

## Many Factors Determine Insecticide Residue in Soil

Hazards from chemicals that remain in the soil after insecticide treatment depend on the kind of chemical and a number of soil conditions, a University of Wisconsin scientist told an audience of the American Chemical Society which met in Chicago Sept. 4.

Residues from some insecticides disappear much faster than others, and many chemicals break down to harmless forms under moist soil conditions, according to E. P. Lichtenstein, opening speaker at a special symposium on Environmental Health Aspects of Pesticide Residues.

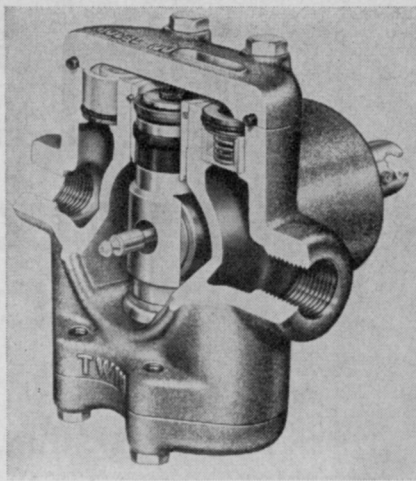
The chlorinated hydrocarbons persist longest in the soil. DDT, aldrin, and heptachlor are some of the common chlorinated hydrocarbons. The organophosphorous group disappears fast from the soil, but there's a big difference among chemicals of this group, as well as in the pathways of disappearance.

All insecticides break down to harmless residues faster when soils are moist. Water, under certain conditions, breaks the chemical apart. Water also creates ideal conditions for soil microbes to attack and reduce some chemicals to harmless forms. Yeast, in the soil for example, changes parathion to nontoxic aminoparathion.

Harmful chemical residues break down faster in warm soils, Lichtenstein said, adding that type of soil makes a difference, too. Generally, insecticides stay longer in peat and muck soils than in loose, sandy soils, although in muck soils of high organic content the residues are tied up in such a way that they are less toxic than they would be in sandy soil.

Cropping and tillage practices also affect chemical residues, the researcher continued. Under a cover crop like alfalfa, insecticides stay in the soil longer. When soils are cultivated often, residues disappear faster.

Aldrin residues were lowest in an experiment where it was ap-



**An improved method** of protecting pump bearings and a guided piston assembly are main features of the new 5300 Small-Twin piston pump, a product of Hypro Engineering, Inc. A nylon shield rotates with the shaft to repel liquid from the bearings as the pump shaft rotates. The guided piston assembly utilizes a self-lubricating Teflon seal ring with rubber O-ring which functions as a suction seal for the pump. This relieves the necessity of having the piston cup maintain vacuum in the pump. The pump mounts directly on small motor. Details are available to those who write the company at 700 39th Ave. N.E., Minneapolis, Minn. 55421.

## Airplane Spray Distribution Is Subject of USDA Brochure

A brochure giving a detailed study of spray distribution patterns as applied from a high-wing monoplane was recently released by the Agricultural Research Service, U. S. Department of Agriculture.

Illustrated with in-flight photographs, the brochure gives results of experiments made with various types of spray applications. Graphs and charts are also included in the 8-page research report.

Titled "Spray-Distribution Patterns From Low Level Applications With a High-Wing Monoplane," (ARS 42-99, Aug. 1964), the brochure is available to those who write to Agricultural Research Service, U. S. Department of Agriculture, Washington, D. C.

plied to the soil in an emulsion form, and highest when the chemical was applied in granules and mixed into the plow layer.

Lichtenstein also found that yearly applications of a chemical left more of it in the soil than the same amount applied once only.

## Trimnings

**A Real Firecracker.** One of the busiest custom spray operators in the country these days is William Owen, president of the Pesticide Sprayers Association of Portland (Oregon). We had a chance to chat with him recently about the regional sprayers meeting his group sponsored in Portland last month. Apparently the meeting came off successfully, which is no surprise to us judging from the amount of hard work and careful planning that went into the affair. One of the most effective items in the multistage advance publicity program Owens and his cohorts devised was a cylindrical mailing piece resembling a firecracker or stick of explosive (complete with fuse) inside of which were several flyers describing the meeting, and a return postcard on which to indicate attendance at the Portland conference. At first we wondered if some of our good readers in Oregon disagreed with our editorial policies and were answering in no uncertain terms, but a quick, if uneasy, inspection of the "dynamite" showed it to be merely a clever attention getter. Hats off to Owens and his Portland friends.

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**Hansling, with Care.** Celebrating its 64th year in tree care currently is P. Hansling & Son, an arborist company allied with Hartford Forestry Co. in Hartford, Conn. The Hansling's have a post card-sized mailing piece with a clever quote from family member Ruby C. Hansling, which reads: "Remember your own trees; they are but tree people strayed from the forest." This folksy observation should appeal to homeowners who are fond of old established shade trees on their property, and would help build an interest in the Hansling organization.

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**Ringin' a Bell.** A nice piece of publicity for an Ohio weed and brush control company appeared recently in the *Ohio Bell Voice*. Company in the spotlight was Chemi-Trol Chemical Co. of Gibsonburg. Chemi-Trol president Fred Karlovetz now has 54 trucks in operation and has sprayed 3,000,000 miles of roadside since the company was founded in 1946. The firm, an aggressive and modern business enterprise, now operates in Ohio, Michigan, Indiana, Kentucky, and Pennsylvania. Prexy Karlovetz says the company also does some railroad work. A real success story from a recognized industry leader in custom application.

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**Cup Runneth Over.** Very much in evidence at the recent sprayer's conference in Portland, Ore., (page 12) was Barbara McNeilan, wife of Oregon county agent Ray A. McNeilan. Barbara made sure delegates had full coffee cups during frequent breaks in the successful meeting. Reports are the entire ladies program was a tremendous success, so that perhaps even more of the "better halves" will be tempted to join in next year!