Nutrimite

predatory mite and biocontrol booster

Biobest Knowledge and Training Center
Predatory mites:
- released for biocontrol of various prey types
- Many are also pollen feeders
  when pollen is present these can be used for preventive introductions

<table>
<thead>
<tr>
<th>Predatory mite</th>
<th>Main prey</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>A. swirskii</em></td>
<td>Thrips and whiteflies</td>
</tr>
<tr>
<td><em>A. cucumeris</em></td>
<td>Thrips</td>
</tr>
<tr>
<td><em>A. californicus</em></td>
<td>Spider mites</td>
</tr>
</tbody>
</table>
Lack of food supply:

insufficient prey and/or pollen availability

→ often hampers establishment or population build-up of predatory mites

→ this can be a serious bottleneck in biocontrol, mainly in ornamental crops, non-pollen bearing vegetable crops and young plant nurseries
Nutrimite!

What?
- highly nutritional food supplement based on specially selected pollen

Aim?
- a booster for pollen feeding predatory mites
  - to accelerate and enhance population development
  - to help existing populations survive periods of low prey density
Advantages of Nutrimate:

- highly nutritional for predatory mites
- keeps its nutritional value for up to two weeks
- not attractive to honey and bumble bees
- relatively unattractive for pests, such as thrips
- relatively resistant to mould / high humidity
- hardly allergenic
Crop:
- sweet peppers
- flowers removed

Observation:
- most predatory mites respond positive:
  - Increase in oviposition
  - Increase in mobile stages
- response varies between mite species

Source: Arijs Y., Biobest Belgium

Efficacy
Nutrimite and predatory mites
**Crop:**
- Cut gerbera

**Observation:**
- Increase in predatory mite populations
- Response varies between mite species
Crop:
- Cucumber

Observation:
- Increase in predatory mite populations
- Better biocontrol of thrips.

Crop:
- sweet pepper seedling.
- A. swirskii

Observation:
- A. swirskii responds positively:
  - Increase in oviposition
  - Increase in mobile stages

Source: Herdandez J., Biobest Spain
Application
Boosting predatory mite populations

Enhance predatory mite populations when pollen sources are scarce

Crop:
- Calathea, non-flowering in nursery.
- A. swirskii

Observation:
- A. swirskii responds positively:
  - High increase in mobile stages

Source: Pijnakker J., Biobest Belgium
Crop:  
- Cut roses

Observation:  
- **2.5x higher** predator numbers with **1x release and 3 x Nutrimite** compared to 3 predatory mite releases!!
Nutrimite benefits the development of predatory mites, yet is relatively unsuitable for thrips.
Some other possibilities:

Help existing populations survive periods of low prey/pollen:
- Recent transplanted crops
- Late blooming crops
- Low light conditions resulting in low blooming:
  - In chalked or shaded greenhouses
  - Dark or short daylight
<table>
<thead>
<tr>
<th>Type of package</th>
<th>plastic container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of seal</td>
<td>sprinkler lid</td>
</tr>
<tr>
<td>Package size</td>
<td>1 L</td>
</tr>
<tr>
<td>Content</td>
<td>500 g</td>
</tr>
<tr>
<td>Storage</td>
<td>unlimited shelf life at -18°C (0,4°F)</td>
</tr>
<tr>
<td></td>
<td>2 weeks shelf-life at 4-8°C (39-46°F)</td>
</tr>
<tr>
<td></td>
<td>defrost in a refrigerated space</td>
</tr>
<tr>
<td></td>
<td>do not freeze again after defrosting</td>
</tr>
</tbody>
</table>
## Nutrimite

### Recommendations for use

| **Dosage** | - 500 g / ha / application  
| - (0.45 lbs / acre / application) |
| --- | --- |
| **N° of applications** | - Min. 2-3 times  
- depending on predatory mite population development |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Application interval</strong></td>
<td>- 2 weeks</td>
</tr>
<tr>
<td><strong>Application method</strong></td>
<td>- Nutrimite gun</td>
</tr>
</tbody>
</table>
### Application method
**Nutrimite gun**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full reservoir</td>
<td>50g</td>
</tr>
<tr>
<td>Max blow distance at full speed</td>
<td>+ 14.00m</td>
</tr>
<tr>
<td>Max width</td>
<td>+ 3.5m</td>
</tr>
<tr>
<td>Time to disperse full reservoir</td>
<td>6-10 min</td>
</tr>
<tr>
<td>Remark</td>
<td>when almost empty, slight tapping may be needed</td>
</tr>
<tr>
<td>Precaution</td>
<td>Use dust mask</td>
</tr>
<tr>
<td></td>
<td>Eye protection</td>
</tr>
</tbody>
</table>
Conclusion

With Nutrimite: Less is more!

Lower levels of predatory mite releases and fewer release

Yet larger and healthier predatory mite populations

Better Biocontrol