Topic: Alternatives in Phasing Out HHPs: Industry innovations and the Substitution process

Date: 15th September 2021

Time: 14h00 – 15h30 (GMT + 2.00)

Presenters: Lilian Tornqvist, KEMI and Andrew Ward, CropLife

Facilitator: Prof Andrea Rother, University of Cape Town

Introduce yourself (name, job title, organization and country) in the chat section.

Only the presenter and facilitator will speak. Any comments or questions from attendees should be typed in the chat section.

Please kindly keep your microphone muted and cameras off during the discussion.

NOTE:
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This activity is supported by the Global Environment Facility (GEF) project ID: 9771 on Global Best Practices on Emerging Chemical Policy Issues of Concern under the Strategic Approach to International Chemicals Management (SAICM).
Alternatives in Phasing Out HHPs: Industry innovations and the Substitution process

Highly Hazardous Pesticides Community of Practice

This activity is supported by the Global Environment Facility (GEF) project ID: 9771 on Global Best Practices on Emerging Chemical Policy Issues of Concern under the Strategic Approach to International Chemicals Management (SAICM).
Introduction to Question 1, Lilian Tornqvist, Keml

- HHPs identified
- Need assessment:
  - For what purpose is the HHP being used?
  - What chemical and non-chemical alternatives are registered/available, or can be made available?
  - What are the limitations of the alternatives?
- Assessment of alternatives,
  - Data on chemical and biological products alternatives are generally available from different databases, in dossiers or in open databases.
  - Information on alternative methods could be provided by other sources.
- Risk mitigations
  - Decisions by authorities
Decisions – alternatives identified

Cancellation of all products containing a specific HHP active substance.
Cancellation of registration of one or more specific HHP formulated product(s).

Clear deadlines should be given in the cancellation decisions to allow for time to adapt to the use of alternatives for users and retailers.
Regulatory decisions for when no alternative products or methods have been identified

Modify use introducing severe restrictions and give clear deadlines:

- Reduced registration time, → re-registration
- Pesticides only available on prescription
- Products to be applied by licensed applicators
- Fewer crops
- Lower dose
- Fewer applications
- Change time of application (day-time ↔ evenings)
- Pre-harvest interval
- No-spray buffer zones
Decisions and activities for no alternatives yet identified

- Promotion of alternatives, with emphasis on IPM approaches.
- Product management measures to enhance proper use and risk reduction (e.g., training in proper use, ensuring availability and use of PPE, precautionary label statements, etc.).
- Use stakeholder fora to develop realistic mitigation recommendations for HHPs that are still needed.
- Compare alternative products/methods with countries that banned or severely restricted certain HHPs.
- Develop pilot projects to implement alternative pest management options.
Summary: Use of decision-making criteria and comparative assessment to decrease risks from use of pesticides

Level of concern:
- Withdrawal due to policy criteria (e.g. hazard criteria)
  - e.g. HHP products
- Withdrawal or phasing out due to risk assessment relating to decision making criteria
  - e.g. exposure higher than ADI, AOEL, NOEC etc.
- Comparative risk assessment and risk benefit analysis on product level
- Simplified procedures

Aim for the future
Question 1

Which stakeholders in your country or region are available to the authorities (regulators) or could be engaged with for consultation during decisions on viable alternatives to identified HHPs?

Are there any barriers to these engagements?

This question will be discussed for 20 minutes. Please use chat only, mute your microphone, and turn your video off. Thank you!

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How could enforcement support the decisions on HHPs made by the authorities (regulators) in your country?

**ENFORCEMENT** in developing countries is a myth and as discussed should be helped from FAO, WHO, etc. to redefine ENFORCEMENT for developing countries to assure that is really ENFORCED! I did myself 3-4 decades of activities with some results most in t

The first in developing countries is that the authority be conscious of the necessity to reduce HHPs, the they can promote the reduction of them by performing activities to concious

enforcements make it clear cut to stop using the HHPs, as the punishments will make many users avoid to fell into the penalties.

**Enforcement would need to address the HHP identified, but also the illegal products that are likely to make their way into the market.**

**Easy control of illegal use of non registered pesticides (HHPs)**

**frequent controls and measurement of soils, waters and products to detect if banned HHP are still used. Also enforcement authorities like douane and trade authorities need capacity building to understand and have the necessary personnel resources.**

**Enforcement could encourage participation from many farmers especially those belonging to legal formal bodies like farmer organizations**

**Armenia: for a small country as ours, enforcement of the national legislation is not a big problem, it is mainly about controlling the import, but the problem lies in the list of HHPs that are still allowed, and are prohibited in many countries (EU)**

**Enforcement could help authorities to do seizures on goods containing HHP.**
How could enforcement support the decisions on HHPs made by the authorities (regulators) in your country?

- Enforcement encourages farmers and consumers to comply with the decisions by regulators.

- Enforcement is often not qualified, underpaid, understaffed, and not supported by police or military authorities. Need for sufficient resources and for capacity building in many countries.

- Germany: clear legislation to forbid creating and selling items abroad which are already banned domestically. Stop companies to dump banned pesticides elsewhere.

- Kenya: curbing illegal use and illegal importation of banned pesticides.

1. Activities to conscious the Competent authorities about the necessity to reduce HHPs.
2. Activities performing by the Competent Authority to conscious farmers and related stakeholders.
3. Pilot to show the effectiveness of alternatives to farmers.
Propose 3 critical steps in a possible process, including timelines, to phase out or minimize the use of HHPs still on the market in your country:

1. A special team of 3-4 scientists working in connection to both Ministry of agriculture and Ministry of health of Iran and also connections to FAO, WHO, SAICM, BRs, to control enforcement issues in fields.

2. A special team of 3-4 scientists (entomologist, chemist, ecologist) to look for alternatives in labs and also globally; and 3. Evaluation team consist of high level scientist reporting to the president/vice president of Iran.

3. Zimbabwe Southern Africa Region Consultations, Decision and Action to deregister and phase out.

4. Consultation with relevant ministries, drafting and issuing notification.

5. 1. Short survey on actual use of HHP (03 months)
   2. Informations of farmers about alternatives and its efficiency based on pilot projet (1 year)
   3. Enforcement and advocacy on alternatives.

6. Armenia: 1. improve registration schemes especially the capacity to assess risks. 2. conduct needs assessment to establish the extent to which a product is required for use. 3. info about effective alternatives.

7. Costa Rica: HHPs regulation, less toxic alternatives are available, training on IPM and alternatives.

8. Identify HHP(s) (3 months), identify viable existing alternatives (6-12 months), set target elimination date that enables alternative solutions and adoption (<3 yrs).

9. 1- minimize the registration time
   2- stop using the product in the country.
Propose 3 critical steps in a possible process, including timelines, to phase out or minimize the use of HHPs still on the market in your country

1. Identification of HHPs
2. Deregistration
3. Regulation for avoiding importation of HHPs
Introduction to Question 2
Andy Ward, CropLife

HOW – Farmer Adoption
WHAT - Alternatives to HHPs

‘The fastest way up a mountain is to zigzag’
Farmers need time to make adjustments to their toolboxes.
Farmers need to be able to protect their crops
Range of Modes of Action for Resistance Management

Insecticide Mode of Action (MoA)

A specific Mode of Action will target a specific part/function of an insect

- Feeding
- Nerve
- Respiration
- Growth / Development / Molting
- Digestive
- Excretory
- Reproduction
- Energy / Muscle

Classifications:

- GROUP 5: HERBICIDE
- GROUP 1A: INSECTICIDE
- GROUP 7: FUNGICIDE
- GROUP N-3: NEMATICIDE
Unintended consequences
Farmers’ response to innovation is not homogenous
Transition enables all key stakeholders to adjust
Question 2

What are the important steps that need to be taken so that farmers can transition from HHPs to alternatives?

This question will be discussed for 20 minutes.
Please use chat only, mute your microphone, and turn your video off.

Thank you!

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To ensure the success of the transition away from HHPs which stakeholders should be involved and why? List your country in your response

- Farmers - their experiences are invaluable and will inform interventions
- The farmers first and foremost. Once they become aware of how an alternative model could work for them, and the health hazards resulting from using HHPs
- Iran - Ministries related to import of pesticides to prevent imports of HHP, local NGOs and community workers to watch for prevention of HHP importations and use, advocacy and awareness, reporting, etc. Academia and governmental scientist to discover
- Farmers - practicality of alternatives
- Germany: EU and national ministeries who give the laws
- Growers at the heart of it all, Industry, Crop Advisors, Authorities, Academics, IGOs, USA
- Policy makers - to provide adequate support for the transition itself.
- University extension scientists to train on to effectively use the new technology and educate on the benefits. U.S.
To ensure the success of the transition away from HHPs which stakeholders should be involved and why? List your country in your response

- Farmers, Policy- and Decision-makers, and consumers
- Group of farmers, so facilitate adoption by seeing success or issues
- End users, policy makers from relevant institutions, pesticide manufacturing companies should be involved.
- Poisons manufacturers greatly influence farmers’ decisions, they invest a lot of money in convincing farmers, governments and civil associations
- Armenia, AWHHE NGO. Government- legislation and enforcement; certification bodies for agroecology-cooperation with farmers; small-scale farmers- info, awareness, training; greenhouse enterprises- owners (alternatives, economic and social gains)
- The, farmers, the importers, the distributors, the the retailers, the universities, the investigation institutions, Ministry of Agriculture, Ministry of Environment, Ministry of Health, Customs, care of the environment organizacivil societ
- in Sudan Ministries of Agriculture, Health and the Environment are the authorities that could be involved, because they are responsible bodies of pesticides practices and safety in Sudan.
- we need a responsible industry
- South Africa: Various departments involved with chemicals management in the country (Department of forestry, fisheries & the environment, department of health, labour, transport, agriculture)
To ensure the success of the transition away from HHPs which stakeholders should be involved and why? List your country in your response.

- All stakeholders along pesticide life cycle including farmers, traders, policy makers and even consumers because they all have a role to play. The farm-to-fork approach would be very relevant here.

- Awareness and policy advocacy to engage government institutions and other key stakeholders such as researchers in Rwanda.

- MAELA works in Latin America.

THE PRECAUTIONARY PRINCIPLE MUST BE APPLIED.
In your opinion, how long would it take more than 50% of a farming population to identify, develop, and adopt a new innovation or methodology?

- 1-2 years: 2 people
- 5 years: 19 people
- 10 years: 6 people
- 15 years: 2 people
- 15+ years: 3 people
- Don't know: 0
Introduction to Question 3
Andy Ward, CropLife

- Alternatives to HHPs
- Improvements in active ingredients
- Improvements in formulation
- Insect protected crops
- RNAI
- Biologicals
- Innoculants
- Precision agriculture including drones
Improvements in Active Ingredients
Microencapsulated formulations essentially reduce drift and can provide a slow time release of the active ingredient prolonging efficacy.
Biologicals

In agriculture, products are being developed that contain microbes and can complement — or in some cases, provide an alternative to — conventional chemical agricultural products.

Microbial biopesticides are the products obtained from microorganisms which are beneficial and can be applied against plant diseases and insect pests responsible to cause damage to agricultural crops year after year.

Microbial pesticides can play an important role for crop protection in the agricultural-based economy of the world. It is crucial now to popularize the use of these microbial biopesticides among the farmers worldwide.
Insect Protected Crops
As destructive agricultural pests such as the corn rootworm evolve resistance to conventional pesticides, researchers and farmers are looking to RNAi-based treatments as a promising possible alternative.
Inoculants like rhizobacteria form beneficial nodules on soy roots, which facilitate nitrogen fixation.
Cultivating an estimated 10.2 million acres (~4.1 million hectares) of cropland was avoided due to more efficient use of existing land. This is an area equivalent to 4.5 Yellowstone National Parks.
Drone application are decisively support Asia’s Small Holder Farming need overcoming labor shortage and aging farmers.

- Less water Volume: 3% water volume of manual application
- Comparable efficacy: Comparable or even better control efficacy VS manual
- Cheaper Cost: 50% treatment cost vs manual application
- More efficient: 30 times faster VS manual application
- Safer to operator: Lower PPE requirements vs manual application
- Labor Saving: Overcoming labor shortage
Question 3

What is required so that innovative crop protection tools and approaches are successfully incorporated into IPM approaches by farmers?

This question will be discussed for 25 minutes.
Please use chat only, mute your microphone, and turn your video off.
Thank you!

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Which of the six innovation(s) do you think are viable as alternative uses to HHP use in your country?

- Biological pest control, biodynamical agriculture with controlled audits
- Biological Pest control and biodynamical agriculture
- Computational chem, big data, formulations, newly developed biologicals, drones. I also add: control environment, crop production.
- Biologicals as part of an IPM/agroecology approach
- Biologicals, inoculants, formulations are the most alternatives currently in use in Sudan.
- Agroecology is the best way to phase out HHP
Which of the six innovation(s) do you think are viable as alternative uses to HHP use in your country?

- Biological pest controls
- Botanicals
- IPM

- Less toxic active ingredients and formulations
- Insect protected crops and there are many examples already to recue application of high risk pesticides and support adoption of IPM (e.g., Bt cotton, Bt corn, Bt Brinjal, Bt Cowpea).

- AWHHE Armenia: IPM, agro-ecology, organic farming (these are initiatives that are being actively used/promoted)
- Biological, improved active ingredients and formulations and insect protected plants

- Mixed crops growing together in a natural environment and helping each other, such as the Three Sisters maize, squash and beans or cocoa and coffee in a forest canopy setting

- Biopesticides are used extensively in Colombia in the context of IPM and it is widely recognized that chemicals cannot always be substituted. Some HHPs in particular may still be needed and used under rigorous risk mitigation practices.
Which of the six innovation(s) do you think are viable as alternative uses to HHP use in your country?

- Biopesticides
- Biology control
- Biological pest management and IPM to farmers through FFS as alternatives
- Start with the concept of not poisoning food
- A combination of all the six would be more viable
- Biocontrol, IPM, improved pesticide formulations, biotech (pheromones)
- Biologicals and Precision agriculture
- Ecological agriculture (agroecology)
- The options must all be put forward so that the farmers are able to adopt whichever option they understand better. The farmers needs to be comfortable with the effectiveness and ease of use of an option.
Which of the six innovation(s) do you think are viable as alternative uses to HHP use in your country?

Unfortunately, these are not innovations that have real potential. They are driven by the legitimate desire of Croplife to make their business thrive. Reducing pesticides use and phase-out of HHP are key drivers a responsible agrochem industry.

ban large industrial agriculture multinational companies

Some could

All innovations could be viable - even though maybe not for all uses and all farmers everywhere. All of them could be considered as safer tools and alternatives.

Another innovation: we have to shorten our food chain which means less meat and more plant species on the menu.
In your opinion, could the CropLife innovations presented be incorporated realistically into IPM approaches by farmers in your country?

- Yes: 11
- No: 4
- Some could: 13
- I do not know: 3
What will you do with the information shared into today's discussion?

- share with colleagues, use in projects to promote alternatives
- share with colleagues involved in registrations process and farmers
- I will use this information for mitigating our action plan of the pesticides authorities
- Share with farmers/producers of different crops. Share with colleagues
- To come up with strategies for the management and phase out of HHPs with safer alternatives in my country.
- Share information in my organization
THANK YOU
for attending the third
Highly Hazardous Pesticides CoP Discussion for 2021!

SAVE THE DATE FOR DISCUSSION 4:

**Topic:** Reviewing the FAO Pesticide Registration Toolkit and engaging with the new alternative’s module

**Date:** 20 October 2020
(Registration link in chatroom)

**Time:** 14h00 – 15h30 (GMT +2)

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