MCW-2, A New Proprietary Nematicide from Makhteshim Chemical Works

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MCW-2 Product Update, IR-4 Meeting, September 2009
A New Proprietary Nematicide from Makhteshim Chemical Work

- **New Chemical Class:** Fluoroalkenyle (thioether)
- **New Mode Of Action:** Unknown
- **Code Name:** MCW-2
- **Formulation:** 480 g/l EC

MANA is preparing the main submission package for registration of MCW-2, and would like to work with IR-4 in developing and submitting the residue packages on minor crops.
MCW -2
Project Milestones

• Toxicology program
  – Results to date look promising.

• Plant and Animal Metabolism
  – Confined Rotational Crop – underway.

• Ecotoxicology program
  – No prohibitive findings regarding beneficial and non-target organisms (no insecticidal activity).

• Environmental Fate program
  – Moderate soil degradation and soil absorption.
  – Low leaching potential expected.
  – No problematic findings to date.
2009 Field Testing Objectives

- Evaluate the efficacy and plant compatibility of MCW-2 480 EC at rates of 1-4 Kg ai./Ha
  - applied in a band/incorporated and thru drip irrigation
  - applied on multiple crop species
  - applied to direct seeded and transplanted crops
- Evaluate efficacy on several nematode species
# 2009 Field Testing Program

**(2.0 to 4.0 Kg ai/Ha)**

<table>
<thead>
<tr>
<th>CROPS</th>
<th>No. USA TRIALS</th>
<th>No. CANADIAN TRIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrots</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Cucurbits</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Peppers</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Potatoes</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Raspberries</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Strawberries</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Tobacco</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Tomato</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Tree Fruit (Apple, Cherry)</td>
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<td>2</td>
</tr>
<tr>
<td>Turf and Ornamentals</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Other Crops of Interest:** Banana, Citrus, Coffee, Corn, Cotton, Peanuts, Small fruit, Soybeans, Sugar beets, Tree nuts, other.
MCW-2 480 EC Spectrum of Activity

2-4 Kg ai/Ha = (4.17 to 8.33 l/Ha)

**Demonstrated Control**
- *Meloidogyne incognita*: Southern root-knot nematode
- *M. hapla*: Northern root-knot nematode
- *M. javanica*: Sugarcane nematode
- *Belonolaimus spp.*: Sting nematode, Turf
- *Globodera pallida*: Potato Cyst nematode

**Un-Defined Control**
- *Helicotylenchus spp.*: Spiral nematode, Banana
- *Radopholus similis*: Burrowing, nematode, Banana
- *Trichodorus spp.*: Stubby root nematode
- *Ditylenchus spp.*: Stem nematode
- *Pratylenchus penetrans*: Root lesion nematode
- *Pratylenchus spp.*: Pin nematode
- *Heterodera glycines*: Soybean cyst nematode
- *Xiphinema spp.*: Dagger nematode
- *Criconemella spp.*: Ring nematode

OTHER.....
MCW 2 Trial Summary

• Field trials indicate that the use rate is between 2 and 4 Kg ai/Ha.
• At planting applications do not provide season long nematode control – however they generally protect the plant long enough for good root establishment.
• Plant growth effects were noted on some crops at high application rates and short planting intervals.
• In-season applications following pre-plant applications tend to increase efficacy.
Plans for 2010...

- Test against additional nematode species to understand total spectrum.
- Continue testing single and multiple applications per year to determine the best efficacy and yield.
- Test with other products in a systematic approach.
- Move forward with residue studies
Are there any questions regarding MCW-2?