

Last Call[®] M.N.B.

Dead males don't mate[®]

Reg. No. / Nr. L7249 Act 36 of 1947
READ THE LABEL BEFORE USE
KEEP OUT OF REACH OF CHILDREN AND ANIMALS

GROUP

3A

INSECTICIDE

An attractant and insecticide containing macadamia nut borer pheromone and permethrin in a grease formulation for the control of macadamia nut borer moths in orchards.



WARNING

Hazard statements

May cause an allergic skin reaction.
Causes mild skin irritation.
Very toxic to aquatic life with long lasting effects.

Precautionary statements

Wear protective gloves.
Avoid release into the environment.

Active ingredients

Permethrin
(Z)-8-dodecenyl-1-acetate (pheromone)

60 g/kg
1.6 g/kg

Net mass _____ g / tube

REGISTRATION HOLDER

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Batch No.:
Date of manufacture:
Expiry Date:

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UN No. 3077

In case of poisoning, call the following number: 0861 555 777
Emergency number 082 446 8946

WARNINGS

- Handle with care.
- Keep away from children and uninformed persons and animals.
- May cause an allergic skin reaction.
- Causes mild skin irritation.
- Very toxic to aquatic life with long lasting effects.
- Toxic to bees. The toxicological risk to biological control agents and bees is limited by the method in which **Last Call™ M.N.B.** is applied.
- Store away from direct sunlight, in a cool, well-ventilated area, away from food and feed.
- No pre-harvest interval is established for the use of **Last Call™ M.N.B.** **Last Call™ M.N.B.** is not applied directly onto the edible part of the crop and is not systemic. No residues are expected if used according to label instructions.

Although this remedy has been extensively tested under a large variety of conditions, the registration holder does not warrant that it will be efficacious under all conditions. The action and effect thereof may be affected by factors such as abnormal climatic and storage conditions such as excessive winds and rain, the occurrence of resistance of pests, and by the method and timing of application. The registration holder does not accept responsibility for damage to crops, vegetation and the environment, harm to man or animal, or for the lack of performance of the remedy concerned, due to failure of the user to follow the label instructions, or the occurrence of conditions which could not have been foreseen in terms of the registration. Consult the supplier in the event of uncertainty.

PRECAUTIONS

- Wear suitable protective clothing during handling – impermeable gloves.
- Avoid contact with skin, eyes or clothing.
- Do not eat, drink or smoke during handling, wash hands and face before doing so.
- Avoid breathing vapours.
- Contaminated work clothing should not be allowed out of the workplace.
- Take off contaminated clothing and wash it before reuse.
- IF ON SKIN: Wash with plenty of water.
- If skin irritation or rash occurs: Get medical help.
- Do not apply the product to flowers or fruit and avoid contamination. Apply droplets only to the inner framework of the top 1/3rd of the tree.
- After application, clean the application device (extension pole) thoroughly.
- Avoid release into the environment.
- Collect spillage.
- Do not use empty containers for any other purpose.
- Dispose of contents / container in accordance with local regulations.

RELEVANT SUBSTANCES

Permethrin (CAS 52645-53-1, 6%), UV adsorbent (CAS 125304-04-3, < 80%), amorphous silica (CAS 112945-52-5, < 5%).

FIRST AID

- Ingestion: This product is not considered to be acutely toxic by ingestion. If swallowed, wash mouth with water if person is conscious. Never give anything by mouth to an unconscious person. Obtain medical attention if necessary.
- Skin: This product is a skin sensitizer and may cause mild skin irritation or an allergic skin reaction. In case of contact, remove contaminated clothing if applicable and wash area of exposure with non-abrasive soap and copious amounts of water for several minutes. Consult a physician if irritation persists.
- Eyes: Immediately flush eyes with clean water for several minutes, holding the eyelids open. If present, remove contact lenses after 5 minutes. Continue rinsing. Consult a physician if irritation persists.
- Inhalation: This product is not expected to be acutely toxic by inhalation. If inhaled, remove the source of contamination or move victim to fresh air. Obtain medical attention if necessary.

RESISTANCE WARNING STATEMENT

Last Call™ M.N.B. contains permethrin which is an IRAC mode of action group 3A insecticide. Any insect population may contain individuals naturally resistant to **Last Call™ M.N.B.** and other group 3A insecticides. The resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly. These resistant insects may not be controlled by **Last Call™ M.N.B.** or any other group 3A insecticide. To delay insecticide resistance:

- Avoid using the same mode of action continuously.
- Integrate other control methods (chemical, cultural, biological) into insect control programmes.

Because **Last Call™ M.N.B.** is an insecticide used in conjunction with a pheromone that only attracts male moths, the selection pressure on the insecticide is reduced when compared to full cover applications of the insecticide. For specific information regarding resistance management, contact the registration holder of this product or visit <https://irac-online.org/>.

MODE OF ACTION

Permethrin is a non-systemic insecticide with contact and stomach action.

PRODUCT INFORMATION

- **Last Call™ M.N.B.** is only effective against adult macadamia nut borer males. Macadamia nut borer males are attracted to the droplet containing the species-specific sex pheromone and is exposed to a lethal dose of insecticide when it comes into contact with the droplet.
- **Last Call™ M.N.B.** is a targeted chemical application and will have minimal impact on non-target pests such as bees and biological control agents. The way in which **Last Call M.N.B.** is applied, reduces the amount of insecticide needed per hectare to control the pest and application causes no spray drift.
- **Last Call™ M.N.B.** is non-phytotoxic to crops when applied according to label recommendations.
- **Last Call™ M.N.B.** is not applied to the edible part of the crop, and will not leave residues if applied according to label recommendations.
- There is no re-entry interval with the use of **Last Call™ M.N.B.**

USE RESTRICTIONS AND COMPATIBILITY

- **Last Call™ M.N.B.** is a ready-to-use formulation and cannot be mixed with other insecticides or fungicides.

DIRECTIONS FOR USE (USE ONLY AS DIRECTED)

- The product is applied by hand using a dispenser that is pre-calibrated to deliver 50 microliter drops. Apply 3000 drops per hectare, resulting in a dosage rate of 150 grams **Last Call™ M.N.B.** per hectare.
- The disposable dispenser consists of the trigger device and the cartridge containing the ready-to-use **Last Call™ M.N.B.** formulation. Prepare the dispenser using the following steps:
 - Connect the trigger mechanism and the product containing cylinder. Push the two parts together to break the seal. The two parts are now permanently coupled.
 - With the thumb, push the plunger until a drop of grease appears at the tip of the nozzle. The applicator is now ready to use.
 - One drop of 50 microliters will be dispensed for each squeeze of the trigger.
 - Place droplets ONLY on the inner framework of the tree.
 - Apply droplets in the top 1/3rd of the tree to ensure maximum biological activity.
 - Distribute droplets evenly throughout the inner tree canopy.

APPLICATION RATES

- For optimal results, the product must be applied before the first signs of macadamia nut borer infestation. **Last Call™ M.N.B.** only targets adult macadamia nut borer males, reducing the number of mating events and thus the number of eggs in the next generation. Consequently, a lag phase can be expected from the time of application to a reduction in the pest pressure.
- For macadamia nut borer control at the end of the macadamia growing season, **Last Call™ M.N.B.** must be applied 10 to 4 weeks before the harvest date of the orchard.
- Re-apply **Last Call™ M.N.B.** within 28 days after the last application with a maximum of five applications per season.

- Do not apply **Last Call™ M.N.B.** to flowers or fruit and avoid contamination of fruit.
- The drops should have a spherical shape for optimal biological activity.

Number of trees per hectare	Number of droplets per tree
1000	3
600	5
400	7

CROP / PEST	DOSAGE	REMARKS
Macadamia nut trees Macadamia nut borer males (<i>Thaumatotibia batrachopa</i>)	150 g/ha (3000 drops / ha)	For macadamia nut borer male control, start applying Last Call M.N.B. before the moths of the first generation appear at the beginning of the season. Re-apply at 28-day intervals.

LAST CALL™ is a registered trademark of Birdberry Holdings (Pty) Ltd., Tzaneen, South Africa.

INSECT SCIENCE (Pty) Ltd.

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