

Agri
NOVAGENIX
ENDZONE

Reg. No. / Nr L11745 Act No. 36 of 1947 / Wet Nr 36 van 1947

READ THE LABEL BEFORE USE
KEEP OUT OF REACH OF CHILDREN AND ANIMALS

GROUP

6

HERBICIDE

A water soluble solution contact herbicide, for the post emergence control of certain broadleaf weeds and yellow nutsedge in the crops as listed.

'n Wateroplosbare vloeistof kontak onrkuiddoder, vir die na-opkoms beheer van sekere breëblaaronkruid en geeluintjies in die gewasse soos aangedui.

DANGER



In case of poisoning, call the following number: Poisons Information Helpline: +27 861 555 777
EMERGENCY NUMBER: +27 82 446 8946

Hazard statements

Causes serious eye damage.
Causes skin irritation.
May cause an allergic skin reaction.
Harmful to aquatic life with long lasting effects.

Precautionary statements

IF ON SKIN: Wash with plenty of water and non-abrasive soap.
IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Active Ingredient / Aktiewe Bestanddeel

Bendioxide (thiadiazine).....contains 480 g a.i. per l.....Bendioksied (tiadiazien)

Net volume l Netto volume

Batch No./Date manufactured/Expiry date: Refer to details printed on container.

UN No. / VN Nr. Not regulated

REGISTRATION HOLDER / REGISTRASIEHOUER:

Novagen Innovations (Pty) Ltd / (Edms) Bpk t/a Agri Novagenix
Reg. No. 2020/891524/07
6 Antwerp Street, Apex, Benoni, 1540, South Africa / Suid-Afrika



WARNINGS

- GHS Hazard statements

Causes serious eye damage.
Causes skin irritation.
May cause an allergic skin reaction.
Harmful to aquatic life with long lasting effects.

- Do not swallow.
- Irritating to skin and eyes.
- Do not contaminate dams, rivers, lakes, or any other water sources.
- Store under lock and key in the original container in a cool, dry, well-ventilated place out of direct sunlight.
- Store away from food, feed, fertilizer, and seed.
- Keep out of reach of children, uninformed persons, and animals.
- **ENDZONE** should not be applied to leguminous crops that were planted with an organophosphate insecticide granular formulation, as a combination of these products may cause damage to the crop. Consult the supplier for advice.
- **Re-entry:** Do not enter treated area within 2 days after treatment unless wearing protective clothing.
- **In case of poisoning immediately call a physician and make this label available to him/her.**

DISCLAIMER

Although this remedy has been 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 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

- GHS Precautionary statements

If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read carefully and follow all instructions.
Avoid breathing dust/fume/mist/vapours/spray.
Wash hands and skin thoroughly after handling. Do not touch eyes.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.
Wear eye protection / face protection / protective gloves.
IF ON SKIN: Wash with plenty of water and non-abrasive soap.
IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Get medical help.
Specific treatment (see FIRST AID TREATMENT on this label).
If skin irritation or rash occurs: Get medical help.
Take off contaminated clothing and wash it before reuse.
Dispose of contents/container in accordance with national regulations.

- **OPERATOR PROTECTION**
 - Handle with care.
 - Do not inhale spray mist or fumes.
 - Wash with soap and water after use and accidental skin contact as well as contact with contaminated clothing.
 - Should eye contact occur, flush the eyes with plenty of clean water for 15 minutes holding eyelids open. Remove contact lenses after five minutes of irrigation. Seek medical attention if irritation persists.
 - Avoid skin and eye contact by wearing protective clothing when mixing the product.
 - Wash contaminated clothing after use.
 - Do not eat, drink, or smoke while mixing or applying the product or before washing hands and face.

- **ENVIRONMENTAL PROTECTION**
 - Do not contaminate dams, rivers, lakes, or any other water sources.
 - Avoid drift of spray onto other crops, grazing, rivers, dams, and areas not under treatment.
 - Clean the applicator with clean water directly after use. Dispose of the rinsate where it will not contaminate crops, grazing, rivers, dams, and boreholes.

- **STORAGE AND DISPOSAL**
 - Store under lock and key in the original container in a cool, dry, well-ventilated place out of direct sunlight.
 - Store away from food, feed, fertilizer, and seed.
 - **KEEP OUT OF SIGHT AND REACH OF CHILDREN**, uninformed persons, untrained personnel, unauthorised personnel and animals.
 - Do not allow access to this product by children, uninformed persons, untrained personnel, unauthorised personnel, or animals under any circumstances.
 - Prevent contamination of food, feeds, drinking water and eating utensils.
 - Containers and packages must be completely emptied before disposal.
 - **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. Destroy the triple rinsed container by perforation and flattening and do not use for any other purpose. Store appropriately until it can be disposed of via an approved collector or recycler authorised to recycle or destroy waste in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) and the relevant waste management regulations. Empty containers and product should not be burnt. Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages.

RELEVANT SUBSTANCES

Hazardous ingredient	Concentration (w/v)
Bentazone (also known as Bendioxide, Bentazon)	48%
Sodium hydroxide solution	>1-<5%
Alkyl polyglucoside solution	>1-<5%

FIRST AID TREATMENT

If medical advice is needed, have product container or label at hand. Provide medical personnel with the product container, label or safety data sheet (SDS) when seeking medical attention.

General Information: Remove patient from exposed area. Never give fluids or induce vomiting if the patient is unconscious or is having convulsions.

Inhalation: Remove victim to fresh air. Keep patient calm. Monitor for respiratory distress. If a cough or breathing difficulty develops, evaluate for respiratory tract irritation, bronchitis, or pneumonitis. Apply artificial respiration and oxygen if required. If mouth to mouth resuscitation is given use rescuer protection (pocket mask etc.). Seek medical attention if irritation develops or persists.

Skin contact: Immediately flush body and clothes with large amounts of water and soap. Remove contaminated clothing and footwear. Wash affected areas with soap and water. Do not rub skin. Persons providing first aid must wear gloves to avoid self-contamination. Seek medical assistance if irritation occurs.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes holding the eyelids open. Remove contact lenses, if present, after the first five minutes. Seek medical assistance if irritation occurs.

Ingestion: Never give anything by mouth to an unconscious person. Do not induce vomiting unless instructed to do so by a physician. Have the patient sip a glass of water if they are alert and able to swallow. For advice, contact the National Poisons Centre. If the patient is alert and able, rinse mouth thoroughly with water. **Seek medical assistance immediately.**

No specific antidote known. Treat symptomatically and supportively. For further information on the treatment of poisoning refer to the product Safety Data Sheet provided.

RESISTANCE MANAGEMENT WARNING STATEMENT

For resistance management, **ENDZONE** is a group code 6 herbicide. Any weed population may contain individuals naturally resistant to **ENDZONE** and other group code 6 herbicides. These resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds may not be controlled by **ENDZONE** or any other group code 6 herbicide.

To delay herbicide resistance:

- Avoid the exclusive repeated use of herbicides from the same herbicide group code. Alternate, or tank mix, with registered products from different herbicide group codes. Large numbers of healthy surviving weeds can be an indication that resistance is developing. Efforts should be taken to prevent seed set of these survivors.
- Integrate other control methods (such as chemical, cultural, biological) into weed control programmes.
- Refer to the Herbicide Resistance Action Committee for information regarding any applicable resistance management of group 6 herbicides at <https://hracglobal.com/> for more information.
- Avoid distribution of the resistant species to adjacent fields by implements during the cultivation period

As the occurrence of resistance cannot be forecast, users are advised to keep all treated crops under close observation. If the treatment is not effective following the use of **ENDZONE** as recommended, a resistant strain may be present. If a resistant strain is positively identified, consideration should be given to the prompt use of a herbicide with a different mode of action against which no record of resistance exists.

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

The presence of resistant weeds is difficult to detect prior to use and therefore neither the Registration Holder nor the Distributor can accept responsibility for any losses as a result of **ENDZONE** not controlling resistant weeds. Do not apply **ENDZONE** alone in situations where weed resistance has been confirmed. Sub-standard application of **ENDZONE** or other group code 6 herbicides will lead to

inferior weed control and may assist in development of herbicide resistance.

MODE OF ACTION

Bendioxide is a photosynthetic electron transport inhibitor at the photosystem II receptor. It is a selective contact herbicide, absorbed mainly by the foliage, with very little translocation, but also absorbed by the roots, with translocation acropetally in the xylem.

DIRECTIONS FOR USE - Use only as directed.

NOTICE TO USER: This agricultural remedy is to be used only in accordance with the instructions on the label. It is an offence under Act No. 36 of 1947 to use this agricultural remedy for any purpose or in any manner contrary to the directions on the label.

COMPATIBILITY

The compatibility of **ENDZONE** with other products depends on the formulations of the respective products as well as the quality of the spray water to be used. As formulations change from time to time it is recommended that a physical compatibility test be done prior to the tank mixture being made. All WARNINGS, PRECAUTIONS, USE RESTRICTIONS and DIRECTIONS FOR USE on the product labels must be fully adhered to. Consult the relevant labels for full details.

ENDZONE should not be mixed with products other than those specifically listed in this label.

USE RESTRICTIONS

- Do not apply **ENDZONE** if frost is imminent and/or if the crop is under cold stress.
- Do not apply near or on desirable plants or trees, or on areas where their roots may extend, or in locations where the product may be washed or moved into contact with their roots.
- Grasses and red nutsedge (*Cyperus rotundus*) are not controlled by **ENDZONE**.
- Do not apply **ENDZONE** to any crop or situation not mentioned in this instruction leaflet.
- Only apply **ENDZONE** using an accurate and safe application technique.
- If **ENDZONE** is used in a tank mix with other recommended remedies, consideration should be given to the restrictions of those respective products.
- Do not apply this product in combination or tank mixture with any other product or agricultural remedy which is not specifically listed on this label. Novagen Innovations (Pty) Ltd t/a Agri Novagenix accepts no responsibility for any negative effects experienced if the instructions on this label are not adhered to, unless an Agri Novagenix representative was consulted beforehand.
- By buying this product, the buyer undertakes that the user is fully aware of and suitably trained on the hazards associated with the preparation and use of this product. By selecting this product voluntarily, the user assumes responsibility for his or her own personal protection whilst storing, mixing, and applying the product in the approved manner according to the instructions for use. The user also confirms to have consulted the SDS of this product and he/she is aware of the potential health hazards which could arise out of use and misuse of this product. Users are encouraged to keep records of all procedures followed and which personal protection equipment was used at all times. All personal protection equipment used must be kept clean and in good working order according to the manufacturer's specifications. Novagen Innovations (Pty) Ltd accepts no responsibility for any adverse effects experienced if the instructions on this label are not adhered to or resulting from improper use of this product or the use of unsuitable personal protection equipment. The user has selected to use this product at his/her own free will and risk.

RECOMMENDATIONS FOR BROADLEAF WEED CONTROL

- Warm and humid weather are required for good weed control. Drought conditions prior to, during and following application will result in poor weed control.
- Weeds and nutsedge tubers, which have not germinated at the time of application, will not be controlled. Therefore, late germinating weeds require re-application.

NOTE 1: Yellow nutsedge control:

- Control of yellow nutsedge (*Cyperus esculentus*) can only be achieved if favourable conditions prevail before and during the time of application. These include:
 - Warm, humid weather (relative humidity not under 65%)
 - Adequate soil moisture for optimum plant growth.
 - The majority of the yellow nutsedge plants should be beyond the 4-leaf stage at the time of the application.
- A minimum of 3 l **ENDZONE** should be applied in not less than 300 l water. On dense stands of yellow nutsedge in maize, grain sorghum, potatoes and groundnuts, the rate of **ENDZONE** must be increased to 4 l/ha, and in extreme cases to 5 l/ha and 500 l/ha water must be used. Under these conditions, the use of hollow cone nozzles and a spray pressure of 500 kPa is recommended, and the addition of a suitably registered surfactant/sticker is advisable.
- The duration of control obtained depends on the state of germination of the yellow nutsedge and on the conditions prevailing prior to, during and following the spray operation, as described above.
- On **Capsicum crops** (chillies, peppers and paprika) **ENDZONE e** should always be applied as a directed spray to target the weeds, in order to avoid contact with the crop.
- **A second application of ENDZONE** will be necessary if a second flush of yellow nutsedge needs to be controlled, or if re-growth occurs.
- **Spot treatments** may be carried out with a mixture of 1 l **ENDZONE** in 100 l water (1.0%) if the conditions are favourable, as described above. Ensure thorough wetting of the plants, but do not exceed the dosage rate as recommended under “**RECOMMENDATIONS**”.
- **Under less favourable conditions**, yellow nutsedge may only be suppressed and re-growth may occur. In this case a second application of **ENDZONE**, at 7 – 10 days after the first application, may be necessary. Under these conditions, the addition of a suitably registered surfactant/sticker is advisable.
- **Under adverse conditions** such as drought, cold weather, dry windy conditions, and low air humidity, **ENDZONE** will not control yellow nutsedge.

NOTE 2:

- If growing conditions are extremely favourable, the following weeds can be effectively controlled with **ENDZONE** at 1.5 l/ha, if they have not reached the 4-leaf stage:

Scientific name	Common name
<i>Acanthospermum hispidum</i>	Upright starbur
<i>Bidens pilosa</i>	Common blackjack
<i>Datura ferox</i>	Large thorn apple
<i>Datura stramonium</i>	Common thorn apple
<i>Xanthium strumarium</i>	Spiny Cocklebur

NOTE 3:

- The degree of control of the following weeds may vary considerably, according to local conditions.

Scientific name	Common name
<i>Commelina benghalensis</i>	Benghal commelina
<i>Richardia brasiliensis</i>	Mexican richardia
<i>Tribulus terrestris</i>	Common dubbeltjie

MIXING INSTRUCTIONS

Half-fill the spray tank with suitable water. Add the required quantity of **ENDZONE** to the tank. Fill the spray tank to the required volume with suitable water while maintaining agitation. Do not use brackish water. Should tank mixtures with other products be made, follow the respective manufacturer's label recommendations. **Ensure thorough agitation of the mixture in the tank during mixing and application.**

Tank mixtures must be sprayed out immediately and not allowed to stand in the spray tank overnight. Spraying equipment must be thoroughly flushed out at the end of the spraying operation. Ensure that spray premixes and/or final spray mixtures are kept out of reach of children, uninformed persons, untrained personnel, unauthorised personnel and animals.

APPLICATION METHODS

GROUND APPLICATION

Apply **ENDZONE** early post-emergence when the weeds are young and actively growing. **ENDZONE** is a contact herbicide and thorough wetting is, therefore, essential. Rainfall or overhead irrigation within eight hours after application, may negate the effect of **ENDZONE**. Apply **ENDZONE** in a minimum of 200 ℓ water /ha. Use hollow cone – or flat fan nozzles with a minimum spray pressure of 350 kPa.

APPLICATION RATES

CROP/WEED	DOSAGE	REMARKS
BEANS (Dry beans, *green beans) See WARNINGS Broadleaf weeds Yellow nutsedge	2 - 3 ℓ / ha 3 ℓ / ha	Use 2 ℓ/ha before the beans have reached the 2-trifoliate leaf stage, thereafter up to 3 ℓ/ha may be applied. Do not spray before the 1st trifoliate leaf is fully expanded. Endzone may cause transient scorch on beans that can be prolonged with the later applications but will have no depressing effect on the yields. * Note: Green beans – In the inland regions and especially under weather conditions with a very high sun intensity, Green beans must not be sprayed with more than 2 ℓ/ha Endzone , as higher rates may cause crop damage. For information refer to NOTE 1 Yellow nutsedge control . The rate 3 ℓ/ha must not be exceeded as higher rates may cause crop damage.
CAPSICUM CROPS (Chillies, peppers and paprika). Broadleaf weeds Yellow nutsedge	2 - 3 ℓ / ha 3 ℓ / ha	ENDZONE should always be applied as a directed spray, in order to avoid direct contact with the crop. The use of drop arms is highly recommended. Due to the drift of the spray solution, that is likely to occur, transient scorch on the leaves may be observed. This will however not depress the yield. For information refer to NOTE 1 Yellow nutsedge control .
GROUNDNUTS See WARNINGS Broadleaf weeds Yellow nutsedge	2 - 3 ℓ / ha 3 - 5 ℓ / ha	Apply ENDZONE from the 1st trifoliate leaf stage onwards. A second application may be made, if there are problems with late germinating weeds. For information refer to NOTE 1 Yellow nutsedge control .
MAIZE, SORGHUM, WHEAT , and other small grain crops	2 - 3 ℓ / ha	ENDZONE may be sprayed on cereals at any stage of their development, provided that weed growth corresponds to the growth stage as listed in the WEED LIST .

Broadleaf weeds		
Yellow nutsedge	3 - 5 ℓ / ha	For information refer to NOTE 1 Yellow nutsedge control.
SOYA BEANS See WARNINGS Broadleaf weeds	2 - 3 ℓ / ha	Apply ENDZONE from the 2nd trifoliate leaf stage onwards. a separate application can be made if there are problems with late germinating weeds. ENDZONE may cause transient scorch on soya beans, that can be prolonged with the later applications, but will not have a depressing effect on yields. For information refer to NOTE 1 Yellow nutsedge control.
Yellow nutsedge	3 ℓ / ha	The rate 3 ℓ/ha must not be exceeded as higher rates may cause crop damage.
PEAS Broadleaf weeds	2 - 3 ℓ / ha	ENDZONE may be sprayed on peas when they are 50–150 mm in height, provided that the weed growth corresponds to the growth stage, as listed in the WEED LIST . Do not use ENDZONE on frost-damaged peas and/or if crop is under stress (cold, drought), or if frost is expected.
Yellow nutsedge	3 ℓ / ha	For information refer to NOTE 1 Yellow nutsedge control. The rate 3 ℓ/ha must not be exceeded as higher rates may cause crop damage.

WEEDS CONTROLLED:

Scientific name	Common name	Note number	Leaf stage and dosage rate (ℓ/ha)	
			2 ℓ/ha	3 ℓ/ha
<i>Acanthospermum hispidum</i>	Upright starbur	NOTE 2	6	8
<i>Amaranthus hybridus</i>	Common pigweed		-	2 - 4
<i>Biden pilosa</i>	Common blackjack	NOTE 2	4	6
<i>Chenopodium album</i>	White goosefoot		2	4
<i>Commelina benghalensis</i>	Bengal commelina	NOTE 3	-	4
<i>Cyperus esculentus</i>	Yellow nutsedge	NOTE 1	Refer to NOTE 1: Yellow nutsedge control:	
<i>Datura ferox</i>	Large thorn apple	NOTE 2	6	8
<i>Datura stramonium</i>	Common thorn apple	NOTE 2	6	8
<i>Galinsoga parviflora</i>	Gallant soldier		4	6
<i>Hibiscus trionum</i>	Bladder hibiscus		4	6
<i>Raphanus raphanistrum</i>	Wild radish		4	6
<i>Richardia brasiliensis</i>	Mexican richardia	NOTE 3	-	2
<i>Tagetes minuta</i>	Khaki weed		4	6
<i>Tribulus terrestris</i>	Common dubbeltjie	NOTE 3	2	4
<i>Xanthium strumarium</i>	Spiny cocklebur	NOTE 2	6	8