# Chemists Find Additives That Break Down DDT

Two chemists at Aerojet-General Corporation have discovered a way to break down DDT in as quickly as four hours, or at any predetermined length of time.

Louis Rapp, manager of research and technology at Aerojet, called the achievement perhaps "the best thing since DDT itself was discovered."

The chemists had been working under government contract to find a control for the residual characteristic of DDT which makes it one of the most effective chemicals discovered, yet the very trait that brought about a virtual complete ban of its use about a year ago. Critics charged that residual DDT was endangering species of wildlife.

Keith Sweeney and Rod Fischer at Aerojet developed an additive containing zinc or aluminum. The powder of precipitated zinc (or aluminum) is added to dry DDT and is then dusted or sprayed.

"The granules, fine as face powder, are coated to resist deterioration for several weeks, depending on thickness," said Rapp. In this way, he explained — by thickness — the length of time you wanted DDT to work for you could be determined.

"In the laboratory, applying the material without a coating, we've broken down DDT in as little as four hours."

It would be possible, Rapp said, to spray DDT now in stock then spray the additive later to decompose it. "But our basic concept has been to use coated material and apply both at the same time to avoid the cost of two sprayings."

The discovery came to light with the awarding of a second government contract to Aerojet-General for continued research. The second study will be to collect data to substantiate Rapp's claim that the compounds formed after DDT is decomposed are less toxic than DDT itself.

The additives break down DDT into two principal materials, Rapp said. These are zinc dichlorodiphenylethane and aluminum tetra (chlorophenal) tetrachlorobutane.

"These compounds predominate, but others are produced," he said. "Our next study will be to confirm the non-toxicity of all these materials to marine life."

Counting field testing that must be done, Rapp estimated that the product still wouldn't be commercially available for at least one to two years.

Aerojet-General is not a DDT manufacturer, and Rapp expressed the opinion that the company probably would grant licenses to other firms to market the product.

Asked whether he felt the DDT ban would be lifted, Rapp refused to make a prediction except to say the matter probably would be decided in the political arena.

The same query to a Department of Interior spokesman brought this reply: "Provided the additive works and fulfills the objective of the study, I would say that (DDT reinstatement) would be the ultimate purpose."

Secretary of Interior Walter J. Hickel, who announced the development of the additive and the second contract, has been quoted as saying that such a formula, giving a built-in self-degrading capability, "will allow the continued use of potent pesticides."