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The Journal News (Westchester County, NY)

August 19, 2004 Thursday

**SECTION:** NEWS; Pg. 1A

**LENGTH:** 1325 words

**HEADLINE:** WITH HELP FROM NATURE

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**BODY:**

GARDENERS ZAP BUGS WITHOUT PESTICIDES

Toxic side effects lead some to try natural alternatives

**Roger Witherspoon**

The Journal News

Carmine Serpe was closing in for a kill.

Serpe peered through the leaves of a dwarf hard-needle pine tree and spotted his prey. Slowly, he reached out and grabbed a European pine sawfly, one of the few insects that dine on pine needles.

The strand of pine at the home in Armonk, called mugho plants, had been invaded by the voracious pests, and Serpe, a Carmel landscaper, did not want to use pesticides to kill them.

"Basically, you put on a pair of plastic gloves and then pick them off and squash them," Serpe said. "That's integrated pest management at its purest - just you and the bug.

"We do the same with caterpillars," he said. "We catch them by hand, and we squash them. Or sometimes there will be a paper wasp nest, and I'll put a plastic bag over it, put it on the ground and just step on them."

Serpe is among a growing number of landscapers and homeowners who are turning away from pesticides and herbicides and instead relying on natural remedies and old-fashioned practices to control lawn, garden and tree invaders. Government agencies are doing the same.

Westchester and Rockland counties have pesticide notification laws, requiring landscapers and homeowners to notify neighbors before they use a pesticide and to post notices on lawns afterward saying that poisons have been used. Neither county uses pesticides on county land. Putnam County uses over-the-counter pesticides and herbicides throughout its parklands and municipal properties, but not stronger chemicals that can be applied only by licensed exterminators and landscapers.

The movement away from pesticide use is the result of a growing body of medical research indicating such toxins are harmful to children, fetuses and pets. Experts say overuse of pesticides also is counterproductive, as it kills helpful bacteria, insects and other wildlife along with the intended pests.

For most homeowners, the poisons are not needed.

"In most cases, there are alternatives," said Paul Trader of the Cornell Cooperative Extension Service in Stony Point. "There are more and more products that are nontoxic or the least toxic."

When he began his tree service 56 years ago, Serpe said, "I was part of a group of guys who went around and sprayed the world with the harshest stuff. We would go in and blanket-spray a property whether it needed all that pesticide or not."

As intended, the harsh chemicals they sprayed killed the pests. "Unfortunately," Serpe said, "we were killing the insects and then killing everything else - the ladybugs, the assassin beetles and the lacewings."

The indiscriminate spraying also killed bees, which are prolific pollinators, wasps and yellow jackets, which feast on many insect pests.

"We subsequently had no help from nature in taking care of the lawns or gardens because we killed all the help," Serpe said. "We were unbalancing nature. The key to pest management is to get nature into the act."

Concern about the health implications of pesticides has been growing in recent years.

"There is a huge amount of medical literature that points to links between certain pesticides and cancers like non-Hodgkin's lymphoma," said Dr. Lucy Waletzky, an environmental health specialist and a member of the Westchester County Pest Management Committee.

"When lawn pesticides are used, children under age 5 have four times the risk of developing asthma," said Waletzky, a Pleasantville resident. "Children are vulnerable because they are developing physiologically, and they can absorb the chemicals through their skin."

Dr. Philip Landrigan, chairman of the Department of Preventive Medicine at the Mount Sinai School of Medicine in New York, said children are more vulnerable than adults to the effect of pesticides.

"They are more heavily exposed because they play right down on the grass, and they put their hands in their mouths all the time," he said. "So any pesticides out there are more likely to get into a child than to get into you or me."

Landrigan, author of "Raising Healthy Children in a Toxic World," said the exposure of pregnant women to chemicals in pesticides has resulted in babies born with smaller heads, developmental problems and learning disabilities. Pregnant women also need to be wary of pesticide residues on fruits and vegetables.

"Unless those fruits and vegetables are organic," Landrigan said, "there are detectable levels of pesticides on the fruit. Some foods, like peaches and

strawberries, the top two in this category, will have measurable amounts of four or five pesticides on them because these were used in the fields."

Some of those compounds, he said, such as aldrin, dealdrin and 2,4,5,d, accumulate in the human body.

Westchester County Health Commissioner Joshua Lipsman said many pesticides work by disrupting cell reproduction, a continuing process in children younger than 5.

"A pesticide is a poison, and there is a big overlap between the parts of the pests that are affected and the parts of humans that can be affected," he said.

The poisons also affect pets. Studies have linked bladder cancer in Scottish terriers to pesticide exposure on their owners' lawns.

"Dogs run right out on the lawn, and then they lick their paws and their exposure is very high," Waletzky said.

Instead of using one kind of organic alternative to pesticides, experts recommend "integrated pest management," which includes methods ranging from better growing practices to the use of nonlethal products.

Paul Matlock of the Taconic Gardeners Club in Ossining, who grows fruits, vegetables and flowers on a half-acre lot at his home, said club members sometimes use pesticides around the roots of bean and broccoli plants, "but we never put it on things we actually eat."

"Pesticides usually are not necessary," Matlock said. He spreads a synthetic fabric over his bean plants to keep out Mexican bean beetles.

"We plant the carrots late in the season so they don't get the root maggot," Matlock said. "The maggots lay their eggs in the spring and early summer, and then they are done, so we wait till it is too late for them."

At Stone Barns in Tarrytown, farm manager Jack Algiers said he treats fungal infections in the half-acre greenhouse with sprays of weak camomile tea or kaolin, a clay used in making porcelain. The sulfur in the tea and alkaline in the clay keep the fungi in check.

"When you use a pesticide, you are adding something that is very unnatural and can be brutal to the soil," Algiers said. "We really trust the natural system to help us."

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For more information

\* Cornell Cooperative Extension Service:

[www.nysipm.cornell.edu/publications/index.html](http://www.nysipm.cornell.edu/publications/index.html)

\* Grassroots Environmental Education:

[www.grassrootsinfo.org](http://www.grassrootsinfo.org)

\* Westchester County Department of Health:

[www.westchestergov.com/health](http://www.westchestergov.com/health)

For healthy lawns and gardens

- \* Have soil samples analyzed by the Cornell Cooperative Extension Service to determine their composition and health.
- \* Add compost material to the lawn. Develop your own compost heap or buy organic compost to restore nutrients to the soil.
- \* Limit the amount of water applied to lawns, trees and shrubs. Keeping them wet is unnecessary and attracts grubs and other wetland pests.
- \* Set the lawn mower on high instead of close-cropped. This lets the grass develop stronger root systems and crowd out weeds. Never cut more than one-third of the lawn's height at one time. Deeper cuts shock the blades of grass and weaken the lawn's health.
- \* Leave most grass cuttings on the lawn to provide nutrients for the soil.
- \* Use insecticidal soaps to wash the leaves of infected shrubs. The soaps aren't poisonous but suffocate insects.
- \* Expect to see a few bugs on your plants. The plants will survive a limited exposure to pests.