



Guidelines to Minimize the Impact of Pesticides on Bees Pollinators

Norber Mbahin
Animal Production Unit
AU-IBAR

**BEE
PROJECT**

3rd AAP Meeting & 5th ApiExpo Africa
21-26 Sept. 2016; Kigali-Rwanda





■ World food security

- The global economic value of between 235 and 577 billion US \$ per year attributed to insect pollination is ensured (IPBES, 2016).
- Agriculture continues to be a central pillar in Africa's development contributing between 25 – 40% of GDP
- Constraints to agricultural productivity, pests and diseases, remain a major obstacle to increasing growth in the sector
- Pesticide use like other agricultural inputs remain an essential component of crop production

This document addresses some of the concerns surrounding the use of crop protection products and the health of pollinators.

- A synopsis on the exposure of pollinators, especially bees to pesticides
- Challenges surrounding the use of crop protection products and the health of pollinators
- A recommendation on policy issues that should be considered in order to minimize potential negative impacts associated with pesticides use
- Guidelines to minimize the potential impact of pesticides on pollinators

The document has been developed following deliberations of:

- Representatives from AU member states' stakeholders in honey production,
- Pesticide Regulatory Authorities from Crop protection
- Private sector
- Regional Economic Communities



Key issues & recommendations

Key Issues	Recommendation
Lack of and or inadequate pollinator friendly pesticides policies, regulations and guidelines	<ul style="list-style-type: none"><li data-bbox="537 287 1926 382">✚ Formulation of friendly policies, regulation and guidelines on pollinators and other beneficial insects.<li data-bbox="537 394 1926 489">✚ Include risk assessment studies on beneficial insects (pollinators) in pesticide dossiers.<li data-bbox="537 501 1926 596">✚ Re-evaluate regularly the risk assessment studies for the already registered pesticides to confirm their compliance.<li data-bbox="537 608 1926 704">✚ Conduct studies to identify the exposure routes of pesticides to pollinators and how to minimize this risk.<li data-bbox="537 715 1926 858">✚ Train members of pesticide registration committees on promoting pesticides that are not harmful to bees and identification of hazardous pesticides to bees<li data-bbox="537 869 1926 915">✚ Implement pesticide industry- social responsibility<li data-bbox="537 926 1926 972">✚ Establish insurance for beekeeping (insurance of hives against mortality)



Key issues & recommendations

Key Issues	Recommendation
Lack of data and information on impacts of pesticides on bees	<ul style="list-style-type: none">✚ Research on pollinator health (bee health)✚ Increased funding for research on the impact of pesticides on bees and other pollinators.
Decline of bee colony population	<ul style="list-style-type: none">✚ Undertake collaborative research on colony decline in Africa including among other concerns brood destruction, mortality and morbidity adults.✚ Undertake bee health studies on decreased immune capacity, imbalance of the ecosystem, disruption of bees' development cycle and genetic mutation.✚ Strengthen bee keepers associations as platforms for information sharing and skills transfer for farmers.
Inadequate knowledge on Good Apiculture Practices (GAP) e.g. Establishment of apiary site – selection of site and isolation distance, type of beehives used.	<ul style="list-style-type: none">✚ Sensitization and awareness creation on the site selection and isolation distance for all stakeholders✚ Creation of bee reserves, zones and temporary holding areas, if available, where colonies can be relocated during pesticide applications✚ Adoption of good apiary selection criteria including placement of colonies and duration of their stay in a site.✚ Encourage the use of organic pesticides, natural, botanical pesticides and Integrated Pest Management (IPM).✚ Appropriate selection of bee keeping equipment.✚ Marking of colonies and bee yards with appropriate contact information of the farmer.



Key issues & recommendations

<p>Lack of coordination among different actors in honey bee industry</p>	<ul style="list-style-type: none">✚ Establishment of national multi-stakeholder platform for information exchange and networking among stakeholders.✚ Inter-ministerial harmonization of rules, regulation and standards related to apiculture✚ Notification of farmers on intention to spray (at least 48 hours) and sharing of lists of pesticides intended for use when colonies are located in adjacent to fields.
<p>Contamination of bee products</p>	<ul style="list-style-type: none">✚ Quality assurance and safety standards✚ Certification of bee products✚ Establish or create accredited (ISO or GLP) laboratories✚ Establishment of a monitoring program for pesticide residues in honey and honey bees products.
<p>Inadequate knowledge on the economic value of the pollination service</p>	<ul style="list-style-type: none">✚ Conduct research on economic value of pollination services:<ul style="list-style-type: none">● Declining crop yields● Disruption of biodiversity and reduction of sources of nutrition for bees✚ Awareness creation, sensitization and lobbying for pollinator protection✚ Establishment of monetary value of bee products<ul style="list-style-type: none">● Reduced productivity /output of bee products● Constraints of marketing honey and bee productions



Key issues & recommendations

Inadequate extension services

- ✚ Linking research and extension
- ✚ Create national capacity building program to increase skilled extension staff in apiculture
- ✚ Encourage private sector extension services and involvement (Public Private Partnership PPPs)
- ✚ Encourage integration of apiculture curriculum in higher learning institutions
- ✚ Encourage more research on bee keeping

Inadequate transboundary policies in management of biodiversity against pesticides

- ✚ Notification of neighbouring countries about chance of migratory pests and diseases.
- ✚ Banning or restricting of importation of used beekeeping equipment and bees.

Application Method of pesticides e.g. aerial application is more detrimental, time of application, and crop requirements

- ✚ Use appropriate pesticides application.
- ✚ Timely application and co-ordination.
- ✚ Restrictions of certain pesticides in certain crops.
- ✚ Adhere to correct standards appropriate for the type of application method used.
- ✚ Create buffer zones/safe haven for bees during spraying
- ✚ Adding bees' repellent material to the sprayed insecticides when treating plant sources during pollination.



Key issues & recommendations

Application Method of pesticides e.g. aerial application is more detrimental, time of application, and crop requirements

- ✚ Use appropriate pesticides application.
- ✚ Timely application and co-ordination.
- ✚ Restrictions of certain pesticides in certain crops.
- ✚ Adhere to correct standards appropriate for the type of application method used.
- ✚ Create buffer zones/safe haven for bees during spraying
- ✚ Adding bees' repellent material to the sprayed insecticides when treating plant sources during pollination.

Inappropriate use of pesticides around bee colonies to control mites and ants

- ✚ Encourage the adoption of IPM, natural selection and the use of recommended natural materials
- ✚ Promotion of the use natural antibiotics e.g. propolis based antibiotics
- ✚ Promote research on appropriate pesticides and recommended dosage
- ✚ Punitive measures on offenders
- ✚ Pesticides application should be before or after the flowering period if possible
- ✚ Application of pesticides in accordance with established schedules and diagnosis by the registration committee
- ✚ Adoption of cleaner and less toxic methods of pesticide application.
- ✚ Capacity building for beekeepers and farmers in Good Agricultural Practices including responsible use of pesticides.
- ✚ Restriction of pesticides application to periods before or after the flowering
- ✚ Prohibition of disposal of pesticides or washing of pesticide equipment at water sources.
- ✚ Safe disposal of pesticide containers and obsolete pesticides.
- ✚ Use of the registered / recommended pesticides within recommended limits.



Conclusions

Successful promotion of pollinator health is a shared responsibility by all stakeholders involving the establishment of and enforcement of policies, regulations, guidelines and actions.



Thank You



AU-IBAR: Providing leadership in the development of animal resources for Africa