

PUBLIC HEALTH

New Polio Weapon

DDT is sprayed from airplane on Rockford, Ill., as a possible aid in fighting an outbreak of disease in that city. May provide evidence of carrier.

► NEW development in the application of aviation to sanitation and public health is hinted in the use of a B-25 to spray DDT on Rockford, Ill., as a possible help in fighting an infantile paralysis outbreak in that city.

So far as infantile paralysis goes, this spraying of the potent insecticide by air and the use of DDT by power sprayers from an Army truck are in the nature of trial balloons. Dr. John R. Paul, of Yale University and some other scientists have for some years suspected that the common house fly might spread the infantile paralysis virus.

The virus of the disease has been found in flies, but whether the disease actually is spread by them has not yet been proved. Through the Army's Epidemiological Board and the Air Surgeon's Office, the plane from Wright Field and Army DDT power sprayers and men who know how to use the

latter have been ordered to Rockford for the trial. The power sprayers will be used on fly breeding places on the ground, while the plane presumably will be used to distribute DDT where the power sprayers cannot reach.

If, at the same time or immediately after killing off all the flies in Rockford, cases of infantile paralysis drop sharply, it will be further evidence in support of the theory that flies spread this disease. The matter of timing will prove important, since the test would not be valid unless a full-blown outbreak was in progress and also would not be valid if the outbreak had progressed so far that cases would be falling off anyway.

Regardless of how the polio trials go, they seem to herald the beginning of rather extensive domestic use of DDT against flies and mosquitoes that endanger health or are a mere nuisance.

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AERONAUTICS

German Work Captured

Enemy research in field of jet-propulsion was revealed by surrender intact of factories and working drawings. Gas turbine and rocket both successful.

► GERMAN activities in building jet-propelled planes, particularly during the last 18 months of the war, and the details of these fighters, are no longer secrets, as many underground factories in which they were constructed were captured intact by the Allies. Plans and working drawings collected since VE day reveal that German scientists had long been interested in jet propulsion, both of the turbine-jet plane and the true rocket-propelled plane.

An experimental turbine-jet plane of German origin was flown in August, 1939, according to *Flight*, a British aviation journal. Its success led to further developments.

"The Germans were quick to recognize the possibility of speedy production offered by the simple gas turbine," the journal states, "and consequently, when they were forced on to the defensive by

our bombing attacks, there was concentration upon jet fighters and reconnaissance types.

"The Germans also successfully developed a true rocket-propelled plane, the Me 163, which was extremely fast—faster indeed than the turbine-jet plane," the English publication continues. "This liquid rocket-propelled fighter which had a vertical fin only and no elevators—virtually a tailless type—was credited to Lippisch, who produced before the war a series of Delta machines of somewhat similar design but fitted with reciprocating engines."

German turbine-jet planes went into service on the Western front in the summer of 1944. At about the same time the British Gloster Meteor fighters with two Whittle-type jet units were coming into combat service. There is no record of jet-fighter meeting jet-fighter, but a num-

ber of German jet planes were shot down over the Western front.

Captured Heinkel-Hirth engines, used in some of the German jet planes, were regarded as unduly heavy and not outstandingly efficient, according to *Flight*: "Their 'overhaul' life is reported to be quite short—less than 25 hours—which contrasts with the 250 hours' overhaul life of a modern reciprocating type aircraft engine. Whereas turbines by comparison are more simple to service and maintain, the Germans do not appear to have taken advantage of this basic fact." They relied on replacements.

The British now have a jet-propelled plane, the de Havilland Vampire, capable of over 500 miles an hour. The American Army has recently revealed details on its new P-80 Shooting Star, which has a speed of over 550 miles an hour and is probably the fastest plane in existence.

America's active wartime interest in a jet-plane for fighting and other purposes may be said to date with the sending of an Army engineer, Col. Donald J. Keirn, to England in June, 1941, to get such information as possible on European developments. One result was the bringing of Frank Whittle, the English designer of the Whittle-type jet unit, to this country in May, 1942.

Previously, however, Col. Keirn had sent to Washington working drawings and information assembled by him. On Sept. 4, 1941, Bell Aircraft and General Electric engineers were asked to design and set up production of the Army's first jet plane. The first successful test run of the General Electric Whittle-type engine was in March, 1942. It was an improved model.

While General Electric was working on the engine, Bell Aircraft was designing and constructing an airframe. By October, 1942, the XP-59 twin-jet Airacomet had been shipped to a test base in California, the engines installed, and the plane prepared for its first flight.

Test flights showed that the small power units in this first plane limited its performance to that already obtained by conventional aircraft. General Electric set out to develop a larger and more powerful engine resulting in the power unit in the P-80. Earlier jet models have been relegated to the status of training craft.

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Shallow *cultivation* of the garden soil kills weeds that take both plant food and moisture needed by the vegetables; it also makes a dust mulch that lessens surface evaporation.