Introduction
Torque is a broad spectrum miticide that is registered for a wide range of uses in horticultural crops. It was first introduced into Australian horticulture during the 1970’s as one of the highly effective organotin (Group 12A) miticides. Torque is a specific acaricide that can provide high levels of mite control for an extended period of time. It is a non-systemic miticide and affects only those mites that actually come into contact with it.

Features
Contact Action:
• Torque is a non-systemic miticide with contact and stomach action on adults and nymphs.

Wide Range of Horticultural Crops:
• Torque is registered on apples, pears, peaches, nectarines, citrus, bananas, hops, avocados, strawberries and ornamentals.

Liquid Formulation:
• Torque is a liquid formulation that is easy to pour and measure.

Compatibility and Mixing:
• Torque can be mixed with a wide range of horticultural insecticides and fungicides in 2 way mixtures. There are also a range of 3 and 4 way mixtures (consult label) that can also be used. One 3 way mixture which is not compatible is Torque, copper oxychloride and chlorpyrifos
• Shake container before use. The addition of an approved non-ionic wetting agent will improve the distribution of the spray when applying at lower volumes to bananas and strawberries. Otherwise a wetting agent is unnecessary.

Application:
• Thorough coverage is essential for maximum effectiveness.
• Comparatively high spray volumes are needed and good coverage is essential to both upper and lower sides of leaves.
• Dilute spraying calculated on plant row volume (consult label) is recommended for all applications except strawberries and bananas where volumes of 400 to 1000 L/ha may be used.
• The performance of Torque increases with the fineness of the spray. Preferably use cone nozzles.

Short Re-Entry:
• Once spray deposits are dry spray areas can be re-entered without protective clothing.

Short Withholding Periods:
• Torque has a short withholding period in most crops.
  - Bananas and strawberries – 1 day
  - Apples and pears – 2 days
  - Citrus – 7 days
  - Avocados, peaches and nectarines - 14 days

Spectrum of Activity
The important mites and horticultural crops for which Torque is registered in Australia are:
1. Two spotted mite (Tetranychus urticae) - Pome fruit, peaches, nectarines, hops, bananas, strawberries and ornamentals.
2. European red mite (Panonychus ulmi) - Pome fruit, peaches, nectarines and ornamentals.
3. Bryobia mite (Bryobia rubrioculus.) - Pome fruit, peaches and nectarines.
4. Citrus rust mite (Phyllocoptruta oleivora), Brown citrus rust mite (Tegolophus australis)and Citrus bud mite (Eriophyes sheldoni) - Citrus.
5. Tea red spider mite (Oligonychus coffeae) and Six spotted mite (Eotetranychus sexmaculatus) - Avocados.

Integrated Pest Management for Torque
Extensive laboratory, glasshouse and field trials, subsequently confirmed by commercial usage, have shown that Torque does not adversely affect the balance between phytophagous and predatory mites.
Torque is a selective miticide with low hazard to beneficial mites and insects such as bees and ladybird beetles and is therefore a good candidate for use in integrated pest management programs in a range of crops including pome and stone fruit, citrus and glasshouse crops.
In Australia, lower rates of Torque are registered for use where the predatory mites, Galendromus occidentalis, G. pyri and Phytoseiulus persimilis are established in orchards to provide control of two spotted mite and European red mite.
Miticide Resistance Management for Torque

For miticide resistance purposes, Torque belongs to the Group 12A miticides with other organotin miticides. Resistance to this group of compounds has been identified in a number of mite species. Two spotted mite resistance to organotin compounds is quite common. Two types of resistance have been identified with this species:

1. A “general organotin-resistance” which confers moderate resistance to Torque.
2. A “specific Torque resistance” which confers high resistance to Torque.

While the effectiveness of Torque against strains that possess only “general organotin-resistance” is substantially less than against fully susceptible strains, a moderate level of control can be achieved by applying well before a dense infestation develops.

Torque is ineffective against strains of two spotted mite that possess “specific Torque resistance” and these strains cannot be controlled by Torque. Torque should not be used in orchards where these strains are known or suspected to be present.

There are specific Miticide Resistance Management Strategies in place for two spotted mites in pome fruit, strawberries and ornamentals to prevent or slow the further development of resistance. Although individual strategies should be consulted, there are a number of general practices that should be adopted to minimise the chances of product failure due to miticide resistance.

These are:
1. Do not apply more than 2 sprays (1 in pome fruit) of Torque (or other Group 12A miticide) per season. Do not apply consecutive sprays of Torque and always alternate with miticides from different chemical groups.
2. Regularly monitor mite infestations before and after use to ensure appropriate timing of applications and to check susceptibility.
3. Regularly inspect, maintain and calibrate application equipment to ensure it is operating efficiently. Thorough spray coverage will minimise the number of treatments needed to control mites.
4. Wherever possible establish biological control using predatory mites. This will reduce reliance on miticides and in the case of Torque allow the use of lower rates of application.

**DIRECTIONS FOR USE:**

**RESTRAINTS:** Do NOT apply by AIRCRAFT, Do NOT apply to ANY CROP more than once per season, Do NOT apply to ANY CROP treated earlier in the same season with CLOFENTEZINE, Do NOT apply to DECIDUOUS FRUIT before October 20 or after January in any season. Do NOT use in ORCHARDS where products likely to cause MITE FLARING have been used or are planned to be used.

<table>
<thead>
<tr>
<th>CROP</th>
<th>PEST</th>
<th>STATE</th>
<th>WHP</th>
<th>RATE</th>
<th>CRITICAL COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apples</td>
<td>Twospotted mite (Tetranychus urticae)</td>
<td>Qld, NSW, Vic, SA, WA only</td>
<td>2 days</td>
<td>20 mL/100 L</td>
<td>WHERE BIOLOGICAL CONTROL OF TWO-SPOTTED MITE IS BEING PRACTISED: Apply as required to assist control by the biological agent(s), determined by frequent field checks conducted by appropriately trained personnel.</td>
</tr>
<tr>
<td>Peaches, nectarines</td>
<td>Twospotted mite (Tetranychus urticae)</td>
<td>Qld, NSW, Vic, SA, WA only</td>
<td>14 days</td>
<td>40 mL/100 L</td>
<td>WHERE BIOLOGICAL CONTROL IS NOT BEING PRACTISED: Apply at the first sign of mite activity, well before a dense infestation develops. Repeat as required.</td>
</tr>
<tr>
<td>Apples, pears</td>
<td>Twospotted mite (Tetranychus urticae)</td>
<td>Qld, NSW, Vic, SA, WA only</td>
<td>2 days</td>
<td>20 mL/100 L</td>
<td>WHERE BIOLOGICAL CONTROL OF EUROPEAN RED MITE IS BEING PRACTISED: Apply as required to assist control by the biological agent(s), determined by frequent field checks conducted by appropriately trained personnel.</td>
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DIRECTIONS FOR USE: (cont.)

<table>
<thead>
<tr>
<th>CROP</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Apples, pears</td>
<td>European red mite (Panonychus ulmi)</td>
<td>Qld, NSW, Vic,</td>
<td>2 days</td>
<td>40 mL/100 L</td>
<td>WHERE BIOLOGICAL CONTROL IS NOT BEING PRACTISED: FOLLOWING an application of OIL at recommended rates BEFORE BUD-BURST, APPLY TO PREDOMINANTLY MOTILE STAGES IN DECEMBER. Re-apply as required but well before a dense infestation develops.</td>
</tr>
<tr>
<td>Peaches, nectarines</td>
<td>Twospotted mite (Tetranychus urticae), European red mite (Panonychus ulmi)</td>
<td>Qld, NSW, Vic,</td>
<td>2 days</td>
<td>20 mL or 40 mL/100 L</td>
<td>WHERE BIOLOGICAL CONTROL OF ONE OR BOTH PESTS IS BEING PRACTISED: REFER TO PROGRAMMES AND RATES ABOVE. Use the programme and rates for the dominant pest, taking into account the contribution of the biological control agent, estimated from frequent field checks conducted by appropriately trained personnel.</td>
</tr>
<tr>
<td>Peaches, nectarines</td>
<td>Twospotted mite (Tetranychus urticae), European red mite (Panonychus ulmi)</td>
<td>Qld, NSW, Vic,</td>
<td>14 days</td>
<td>40 mL/100 L</td>
<td>WHERE BIOLOGICAL CONTROL IS NOT BEING PRACTISED: REFER TO PROGRAMMES AND RATES ABOVE. Use the programme and rates for the dominant pest.</td>
</tr>
<tr>
<td>Apples, pears</td>
<td>Bryobia mite (Bryobia rubrioculus)</td>
<td>Qld, NSW, Vic,</td>
<td>2 days</td>
<td>40 mL/100 L</td>
<td>Apply at first sign of mite activity, well before a dense infestation develops. Repeat as required. This pest is normally controlled by the programme for two-spotted mite and European red mite.</td>
</tr>
<tr>
<td>Peaches, nectarines</td>
<td>Twospotted mite (Tetranychus urticae), banana spider mite (Tetranychus lambi)</td>
<td>Qld, NSW, Vic,</td>
<td>14 days</td>
<td>38 mL/100 L</td>
<td>Apply at the first sign of activity, well before a dense infestation develops. Repeat as required.</td>
</tr>
<tr>
<td>Hops</td>
<td>Tea red spider mite (Tetranychus urticae)</td>
<td>Vic only</td>
<td>2 days</td>
<td>40 mL/100 L</td>
<td>Apply at the first sign of activity, well before a dense infestation develops. Repeat as required.</td>
</tr>
<tr>
<td>Avocados</td>
<td>Tea red spider mite (Tetranychus urticae), six spotted mite (Eotetranychus sexmaculatus)</td>
<td>Qld, NSW, Vic,</td>
<td>14 days</td>
<td>38 mL/100 L</td>
<td>Apply at the first sign of mite activity and repeat as infestations indicate. Spot spray individual trees only. Two applications a fortnight apart is normally adequate to control these pests.</td>
</tr>
<tr>
<td>Bananas</td>
<td>Twospotted mite (Tetranychus urticae), banana spider mite (Tetranychus lambi)</td>
<td>Qld, NSW, Vic,</td>
<td>1 day</td>
<td>370 mL/ha</td>
<td>Apply according to pest incidence, well before a dense infestation develops. Repeat as required.</td>
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<tr>
<td>Citrus</td>
<td>Citrus rust mite (Phyllocoptruta oleivora)</td>
<td>Qld, NT only</td>
<td>7 days</td>
<td>45 mL/100 L</td>
<td>Apply according to pest incidence, well before a dense infestation develops. Repeat as required.</td>
</tr>
<tr>
<td>Citrus</td>
<td>Brown citrus rust mite (Tegolophus australis)</td>
<td>Qld, NT only</td>
<td>7 days</td>
<td>30 mL/100 L</td>
<td>Apply according to pest incidence, well before a dense infestation develops. Repeat as required.</td>
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<tr>
<td>Citrus</td>
<td>Citrus bud mite (Eriophyes sheldoni)</td>
<td>Qld, NT only</td>
<td>7 days</td>
<td>20 mL/100 L</td>
<td>Apply according to pest incidence, well before a dense infestation develops. Repeat as required.</td>
</tr>
<tr>
<td>Strawberries</td>
<td>Twospotted mite (Tetranychus urticae)</td>
<td>Qld, NSW, Vic,</td>
<td>1 day</td>
<td>300 mL/ha</td>
<td>Use this rate when the spray volume is greater than 2000 L/ha. Use this rate when the spray volume used is between 400 and 2000 L/ha.</td>
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<td></td>
<td></td>
<td>SA, WA, NT only</td>
<td></td>
<td>400 mL/ha</td>
<td>Use this rate when the spray volume used is between 200 and 400 L/ha.</td>
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<td></td>
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<td></td>
<td>700 mL/ha</td>
<td>Use this rate when the spray volume used is between 200 and 400 L/ha.</td>
</tr>
<tr>
<td>Ornamentals</td>
<td>Twospotted mite (Tetranychus urticae), European red mite (Panonychus ulmi)</td>
<td>Qld, NSW, Vic,</td>
<td></td>
<td>40 mL/100 L</td>
<td>Apply at the first sign of mite activity, well before a dense infestation develops. Repeat as required. Due to the diversity of ornamentals and growing conditions, plant reactions to TORQUE must be checked to ascertain safety before each large scale application is made. BASF Australia Ltd will not accept liability for any adverse plant reactions caused by TORQUE.</td>
</tr>
</tbody>
</table>

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION. THIS LABEL SUMMARY DOES NOT REPLACE THE LABEL BUT SERVES AS A GUIDE ONLY. PLEASE READ THE FULL PRODUCT LABEL BEFORE USE.

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Contact your local Crop Care distributor for further information:
Customer service Australia-wide: 1800 111 454  Fax: (07) 3909 2010  www.cropcare.com.au

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