

Kaplyn 960 EC

Reg. No.: L 9971 Act/Wet No. 36 of/van 1947



A pre-emergence emulsifiable concentrate herbicide for the control of most annual grasses and certain broad-leaved weeds in dry beans, sugarcane as well as early post-emergence in maize.

ACTIVE INGREDIENT

S-metolachlor (chloro-acetanilide) 960 g/l

GROUP

15

HERBICIDE



WARNING

HAZARD STATEMENTS: May be harmful if swallowed | May be harmful in contact with skin | Harmful if inhaled | May cause an allergic skin reaction | Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles | Avoid breathing dust, fumes, mists, gas, vapours or spray | Avoid release into the environment.

Registration holder: Green Island Investments (Pty) Ltd.

Co. Reg. No.: 2013/043963/07

P.O. Box 1822, Heidelberg 1438, South Africa

Tel: 078 737 9236

24 HR EMERGENCY NUMBERS

Griffon Poison Information Centre: +27 82 446 8946

24 Hr Transport / Spill emergency no:

(Hazcall24) +27 86 044 4411 (Typhoon Plant Protection)

Distributed by: Typhoon Plant Protection (Pty) Ltd.

Co. Reg. No.: 1998/006156/07, C/O Farm Vlakfontein

Corner of the R23 Benoni Road & R550, Nigel Road

Brakpan District, Heidelberg 1438, Gauteng, South Africa

Tel: 078 737 9236

Net Volume:

ℓ

Expiry Date:

Batch No:

Date of Manufacture:

U.N. No. 3082

 **Typhoon**
PLANT PROTECTION

READ LABEL IN DETAIL BEFORE OPENING THE CONTAINER. FOR FULL PARTICULARS, SEE ENCLOSED LEAFLET.
KEEP OUT OF REACH OF CHILDREN AND ANIMALS.



WARNINGS:

HAZARD STATEMENTS:

- May be harmful if swallowed.
 - May be harmful in contact with skin.
 - Harmful if inhaled.
 - May cause an allergic skin reaction.
 - May be fatal if swallowed and enters airways.
 - Very toxic to aquatic life with long lasting effects.
-
- Handle with care.
 - Harmful if swallowed.
 - May cause sensitisation by skin contact.
 - Toxic to fish and aquatic organisms
 - Store in a cool place.
 - Store away from food and feeds.
 - Keep out of reach of children, uninformed persons and animals.
 - **In case of poisoning call a doctor and show this label to him/her.**

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 guarantee that it will be effective under all conditions. The activity and effect 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, 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 by 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:

- Avoid breathing dust, fumes, mists, gas, vapours or spray.
- Use only outdoors or in a well-ventilated area.
- Contaminated work clothing should not be allowed out of the workplace.
- Avoid release into the environment.
- Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
- **IF SWALLOWED:** Get medical help.
- **IF ON SKIN:** Wash with plenty of water and non-abrasive soap. Get medical help.
- **IF INHALED:** Remove person to fresh air and keep comfortable for breathing. Get medical help.
- If skin irritation or rash occurs: Get medical help.
- Collect spillage.
- Dispose of contents/container in accordance with local regulations.

- Avoid drift of spray onto other crops, grazing, rivers, dams, boreholes and 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** empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow draining 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 rinsing to the contents of the spray tank before destroying the container in the prescribed manner.
- 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, feed, drinking water and eating utensils.

Relevant hazardous components

S-Metolachlor	960 g/ℓ
Aromatic hydrocarbon	< 10 %
Tristyryl Phenol ethoxylate	<8 %

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:

- If poisoning is suspected, **take the patient immediately to the nearest physician and show them this label.**
- Remove the patient from the source of poisoning to a well-ventilated area and keep him calm and assured.
- Remove contaminated clothing and rinse contaminated body areas with soap and water. **Do not** rub the skin.
- Rinse contaminated eyes with running water for at least 15 minutes.
- If the product was ingested, **do not** induce vomiting. Administer medicinal charcoal repeatedly with plenty of water.
- Never give anything by mouth to an unconscious person.

- If the substance has been swallowed promptly administer a large quantity of milk, egg whites, gelatine solution or, if these are not available large quantities of water. **Do not** induce vomiting or give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN:

No specific antidote is known. If ingested, induce emesis or lavage stomach. Administration of aqueous slurry of activated charcoal may be considered. Treat symptomatically.

RESISTANCE MANAGEMENT

Kaplyn 960 EC is a **group code 15 herbicide**. Any weed population may contain individuals naturally resistant to **Kaplyn 960 EC** and other **group code 15 herbicides**. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly and exclusively in programs. **Kaplyn 960 EC** or any other **group code 15 herbicides** may not control these resistant weeds.

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

USE RESTRICTIONS

- **PLEASE NOTE: Kaplyn 960 EC SHOULD NOT BE USED as a pre-emergence treatment in maize (prior to maize germination), as this will result in severe crop damage.**
- **Kaplyn 960 EC as a solo application does not have a re-cropping interval.**
However, should **Kaplyn 960 EC** be used in a tank mixture with other herbicides, the relevant labels should be consulted and the **RE-CROPPING INTERVALS** on the respective labels should be adhered to. The re-cropping intervals refers to the waiting period that should lapse between application of **Kaplyn 960 EC** in a tank mixture with different herbicides and the planting of follow-up crops, to prevent damage to the next crop.
- **Do not apply Kaplyn 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.**
- **Kaplyn 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. **Kaplyn 960 EC** damage to dry beans is sometimes associated with hot, dry weather and a plough-sole in the soil. Forage sorghum and tobacco can be damaged if planted on sandy and/or gravel soils or where flood irrigation is performed.
- When **Kaplyn 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 **Kaplyn 960 EC**, must be adhered to.

- If **Triazine** sensitive crops such as groundnuts, kidney beans, cotton, dry beans, soybeans, sunflowers, wheat, vegetables, cotton and tobacco are planted as follow-up crops, the application rates of **Atlasien 500 SC** and **Combi 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.

DIRECTIONS FOR USE: Use only as directed.

Mixing instructions:

- Shake container well before use. Close container after use.
- Half fill the spray tank with clean water; add the required amount of **Kaplyn 960 EC**, while maintaining agitation. Then complete the filling operation.
- When mixing **Kaplyn 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 **Kaplyn 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.

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 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 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.
- Use 200 litres spray mixture per hectare for overall ground application and 30 to 40 litres per hectare for aerial application.
- **Kaplyn 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.
- **Kaplyn 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 **Kaplyn 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 meters 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 of broad leaf crops:

- **Volume:** A spray mixture volume of 30 to 40 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.

A. GROUNDNUTS, DRY BEANS, KIDNEYBEANS, SUNFLOWERS, COTTON, SOYBEANS AND LUPINS

NOTE

- The higher application rates of **Kaplyn 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.

Kaplyn 960 EC recommendations for use in broadleaf crops:

SOIL TYPE	% CLAY	Kaplyn 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

B. MAIZE

- Residual grass control after a pre-emergence application of **Grensllyn 915 S** may be prolonged with a post-emergence application of **Kaplyn 960 EC**. This application must be performed after a thorough cultivation, as emerged grass weeds will not be controlled.

B.1 Kaplyn 960 EC applied post-emergence on maize.

SOIL TYPE	% CLAY	Kaplyn 960 EC ℓ/ha
Sand	0 to 10	0.35
Loamy sand / sandy loam	11 to 20	0.30
Sandy clay loam	21 to 30	0.35
Sandy clay loam / Sandy clay	31 to 40	0.35 to 0.50
Sandy clay / Turf	41 to 50	0.35 to 0.50

COMMENTS

- If the **Grensllyn 915 S** plus **Kaplyn 960 EC** split treatment is selected on soils containing more than 30 % clay, the rate of **Kaplyn 960 EC** may be varied according to the degree of pre-emergence control achieved and the prevailing weather conditions.
- The higher dosage rate of **Kaplyn 960 EC** may be used if grass weeds have started to emerge at the time of the post-emergence application.

B.2 Post-emergence applications of Kaplyn 960 EC that can be used after a pre-emergence application of Genslyn 915 EC.

NOTES

- Use the higher application rates of **Genslyn 915 EC** for improved control of *Cyperus esculentus* (Yellow nutsedge), or for improved control of heavy infestations of *Digitaria sanguinalis* (Crabfinger-grass), or where **Genslyn 915 EC** is pre-plant incorporated, or where organic matter in the soil exceeds 1.0 %.
- Apply **Kaplyn 960 EC** in a tank mixture with **Combi 600 SC** 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 **Combi 600 SC** can be increased to 4.0 and 5.0 litres per hectare, respectively.
- If **Triazine sensitive crops** such as **groundnuts, kidney beans, cotton, dry beans, soybeans, sunflowers, wheat, vegetables, cotton and tobacco** are planted as follow-up crops, the application rates of **Atriasen 500 SC** and **Combi 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 **Combi 600 SC, Atriasen 500 SC** labels for **WARNINGS, PRECAUTIONS, USE RESTRICTIONS** and **DIRECTIONS FOR USE**.

SOIL TYPE	% CLAY	PRE-EMERGENCE	POST-EMERGENCE	
		Genslyn 915 EC l/ha	Kaplyn 960 EC l/ha	PLUS Combi 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
Re-cropping intervals:				
The listed re-cropping intervals are valid only if the correct dosage rate of Combi 600 SC (Atrazine + Terbutylazine) according to soil type was applied and normal or above average rainfall occurred, after application.				
Sunflowers, Groundnuts, Soybeans, Potatoes, Dry beans, Forage sorghum and Small grains				18 months
Other crops not listed				24 months

B.3 Post-emergence application of Kaplyn 960 EC plus MESO 480 SC plus NIKKI 750 WDG plus Combi 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 **MESO 480 SC** in tank mixture with **Grensllyn 915 S OR Metolachlor 915 EC** as indicated on the registered labels.
- **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.
- Adhere to all **WARNINGS, PRECAUTIONS, USE RESTRICTIONS** and **DIRECTIONS FOR USE** as indicated on the **NIKKI 750 WDG, Combi 600 SC** labels. Refer to these labels for additional weeds controlled.

Kaplyn 960 EC 260 to 520 mL/ha	PLUS	PLUS	PLUS
	NIKKI 750 WDG 60 g/ha	OR Combi 600 SC 800 mL/ha	MESO 480 SC 260 mL/ha
PLUS 0.1 % WEN 51			
WEEDS NORMALLY CONTROLLED (<i>Botanical Name and Common Name</i>) From seedling (1 to 2 leaves) to stage as indicated.			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 pumila</i> (=pallide-fusca)	Red bristle grass		Up to 4 leaves
BROADLEAVED 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 parviflora</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>	Tall 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
Re-cropping intervals: The listed re-cropping intervals are valid only if the correct dosage rate of Combi 600 SC (Atrazine + Terbutylazine) according to soil type was applied and normal or above average rainfall occurred, after application.			
Grain sorghum			12 Months
Sunflowers, Groundnuts, Soybeans, Potatoes, Dry beans, Forage sorghum and Small grains			18 Months
Other crops not listed			24 Months

* Only at highest dosage rate.

C. SUGARCANE

Pre-emergence application.

Table C.1: Kaplyn 960 EC can be applied pre-emergence as follows.

Application rates and mixtures	Comments
Kaplyn 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.
Kaplyn 960 EC 2.0 l/ha	Apply on soils with > 35 % clay and > 1 % organic matter.
Kaplyn 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. Re-cropping intervals: A re-cropping interval of 3 months apply to all crops, except sugarcane , for this tank mixture to prevent damage to follow up crops. Sugarcane does not have a re-cropping interval.
Kaplyn 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 C.2: Kaplyn 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.

Application rates and mixtures	Comments
Kaplyn 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. Re-cropping intervals: A re-cropping interval of 3 months apply to all crops, except sugarcane , for this tank mixture to prevent damage to follow up crops. Sugarcane does not have a re-cropping interval.
Partisan 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. Re-cropping intervals: A re-cropping interval of 3 months apply to all crops, except sugarcane , for this tank mixture to prevent damage to follow up crops. Sugarcane does not have a re-cropping interval.

WEEDS GENERALLY CONTROLLED (*Botanical Name and Common Name*)

The following weed species are normally controlled by a pre-emergence application of **Kaplyn 960 EC** at the dosage rates indicated in this label:

<i>Brachiaria eruciformis</i>	Sweet signal grass	<i>Panicum maximum</i>	Common buffalo grass
<i>Chloris virgate</i>	Feather top Chloris	<i>Panicum schinzii</i>	Sweet buffalo grass
<i>Chenopodium murale</i>	Nettle-leaved goose foot	<i>Setaria pallide-fusca</i>	Red bristle grass
<i>Dactyloctenium aegyptium</i>	Crowfoot	<i>Tragus berteronianus</i>	Small carrotseed grass
<i>Digitaria sanguinalis</i>	Crab finger-grass	<i>Tragus racemosus</i>	Large carrotseed grass
<i>Echinochloa crusgalli</i>	Barnyard grass	<i>Urochloa mosambicensis</i>	Bushveld herringbone grass
<i>Eleusine Africana</i>	Goose grass	<i>Urochloa panicoides</i>	Herringbone grass
<i>Eleusine coracana</i>	African goosegrass	<i>Richardia brasiliensis</i>	Mexican richardia

WEEDS VARIABLY CONTROLLED BY Kaplyn 960 EC: (*Botanical Name and Common Name*)

<i>Amaranthus hybridus</i>	Common pigweed	<i>Datura ferox</i>	Large thorn apple
<i>Amaranthus spinosus</i>	Thorny pigweed	<i>Datura stramonium</i>	Thorn apple
<i>Amaranthus thunbergii</i>	Red pigweed	<i>Galinsoga parviflora</i>	Gallant soldier
<i>Chenopodium carinatum</i>	Green goosefoot	<i>Nicandra physaloides</i>	Apple of Peru
<i>Cleome monophylla</i>	Spindlepod	<i>Portulaca oleracea</i>	Purslane
<i>Commelina benghalensis</i>	Wandering Jew	<i>Schkuhria pinnata</i>	Dwarf Marigold
<i>Cyperus esculentus*</i>	Yellow nutsedge		

IMPORTANT

Yellow nutsedge (*Cyperus esculentus*)

Improved control of *C. esculentus* can be achieved when the following conditions are met:

- Planting should take place immediately after thorough ploughing with a mouldboard plough.
- A relatively fine, even and firm seedbed is prepared.
- Herbicide 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 *C. esculentus*.
(normally 7 to 10 days after ploughing). These conditions are more likely to occur during the latter half of the planting season (November). More rain is required on heavier soils to obtain good results. This is the reason for the very poor control sometimes obtained on turf soils.
- Rainfall following herbicide application but before emergence of *C. esculentus* is necessary for optimum *C. esculentus* control. For this reason application of **Kaplyn 960 EC** should be performed at or immediately after planting into moist soil.
- When planting into dry soil (insufficient moisture for *C. esculentus* germination) application of **Kaplyn 960 EC** should be timed as close as possible to, but definitely before the first rains.

Grass control

- Grass killers belonging to the chloroacetamide group of herbicides (that includes **Kaplyn 960 EC**) are absorbed via the coleoptile of grass weeds. Therefore, for good grass control the herbicide needs to be present at lethal concentrations in the top ± 50 mm of the soil profile. The adsorptive capacity of a soil for these herbicides, as well as the amount of water that moves through the soil profile with rain/irrigation, determine the resultant concentration of these herbicides in the top layers of the soil profile. As a result of the low adsorption capacity of sandy soils (0 to 15 % clay, < 1 % organic matter) the amount of these herbicides can be reduced to sub-lethal concentrations in the top ± 50 mm after the occurrence of permeating rain (25 mm and more within one day). Persistent rain (50 mm and more distributed over 3 to 7 days) will have the same result.

It can therefore happen that grasses germinate if such conditions prevail. Split applications are recommended if **Kaplyn 960 EC** is used on such soils. Permeating and / or persistent rain after the split application will have the same result.