



Birds, Bees, and Aquatic Life Threatened by Gross Underestimate of Toxicity of World's Most Widely Used Pesticide

New Report Charges EPA Ignored Staff Warnings, Approved Widespread Use of Dangerous Pesticides

MEDIA RELEASE

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Grasshopper Sparrow by Luke Seitz. The new ABC report shows that a single corn kernel coated with a neonicotinoid can kill a songbird.

(Washington, D.C. March 19, 2013) As part of a study on impacts from the world's most widely used class of insecticides, nicotine-like chemicals called neonicotinoids, American Bird Conservancy (ABC) has called for a ban on their use as seed treatments and for the suspension of all applications pending an independent review of the products' effects on birds, terrestrial and aquatic invertebrates, and other wildlife.

"It is clear that these chemicals have the potential to affect entire food chains. The environmental persistence of the neonicotinoids, their propensity for runoff and for groundwater infiltration, and their cumulative and largely irreversible mode of action in invertebrates raise significant environmental concerns," said Cynthia Palmer, co-author of the report and Pesticides Program Manager for ABC, one of the nation's leading bird conservation organizations.

ABC commissioned world renowned environmental toxicologist Dr. Pierre Mineau to conduct the research. The 100-page report, "[The Impact of the Nation's Most Widely Used Insecticides on Birds](#)," reviews 200

studies on neonicotinoids including industry research obtained through the US Freedom of Information Act. The report evaluates the toxicological risk to birds and aquatic systems and includes extensive comparisons with the older pesticides that the neonicotinoids have replaced. The assessment concludes that the neonicotinoids are lethal to birds and to the aquatic systems on which they depend.

"A single corn kernel coated with a neonicotinoid can kill a songbird," Palmer said. "Even a tiny grain of wheat or canola treated with the oldest neonicotinoid -- called imidacloprid -- can fatally poison a bird. And as little as 1/10th of a neonicotinoid-coated corn seed per day during egg-laying season is all that is needed to affect reproduction."

The new report concludes that neonicotinoid contamination levels in both surface- and ground water in the United States and around the world are already beyond the threshold found to kill many aquatic invertebrates. Data on surface water contamination from surveys to date, most notably from California and from the Canadian Prairies, indicate that concentrations of several of the neonicotinoid insecticides are high enough to be causing impacts in aquatic food chains. Data from other jurisdictions such as the Netherlands show even higher levels of contamination.

The report also identifies procedural deficiencies in how the US Environmental Protection Agency assesses aquatic impacts. "EPA risk assessments have greatly underestimated this risk, using scientifically unsound, outdated methodology that has more to do with a game of chance than with a rigorous scientific process," the report says.

First introduced in the 1990s in response to widespread pest resistance and health concerns linked to older pesticides, the neonicotinoid insecticides quickly became top sellers in global pesticide markets. Now the most widely-used insecticides in the world, it is difficult to find pest control commodities that do not contain one or several of the neonicotinoid insecticides. California alone has registered nearly 300 neonicotinoid products.

EPA scientists have repeatedly documented serious concerns about the persistence, mobility and toxicity of the products, and yet the Agency continues to grant registrations allowing the chemicals to be used for an ever-widening range of crops and non-agricultural use sites.

EPA and other regulatory agencies worldwide have underestimated the toxicity of these compounds to birds partly because the risk assessment methods fail to account sufficiently for interspecies variation in toxicity. For example, risk assessments underestimate acute risk by up to 10 fold for bird species beyond mallard ducks and bobwhites, the two usual test species. As for aquatic invertebrates, EPA has underestimated the toxicity of the neonicotinoid imidacloprid by over an order of magnitude because of the Agency's failure to consider data from the peer-reviewed literature. EPA has grossly underestimated the toxicity of the other neonicotinoids as well, in part due to the Agency's reliance on their standard test species, *Daphnia magna*, a freshwater flea which happens to be uniquely insensitive to neonicotinoids.

Given that a single neonicotinoid-coated seed can kill a bird, it is also important that seeds marketed for home bird feeders remain free of these chemical treatments. In response to sporadic wild bird seed contamination incidents, ABC has monitored bird seed sold by Walmart, Home Depot, Lowes and Target. To date, ABC's independent bird-seed testing efforts have focused on older products such as the organophosphorous and carbamate pesticides. The neonicotinoids are a candidate for future testing.

The report also charges that there is no readily available biomarker for neonicotinoids as there is for cholinesterase inhibitors such as the organophosphorous pesticides.

"It is astonishing that EPA would allow a pesticide to be used in hundreds of products without ever requiring the registrant to develop the tools needed to diagnose poisoned wildlife. It would be relatively simple to create a binding assay for the neural receptor which is affected by this class of insecticides," said Dr. Mineau. The ABC report calls on EPA to require that registrants of acutely toxic pesticides develop the tools necessary to diagnose poisoned birds and other wildlife.

Neonicotinoids' toxicity to bees and other insects has brought them the most attention thus far and has dominated recent concerns of regulatory institutions worldwide. The serious risk to bees should not be understated, as one-third of the U.S. diet depends on these insect pollinators. The ABC assessment makes clear, however, that the potential environmental impacts of neonicotinoids go well beyond bees. The report urges EPA to expand its registration review of neonicotinoids to include birds, aquatic invertebrates, and other wildlife.