TECHNOTE
GETTING THE BEST OUT OF LEPIDEX IN AVOCADOS:
WATER QUALITY AND APPLICATION

REGISTRATIONS
Lepidex 500 is registered for fruit spotting bug and monolepta beetle in avocados. It is a group 1B insecticide with the active ingredient trichlorfon formulated for the control of chewing insects.

Lepidex 500 is also registered for Queensland fruit fly, cutworm, lace bug, Rutherglen bug and green vegetable bug in a range of horticultural crops.

RESISTANCE MANAGEMENT
Lepidex 500 is an important resistance management rotational tool for the avocado industry as it is a Group 1B insecticide and provides an alternative 3A (cyfluthrin) insecticide.

COMPATIBILITY
With very good compatibility Lepidex 500 can be mixed with most commonly used insecticides and fungicides.

WATER QUALITY
Water quality plays a very important role in the use of Lepidex 500 because of the potential for alkaline hydrolysis.

Most pesticides perform best in slightly acidic conditions. Problems can eventuate when the water used for spray applications is alkaline (for example, bore water or water out of concrete tanks).

In alkaline water some chemicals degrade rapidly through irreversible chemical reactions, commonly referred to as alkaline hydrolysis. Lepidex is a most alarming example of rapid breakdown as half of the product is irreversibly destroyed in an alkaline spray solution of pH 8 in only 63 minutes.

Minimising product loss can easily be achieved by acidifying the spray solution with 100 mL/100 L of Collide® 700 which not only protects many pesticides from chemical degradation in the tank but also provides a more favourable pH environment on the leaf surface for chemical uptake.

Its chemistry opens cuticle pathways in the waxy cuticle layer of the plant to increase penetration and translocation to the target site, yet without risk of phytotoxicity damage to fruit and leaves.

APPLICATION
Even coverage throughout the crop canopy will ensure maximum efficacy with Lepidex 500.

Growers are able to improve spray efficiency on farm to reduce input costs and increase operational flexibility. One of the best ways to achieve this is to improve coverage

FRUIT SPOTTING BUG CONTROL
Fruit spotting bugs are a major pest of avocado. They pierce the skin of the young developing avocado fruit and plant shoots repeatedly. By secreting an enzyme fruit cells breakdown leaving a deep stained appearance. Fruit spotting bugs feed on a wide range of plants and crops.

Avocado orchards can have greater pest incidence where adjoining nearby bushland, waterways and creek areas. Temperatures greater than 35°C increase fruit spotting bug activity and egg laying significantly. Monitoring is critical for adequate control and growers need to be aware of hot spots where bug activity is high.

Avocados
Fruit spotting bug, Monolepta beetle
QLD, NT only
200 mL per 100 L water
Apply when pests are first seen.

<table>
<thead>
<tr>
<th>CROP</th>
<th>PEST CONTROLLED</th>
<th>STATE</th>
<th>RATE</th>
<th>CRITICAL COMMENTS</th>
</tr>
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<tbody>
<tr>
<td>Avocados</td>
<td>Fruit spotting bug,</td>
<td>QLD,</td>
<td>200 mL per</td>
<td>Apply when pests are</td>
</tr>
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<td></td>
<td>Monolepta beetle</td>
<td>NT</td>
<td>100 L water</td>
<td>first seen.</td>
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APPLICATION continued

and decrease water volumes through the use of super spreaders. With the registration of Shirwet® 600 for use in avocados, growers now have the potential to do this.

Shirwet 600 has been specially designed NOT to penetrate when used at recommended rates and is safe for use in avocado.

KEY POINTS

• Current avocado registrations include fruit spotting bug and monolepta beetle.

• When used correctly, Lepidex 500 will not significantly impact beneficial insects or bees.

• Water quality or a buffered pH solution is critical in avoiding alkaline hydrolysis.

• Use of Collide 700 as an acidifier will not cause phytotoxicity to avocado fruit or leaves.

• Correct use of Shirwet 600 will improve coverage and may decrease water volumes ensuring maximum efficacy with Lepidex 500.

EXAMPLE OF PESTICIDES SUBJECT TO ALKALINE HYDROLYSIS

<table>
<thead>
<tr>
<th>ACTIVE</th>
<th>BRAND BANE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethoate</td>
<td>Dimethoate, Roger®</td>
<td>pH 9 = 45 min until 50% breakdown</td>
</tr>
<tr>
<td>Carbaryl</td>
<td>Bugmaster®</td>
<td>pH 9 = 3.2 hrs until 50% breakdown</td>
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<tr>
<td>Trichlorfon</td>
<td>Dipterex®, Lepidex 500</td>
<td>pH 8 = 63 min until 50% breakdown</td>
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</tbody>
</table>

Source: Nufarm, 2012

For more information on Lepidex 500, contact your local Nufarm Territory Manager.

nufarm.com.au

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