**APPLICATION TIMING FOR MEALYBUG CONTROL**

_Movento_ can be used at any time in the growing season between 6-leaf stage (E-L 13) and four weeks prior to harvest for table grapes and domestic wine grapes. See page 2 for export MRLs.

**MANAGING PLAGUE THRIPS, NORTHERN PLAGUE THRIPS AND GRAPEVINE SCALE**

(Thrips imaginis, Thrips safrus and Parthenolecanium persicae)

Movento is registered for the suppression of these pests, so it should be used as part of a program that includes other chemistry recommended for control of thrips and scale. Movento will suppress the emerging population and contribute to the overall success of the program.

**MOVENTO IN GRAPES AT A GLANCE**

_Coverage_ Thorough coverage is necessary.

_Compatibility_ Because of the unique properties of Movento it is recommended not to tank-mix. For further information contact your local Bayer CropScience representative.

**MOVENTO IN GRAPES AT A GLANCE**

**Pests**

- Longtailed mealybug
- Tuber (obscure) mealybug
- Grapevine scale
- Thrips (Thrips imaginis)

**Rate**

- 40 mL/100 L + adjuvant.

**Spray interval**

- 21–28 days for mealybug and scale.
- 14–28 days for thrips.

**Maximum sprays**

- No more than 2 applications in a season.

**Disclaimer**

Always consult the product label for detailed information. The information and recommendations set out in this brochure are based on tests and data believed to be reliable at the time of publication. Results may vary, as the use and application of the product is beyond our control and may be subject to climatic, geographical or biological variables, and/or developed resistance. Any product referred to in this brochure must be used strictly as directed, and in accordance with all instructions appearing on the label for that product and in other applicable reference material. So far as it is lawfully able to do so, Bayer CropScience Pty Ltd accepts no liability or responsibility for loss or damage arising from failure to follow such directions and instructions.

Movento® and Agridex® are registered trademarks of the Bayer Group.

Bayer CropScience Pty Ltd
ABN 87 003 226 022
391–393 Tooronga Road
Hawthorn East, Vic 3123
Technical enquiries: 1800 804 479

www.bayercropscience.com.au

BCH9835

**MOVENTO® and Agridex® are registered trademarks of the Bayer Group.**
TWO-WAY SYSTEMICITY

The ‘systemicity’ of insecticides refers to the uptake, transport and distribution of the active ingredient within a plant. There are two systems of transport within plants; most older systemic insecticides are only mobile in the xylem, not the phloem.

The xylem carries water and nutrients upwards from the roots of a plant to the shoots. The phloem transports the sucrose produced by photosynthesis from the leaves to the young shoots, leaves, buds, fruits and developing roots. Unlike the xylem, the phloem works in both directions – up, from root to shoot, and down, shoot to root.

The innovative advantage of spirotetramat, the active ingredient of Movento, is that it is transported both through the xylem and the phloem, so it moves both upwards and downwards throughout the plant.

GETTING THE BEST OUT OF MOVENTO

Coverage and plant health

Spray coverage and overall vine health are important. Sufficient foliage must be present before the product is applied (at least 6 leaves separated per shoot). Poor spray coverage and/or any form of climatic or environmental stress will reduce the uptake of Movento into the foliage and its subsequent translocation throughout the vine.

Adjuvants

Without spray adjuvant

- <5% uptake (no adjuvant)

With spray adjuvant

- >90% uptake (+ canola oil methyl ester)

As these images show, the uptake and translocation of spirotetramat in plant tissue is dramatically improved by the addition of an adjuvant.

After extensive testing in grapevines, the recommended spray adjuvants are Agridex or Hasten at 0.05% v/v (50 mL/100 L of water). Agridex was used in the majority of trials.

The use of straight non-ionic surfactants and organo-silicon based products has produced inconsistent results, so they are not recommended for use with Movento in grapevines.

HOW TO USE MOVENTO

Application

Good coverage is essential, so only dilute spraying equipment is recommended. If a concentrate application is required, a 2X application is registered. Refer to the label for detailed instructions.

Resistance management

For management of insecticide resistance, no more than two Movento (Group 23) applications should be made in grapevines in a twelve-month period.

Maximum Residue Limits (MRLs)

Suitable MRLs or import tolerances in most, but not all wine export destinations allow use up until the stated withholding period for grapes. However the Australian Wine Research Institute recommends that Movento only be applied up to E-L 18 (pre-flowering) to meet requirements in ALL major wine export destinations.

Using Movento according to the label will ensure compliance with the following MRLs, current as at September 2015.

<table>
<thead>
<tr>
<th>Market</th>
<th>MRL (ppm or mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>2</td>
</tr>
<tr>
<td>Codex</td>
<td>2</td>
</tr>
<tr>
<td>European Union</td>
<td>2</td>
</tr>
<tr>
<td>Japan</td>
<td>2</td>
</tr>
<tr>
<td>China</td>
<td>2</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>2</td>
</tr>
<tr>
<td>Taiwan</td>
<td>2</td>
</tr>
</tbody>
</table>

For the latest information, consult Bayer CropScience, your winery or the AWRI.

KEY FACTS – Effective pest control

- Rates: 40 mL/100 L water plus Agridex® or Hasten®.
- Activity: On all young feeding crawlers and instars.
- Timing: Start spraying at or before the onset of crawler release, but no earlier than the 6-leaf stage (E-L 13).
- Interval: 14–21 days on thrips, 21–28 days on mealybug and/or scale.

CONTROLLING LONGTAILLED AND TUBER MEALYBUG

(Pseudococcus longispinus and Pseudococcus virburni)

Mealybug can be difficult to control, especially if populations have built up over a number of seasons. Movento can play a key role in a mealybug management program.

Applications of Movento for mealybug control must start prior to or at the onset of crawler emergence. The timing of the first Movento application will vary between seasons and cropping regions. The first generation of mealybug can begin to emerge from under the bark in early spring, often around the same time as budburst. In the Sunnysapia region, for example, this typically occurs around October. The crawlers are so small they often emerge undetected, moving from bark to new shoots and foliage. The juvenile mealybug is the most susceptible stage to Movento and timing of application is crucial for control.

Trials have demonstrated that the best control of mealybug is achieved with back-to-back applications. For best results, the second Movento application should be made 21–28 days after the first application.

BREAKING THE MEALYBUG LIFECYCLE

Winter

Adult females move back to the trunk or roots (including weed roots).

Spring

In early Spring crawlers move to the shoots and begin feeding on the phloem.

Summer

Crawlers develop into 2nd and 3rd instars, then into adults. Several generations can occur in one season.

Autumn

Adults and young infest the grapes.

Winter

Bunches close to the bark are more likely to be infested.
TWO-WAY SYSTEMICITY

The ‘systemicity’ of insecticides refers to the uptake, transport and distribution of the active ingredient within a plant. There are two systems of transport within plants; most older systemic insecticides are only mobile in the xylem, not the phloem.

The xylem carries water and nutrients upwards from the roots of a plant to the shoots. The phloem transports the sucrose produced by photosynthesis from the leaves to the young shoots, leaves, buds, fruits and developing roots. Unlike the xylem, the phloem works in both directions – up, from root to shoot, and down, shoot to root.

The innovative advantage of spirotetramat, the active ingredient of Movento, is that is transported through both the xylem and the phloem, so it moves both upwards and downwards throughout the plant.

GETTING THE BEST OUT OF MOVENTO

Coverage and plant health

Spray coverage and overall vine health are important. Sufficient foliage must be present before the product is applied (at least 6 leaves separated per shoot). Poor spray coverage and/or any form of climatic or environmental stress will reduce the uptake of Movento into the foliage and its subsequent translocation throughout the vine.

Adjuvants

Without spray adjuvant With spray adjuvant

As these images show, the uptake and translocation of spirotetramat in plant tissue is dramatically improved by the addition of an adjuvant.

After extensive testing in grapevines, the recommended spray adjuvants are Agridex or Hasten at 0.05% v/v (50 mL/100 L of water). Agridex was used in the majority of trials.

The use of straight non-ionic surfactants and organo-silicon based products has produced inconsistent results, so they are not recommended for use with Movento in grapevines.

HOW TO USE MOVENTO

Application

Good coverage is essential, so only dilute spraying equipment is recommended. If a concentrate application is required, a 2X application is registered. Refer to the label for detailed instructions.

Resistance management

For management of insecticide resistance, no more than two Movento (Group 23) applications should be made in grapevines in a twelve-month period.

Maximum Residue Limits (MRLs)

Suitable MRLs or import tolerances in most, but not all wine export destinations allow use up until the stated withholding period for grapes. However the Australian Wine Research Institute recommends that Movento only be applied up to E-L 18 (pre-flowering) to meet requirements in ALL major wine export destinations.

Using Movento according to the label will ensure compliance with the following MRLs, current as at September 2015.

<table>
<thead>
<tr>
<th>Market</th>
<th>MRL (ppm or mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>2</td>
</tr>
<tr>
<td>Codex</td>
<td>2</td>
</tr>
<tr>
<td>European Union</td>
<td>2</td>
</tr>
<tr>
<td>Japan</td>
<td>2</td>
</tr>
<tr>
<td>China</td>
<td>2</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>2</td>
</tr>
<tr>
<td>Taiwan</td>
<td>2</td>
</tr>
</tbody>
</table>

For the latest information, consult Bayer CropScience, your winery or the AWRI.

KEY FACTS – Effective pest control

Rates 40 mL/100 L water plus Agridex® or Hasten®

Activity On all young feeding crawlers and instars.

Timing Start spraying at or before the onset of crawler release, but no earlier than the 6-leaf stage (E-L 13).

Interval 14–21 days on thrips, 21–28 days on mealybug and/or scale.

CONTROLLING LONGTAILED AND TUBER (OBSCURE) MEALYBUG

(Pseudococcus longispinus and Pseudococcus virburni)

Mealybug can be difficult to control, especially if populations have built up over a number of seasons. Movento can play a key role in a mealybug management program.

Applications of Movento for mealybug control must start prior to or at the onset of crawler emergence.

The timing of the first Movento application will vary between seasons and cropping regions. The first generation of mealybug can begin to emerge from under the bark in early spring, often around the same time as budburst. In the Sunnaysia region, for example, this typically occurs around October. The crawlers are so small they often emerge undetected, moving from bark to new shoots and foliage. The juvenile mealybug is the most susceptible stage to Movento and timing of application is crucial for control.

Trials have demonstrated that the best control of mealybug is achieved with back-to-back applications. For best results, the second Movento application should be made 21–28 days after the first application.

BREAKING THE MEALYBUG LIFECYCLE

The first instars (crawlers) emerge from under the bark as temperatures increase. After extensive testing in grapevines, the recommended spray adjuvants are Agridex or Hasten at 0.05% v/v (50 mL/100 L of water). Agridex was used in the majority of trials.

The use of straight non-ionic surfactants and organo-silicon based products has produced inconsistent results, so they are not recommended for use with Movento in grapevines.

As these images show, the uptake and translocation of spirotetramat in plant tissue is dramatically improved by the addition of an adjuvant.

After extensive testing in grapevines, the recommended spray adjuvants are Agridex or Hasten at 0.05% v/v (50 mL/100 L of water). Agridex was used in the majority of trials.

The use of straight non-ionic surfactants and organo-silicon based products has produced inconsistent results, so they are not recommended for use with Movento in grapevines.

As these images show, the uptake and translocation of spirotetramat in plant tissue is dramatically improved by the addition of an adjuvant.

After extensive testing in grapevines, the recommended spray adjuvants are Agridex or Hasten at 0.05% v/v (50 mL/100 L of water). Agridex was used in the majority of trials.

The use of straight non-ionic surfactants and organo-silicon based products has produced inconsistent results, so they are not recommended for use with Movento in grapevines.

As these images show, the uptake and translocation of spirotetramat in plant tissue is dramatically improved by the addition of an adjuvant.

After extensive testing in grapevines, the recommended spray adjuvants are Agridex or Hasten at 0.05% v/v (50 mL/100 L of water). Agridex was used in the majority of trials.

The use of straight non-ionic surfactants and organo-silicon based products has produced inconsistent results, so they are not recommended for use with Movento in grapevines.

As these images show, the uptake and translocation of spirotetramat in plant tissue is dramatically improved by the addition of an adjuvant.

After extensive testing in grapevines, the recommended spray adjuvants are Agridex or Hasten at 0.05% v/v (50 mL/100 L of water). Agridex was used in the majority of trials.

The use of straight non-ionic surfactants and organo-silicon based products has produced inconsistent results, so they are not recommended for use with Movento in grapevines.

As these images show, the uptake and translocation of spirotetramat in plant tissue is dramatically improved by the addition of an adjuvant.

After extensive testing in grapevines, the recommended spray adjuvants are Agridex or Hasten at 0.05% v/v (50 mL/100 L of water). Agridex was used in the majority of trials.

The use of straight non-ionic surfactants and organo-silicon based products has produced inconsistent results, so they are not recommended for use with Movento in grapevines.

As these images show, the uptake and translocation of spirotetramat in plant tissue is dramatically improved by the addition of an adjuvant.

After extensive testing in grapevines, the recommended spray adjuvants are Agridex or Hasten at 0.05% v/v (50 mL/100 L of water). Agridex was used in the majority of trials.

The use of straight non-ionic surfactants and organo-silicon based products has produced inconsistent results, so they are not recommended for use with Movento in grapevines.

As these images show, the uptake and translocation of spirotetramat in plant tissue is dramatically improved by the addition of an adjuvant.

After extensive testing in grapevines, the recommended spray adjuvants are Agridex or Hasten at 0.05% v/v (50 mL/100 L of water). Agridex was used in the majority of trials.

The use of straight non-ionic surfactants and organo-silicon based products has produced inconsistent results, so they are not recommended for use with Movento in grapevines.

As these images show, the uptake and translocation of spirotetramat in plant tissue is dramatically improved by the addition of an adjuvant.

After extensive testing in grapevines, the recommended spray adjuvants are Agridex or Hasten at 0.05% v/v (50 mL/100 L of water). Agridex was used in the majority of trials.

The use of straight non-ionic surfactants and organo-silicon based products has produced inconsistent results, so they are not recommended for use with Movento in grapevines.

As these images show, the uptake and translocation of spirotetramat in plant tissue is dramatically improved by the addition of an adjuvant.

After extensive testing in grapevines, the recommended spray adjuvants are Agridex or Hasten at 0.05% v/v (50 mL/100 L of water). Agridex was used in the majority of trials.

The use of straight non-ionic surfactants and organo-silicon based products has produced inconsistent results, so they are not recommended for use with Movento in grapevines.
**APPLICATION TIMING FOR MEALYBUG CONTROL**

**Movento** can be used at any time in the growing season between 6-leaf stage (E-L 13) and four weeks prior to harvest for table grapes and domestic wine grapes. See page 2 for export MRLs.

The correct application timing should be chosen on the basis of the insect growth stage. **Movento** should be applied to young crawlers, with a follow-up spray 21–28 days later if further crawlers are present. **Movento** has a precise and narrow application window for export wine markets (E-L 13 to E-L 18) that can often coincide with the onset of mealybug crawler emergence.

Careful monitoring of the crop is required throughout the year to ensure that the pest is sprayed at the correct stage. If additional treatments are required, use alternative registered products.

**MANAGING PLAGUE THRIPS, NORTHERN PLAGUE THRIPS AND GRAPEVINE SCALE**

(Thrips imaginis, Thrips safrus and Parthenolecanium persicae)

**Movento** is registered for the SUPPRESSION of these pests, so it should be used as part of a program that includes other chemistry recommended for control of thrips and scale. **Movento** will suppress the emerging population and contribute to the overall success of the program.

For thrips, apply **Movento** more than two weeks prior to flowering, ensuring vines have at least 6 leaves per shoot. Re-apply at flowering, 14–28 days later.

For scale, apply **Movento** as crawlers begin to emerge. Apply a second spray application 21–28 days after the first application if required.

**MOVENTO IN GRAPES AT A GLANCE**

<table>
<thead>
<tr>
<th>Pests</th>
<th>Longtailed mealybug</th>
<th>Tuber (obscure) mealybug</th>
<th>Grapevine scale</th>
<th>Plague thrips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>40 mL/100 L + adjuvant.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spray interval</td>
<td>21–28 days for mealybug and scale.</td>
<td>14–28 days for thrips.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum sprays</td>
<td>No more than 2 applications in a season.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Withholding period</td>
<td>4 weeks (domestic market). For grapes destined for export wine production, do not apply beyond growth stage E-L 18.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjuvants</td>
<td>Agrindex® (or Hasten®) 0.05% v/v (50 mL/100 L of water).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coverage</td>
<td>Thorough coverage is necessary.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compatibility</td>
<td>Because of the unique properties of <strong>Movento</strong>, it is recommended not to tank-mix.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Disclaimer**

Always consult the product label for detailed information. The information and recommendations set out in this brochure are based on tests and data believed to be reliable at the time of publication. Results may vary, as the use and application of the products is beyond our control and may be subject to climatic, geographical or biological variables, and/or developed resistance. Any product referred to in this brochure must be used strictly as directed, and in accordance with all instructions appearing on the label for that product and in other applicable reference material. So far as it is lawfully able to do so, Bayer CropScience Pty Ltd accepts no liability or responsibility for loss or damage arising from failure to follow such directions and instructions.

Movento® and Agrindex® are registered trademarks of the Bayer Group.