

ZAPPER

Contains: Beauveria bassiana 203 1x10⁸ cfu/ml, Metarhizium anisopliae strain MA 43 1x10⁸ cfu/ml, vegetable oil (glycerol – inert material) 40%

Microorganisms: not derived from/or produced using GMOs

Insecticide

Formulations: concentrate suspension

Danger phrases

Not applicable

Precautionary statements

P501 – Dispose of contents/container in accordance with national/international regulations

The product can be used in organic farming according to Regulation (EC) 848/2018

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Batch. no: see above

Date of manufacture: see above

Validity period: 24 months

Storage: Store in a dry, cool and well-ventilated place. Storage temperature 5⁰ C – 25⁰ C.

Warning: Read the accompanying instructions before use.

Manufacturer: Norofert SA

Street LT. AV. Șerban Petrescu, No. 20, District 1,

Bucharest Romania

Phone: 0766 080 767

For your attention:

Shake the container vigorously for 15-20 seconds for good homogenization. By observing the indications presented, the product can be used for its intended purpose. The manufacturer declines any responsibility for damages due to storage, handling or use not in accordance with the recommendations on this label.

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Contains: Beauveria bassiana 203 1x10⁸ cfu/ml, Metarhizium anisopliae strain MA 43 1x10⁸ cfu/ml, vegetable oil (glycerol – inert material) 40%

Insecticide

Physico-chemical properties: is presented in the form of a brown concentrate suspension with a specific smell.

Mode of action:

Contact product, with a special mode of action – it is a complex of entomopathogenic fungi, an endophytic association, with a similar mode of action. Fungi colonize and grow naturally in the soil, where they can remain for long periods even in the absence of targets, and act as a parasite.

When the microscopic spores of the fungus come into contact with the body of an insect host, they germinate, penetrate the cuticle and grow inside until they reach the hemolymph (blood), feed on the nutrients in the insect's body producing toxins, killing the insect in a few days (maximum 3 -5 days). After a mold appears on the corpse, the mycelium grows outward, and produces new spores that can infect new pests. These spores in Beauveria bassiana are white in color, hence the disease is called white muscardina, and in Metarhizium anisopliae the spores acquire a green color, and thus the disease is called green muscardina. The death of pests occurs in 3-5 days after treatment..

Mode of use:

Crop	Combat spectrum	Dosage
Cucumbers, Celery, Lettuce, Spinach, Peppers, Tomatoes	thrips, white fly, spiders, green bug	1-2 l/ha
Onions	thrips	1-2 l/ha
Vine, Strawberry, Cranberry, Raspberry, Blackberry	thrips, white fly, spiders, weevils	1-2 l/ha
Ornamental plants	thrips, white fly, spiders, weevils	1-2 l/ha

Grass	ticks	1-2 l/ha
Rape seed	the shiny beetle	1-2 l/ha
Parks, gardens	anopheles mosquito larvae	1-2 l/ha
Corn, tomatoes, peppers, eggplant, chickpeas, beans	fruit caterpillar	1-2 l/ha
Protected crops (greenhouses, solariums)	nematodes	1-2 l/ha
Fruit trees	Mediterranean fruit fly, apple worm	1-2 l/ha
Strawberry	bug	1-2 l/ha
Straw cereals	the calloused beetle	1-2 l/ha
Potatoes	Colorado beetle	1-2 l/ha
Other crops	shield bug (stink bug), grasshopper	1-2 l/ha
Corn	western corn rootworm	1-2 l/ha

Application time:

The optimal time to apply is before the first appearance, if not at the appearance of the first pests before the infestation becomes severe. The interval between treatments is 7 days, but in case of a strong attack the interval is 3-5 days. 3-8 treatments can be done per season. The higher dose is used in larger populations. For whiteflies and spiders, the underside of the leaf will also be covered. Young shoots and leaf tips will be well covered.

Preparation of the solution:

Fill the tank of the treatment machine halfway, add the appropriate amount of aprodus, and then top off with the rest of the water. Shake the spray solution well during filling and application. Clean water from known sources will be used. The tank of the treatment machines will be thoroughly washed and cleaned before adding the product as some pesticide residues can harm the spores, killing them before they have time to infect the pests.

Application technique:

Terrestrial equipment can be used for field application of the products, normally used for the crops mentioned above. The volume of solution used depends on the equipment used. And of the volumes recommended for each type of crops 200-1000 l/ha, so that there is a very good penetration and coverage of the crop. The solution will be applied immediately after mixing. When applying by the drip irrigation method, 2 liters dissolved in 350 liters of water will be used.

Application recommendations:

Do not keep the prepared solution overnight. It will be applied in the evening or early morning so that the effectiveness of the product is not influenced by UV rays. Avoid applying in the middle of the day when temperatures exceed 25°C. The relative humidity should be around 60% or higher. If it rains shortly after application, it will be necessary to repeat the treatment. Not applicable when wind speed favors drift beyond the treatment area. Once the can is opened, the entire amount of product will be used. The bees must be closed during the treatment until the solution dries on the plants.

Compatibility: mixing with other products than indicated, will be avoided to prevent the inactivation of microorganisms.

Break time: 0 days

Equipment Cleaning: Equipment will be pressure washed before and after application, and particularly if a product that could damage the crop has been used prior to ZAPPER.

Hygiene measures and work protection:

Avoid contact with skin, eyes and clothing. Do not breathe vapors/aerosols. Use personal protective clothing. Wear protective gloves, protective clothing and eye protection or face protection. Keep work clothes separate. Sufficient ventilation and ventilation of the workplace and storage. Do not eat, drink or smoke during use. Keep away from food, beverages and feed products, seeds or their packaging. Hands and/or face must be washed before breaks and at the end of the work schedule. Keep out of reach of children and other unauthorized persons, and in animal access areas. If medical advice is necessary, keep the product container or label close at hand. After using the product, thoroughly wash the parts of the body that have been contaminated. Do not remove contaminated work clothing outside the workplace.

First aid measures:

Remove all contaminated clothing immediately. Keep the product container, label or safety data sheet in case you consult a doctor.

- after inhalation: rest, fresh air, medical assistance.
- after skin contact: Wash off immediately with plenty of soap and water. If irritation persists, call a doctor.
- after contact with the eyes: wash the affected eyes, with the eyelids open, for at least 15 minutes under running water.

- after ingestion: vomiting will not be induced. It will rinse the mouth very well. A doctor will be notified immediately.

Indications for the doctor: no specific antidote is known. It will be treated symptomatically.

Environmental protection measures:

Do not discharge on the ground/basement. Do not empty into drains/surface water/ground water. To prevent by any means that the product reaches the surface waters.

Disposal of empty packaging:

After emptying, the packages are rinsed three times, and the resulting water is added to the spray solution. They will be collected and handed over to a company dealing with packaging recycling/neutralization. Do not reuse empty packaging for other purposes.

Fire prevention and extinguishing measures:

Suitable extinguishing media: water spray, dry powder, sand, alcohol-resistant foam, carbon dioxide. Unsuitable: strong water jet. Full protective equipment and self-contained breathing apparatus will be worn. In case of fire and/or explosion do not inhale the smoke. Keep containers cool by spraying with water if exposed to fire. Collect the extinguishing water separately; discharge into sewers or rainwater systems is not permitted. Dispose of combustion residues and contaminated water according to the regulations in force.

Measures in case of spills or accidental losses:

It will be absorbed with an inert absorbent material (eg sand, silica gel, universal binder, sawdust). The product will be collected and stored in a tightly closed and airtight container. The contaminated surface will be carefully cleaned. Contaminated wash water shall be conserved and disposed of. Personal protective equipment will be used.

Storage and transport conditions:

It will be stored in a dry, cool and well-ventilated place accessible only to authorized personnel. It shall be protected from direct sunlight and protected from frost. Keep away from food, drink and animal feed. Keep container tightly closed. Storage temperature 50 C – 250 C. The characteristics of the product may change if it is stored for a longer time at temperatures higher than those indicated. During handling, transport and storage, labor protection measures, PSI, etc. will be taken. During transport, the product will be protected from weather and heat.

Shelf life: two years from the date of manufacture.

To the attention of the user: following the indications presented, the product can be used for its intended purpose. The manufacturer declines any responsibility for damages due to storage, handling or use inconsistent with the recommendations on this label.

Telephone number that can be called in case of emergency: National number for emergency cases: 021 318 36 06 Bucharest Public Health Institute (Mon-Fri: 8.00-15.00).