

"paths about the hospital in the gathering twilight."

The weapon for protection against the spread of malaria by returning service men is to destroy the mosquitoes, in his opinion.

A warning against the danger of cocktail parties and blackwater fever, a disease which may follow attacks of one kind of malaria, was also sounded by Prof. Nelson.

"This strange malady with a mortality of approximately one out of three adults strikes with the speed of a rattlesnake and with much the same effect on the red corpuscles," he declared. "Predisposing causes to attack are chilling and overindulgence in alcohol.

"If your boy from overseas has had tropical malaria, don't celebrate his return with a cocktail party: there is a good chance that the party would be followed by a funeral."

"Grave danger" is involved, Prof. Nelson continued, in using as blood donors returned service men who have at any time suffered from malaria. He cited the record of the transmission of malaria during a blood transfusion from a father to his daughter 35 years after the father had suffered his last attack of malaria.

"Infections acquired through blood donations," he pointed out, "rise quickly, rapidly override the body's defense mechanisms and frequently end in death."

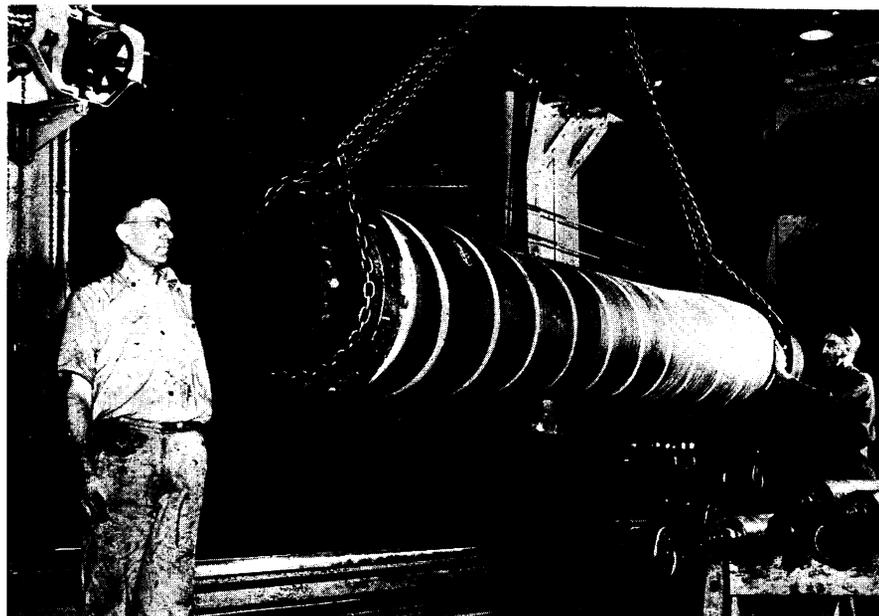
Science News Letter, March 25, 1944

Testing Repellents

➤ MORE accurate ratings of the munitions used in protecting our fighting men in Italy and the jungle islands of the South seas against disease-carrying mosquitoes can be obtained by paired testings of the chemicals that make the pests zoom off without stopping to bite. Details of the new technique, known as paired product testing, were explained by Dr. Philip Granett of Rutgers University, speaking before the meeting.

Involving the simultaneous testing of a pair of repellents on two arms or two legs of the same individual in order to determine the relative merit of the two products tested under the same conditions, this method is, in Dr. Granett's opinion, far superior to the old system of making absolute evaluations, which varied widely among the different laboratories conducting experiments on identical repellents.

Comparison of repellents under similar conditions minimizes such disturbing variables as kind and number of insects present, nature of the test indi-



TUBULATED—Though it looks as rigid as a ramrod, this section of hydraulic hose, built by the B. F. Goodrich Co. at Akron, Ohio, is flexible. It is made of 14 plies of heavy duck fabric, coated with synthetic rubber and reinforced with two coils of heavy wire, and weighs 2,200 pounds. It will be used in mining rock phosphate, which is used in making fertilizers, phosphorus and medicines.

vidual, perspiration or skin conditions, amount of repellent used, light, temperature and humidity conditions, and insect desire for a blood meal.

The recently discovered fact that a superior repellent for one insect is an inferior repellent for another is giving rise to much entomological speculation. It has been shown that this reversal of relative merit has occurred between two related families of insects, as in the case of the yellow-fever mosquito and the stable biting fly; and even between the more closely allied genera, such as *Aedes* and *Anopheles* mosquitoes.

But entomologists would like to know, will a given repellent be selective for species; that is, will a repellent given top rating for warding off harmless mosquitoes also guard against the malaria-carrying species with the same success?

Until that query is answered, there can be no fool-proof mosquito check for use in malarious overseas war sectors.

Protection afforded by a repellent is measured in terms of the time interval from time of application until the insect actually bites, and by comparing extent of biting under influence of repellent with that incurred without benefit of repellent.

Uniformity of application is of the greatest importance in testing, Dr.

Granett insisted, for undertreated areas are likely to experience the first bite prematurely. When the test insect is in an unmixed population, protection time extends to the time of the first bite; when mixed species are used, tests must be continued until a bite is received on the treated area by the insect for which the repellent was primarily designed, with some approximation given as to the percentages of the different species present.

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PUBLIC HEALTH

Plywood Chamber Devised For Fumigating Clothes

➤ DEMOUNTABLE plywood chambers have been developed for fumigating the clothes of soldiers and prisoners at the front. The light-weight chamber can be erected and put into operation by a crew of six men 15 minutes after it is unloaded.

The war against the louse, notorious carrier of typhus fever, can thus be taken close to the fighting line. Tired men returning from the line of fire can be freed of vermin immediately and prisoners cleaned up before they pass to the rear.

The plywood chamber, devised by

the Research and Development Branch of the Quartermaster Corps, is light enough to handle and transport easily. The complete unit, including engine and tool box, weighs less than 1,500 pounds. The clothing of approximately 75 men can be fumigated each hour in one of these chambers.

The gas used in fumigating, methyl bromide, is a highly volatile, penetrating substance whose molecules are so fine that they can find their way through solid wood. The glue used in making plywood, however, stops them from seeping out the sides, and the joints and corners of the chamber are leak-proof.

A three-pound can of methyl bromide is placed in a cylinder attached to the exhaust of the motor and punctured by a pin. With the pressure released, and heated by the exhaust, the liquid becomes gas which is fanned into the chamber. It quickly and thoroughly penetrates the clothing or bedding packed in the chamber, instantly killing lice and other insects.

Less than 40 minutes need be allowed to fumigate all articles within the chamber and exhaust the gas so that the chamber is ready to be re-loaded.

The used gas is carried off into the air over the chamber. Although a deadly poison, it dissipates quickly and becomes harmless in the open.

A peace-time use for the chamber by furriers and laundries is predicted. The gas acts rapidly, has great penetrating powers and leaves no deposit on fumigated garments.

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BACTERIOLOGY

Pencillin Checks Growth Of Plant Disease Germs

➤ PENICILLIN has been found to check the growth of a bacterial species responsible for a plant disease, the destructive rot that has killed off a number of groves of the picturesque giant cactus, or sahuaro, in the Southwest. This discovery, believed to be the first proven instance of penicillin's ability to knock out a plant-disease germ, was made in studies at the University of Arizona, by Prof. J. G. Brown and Miss Alice M. Boyle.

The drug was used on colonies of the bacterium technically known as *Erwinia carnegiana*, growing on culture media in laboratory glass vessels.

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NAKED, BUT UNASHAMED—In the spring, no livelier iris changes on this burnished dove—he hasn't any feathers to be burnished. But that doesn't prevent him from putting on a nudist version of regular pigeon courtship. He struts and coos, bows and spreads his wings, as if he had the most dazzling kind of plumage to display before the enchanted eyes of his mate.

GENETICS

Featherless Pigeons

➤ FEATHERLESS pigeons, naked as on the day of their hatching, strut and coo unembarrassed in cages in the genetics laboratories of the University of Wisconsin. These absurd but fascinating fowl are described by Prof. Leon J. Cole and Ray D. Owen, in the March 15 issue of the *Journal of Heredity*.

The featherless condition is hereditary, the two geneticists explain. It is rather difficult to keep the breed going, for a full suit of feathers plays an important part in normal mating, so that though the birds find their nakedness no embarrassment it is nevertheless a handicap. Artificial insemination has been used in propagation, but this laboratory technique is rather difficult. Add to this the facts that the birds are not naturally very fertile, and that they suffer easily from cold, and it becomes easily evident why no encouragement is offered to hopeful potential buyers of squabs that would not need plucking.

Actually, even if the breed became numerous enough to be marketed, it might still be a disappointment in this respect, for the birds do produce a

crop of what might be called permanent pin-feathers. Rudimentary or abortive feathers start to grow, and some of the stiff quill-feathers on the wings may become a half-inch or so in length. These are kept frayed off and worn down by the birds' ordinary activities.

The featherless pigeons seem to be unconscious of having nothing on, for they persist in action-patterns that go with feathers and in their absence simply make the birds appear absurd. Thus, when one of them is set down on the edge of a table it immediately takes off as if in flight, flapping its bare wings vigorously, and of course inevitably crashes.

Courtship activities, in which feathers normally play as important a part as fine clothes in the young of the human species, produce some especially absurd antics.

As the two Wisconsin scientists describe it: "They are also active and aggressive lovers. Inadequate attire produces no inferiority complex in them: they strut and coo, puff and bow as if arrayed in the finest of raiment."