

Perspective on Pesticides

Pollinator Partnership (P2) believes that the unwarranted use of all chemical pesticides (including insecticides like neonicotinoids, pyrethroids, carbamates, and organophosphates) must be eliminated.

P2's goal is to reduce the impact of pesticides on pollinators. Too many people use pesticides as a first line of defense or an insurance policy, but if one is insuring for a problem that doesn't exist or is not justified by a demonstrated need, the use of pesticides becomes an insurance policy that asks pollinators to pay the premium. Pesticides must be used to treat pests only when there is proven economic impact (using established thresholds), and when other methods have been implemented such as Integrated Pest Management; even then, the choice of a specific pesticide, application method, time-of-day, climatic conditions, and bloom season should be considered so that pollinators are protected from harm to the greatest extent possible. P2 feels pesticides should be avoided in home garden settings.

A 2016 University of Maryland study by vanEngelsdorp, et al. (2016) found 93 chemical compounds in the bee hives they studied and as many as 20 compounds in a single hive. Clearly, there are many chemicals impacting honey bees and other pollinators. Promoting chemical-by-chemical bans may reduce this threat, but it won't prevent users from switching to other chemicals that could be more harmful nor address all the new chemicals that are in the pipeline. Similarly, generalizations are not helpful in solving real problems that are both complicated and context specific. Bans that ignore subtle but significant issues not only alienate the very constituents who must be engaged to protect pollinators, namely farmers and pesticide applicators, but may also drive them to use other problematic practices and products that can harm pollinators.

P2 advocates for Integrated Pest Management (IPM) which shifts away from automatically turning to chemicals for pest prevention and solutions. IPM encourages a wide variety of practices that systematically address pest management, and most importantly, aims to prevent pest problems from occurring in the first place. IPM provides a powerful set of tools to change behaviors in order to reduce risk and exposure and to support healthy pollinators, healthy farms, and healthy gardens. P2 also advocates for easily understandable labels that give clear directions on pesticide uses and restrictions, and the best means of ensuring pollinator health.

The effects on pollinators of the European moratorium on neonicotinoid insecticides are still unclear. Yet there is growing evidence of harm to non-target organisms from certain neonicotinoids, pointing to a significant need to reduce their prophylactic use, especially

where there is no history of infestation or demonstrated economic impact. Each neonicotinoid that is used on crops (acetamiprid, clothianidin, imidacloprid, dinotefuran, thiacloprid and thiamethoxam) has different uses, restrictions, effects on pollinators, and inherent properties, including persistence rates in soil and water, which are affected by factors such as exposure to UV light, temperature, and soil type.

Insecticides, like the six neonicotinoids listed above and other systemic compounds like sulfoxaflor and flupyradifurone, or pyrethroids, carbamates, and organophosphates, are intended to kill insects. In addition to insecticides, fungicides and herbicides alone or in combination can also be problematic for pollinators. Recent research shows that adjuvants and surfactants that are used in combination with the active ingredients (AI) can also be harmful to pollinators. Further, the overuse of chemicals sets the stage for the development of resistance, necessitating the need for new chemicals which perpetuates the cycle of overuse.

P2 is working to encourage the increased use of IPM and related approaches to managing pest problems that ensure pollinator health is considered at every decision point. P2's operating model is based on a collaborative approach driven by science, and it will continue to help move partners and other interested stakeholders forward to optimal pollinator health in every landscape.