

# Users' guide for table and wine grapes



# MOVENTO®

## Get all over plant protection.

With the powerful two-way systemic action of Movento®

Movento 240® SC insecticide is a powerful, innovative, IPM-friendly insecticide, registered for the control of mealybugs and suppression of scale and thrips in both wine and table grapes.

The first Group 23 insecticide registered in Australia, Movento has already shown the value of its unique 2-way systemicity in a range of other horticultural crops. Because it is distributed throughout the plant both upwards and downwards, Movento is able to control pests conventional insecticides don't reach.

### Mode of action

Movento is active on the early stages of the insect lifecycle as it interferes with lipid production. Lipids are required for the growth and development of the insect.

Movento is effective on sucking pests through ingestion. For Movento to be effective, the insect must feed on sap from the treated plant.

### IPM compatibility

Movento is 'soft' on most beneficial species.

Movento is harmless to ladybird beetles, hoverflies and lacewings, slightly harmful to earwigs, spiders and predatory bugs, and only moderately harmful to predatory mites, with no long-term population effects when used as directed.

In summary, Movento is highly compatible with IPM production systems.



### Movento in grapes at a glance

|                            |  |
|----------------------------|--|
| <b>Pests</b>               | Longtailed mealybug, tuber (obscure) mealybug, grapevine scale (suppression only)<br>plague thrips (suppression only), northern plague thrips (suppression only) |
| <b>Rate</b>                | 40 mL/100 L + adjuvant   |
| <b>Spray interval</b>      | 21–28 days for mealybug and scale<br>14–28 days for thrips   |
| <b>Maximum sprays</b>      | No more than 2 applications in a season  |
| <b>Withholding periods</b> | 4 weeks (domestic market)<br>For grapes destined for export wine production, do not apply beyond growth stage E-L 18   |
| <b>Adjuvants</b>           | Agridex® (or Hasten®) at 0.05% v/v (50 mL/100 L of water)  |
| <b>Coverage</b>            | Thorough coverage is necessary   |
| <b>Compatibility</b>       | Because of the unique properties of Movento it is recommended not to tank-mix.<br>For further information contact your local Bayer Crop Science representative   |



## 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 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.

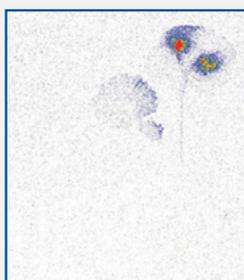
### Adjuvants

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.

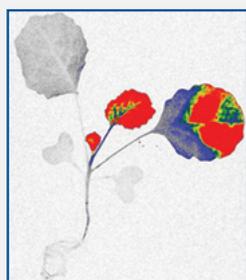
The use of straight non-ionic surfactants and organo-silicon based products has produced inconsistent results, so they are not recommended for use with Movento in grapevines.

### Without spray adjuvant



<5% uptake  
(No adjuvant)

### With spray adjuvant



>90% uptake  
(+ canola oil methyl ester)

## 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.

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

| Market         | MRL (ppm or mg/kg) |
|----------------|--------------------|
| Australia      | 2                  |
| Codex          | 2                  |
| European Union | 2                  |
| Japan          | 2                  |
| China          | 2                  |
| Hong Kong      | 2                  |
| Taiwan         | 2                  |

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.<br>21–28 days on mealybug and/or scale.  |



## Controlling longtailed and tuber (obscure) mealybug

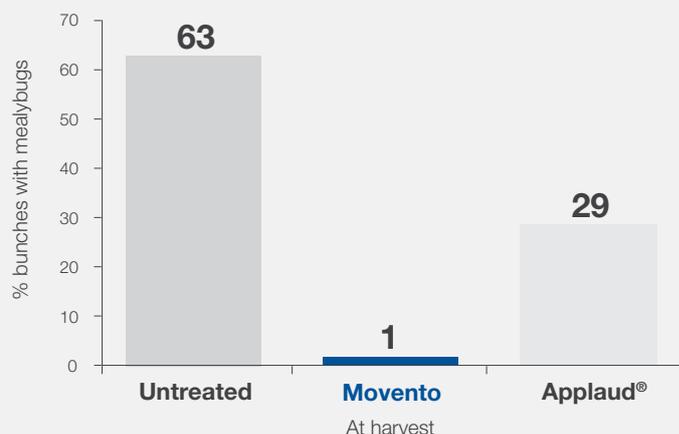
Mealybug (*Pseudococcus longispinus* and *Pseudococcus virburni*) can be difficult to control, especially if populations have built up over a number of seasons. Movento can play a key role in a mealybug management program.

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 Sunraysia 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.

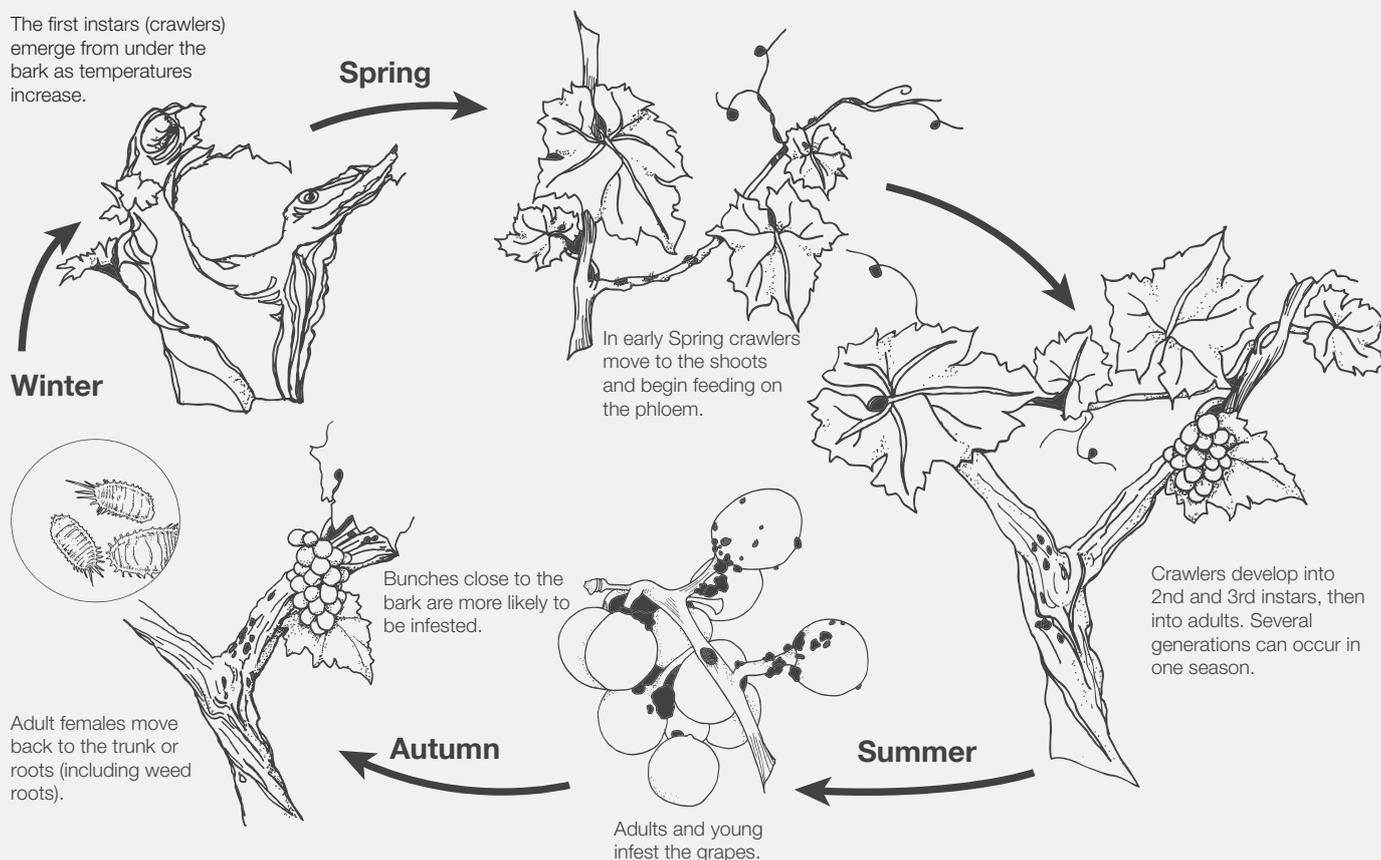
Maximum Residue Limits (MRLs)



Trial conducted on Black America table grapes at Swan Hill, Vic. Both products were applied twice at the registered label rate. Movento was applied with Hasten. TRIAL ID: VB21\_2012.

## Breaking the mealybug lifecycle

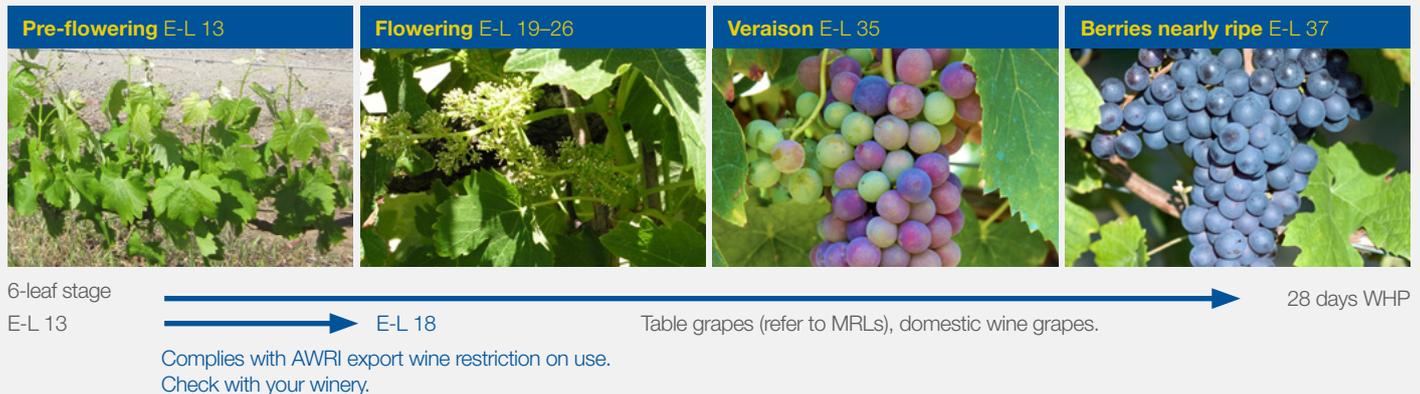
The first instars (crawlers) emerge from under the bark as temperatures increase.





## 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 label pests at a glance



For more information on Movento, visit [crop.bayer.com.au/movento](http://crop.bayer.com.au/movento) or call 1800 804 479

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® is a registered trademark of the Bayer Group. Bayer CropScience Pty Ltd ABN 87 000 226 022 Level 1, 8 Redfern Road, Hawthorn East, Victoria 3123.  
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