

“Identifying best practices for reducing the use and impacts of agrochemicals”

Summary of the SustainabilityXchange discussion, up to 3rd May, 2016

Web location: <https://www.sustainabilityxchange.info/en/community/forum/identifying-best-practices-reducing-use-and-impacts-agrochemicals>

The intensive use of synthetic pesticides and fertilizers to agricultural crops has considerable negative impacts related to health and safety of farmers and workers, environmental damage (on soil, water and biodiversity), food safety and international trade. While many highly hazardous pesticides have been banned by international conventions or are prohibited under voluntary sustainability standards, the problems on the ground remain persistent. There is an urgent need – also within certified value chains – to ensure that highly hazardous substances are phased-out and that the overall load of toxic agrochemicals is reduced. The online discussion at www.sustainabilityxchange.info identified important elements in this regard and provided practical examples. The elements can be grouped into three categories: alternative practices and technologies, farmer capacity building, and creating an enabling environment.

Alternative practices and technologies

The starting point to reduce reliance on agrochemicals is to design production systems in a way that they are less prone to pests, weeds and diseases, and that nutrients are not lost. Replacing or enriching monocultures with agro-ecological elements such as crop rotation, intercrops, cover crops, mulching and increasing crop and ecosystem diversity are key in this. Preventive measures also include good agricultural practices, cultural controls (e.g. sanitary picking in coffee to control coffee berry borers) and the use of pest traps. The Integrated Pest Management (IPM) approach allows optimizing the production system and managing pests based on the concept of economic threshold. Farmers need to be enabled to monitor the occurrence of pests and diseases, to identify and manage hot-spots and to use the least hazardous method available to control them. Biocontrol inputs like botanical sprays and microbial preparations provide less hazardous solutions. While many commercial biocontrol inputs are available in the market, some preparations can be produced by farmers themselves. Proposed alternative practices need to be adapted to local contexts, also taking into consideration economic aspects.

Capacity building of farmers

Farmers both small and large need practical guidance on how to use agroecological methods, IPM and biocontrol, as well as on overall good management practices that reduce reliance on agrochemicals. Capacity building of farmers can make use of the following approaches:

1. Farmer Field Schools (FFS) to educate farmers about the risks of inappropriate use of agrochemicals, practical ways to minimize their use, agroecological methods, IPM, biocontrol etc.;
2. Testing proposed methods in on-farm demonstration plots where farmers can see what works;
3. Monitoring farms in different regions and covering different production systems and farm sizes. Field agents, NGOs, supply chain actors, research institutes and universities could work with these farmers to compile detailed data on economic and technical aspects of reducing agrochemical use, and analyse them for lessons learned;
4. Supporting farmer-to-farmer experience sharing, drawing lessons from context-specific situations;

5. Facilitating learning platforms where FFS coordinators, technical assistants, trainer of trainers, experts and the farmers themselves can share findings on IPM innovations, what technique has worked in which context and under which conditions;
6. Engaging specialized professionals for the transfer and use of improved techniques;
7. Include alternative approaches and IPM in vocational trainings of agro-professionals;
8. Establishing online / mobile platforms to enable farmers to exchange experience and get information and peer to peer support.

It is important to invest in capacity building and to incentivize field practitioners and farmers to contribute their experiences. If every retailer and food/fibre company that sells products under a sustainability standard contributed a modest amount, this could go a long way. A proposal was made that a learning platform could be powered by ISEAL and the private sector.

Conducive policy environment needed

Several contributors pointed out that enhancing the use of good agricultural system design, practices and technologies that lead to reduced use of agrochemicals also requires a conducive policy environment. Measures include:

1. Monitoring the use of agrochemicals, and systematic research on their impact;
2. Banning or phasing out highly hazardous pesticides;
3. Farmers should require a 'license' to be able to purchase a pesticide and need to follow regular trainings to be able to renew their license;
4. Enhancing research on how to re-design farming systems (agro-ecology, robust varieties, alternative crop protection methods) and conducting trials to test and demonstrate their effectiveness;
5. Promoting Integrated Pest Management and the use of alternatives;
6. Increasing demand for low-/no pesticide products by engaging brands and retailers to revise their sourcing policies (applying minimum requirements on supplies, increasing the share of sustainability labelled products, introducing resistant varieties);
7. Raising awareness on pesticide issues among consumers, managers and other decision makers (fact-based information on health and environmental issues, and on available alternatives);
8. Revising regulatory practices and policies so that they incentivize pesticide use reduction and the development of alternatives (e.g. developing national action plans, improving transparency in pesticide regulation, introducing a pesticide tax, investing in research and education on alternatives);
9. Fast-track / support biopesticide registration in order to address the lack of approved, registered non-chemical products for pest management;
10. Voluntary Standards Systems need to permit the use of biopesticides;
11. Extending availability of existing non-chemical products to more countries.

Resource links mentioned in the discussion

- OISAT, the online information service for non-chemical pest management in the tropics, providing alternative methods per crop and pest: <http://www.oisat.org/>
- CABI's online-platform PLANTWISE, containing a knowledge platform and plant clinics providing comprehensive information and advice: <http://www.plantwise.org>
- PAN's excellent recent publication "Replacing chemicals with biology": <http://www.sustainabilityxchange.info/en/documents/replacing-chemicals-b...>
- IBMA, the International Biocontrol Manufacturer Association, with directories of suppliers of alternatives per country: <http://www.ibma-global.org>
- Videos and materials produced by PAN UK which identify sustainable approaches for dealing with coffee berry borer in Latin America. https://www.sustainabilityxchange.info/en/facetsearch_library?search_api_views_fulltext_op=AND&search_api_views_fulltext=endosulfan

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