DISSIPATION OF CHLORPYRIFOS FROM DRY SOIL SURFACES

L. W. Getzin
Western Washington Research and Extension Center, Puyallup, WA 98371

At the 1980 Pacific Northwest Vegetable Insect Conference I reported that chlorpyrifos degrades via a temperature dependent, clay-catalyzed hydrolysis process on dry soil surfaces. In subsequent studies it has been found that volatility is also important in the loss of chlorpyrifos from dry soil surfaces. The relative importance of volatility and clay-catalyzed hydrolysis depends upon the amount of sorbed moisture present in the soil. For example, when dry soil moisture contents are in equilibrium with the moisture in ambient air at 30% relative humidity, clay-catalyzed degradation accounts for ca. 75% of the insecticide loss. The converse is true when dry soil moisture contents are in equilibrium with air moisture at 90% RH. Under field conditions chlorpyrifos dissipates faster with soil-surface applications than with incorporated treatments because volatility and clay-catalyzed proceed less rapidly beneath the surface.

DI-SYSTON AND MONITOR RESIDUE STUDIES IN ASPARAGUS

S. Szeto and R. S. Vernon
Agriculture Canada Research Station, Vancouver, B.C.

After applications of Di-Syston and Monitor in an asparagus aphid control experiment, residue levels in the asparagus tissues were determined at weekly intervals. Spray treatments were applied in 1981 at 1.12 kg a.i./ha to immature asparagus in a field seeded in 1979 at the Summerland Research Station. In another section of the field, Di-Syston 15 G was side-dressed beside the asparagus rows at rates 0.5 and 4.0 kg a.i./ha. Residue levels of Monitor decreased from 10.85 ppm 2 days after spraying to 1.24 ppm after 23 days. Residue levels of Di-Syston decreased from 11.3 ppm 2 days after spraying to .09 ppm after 94 days. Residues of granular Di-Syston applied at .5 kg a.i./ha increased from .037 ppm in green plant tissue 7 days after treatment, to a maximum of 14.23 ppm after 70 days, then decreased to .42 ppm after 147 days. With granular Di-Syston at the 4.0 kg a.i./ha rate, residues increased from .026 ppm 7 days after treatment, to a maximum of 60.69 ppm after 85 days, then decreased to 17.1 ppm after 147 days.

HONEY BEE -- APPLES AND PEARS

D. Mayer
IAREC, Washington State University, Prosser 99350

A pollinator attractant that could be sprayed on blooming pome fruits to increase pollinator activity and fruit set is highly desirable. Compounds, purported to be pollinator attractants, are now available commercially. None of these materials have been previously evaluated on tree fruits in the Pacific Northwest.