How MRLs Affect International Trade and Pest Management Options in the Field

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Export Sales Value of US Specialty Crops

Billion US$

Export Sales Value

Vegetables  Fruit  Processed Product  Tree Nuts

2007  2008  2009  2010  2011  2012  2013

0  1  2  3  4  5  6  7  8
MRL Violations

MRL violations can trigger sanctions imposed on an entire industry; potential losses can be significant

Japan/Blueberries:

1st = Compliance plan (grower and US industry)
Grower subjected to 100% hold and test
Heightened testing for all USA blueberries (~2-3% to ~30%)

2nd = All USA blueberries on “hold and test”
60 “clean” samples needed to remove “hold and test”

3rd = All USA blueberries on “hold and test”
300 “clean” samples needed to remove “hold and test”

Expect more violations in the future

Developing countries becoming more sophisticated

Need for identifying and prioritizing alternatives to conventional pesticides that pose MRL and trade risks
Caneberries: USA vs. EU

- 82% of registered pesticides in USA caneberries have no MRL or lower MRL in the EU

MRL compliance creates pest mgt challenges

To meet international MRLs, growers need:

- Pesticide degradation information
- Alternatives to pesticides with long residual
- Pesticides that don’t contribute residues
**Pesticide Degradation Information:**

### TRT 4 - Fenpropathrin

<table>
<thead>
<tr>
<th>Chemical Name (a.i.)</th>
<th>Product Name*</th>
<th>USA</th>
<th>Codex</th>
<th>EU, UK</th>
<th>Canada</th>
<th>Japan</th>
<th>Korea</th>
<th>Taiwan</th>
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</thead>
<tbody>
<tr>
<td>Fenpropathrin</td>
<td>Danitol (3-day PHI)</td>
<td>3.0</td>
<td>NT</td>
<td>0.01</td>
<td>3.0</td>
<td>5.0</td>
<td>0.5</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Korea = 0.5ppm
What can be done?

Pest Management Options in the Field

- Harvest using a longer PHI than that on the label
- Avoid pesticides with long residual
- Farm for specific markets
- Use pesticides that won’t pose risk of MRL violation
  - Biopesticides
A Place for Biopesticides in Pest Management Residue Mitigation

- Close to harvest to avoid problematic residues
  - Clean-up spray prior to harvest (insect contaminants)
  - Insect/mite pest prior to, or between, harvests (SWD)
  - Storage rot fungicides needed just prior to harvest (Botrytis/shipment of fresh produce)
- Added application when max reached (Entrust/SWD)
- Conserve beneficials at times when they are active
- Export crops/residue mitigation (Request number 38)
Knowing your crop, your pest, your production system and your needs:

Where might there be a fit for a biopesticide?