Assessing pesticide use in cocoa

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KNOWLEDGE FOR LIFE
Pests and diseases of cocoa

- Frosty pod rot
- Mirid damage
- Black pod rot
- Vascular streak dieback
- Witches’ broom
- Cocoa swollen shoot
- Cocoa pod borer
Managing cocoa pest and diseases

Various management practices:
- Clean planting material
- Proper nutrition
- Crop/farm hygiene
- Tree management
- Biological control
- Chemical pesticides

Management options employed vary depending on availability, ease of use, cost.

Preferable to employ variety of (complementary) measures as part of integrated management approach (IPM).

In many instances pesticides are essential pest management tool and important component of IPM.
EU legislation

**Regulation EC 1107/2009:** defines chemical active substances permitted for marketing and use in EU

**Regulation EC 396/2005:** defines maximum levels of chemical residues (MRLs) permitted in food and feedstuffs in EU

**Major impact on:**
- Supply of cocoa for EU industry and exports for producers (lost foreign revenue, impact on livelihoods due to rejection of consignments)
- The use of agrochemicals for cocoa in origin countries
Assessment of agrochemical practice in cocoa production and trade

The overall programme was led by CABI (Dr Mike Rutherford)

**West Africa: 2006-2008**
- Funded by Dutch Ministry of Agriculture, Nature and Food Quality (LNV)
- Administered by ECA/CAOBISCO (EU)
- In-country research co-ordinated and undertaken by IRAD, CRIG, CRIN, CNRA

**Indonesia: 2011**
- Funded by cocoa industry
- Administered by NCA (USA)
- In-country research co-ordinated and undertaken by ICCRI
West Africa

- West Africa produces 70% of world’s cocoa
- Supplies 90% of cocoa required by European cocoa industry
- Major producers: Ivory Coast, Ghana, Nigeria and Cameroon

Majority of cocoa produced by smallholder farmers:
- Farm size <5 ha
- Rely on cocoa as main source of income
- Confronted by range of constraints (e.g. pests and diseases)

- Chemical products are used along supply chain, primarily for pest/disease control and post harvest
West African Project

Objectives:
- Investigate supply of chemicals along the cocoa supply chain
- Use of chemicals by different stakeholder groups
- Initiate awareness raising activities and promote good agrochemical practice

Approach:
- Surveys carried out across major producing areas
- One to one consultations with:
  - farmers, farmer groups, intermediate traders, exporters
- Chemical retailers, manufacturers, importers (suppliers)
Key observations

Farmers (3000+ consulted):
- High level of chemical use amongst farmers (76% to 97%)
- 100+ chemical products identified as used across 4 countries
- 30+ different active substances were identified
- As few as 46% ever received any information on proper use
- 10 to 31% ever received any formal training on use
Key observations cond.

Farmers using chemicals:
- As few as 57% used products as recommended
- As few as 55% used any form of protective clothing or equipment

Farmers not using chemicals:
- Excessive cost main reason for not using (as opposed to unnecessary, not available or too dangerous)
Key observations cond.

Cocoa traders:
- Extent of chemical use varied between 20-87% across countries
- Information and training received as low as 29% and 11% respectively
- Additional 15 products identified as used, containing an additional 6 active ingredients (which were not used by farmers)

Trade organisations using chemicals:
- All using some form of protective clothing or equipment
- Use of chemicals as recommended as low as 53%

Of all organisations consulted only 29-55% aware of introduction of new EU legislation
Key observations cond.

Chemical substances identified:

- 50% not approved for use in EU
  MRL’s for many are set at level of detection or at default level of 0.01 mg/kg

- Several other substances are approved in EU and have MRLs set

- Some products/substances already prohibited for use in origin country by national authorities
Examples of training conducted on GAP

- **Educational rallies and workshops**
  Organised for farmers in towns and villages across production areas to:
  - highlight products and substances that should be avoided
  - recommend approved products and substances,
  - generally promote good agrochemical practice
Information & training - chemical suppliers

Provided primarily via:

- In-person visits and discussion
- Leaflets
- Formal training sessions
- Demonstrations
Examples of training being conducted on GMPs

Cocoa buyers/traders consulted to raise awareness of, and discuss:
- Chemical regulations (products/active substances)
- Use of appropriate products in correct manner,
- Need to avoid accidental contamination of beans in storage

*Traders important to farmers – source of advice and monetary assistance*

*Informing and discussing pesticide requirements with cocoa traders*
Conclusions

- MRLs for pesticide residues are in place for cocoa in importing countries and regions eg EU, Japan & USA
- Our surveys have found that generally most cocoa producers use chemicals on their farms but use is not always as recommended
- Promoting and capacity building in GAP and GMP is a major part of allowing supply chain actors to comply with this legislation. Compliance is beneficial not only for consumers concerned with the food safety of the end product but is also beneficial to the health and wellbeing of producers and other stakeholders in the supply chain.
Conclusions cont.

- Compliance helps to safeguard a sustainable supply and hence income for cocoa communities and nations as a whole.
- Consequently, awareness of, and adherence to, food safety legislation forms a large part of any agenda on sustainability.
- The role of national authorities to validate the good use of pesticides.
- The need to highlight the issue of counterfeit pesticides.
CocoaSafe

- Successful in obtaining funding for an SPS capacity building project in SE Asia & Pacific
- The project is entitled “Cocoa Safe: SPS Capacity Building in Southeast Asia & Pacific to Mitigate the Effects of Harmful Contaminants in Cocoa and to Maintain Market Access”
- Project is funded by STDF with co-financing from the cocoa industry (Mars) and the countries involved: ICCRI in Indonesia, MCB in Malaysia, CCIL in PNG
- ICCO is project advisory body and project started in November 2013
Project objectives

To improve food safety and SPS practices along the cocoa supply chain in Indonesia, Malaysia and PNG

To produce and trade cocoa that meets food safety and international SPS standards
Training of master facilitators and facilitators

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<thead>
<tr>
<th>Training of Master Facilitators (TOMF)</th>
<th>Indonesia</th>
<th>Malaysia</th>
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<tbody>
<tr>
<td>1 event</td>
<td>20 master facilitators</td>
<td>1 event</td>
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<tr>
<th>Training of Facilitators (TOF)</th>
<th>Indonesia</th>
<th>Malaysia</th>
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<tbody>
<tr>
<td>1.3. Farmer group leaders</td>
<td>5 events</td>
<td>100 facilitators</td>
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<tr>
<td>1.4. Local extension staff</td>
<td>5 events</td>
<td>100 facilitators</td>
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<tr>
<td>1.5. Agro-dealers</td>
<td>2 events</td>
<td>40 facilitators</td>
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<td>1.6. Processors/traders group leaders</td>
<td>3 events</td>
<td>60 facilitators</td>
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Cascaded training by facilitators
- Farmer group leaders enabled to train members, peers and associates
- Local extension staff train farmers in SPS as part of on-going initiatives
- Agro-dealers enabled to better advise peers and customers
- Lead processor/traders train traders/processors

Training carried out by pairs of trainers
Trainers expected to do more than one event
Will be supervised for their first event for support and quality assurance