

CHANGING PESTICIDE RISK ASSESSMENT AND MITIGATION REQUIREMENTS FOR POLLINATOR PROTECTION

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Past - In Washington, the first known report of bee poisoning was caused by use of an arsenical insecticide in 1921. Primarily concerned with acute toxicity of foliar applied insecticides, esp. to honey bees. Most insecticides involved with severe bee kill incidents were highly toxic (acute LD₅₀ of 2 micrograms or less) with an extended residual hazard (RT₂₅ more than 8 hours). The primary active ingredients involved were methyl parathion, carbaryl, chlorpyrifos, thiamethoxam and acephate. In general, bee kills from systemic insecticides were not a major concern.

Present - Regulatory agencies worldwide are working on improving risk assessment and mitigation (EFSA, SETAC Pellston, EPA SAP White Paper). Concerns include acute and chronic effects of insecticides, fungicides and miticides on multiple species of bees via multiple routes of exposure. Bee kills caused by nitroguanidine neonicotinoids included fugitive dust from seed treatment, and foliar and systemic use on ornamentals (some incidents involved bumble bees). EPA and CDPR are currently reviewing the nitroguanidine neonicotinoids, and probably won't be finished for another two years. EPA has required that registrants adopt interim measures to address concerns with foliar uses of nitroguanidine neonicotinoids, and ODA has required that registrants adopt additional restrictions for two of the nitroguanidine neonicotinoids in Oregon. WSU intends to conduct research on nitroguanidine neonicotinoid residues from honey bee colonies in urban and rural landscapes in Washington.

Future - Pesticides undergoing registration review and new active ingredients / new uses will go through a risk assessment process. The need for label statements to mitigate risk to pollinators will be based on the results of the risk assessment. The risk assessment process should be transparent, and any uncertainties should be clearly identified.