Why Representative Commodities for the Extrapolation of MRLs to Commodity Groups Is Important to Minor Crops

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Conclusions

- Residue Data extrapolation is needed to support minor crops.
- Crop/commodity grouping is critical for extrapolation.
- Group MRLs preferred for GAP compliance and trade facilitation.
- Existing classification systems are generally similar.
- International work on harmonized grouping is ongoing.
- There are some issues but these can be resolved.
- "THE SELECTION OF REPRESENTATIVE CROPS AND CORRESPONDING COMMODITIES FOR PARTICULAR CROP AND COMMODITY GROUPS WOULD BE VERY VALUABLE TO PROPONENTS PLANNING RESIDUE TRIALS"
• **Approaches in the Absence of Commodity Specific Data**
  - .....to allow the scientific extrapolation of data between related commodities of the same crop group.
  - .....the benefits for the addition of new commodities into the Codex Classification on Foods and Animal Feeds (noted above) may only be fully realized where more Codex MRLs can be established for entire crop groups.
  - many countries do not always know how to appropriately generate data and present that data as required by the JMPR for its evaluations
Tropical Fruits
Acerola

Jaboticaba

Natal plum

Purple mombin

Cattley guava

Loquat

Tree tomato

Grape

Surinam cherry

Naranjilla

Tamarind

Dovyalis hybrid

Blueberry
# US Update

<table>
<thead>
<tr>
<th>Categories</th>
<th>Current Crop Grouping 1995</th>
<th>Future Crop Grouping (Estimation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commodities</td>
<td>508</td>
<td>1000 – 1500</td>
</tr>
</tbody>
</table>
Commodity Grouping

• **Basic Concept**

  - Used to facilitate the establishment of pesticide MRLs for a large number of crops based on residue data from selected representative crops
Commodity Grouping

• PRINCIPLES
  – A representative commodity should be major in terms of production and consumption.
  
  – A representative commodity should be likely to contain the highest residues.
  
  – A representative commodity should be similar in morphology, growth habit, similar pest problems and edible portion to the related commodities within a group or subgroup.
• Provide detailed background information
  – production, consumption, residues and tolerances, characteristics
  – Justification for selection of representative commodities according to the indicated principles.
• This background information assumes that group MRLs will be based on similar GAPs.
BULB VEGETABLES.
Representatives: Bulb onion and spring onion
<table>
<thead>
<tr>
<th>Codex Group / Subgroup</th>
<th>Example Representative Commodities</th>
<th>Extrapolation to the following commodities:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 009 Bulb Vegetables</td>
<td>(1) Bulb onion and (2) Spring Onion</td>
<td>Chives; Chives, Chinese; Daylilly; Elegans hosta; Fritillaria (bulb); Fritillaria (green); Garlic; Garlic chives; Garlic, Great-headed; Garlic, Serpent; Kurrat; Lady’s leek; Leek; Lily; Onion, Beltsville bunching; Onion, Bulb; Onion, Chinese; Onion, fresh; Onion macrostem; Onion, Pearl; Onion, potato; Onion, Welsh; Shallot; Silverskin onion; Spring onion; Tree onion; Wild leek</td>
</tr>
</tbody>
</table>
A driving force with limited resources for Minor or specialty crops.
- Can not address the needs of growers if residue data were required for each crop.

Instead of developing data, preparing reports, reviewing reports, providing risk assessments for each of the 26 commodities - this work can be accomplished by reviewing data on two commodities.

If the criteria are met, to establish a crop group, the result is a huge gain of efficiency in use of resources - that are limited for minor uses.
<table>
<thead>
<tr>
<th>Current</th>
<th>Rep Crops:</th>
<th>Member Crops (6):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruiting Veg. (except cucurbits)</td>
<td>Tomato, Bell Pepper and one cultivar of non bell pepper</td>
<td>Eggplant, Groundcherry, Pepino, Pepper, Tomatillo, Tomato</td>
</tr>
<tr>
<td>Revised:</td>
<td>New Subgroups:</td>
<td>Added Crops (+13):</td>
</tr>
<tr>
<td>Fruiting Veg. (except cucurbits)</td>
<td>Tomato 8A Pepper/Eggplant 8B Nonbell pepper/Eggplant 8C</td>
<td>African eggplant, Bush tomato, Cocona, Currant tomato, Garden huckleberry, Goji Berry, Martynia, Naranjilla, Okra, Pea eggplant, Roselle, Scarlett eggplant, Sunberry, Tree tomato</td>
</tr>
</tbody>
</table>
Fruiting Vegetables

<table>
<thead>
<tr>
<th>Crop Grouping Scheme</th>
<th>No group</th>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>6</td>
<td>19</td>
</tr>
</tbody>
</table>
Additions to Fruiting Vegetables CG

- **African Eggplant**
- **Cocona**
- **Bush Tomato**
- **Currant Tomato**
Additions to Fruiting Vegetables CG

Garden Huckleberry  
Naranjilla

Martynia

Okra
Additions to Fruiting Vegetables CG

Pea Eggplant

Roselle

Scarlett Eggplant

Sunberry
Additions to Fruiting Vegetables CG

Tree Tomato

Goji Berry
Revised Citrus Fruit Group 10

Expanded from approximately 14 to 29 commodities
Remains 3 rep crops
Expanded to 3 subgroups

Calamondin; Citron; Citrus hybrids; Grapefruit; Grapefruit, Japanese summer; Kumquat; Lemon; Lime; Lime, Australian desert; Lime, Australian finger; Lime, Australian round; Lime, Brown River finger; Lime, mount white; Lime, New Guinea wild; Lime, Russell River; Lime, sweet; Lime, Tahiti; Mediterranean Mandarin; Orange, sour; Orange, sweet; Pummelo; Satsuma mandarin; Tachibana orange; Tangelo; Tangerine; Tangor; Trifoliate orange; and Uniq fruit.
Sub-Groups

- Allows to separate within groups if there are differences — GAPs, production, morphology etc.
- Crops that are divided into subgroup are more closely related to each other.
- Like Gaps and residue levels are very different.
Some crops just will not fit into a group.

**Orphan Crop**: A crop that is not currently included in any crop group.

**For example**: Artichoke
Research efficiency

- Back to the Bulb vegetable commodities.
  - 2 studies cover 26 commodities.
- Cost of two Residue studies — $250,000
- Cost of 26 residue Studies - $3,250,000
- If data were needed for each commodity it would require an additional 144 field trials - 24 x 6 (trials each) = 144 trials.
- More efficient use of Analytical facilities
- Register new products more quickly
IR-4’s work revolves around crop grouping.

- Stakeholder Priorities are set around crop grouping

- Research centers set up around crop groupings.
  - Very important for Perennial crops

ATV-Trailing Boom
IR-4 Minor Use Program Results

Year | Results
--- | ---
1998 | 212
1999 | 281
2000 | 567
2001 | 564
2002 | 538
2003 | 793
2004 | 1014
2005 | 1110
2006 | 1110
2007 | 647
2008 | 999
Revision Process

Workgroups proposed the addition of many crops and crop groups.
Crop Grouping - Revisions

- **2004:** International Crop Grouping Consulting Committee (ICGCC) established
  - Includes >200 crop experts from 28 countries.
- Codex Electronic Working Group
Crop Grouping - Revisions

- **ICGCC**: Argentina, Australia, Bangladesh, Belgium, Brazil, Burkina Faso, Canada, Chile, China, Columbia, France, Germany, Hungary, India, Israel, Japan, Kenya, Lebanon, Mali, Mexico, Morocco, New Zealand, Nigeria, S. Korea, Senegal, Taiwan, UK, US

To participate contact barney@aesop.rutgers.edu to join the ICGCC
Crop Grouping - International

- Netherlands & US prepare crop group proposals in coordination with US/ICGCC revisions
- Proposals reviewed by Codex Electronic Working Group
- Finalized proposal submitted to Codex Secretariat
- Proposals discussed at the next CCPR meeting
Eight Crop Grouping Proposals have been drafted for the Electronic Working Group to review.

Four groups have been submitted to a CCPR meeting and four additional groups will be discussed at the 2009 CCPR.

Also a separate Guidance Document for selection of Representative Commodities will be presented at the 2009 CCPR.
<table>
<thead>
<tr>
<th>Crop Group</th>
<th>Submitted to Codex E-Working Group</th>
<th>Codex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berries and small fruit</td>
<td>Dec 5, 2007</td>
<td>CCPR 2008, and redrafted for step 3 for 2009</td>
</tr>
<tr>
<td>Oilseed</td>
<td>Dec 9, 2008</td>
<td>2009 CCPR drafted for step 3</td>
</tr>
<tr>
<td>Citrus fruit</td>
<td>June 12, 2008</td>
<td>2009 CCPR drafted for step 3</td>
</tr>
<tr>
<td>Pome fruit</td>
<td>Dec 9, 2008</td>
<td>2009 CCPR drafted for step 3</td>
</tr>
<tr>
<td>Stone fruit</td>
<td>Dec 18, 2008</td>
<td>2009 CCPR drafted for step 3</td>
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</tbody>
</table>
41 CCPR, Agenda Item 6

- **PROPOSED DRAFT REVISION OF THE CODEX CLASSIFICATION OF FOODS AND ANIMAL FEEDS**
  - Update

- **REVISION OF THE CODING SYSTEM OF THE CODEX CLASSIFICATION OF FOODS AND ANIMAL FEEDS**
  - Account for new/added commodities

- **DRAFT PRINCIPLES AND GUIDANCE ON THE SELECTION OF REPRESENTATIVE COMMODITIES FOR THE EXTRAPOLATION OF MRLS TO COMMODITY GROUPS**
Recommendations to the CCPR

- Agree with: framework for *The Selection of Representative Commodities, Principles and Guidance*

- Agree with: *Revision of the Coding System of the Codex Classification of Foods and Animal Feeds*

- To agree with the advancement of all revised commodity groups to Step 6

- Advance: bulb Vegetable group to step 8
All US Crop Groups, Subgroups, Representative crops and Crop Definitions can be found on the IR-4 Web Site:

http://ir4.rutgers.edu/Other/CropGroup.htm
• **Crop Listing** –
  http://ir4.rutgers.edu/Other/CropGroup.htm

• **FAS Database** –
  http://www.mrldatabase.com/

• **IR-4 Database** –
  http://ir4.rutgers.edu/
• PROPOSED DRAFT REVISION OF THE CODEX CLASSIFICATION OF FOODS AND ANIMAL FEEDS
  - Update - add passion fruit and Guava

• REVISION OF THE CODING SYSTEM OF THE CODEX CLASSIFICATION OF FOODS AND ANIMAL FEEDS
  - Account for new/added commodities - will have new number

• DRAFT PRINCIPLES AND GUIDANCE ON THE SELECTION OF REPRESENTATIVE COMMODITIES FOR THE EXTRAPOLATION OF MRLS TO COMMODITY GROUPS - Data from Guava can be used for passion fruit
Don’t forget to eat your fruits and vegetables……..