

Europe-banned insecticide 'threatens Africa's food security'

By [Munyaradzi Makoni](#)

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Scientists are calling on African policymakers to act urgently to control the use of pesticides called neonicotinoids, which threaten the wider ecosystem and food security, and have been banned by the European Union.



Tractor spraying insecticide on a wheat farm. © Image by [Mlesl](#) from [Pxabay](#)

Neonicotinoids are nicotine-like insecticides that are used in plant protection products to fight harmful insects.

Previous studies by the European Academies' Science Advisory Council, and other organisations, on the harmful effects of neonicotinoids on ecosystem services resulted in regulatory action and eventually bans of several neonicotinoids in the European Union, says Enock Dankyi, a representative of the Ghana Academy of Arts and Sciences.

“ Extension services should be independent of pesticide suppliers and should include training in sustainable agriculture. - Sue Nicholson, University of Pretoria, South Africa ”

"It was thus timely to consider the extent to which concerns over the effects of neonicotinoids on wider ecosystem services should apply to Africa," adds Dankyi, who participated in workshops to assess the potential impacts of the insecticides in Africa.

Dankyi, a lecturer at the Department of Chemistry, University of Ghana, believes urgent action is needed to prevent further deterioration in the sustainability of African agriculture and biodiversity from indiscriminate and preventative use of neonicotinoids.

According to the report published last week (11 November) by the Network of African Science Academies, increased use of pesticides such as neonicotinoids in Africa is harmful to the environment and reduces pollination and natural pest control, putting food security on the continent at risk.

"This review concludes that stricter regulation of insecticides is required across Africa and that good agricultural practices in plant protection should be promoted to ensure sustainable agriculture that protects the environment, human health and biodiversity," says the report.

"Central to this should be maximising the use of natural controls to balance pest pressures and reduce the need for pesticides."

Evidence of the negative effects of neonicotinoids includes loss of honey bee colonies and contamination of agricultural products, soils and freshwater systems with neonicotinoid residues, says Dankyi.

"Residues in honey and pollen samples collected in the Kiambu and Nairobi counties [in Kenya] indicated that of the pesticides used on cultivated crops around apiaries, 14.4 per cent were neonicotinoids," the report adds.

Dankyi explains that the beneficial services offered by nature such as pollination and natural pest control are a foundation of sustainable agriculture on which future food security depends.

"Beneficial insects increase agricultural productivity and the quality of crops, and are as - if not more - important in the African context than the rest of the world," he adds.

Christian Pirk, a professor of chemical and behavioural ecology and head of the Social Insects Research Group at the University of Pretoria, South Africa adds that neonicotinoid insecticides are now registered and used in most African countries.

The report examines data available on Africa, including on the extent of use, contamination and ecosystem effects as well as continuing research, regulations and enforcement.

Overall pesticide use in Africa appears to be between 2.1 per cent and 6.8 per cent of the global pesticide use, the report says.

Discussions to tackle neonicotinoids use started between the Academy of Sciences of South Africa, the German National Academy of Science-Leopoldina and the InterAcademy Partnership in 2017.

"Research on neonicotinoids in Africa was done already long before that; the amount of evidence just reached the point that sufficient data were available to produce such a report," says Pirk.

Information on neonicotinoids was gathered from experts in African countries including Benin, Botswana, Cameroon, Ethiopia, Egypt, Ghana, Kenya, Malawi, Senegal, South Africa, Uganda and Zimbabwe.

Volker ter Meulen, president of the InterAcademy Partnership, which collaborated with the Network of African Science Academies to produce the report, says that he hopes it "will initiate a change of mind in the application of this group of pesticides in African agriculture to protect biodiversity".

Sue Nicholson, a professor at the Department of Zoology and Entomology, University of Pretoria, South Africa, says that the report is important because it is the first assessment of neonicotinoids in Africa.

"Africa has a chance to avoid making the same mistakes while its insecticide use is still relatively low," says Nicholson. "However, steps need to be taken quickly as the African market is expanding rapidly partly because neonicotinoids are banned elsewhere."

She says that policymakers should act upon the report by improving regulatory frameworks to minimise insecticide use, protect bees, and promote integrated pest management.

"Extension services should be independent of pesticide suppliers and should include training in sustainable agriculture. This will help to protect pollinators and other beneficial insects," adds Nicholson.

[This piece](#) was produced by [SciDev.Net's sub-Saharan Africa](#) English desk.

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