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REDUCING PESTICIDE POISONING OF BEES

What the Pesticide Applicator Can Do

- Choose insecticides that are non hazardous to bees whenever possible. The more hazardous insecticide active ingredients include many of the organophosphates and the carbamates, and some of the synthetic pyrethroids and neonicotinoids.

- Choose insecticides that are non toxic to bees to apply on crops that are in bloom. Check the Environmental Hazards information under the Precautionary Statements section of the insecticide label to determine the hazard to bees. Ground application is generally less hazardous than aerial application because there is less drift of the insecticides and smaller acreages are treated at one time.

- Choose the less hazardous insecticide formulations. Tests have consistently indicated that dusts are more hazardous than sprays of the same insecticide. Emulsifiable formulations usually have a shorter residual toxicity to bees than do wettable powders. Granular formulations are low in hazard to bees.

- Apply insecticides in late evening, night, or early morning while bees are not actively foraging. Evening applications are generally less hazardous to bees than early morning applications. Bees can be considered to be active when temperatures are above 52 degrees F. When temperatures cause bees to start foraging earlier or to continue later than usual shift application time accordingly.

- Apply insecticides when temperatures are not expected to be unusually low following treatment. Residues will remain toxic to bees for a much longer time under such conditions.

- Dispose unused dusts or sprays where they will not become a bee poisoning hazard. Sometimes bees collect any type of fine dust material when pollen is not readily available. Under such conditions, they may actually carry insecticide dusts back to the colony.

- Contact the beekeeper or the county bee inspector to make him or her aware of the pesticide application, the type of pesticide, and the area of application.

- Select herbicide formulations that are the least harmful to bees for roadside and other weed control operations. Tests have shown that at maximum dosage 2,4-D alkanolamine salts and isopropyl esters and similar herbicides are more toxic than other forms. Oily formulations seem to be more hazardous to bees. Spraying in late afternoon or evening will also lessen the hazard, since bees will not visit the blooms after they become curled.

What the Grower Can Do

- Mow or beat down orchard cover crops before applying sprays hazardous to bees. Treatment with 2,4-D is the best way to remove dandelion blooms. This is especially important in relation to the first cover spray on apples, which is applied during a critical foraging period when bees will fly several miles to obtain pollen and nectar from even a few blooms of dandelion, mustard, etc.

- Blossom-thinning sprays have not been hazardous to bees in orchards. However, Sevin used as a fruit thinner 15 to 25 days past full bloom of apples is highly hazardous if cover crop blooms become contaminated.

- When insect pests have been damaging a crop every season, use a preventative program of early season application before the insect populations increase or before foliage growth and weather conditions reduce the effectiveness of insecticides.

- Learn the pollination requirements of the crops you raise. Application of insecticides hazardous to bees on these crops, or driving beekeepers out of your area by the use of insecticides on other blossoming crops will likely cause lower crop yields.

- Learn about the beekeeper's problems with the poisoning of bees and enter into mutually advantageous agreements with him or her to best produce bee-pollinated crops.

What the Beekeeper Can Do

- Mark colonies of bees that are next to orchards or fields that may be treated. Post your name, mailing address, email address ,and phone number in printing large enough to be read at some distance in all apiaries so you can be contacted readily to move the colonies before hazardous insecticides are applied.

- Choose apiary sites that are relatively isolated from intensive insecticide applications and not normally subjected to drift. Keep bee hives out of low areas. Establish holding yards of honey bee colonies at least four miles from orchards being treated with insecticides.

- Keep hives out of fields treated with the more hazardous insecticides for at least 36 hours after the application. Tests have shown that about 90 percent of bee mortalities occur within 24 hours after application.

- Be careful how you control insect pests around beekeeping storage facilities or apiaries. Use low-hazard insecticides.

- Learn about pest control problems and programs so you can develop mutually beneficial agreements with growers concerning pollination service and prudent use of pesticides.

Partial Source: Western Region Extension Publication (WREP15) Revised in January, 1983.

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