Bioinsecticide for your Integrated Pest Management (IPM) program

Met52® granular is a bioinsecticide containing the fungus *Metarhizium anisopliae* strain F52 for use against black vine weevil (BVW) larvae (also registered on thrips in Denmark).

Met52 granular has been authorized in Austria, Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Switzerland, and UK for the following crops, both in regular soils and in containers:
- Strawberries, blackcurrants and red, white or blue gooseberries, brambleberries and/or raspberries
- Tree nursery crops and perennial plants
- Flower crops and potted plants
- Grapes

**How does Met52 granular work?**

When Met52 granular is applied to the growing media, the *Metarhizium anisopliae* spores are removed from the rice carrier and mixed with the substrate. As the insect moves in the growing media the spores make contact with the surface of the insect causing them to germinate. *Metarhizium* spores grow and penetrate the insect, resulting in its infection and mortality. Formation of fungal spores may emerge from the dead insect. In the absence of sensitive stages of the target insects in the soil or media, spores can survive through the season without germinating.

**Potential benefits from using Met52 granular:**
- No known resistance
- No chemical residue or harvest restrictions
- No toxicological classification
- Compatible with IPM programs as the preventive tool of the program
Met52 granular on strawberry in open field - Comparison and combination with nematode treatment

**Efficacy on black vine weevil larvae (%)**

<table>
<thead>
<tr>
<th>Product</th>
<th>Efficacy (%)</th>
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<tbody>
<tr>
<td>Met52 granular</td>
<td>93.4</td>
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<tr>
<td>Met52 granular - drench</td>
<td>20.0</td>
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<tr>
<td>Steinernema feltiae - drench</td>
<td>38.2</td>
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<tr>
<td>Met52 granular &amp; Met52 granular - drench</td>
<td>73.2</td>
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</tbody>
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**Persistent control of black vine weevil in potting media**

The objective of this study was to determine the persistence of *Metarhizium anisopliae* (F52), measured as infectivity against black vine weevil larvae, in a soilless potting medium at six wholesale nursery locations across the Willamette Valley, Oregon. A granule formulation (0.30 and 0.60 kg/m³) was incorporated into media at planting and fungal persistence determined over two growing seasons. Larval infection rebounded over the fall and winter months of 2004.

**Product details**

**Met52 granular formulation on rice carrier**

- **Packaging:** 1 and 10-kilogram packs
- **Rate:** 0.5 kilograms per m³ of potting compost or 50-150 kg/ha for open ground usage (The rate per metre of soil for regular outdoor crops depends on the depth incorporation).
- **Application:** Mixed with growing media or incorporated into the soil in protected and unprotected cropping situations.

Compatibility: Compatible with most classes of fungicides in soil applications.

Use plant protection products safely.

This product is subject to an authorization in the country of use. Ask Monsanto BioAg for an up-to-date authorization status and availability information in your country. Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible.

ALWAYS READ AND FOLLOW LABEL DIRECTIONS.

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