

SCIENCE IN REVIEW

DDT, the Army's Insect Powder, Strikes a Blow Against Typhus and for Pest Control

By WALDEMAR KAEMPFERT

DDT, the Army's insect powder, which has been used with great effect against the spread of typhus in Europe, was conspicuous in the news last week. The powder kills lice, termites, moths, roaches, bedbugs, fleas, Japanese beetles, corn borers and other insect pests. DDT is short for dichloro-diphenyl trichlorethane.

No new discovery is DDT. It was first synthesized in 1874 by Othmar Zeidler of Strasbourg and described in six lines in the proceedings of the German Chemical Society. Its insect-killing properties were discovered in the laboratories of J. R. Geigy & Co. of Basle, Switzerland, in 1939 when the Swiss potato crop was threatened with destruction by American beetles. Soon after the outbreak of the war Geigy & Co. reported to the American military attaché at Geneva that the powder could kill typhus-carrying lice.

At present DDT is made by several companies in this country. One of these alone has manufactured enough to protect more than 50,000,000 persons against typhus for one month. And still the supply is sufficient only for the armed forces. A small amount, however, is reserved for agricultural use.

Deadly to Insects

DDT is harmless by itself. When mixed with talc or kerosene it is deadly to insects but harmless to man, so far as the evidence goes. When it is thus prepared and sprinkled on clothing it retains its insecticidal power through eight washings. Sprayed on walls it will keep flies away for three months.

DDT demonstrated its efficacy brilliantly in Naples last October when typhus, a dread disease in every army, made its appearance among the city's inhabitants. Thousands had been living in bomb-shelters where rats and vermin swarmed and where sanitary arrangements were virtually nonexistent. Lice were prevalent, and cases of typhus were found. Col. W. S. Stone, chief of the United States Army's Section of Preventive Medicine for the North African Theatre of Operations, realized the danger and took steps to enforce counter-measures. He needed DDT but he had none. He turned to the Rockefeller Foundation's team and, with its aid, controlled at the very beginning what might have become a formidable epidemic.

The team in question was created in 1943 to continue war-zone studies of promise. It consists of Drs. John B. Snyder, Charles M. Wheeler, Fred L. Stoper, W. A. Davis, Floyd S. Markham and Louis A. Riehl. Its first step was to fly a medical staff and anti-typhus material from Cairo to Naples.

Army Battles Typhus

By Dec. 26 the fight against typhus was on. Active cases were located and treated and whole families and their relatives and friends were dusted with the louse-killer. But this was only the beginning. The biggest task of all was the delousing of the entire population. Posters and the press invited people to visit one of forty delousing stations where the powder was blown into trousers and skirts, sleeves, collars, tucks, folds and seams. Nobody was asked to strip. About 60,000 a day were thus handled. By January, 1,300,000 had been thus protected for five weeks and by the end of February the number of new cases discovered had dwindled to almost nothing.

This department is not willing to go so far as some do in hailing DDT as a discovery comparable with the sulfonamides and penicillin, but there is no doubt in its mind that it marks the beginning of a new era in the control of agricultural and household insect pests and of infections spread by mosquitos, lice and fleas. We shall hear more of DDT when the time comes to disinfect the European continent and check the spread of typhus.