

# Problems with Conventional Pest Control

**Pesticide Control Program**  
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The use of modern synthetic pesticides started during World War II with the advent of such chemicals as 2,4-D and DDT. The effectiveness of these pesticides had dramatically improved the ability to kill pests, and because the potential applications seemed unlimited and the hazards minimal, pest control came to follow a distinct pattern:

- Sole reliance on chemicals
- Preventive or “calendar” spraying
- Application at the first sign of pests without establishing injury levels
- Little or no evaluation of treatments
- No system-wide perspective

Several problems associated with this pattern of use soon appeared:

**RESISTANCE:** Resistances to pesticide treatments were first noticed in flies, mosquitoes and later in cockroaches. Due to genetic variation, certain pests may not be affected by a pesticide. A pesticide will kill most of the susceptible pests, leaving those most resistant to the pesticide to dominate reproduction. This process of genetic selection now leaves pest populations of over 800 species resistant to one or more pesticides.

**RESURGENCE:** Because pesticides may kill off the natural enemies of a pest, the pest population may rebound in numbers greater than before the application. A further complication with the resistance problem is insect predators and parasites which prey on the pests are less likely to develop resistance to the pesticides used, reducing their ability keep the pest population in check.

**SECONDARY PEST OUTBREAK:** Pesticides may kill off not only the natural enemies of the pest concerned, but those of other pests as well, resulting in problems with pest species that were previously irrelevant.

**RESIDUES:** Because pesticides are difficult to confine to the target, residues may be left in the environment. These may cause damage directly to wildlife and to man by occupational exposure, or indirectly through bio-magnification of pesticide concentrations in the food chain. Synergism, where mixed compounds cause a magnified effect greater than the individual compound effects added together, is also a problem brought about by residues, mixing with other environmental factors to increase toxic effects.

**REGULATION:** Due to all of the aforementioned problems with conventional pesticide use, the laws concerning pesticides have grown more restrictive, leading to increased research costs to develop new pesticide formulations. These higher costs are passed on to the pesticide applicators and eventually the consumers themselves.

**IPM (Integrated Pest Management)** is probably the best alternative to curb the disadvantages of a chemical pesticide only treatment pattern. The IPM process uses regular monitoring to determine if and when control measures are needed, and employs physical, cultural, and biological tactics along side chemical treatments to keep pest populations low enough to prevent economic damage or public annoyance.

In IPM programs, treatments are not made according to predetermined schedules; they are made only when and where monitoring has indicated the pest will cause unacceptable economic, medical or aesthetic damage. Treatments are chosen and timed to be most effective and least disruptive to natural pest controls.

**Please contact the following if you need more information:**

**NJDEP Pesticide Control Program**

General information: 609-530-4070

To report a pesticide misuse: 609-984-6568

Website: [www.njpcp.org](http://www.njpcp.org)

**National Pesticide Telecommunications Network**

For questions on possible health effects: 1-800-858-7378

**New Jersey Poison Information System**

For emergency situations involving pesticide exposure or poisoning:  
1-800-222-1222