE

- An application rate of 2.0 litres per hectare is recommended on turf soils, for improved control of Sweet signal grass and Yellow nutsedge.
- Prevent the formation of a soil crust through a shallow cultivation as soon as possible.
- Very wet conditions during the first 4 to 6 weeks after **PALLADIUM 960 EC** application may damage the sorghum, but it is normally outgrown.
- The presence of seedling diseases may result in **PALLADIUM 960 EC** damage to the sorghum.
- Post emergence applications of **Agrizine 500 SC** or **Terbusien Super 600 SC** can be applied in tank mixture with **2,4-D Amine 480 SL** for broad leaf control in sorghum. Consult the **Agrizine 500 SC** or **Terbusien Super 600 SC** labels for details.

6. SUGARCANE

Pre-emergence application:

Table 6.1: PALLADIUM 960 EC can be applied pre-emergence as follows.

<i>Application rates and mixtures</i>	<i>Comments</i>
PALLADIUM 960 EC 1.0 to 1.6 ℓ/ ha	Apply higher rates if clay content > 35 %, to improve control of <i>Panicum maximum</i> and <i>Cyperus esculentus</i> and for longer residual control.
PALLADIUM 960 EC 2.0 ℓ/ ha	Apply on soils with > 35 % clay and > 1 % organic matter.
PALLADIUM 960 EC As above PLUS 1.5 ℓ/ ha Skoffel® 145 SL	If weeds have started to emerge.
PALLADIUM 960 EC As above PLUS 2.0 to 3.0 ℓ/ ha Ametryn 500 SC	For improved broadleaf control use the low rate of Ametryn 500 SC on light to medium soils and the high rate on medium to heavy soils.
PALLADIUM 960 EC As above followed post-emergence by MCPA 400 SL OR 2,4-D Amine 480 SL	Consult the MCPA 400 SL or 2,4-D Amine 480 SL labels for the complete particulars.

Post-emergence application (Sugarcane):

Table 6.2: PALLADIUM 960 EC can be applied post-emergence, if it is applied in a tank mixture with a herbicide with post-emergence activity as recommended below.

<i>Application rates and mixtures</i>	<i>Comments</i>
PALLADIUM 960 EC As for pre-emergence PLUS Ametryn 500 SC at 2.0 to 3.0 ℓ/ ha PLUS Skoffel® 145 SL at 1.5 ℓ/ ha	Skoffel® 145 SL can only be applied up to the 3-leaf stage of the sugarcane. Do not use any surfactant.
PALLADIUM 960 EC As for pre-emergence PLUS Ametryn 500 SC at 6.0 ℓ/ ha PLUS 0.2 % non-ionic surfactant	Apply overall up to 5-leaf stage of sugarcane and as a directed spray later. <i>Panicum maximum</i> control with this treatment may be variable.
PALLADIUM 960 EC As for pre-emergence PLUS Ametryn 500 SC at 4.0 to 5.0 ℓ/ ha PLUS MCPA 400 SL at 3.5 ℓ/ ha OR 2,4-D Amine 480 SL at 3.0 ℓ/ ha PLUS 0.2 % non-ionic surfactant	Direct spray between cane rows especially after the 5-leaf stage. Use the higher Ametryn 500 SC rate for severe grass infestations. <i>Panicum maximum</i> control with this treatment may be variable.
PALLADIUM 960 EC As for pre-emergence PLUS Diuron 800 SC at 2.0 to 2.5 ℓ/ ha PLUS Skoffel® 145 SL at 1.5 ℓ/ ha	Skoffel® 145 SL can only be applied up to the 3-leaf stage of the sugarcane. Do not use any surfactant. Use the higher rate of Diuron 800 SC to improve residual control.
PALLADIUM 960 EC As for pre-emergence PLUS Sencor® 480 SC at 2.0 ℓ/ ha PLUS Skoffel® 145 SL at 1.5 ℓ/ ha	Skoffel® 145 SL can only be applied up to the 3-leaf stage of the sugarcane. Do not use any surfactant. Do not apply Sencor® 480 SC on soils with < 6 % clay.

7. TOBACCO (Summer rainfall region only).

Apply **PALLADIUM 960 EC** within 3 days after transplanting while the plants are still wilted. When the tobacco is turgid, the spray must be directed to prevent it from entering the funnel, where the growing point may be damaged. If actively growing leaves are sprayed, scorching may occur. If **PALLADIUM 960 EC** is sprayed on gravelly or soils with less than 10 % clay, the spray should be directed at least 10 cm on both sides away from the plant row to prevent leaching to the root zone of the tobacco.

The **PALLADIUM 960 EC** can be activated by applying overhead irrigation of 10 to 15 mm within 2 to 3 days after application, on soils with less than 35 % clay and 20 to 30 mm on soils with more than 35 % clay.

Table 7: PALLADIUM 960 EC application rates in Tobacco.

<i>Soil Type</i>	<i>% Clay</i>	<i>PALLADIUM 960 EC ℓ / ha</i>
Sand	0 to 10	0.5
Loamy sand / sandy loam	11 to 20	0.7
Sandy clay loam	21 to 35	1.0
Sandy clay	> 35	1.4

NOTE

- Only strong and healthy plants should be transplanted.
- Tobacco should be properly transplanted. Roots that are exposed to **PALLADIUM 960 EC** at application will result in adversely affected plants.

8. FORESTRY (PINE & EUCALYPT PLANTATIONS)

Table 8: PALLADIUM 960 EC dosage rates in forestry applications.

<i>Soil Type</i>	<i>% Clay</i>	<i>PALLADIUM 960 EC ℓ / ha</i>
Sand / loamy sand / sandy loam	0 to 20	1.0
Sandy clay loam	21 to 30	1.3
Sandy clay loam / sandy clay	>30	1.6 to 2.0

NOTE

- Apply **PALLADIUM 960 EC** on a well-prepared weed-free seedbed immediately following transplanting of the young trees.
- Where grass weeds are present at the time of planting it is recommended to apply a tank mixture of **Skoffel® 145 SL** plus **PALLADIUM 960 EC**, at recommended rates, prior to planting to kill the emerged weeds and create a pre-emergence situation for **PALLADIUM 960 EC** to act effectively.
- Where grass weeds are present after planting of the trees, follow the **PALLADIUM 960 EC** application one week later with an application of **Future 100 EC**, as recommended.

Consult the **Sundry 500 WP**, **Radical 250 EC**, **Palladium Plus 915 EC**, **Platinum Plus 915 EC**, **Gatling 700 SC**, **Skoffel® 145 SL**, **Ametryn 500 SC**, **MCPA 400 SL**, **2,4-D Amine 480 SL**, **EPTC 720 EC**, **Diuron 800 SC**, **Future 100 EC**, **Sencor® 480 SC**, **Agrazine 500 SC**, **Cantron® 480 SC**, **Campatop® 225 EC**, **Terbucide 600 WDG**, **Nicoron 750 WDG**, **Halo 750 WDG**, **Premium 900 EC**, **Slash Plus 540 SL** and **Terbusien Super 600 SC** labels for **WARNINGS**, **PRECAUTIONS** and **DIRECTIONS FOR USE**.

WEEDS CONTROLLED BY PALLADIUM 960 EC:	
<i>Brachiaria eruciformis</i>	Sweet signal grass
<i>Chloris virgata</i>	Feather-top Chloris
<i>Dactyloctenium aegyptium</i>	Crowfoot
<i>Digitaria sanguinalis</i>	Crabfinger-grass
<i>Digitaria nuda</i>	Naked crabfinger grass
<i>Echinochloa crusgalli</i>	Barnyard grass
<i>Eleusine indica</i>	Goose grass
<i>Panicum maximum</i>	Common buffalo grass
<i>Panicum schinzii</i>	Sweet buffalo grass
<i>Pseudobrachiaria deflexa</i>	False signal grass
<i>Setaria pallide-fusca</i>	Red bristle grass
<i>Setaria verticillata</i>	Bur bristle grass
<i>Tragus berteronianus</i>	Small carrotseed grass
<i>Tragus racemosus</i>	Large carrotseed grass
<i>Urochloa mosambicensis</i>	Bushveld herringbone grass
<i>Urochloa panicoides</i>	Herringbone grass

WEEDS VARIABLY CONTROLLED BY PALLADIUM 960 EC:	
<i>Amaranthus hybridus</i>	Common pigweed
<i>Amaranthus spinosus</i>	Thorny pigweed
<i>Amaranthus thunbergii</i>	Red pigweed
<i>Chenopodium carinatum</i>	Green goosefoot
<i>Cleome monophylla</i>	Spindlepod
<i>Commelina benghalensis</i>	Wandering Jew
<i>Cyperus esculentus</i>	Yellow nutsedge
<i>Datura ferox</i>	Large thorn apple
<i>Datura stramonium</i>	Thorn apple
<i>Galinsoga parviflora</i>	Gallant soldier
<i>Nicandra physaloides</i>	Apple of Peru
<i>Portulaca oleracea</i>	Purslane

NOTE

- The control of Yellow nutsedge (*Cyperus esculentus*) is dependent on a thorough ploughing immediately before planting, application 1 to 2 days after planting, which is followed by about 10 to 20 mm rain within 7 to 10 days after ploughing. More rain is required on heavy soils.

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

- MCPA 400 SL** (L 5793 / N-AR 1092) = **MCPA 400 SL** (L 5795 / W 130452),
- AMETRYN 500 SC** (L 7742) = **AMETRYN 500SC** (L 7743),
- 2,4-D AMINE 480 SL** (L 4505 / N-AR 1096 / W 130459) = **AMINO 480 SL** (L 8034) = **2,4-D AMINE SL** (L 8145),
- RADICAL 250 EC** (L 9159) = **RAPID 250 EC** (L 9160) (**Flurochloridone**),
- SUNDRY 500 WP** (L 9299) = **SYMPHONY 500 WP** (L 9300) (**Flumioxazin**),
- FUTURE 100 EC** (L 9037) = **FORWARD 100 EC** (L 9036) (**Propaquizafop**),
- CANTRON® 480 SC** (L8365 / N-AR 1323 / W 130651) = **ASTRON® 480 SC** (L 8366) = **CANONNE 480 SC** (L 8735) (**Mesotrione**),
- AGRIZINE 500 SC** (L 5387 / W 130121) = **ATRAFLO® 500 SC** (L 5434),
- PALLADIUM PLUS 915 EC** (L 9359) = **PENTIUM PLUS 915 EC** (L 9741) (**S-metolachlor**),
- PLATINUM PLUS 915 EC** (L 7844) = **METOLACHLOR 915 EC** (L 7841 / N-AR 1361) = **PLATINUM PLUS 915 EC** (L 8249),
- PREMIUM 900 EC** (L 7637) = **ACETOCHLOR 900 EC** (L 7633 / N-AR 1101) = **ARMANN 900 EC** (L 8626),
- CAMPATOP® 225 EC** (L 5320 / N-AR 1115) = **BROMOXYNIL 225 EC** (L 4466 / W 130530) = **BROMOXYNIL 225 EC** (L 8340),
- TERBUCIDE 600 WDG** (L 8799 / W 1301046) = **TERBUWEED 600 WDG** (L 8800) = **TERBUMAIS 600 WDG** (L 8798) (**Terbuthylazine**),

- **GATLING 700 SC** (L 8349) = **BRENNO 700 SC** (L 8391),
- **NICORON 750 WDG** (L 8045 / N-AR 1335) = **NICOSULFURON 750 WDG** (L 8059) = **ODIN 750 WDG** (L 8495),
- **HALO 750 WDG** (L 8283 / N-AR 1337) = **CROWN 750 WDG** (L 8282) = **STRIGO 750 WDG** (L 8671) (**Halosulfuron**) and
- **SLASH PLUS 540 SL** (L 8819) = **PANGA PLUS 540 SL** (L 8818) = **LYNCH PLUS 540 SL** (L 8816) (**Glyphosate**).

AMETRYN 500 SC, MCPA 400 SL, AMINO 480 SL, TERBUSIEN SUPER 600 SC, RAPID 250 EC, SYMPHONY 500 WP, FORWARD 100 EC, BRENNO 700 SC, NICORON 750 WDG, HALO 750 WDG, TERBUWEED 600 WDG, PALLADIUM PLUS 915 EC, PLATINUM PLUS 915 EC, ACETOCHLOR 900 EC, PANGA PLUS 540 SL and/en are registered products of / is geregistreeerde produkte van **Villa Crop Protection (Pty) Ltd.**

CAMPATOP® 225 EC, ATRAFLO® 500 SC and/en **CANTRON® 480 SC** are registered trademarks of / is geregistreeerde handelsmerke van **Villa Crop Protection (Pty) Ltd.**

SKOFFEL® 145 SL and/en **ASTRON® 480 SC** are registered trademarks of / is geregistreeerde handelsmerke van **Universal Crop Protection (Pty) Ltd.**

2,4-D AMINE 480 SL, MCPA 400 SL, AMETRYN 500SC, RADICAL 250 EC, FUTURE 100 EC, AGRIZINE 500 SC, SUNDRY 500 WP, SLASH 360 SL, GATLING 700 SC, BROMOXYNIL 225 EC SLASH PLUS 540 SL, NICOSULFURON 750 WDG, CROWN 750 WDG, TERBUCIDE 600 WDG, PENTIUM PLUS 915 EC, METOLACHLOR 915 EC, PREMIUM 900 EC and/en **EPTC 720 EC** are registered products of / is geregistreeerde produkte van **Universal Crop Protection (Pty) Ltd.**

2,4-D AMINE SL, BROMOXYNIL 225 EC, LYNCH PLUS 540 SL, CANONNE 480 SL, TERBUMAIS 600 WDG, PLATINUM PLUS 915 EC, ARMANN 900 EC, STRIGO 750 WDG and/en **ODIN 750 WDG** are registered products of / is geregistreeerde produkte van **Cropasure (Pty) Ltd.**

SENCOR® 480 SL is a registered trademark of / is 'n geregistreeerde handelsmerk van **Bayer CropScience.**

DIURON 800 SC is a registered product of / is geregistreeerde produk van **Dow AgroSciences Southern Africa (Pty) Ltd.**