

## BIOCHEMISTRY

## New Antibiotic

**Penicillin-like substance, effective against germs of boils, tuberculosis and undulant fever, found in bacteria that cause bee disease.**

► NEWEST addition to the rapidly growing family of antibiotics, or germ-stopping substances of the penicillin family, has been found in pure cultures of the bacteria that cause one of the most troublesome of bee diseases, American foulbrood. Discovery of the new antibiotic is announced by Dr. E. C. Holst of the U. S. Department of Agriculture. (*Science*, Dec. 7)

Dr. Holst was led to suspect that this bacterium might produce an antibiotic by the fact that honeybee larvae dead of the disease almost invariably contain this microorganism and no others, suggesting that the causal bacterium produced something that would keep competing species from growing. Test plantings of the foulbrood bacteria in growths of a considerable number of other bacteria proved this to be the case: the foulbrood bacterial growth would surround itself with a zone in which the other species could not grow.

Among the microorganisms that were thus prevented from multiplying in the presence of foulbrood bacteria were the germs of common boils (also the cause

of food-poisoning in cream pastries); tuberculosis, both human and bovine strains; undulant fever; also a number of bacterial species that do not ordinarily cause disease.

Although the new antibiotic substance has not yet been isolated in pure state, some facts have been determined about it. It is soluble in water but not in the alcohols or other organic solvents. It does not pass through a membrane of cellophane or parchment, which indicates that its molecules are at least fairly large.

It can stand a moderate degree of heat, and can be sterilized by pasteurization without appreciable loss of potency. Age does not seem to harm it: foul-brood specimens four years old yielded active preparations. Glucose hinders its action, but ordinary cane sugar does not, nor does glycerin. It had some poisonous effects when injected into mice, but gave no evidence of toxicity when fed to them by mouth.

Dr. Holst states that experiments to determine possible use in the treatment of disease are in progress.

*Science News Letter, December 15, 1945*



**INSURES COMFORT**—The cabins of Pennsylvania Central Airlines Capitaliner planes are being lined with down-like glass fiber blankets to protect passengers from both noise and cold. The blankets are similar to those used during the war to provide sound and heat insulation for multi-motored bombers.

so apparently they also, including sufferers with angioneurotic edema, will have to continue taking the drug daily to be assured of relief.

Some asthma patients were helped by the drug, but others were not. The reason for this and various other features of the drug need further study, it is pointed out in the reports from the Mayo Clinic.

A wide margin of safety exists between the dose needed to relieve the patient and that which would produce serious toxic effects. Sleepiness, dizziness and a dry mouth may be felt after taking the drug but these symptoms quickly go away.

Relief of the hives and hayfever symptoms comes quickly, usually within 30 to 60 minutes after taking benadryl. The relief lasts for several hours, so that three doses daily may be enough.

Benadryl is believed to achieve its results because of an antihistamine action. Histamine is a chemical normally present in the body. It is believed that overproduction of this chemical causes the symptoms of hayfever and other allergies. Exactly how this happens is not yet known.

The development of benadryl, and of a series of other antihistamine drugs

## MEDICINE

## Relief From Hayfever

**New drug brings prompt relief in hives and hayfever. While not a cure, it may point the way to even better drugs for allergic sufferers.**

► VICTIMS of two kinds of allergic suffering, hayfever and hives, may in future be getting relief from their misery by taking two or three pills daily of a new drug, it appears from studies reported by Dr. Earl R. Loew, of the University of Illinois College of Medicine, and by a group of scientists at the Mayo Clinic.

The new drug is known as benadryl. Its chemical name is beta dimethylaminoethyl benzhydriol ether hydrochloride. It was first made, for other purposes, by Dr. George Rieveschl, Jr., of the Parke, Davis and Company laboratories in Detroit. Dr. Loew and associates tested its

action and degree of poisonous effect on laboratory animals and Dr. Loew, the Mayo Clinic group and Drs. A. C. Curtis and B. B. Owens of the University of Michigan have since tried it on human patients.

Benadryl is not a cure for hayfever or hives. Its action is to relieve the stuffy nose, smarting, watering eyes, itching and other symptoms of these allergic disorders. Hayfever patients presumably will have to take it daily during their seasonal bouts of suffering. Victims of chronic hives treated at the Mayo Clinic broke out again with bumps, swellings and itching when they stopped the drug,