

Long Term Pesticide Effects Under Study

Reprinted from March 1980 Issue of Nursery Business

Increased demand for more production on less land has pushed farmers into a sophisticated agriculture which relies heavily on the use of chemicals to control pests.

Some of the chemicals, or pesticides break down rapidly after use and are considered harmless. Others leave residues for years and could be considered dangerous. They all behave differently.

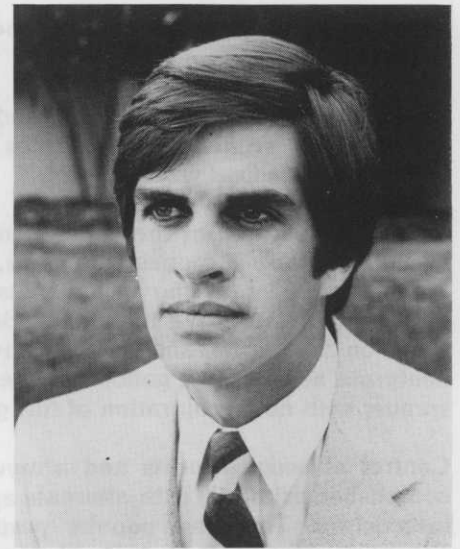
At Clemson University, SC Experiment Station soil chemist K. S. LaFleur is taking a close look at the behavior of pesticides applied to the soil in an effort to determine their long-term effects on crops and consumers.

About 1,200 pesticides, in some 35,000 formulations are registered with the U.S. Environmental Protection Agency. How safe are they?

Before soils can be considered marginally safe, LaFleur says, "they must lose at least 90 percent of applied pesticides."

Because testing a single material for its residual effects is a long, tedious process, LaFleur is constructing a mathematical 'prediction model' designed to evaluate long-term effects of pesticides. The model is based on intense study of 12 of the most representative pesticides, chosen for their diverse chemistry and usefulness in South Carolina.

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Dr. Batterson Named To Research Center Faculty

Dr. Ted R. Batterson has recently joined the faculty as an assistant professor at the University of Florida Agricultural Research Center in Fort Lauderdale. The position he fills was created with the establishment of the Aquatic Weed Research Center, a functional element of the Institute of Food and Agricultural Sciences (FAS) of the University of Florida, located at Gainesville. He joins an interdisciplinary group of both university and USDA personnel who are jointly cooperating in research concerned with controlling aquatic weeds. His research will in the development and implementation of an integrated approach to noxious aquatic weed control incorporating biological, chemical, and mechanical means.

Dr. Batterson received his B.A. in Biology from Western Michigan University and his M.S. and Ph.D. degrees in Aquatic Ecology from Michigan State University. During his graduate program he served as both a teaching and research assistant. Teaching responsibilities included involvement with courses taught on campus as well as at the Kellogg Biological Field Station. As a research assistant he was actively involved in a variety of projects concerned with the aquatic environment.



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West Coast Pesticide Report

By DAN MEYERS

It seems that other than the pesky mole cricket, this summer was very productive for our area. Weed control programs were good as mother nature did not interrupt as it did last year; June through September we had a little over 20 inches, but we had that much in September last year. There was not much fungus reported. Curvularia was the only major problem and Daconil on the second and third application controlled it.

NEMATODES

Of the 10 superintendents surveyed, nine treated their greens twice/year with Nema-cur for nematodes. The other individual treated three times and also used Dasanit. Bill Hall of Buckhorn Springs and Dick Grill of Lakewood were the only two who had contract injection with DD & EDB. Both are happy with the results.

MOLE CRICKETS

Dick Grill and Bill Hall insected with DD & EDB for nematodes and as a direct result have very little mole crickets. Dick is using the Dursban Bait and Dasanit for any spot problems. Fred Tucker of Timber Oaks and Gary MacDougall of Airco used Baygon in their Hydra-Ject for good control. Fred is considering using Mocap Liquid next year. Dan Morgan of Sun City has just purchased a Hydra-Ject. Reed Lefebvre of Plant City and Marshall Edgren of Carrollwood Village are planning to purchase a Hydra-Ject next year. But this year Reed, Marshall, Frank Deliello of Indian Rocks and Dan Meyers of Temple Terrace used more nematicides for spot treatment than the Baits and Baygon.

In summary it seems there is a growing trend to purchase a Hydra-Ject for the control of nematodes and mole crickets. For those who are unable to do so, spot treating with the three nematicides — Nema-cur, Dasanit and Mocap — is occurring.

One question which has arisen and is being looked into is: what are the possibilities of spraying Mocap Liquid for nematodes and mole cricket control?



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Presently LaFleur can closely predict the degree a pesticide will be absorbed by soil and how it will move in the soil during and after rainfall. He'll next characterize the rates of chemical breakdown by soil organisms and by weathering and then integrate all steps into a model that will reveal individual traits of 'new' pesticides.

The model will help separate the chemicals which pose little or no threat from those which are definitely dangerous.

"Greater sensitivity to danger may add to bias against useful, relatively harmless pesticides," says LaFleur. "Short-lived, low toxicity types should not share the guilt of persistent, toxic or carcinogenic types. The prediction model will help expose the difference."

The 12 pesticides being examined were produced and used "before anyone really knew their long-term effects on us and the rest of the ecosystem. And this is risky."

LaFleur says more sophisticated detection and testing methods have given rise to new awareness of long-term dangers of pesticides previously though relatively harmless.

"People weren't actively looking for hidden dangers, and earlier chemists didn't realize some chemicals are so dangerous. The problem is we just can't keep pace with our own discoveries."



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