

Familiars of Satan

➤ RATS APPEAR in many late medieval and early modern paintings as familiars of warlocks and witches, and even of the Devil himself—and quite appropriately so. There is hardly any living creature that follows man more ubiquitously, damages his possessions in more fiendishly ingenious and persistent ways, or is capable of bringing death to him in more terrifying form.

Ancient Babylonians had a god of flies—Beelzebub, the Baal of Buzzing Things. The concept of such a disgusting deity probably arose out of a primitive instinct to propitiate that which you find you cannot combat. That they had no god of rats may seem strange, until it is realized that they had no rats. Rats,

though probably Asiatic in origin, did not achieve their present world-wide distribution until the rise of world-wide commerce. Rats are natural beach-combers; and they'll jump ship wherever the pickings ashore look good.

Rats' destructiveness to property is reckoned in simply fantastic multiples of millions. Any good-sized city could easily maintain a municipal university on what rats devour, spoil and set fire to.

Rats live in filth and are menaces to health generally. Their greatest danger comes from the fact that the fleas which they harbor are the natural carriers of that most terrible of Asian scourges, bubonic plague.

Man has long been almost helpless in the face of rats, for they can be kept down only at the cost of constant and highly expensive eradication campaigns. Within the past few years, however, two rodenticides have been developed that at least seem to provide man with proper weapons in the hitherto hopeless fight. They are the terrifically toxic 1080, unsafe for any but professional use, and ANTU, which the householder may handle with impunity to himself and devastating effect on the rats.

*Science News Letter, August 17, 1946*

## BIOPHYSICS

### Ultraviolet Lamp Kills Germs in Refrigerator

➤ DEATH COMES quickly to mold and bacteria in household refrigerators equipped with a new tiny ultraviolet lamp.

The walnut-size lamp, that costs a nickel a month to operate, is double-acting: it gives off bacteria-killing rays and also produces ozone which circulates within the cabinet. It is a Westinghouse product.

Research proves, Westinghouse engineers state, that the bactericidal radiation and ozone wave lengths emitted by the lamp assure odorless refrigerators, improve sanitation, enable longer preservation of food, and check the growth of mold and bacteria on the food.

The lamp, about the size and shape of an automobile headlight bulb, is a midget brother of the large Westinghouse Sterilamp in tubular form up to 45 inches in length that is used to halt bacteria in the food industry, and to minimize infection by airborne bacteria in schools and hospitals.

A step-down transformer is used with it to reduce the voltage of the household current to the 12 volts needed by the three-and-a-half watt lamp. A specially-designed tungsten filament within the lamp has long life because it glows for only three seconds each time the refrigerator compressor starts. This is just long enough to start the arc that produces the ultraviolet rays as it passes through a mercury vapor atmosphere.

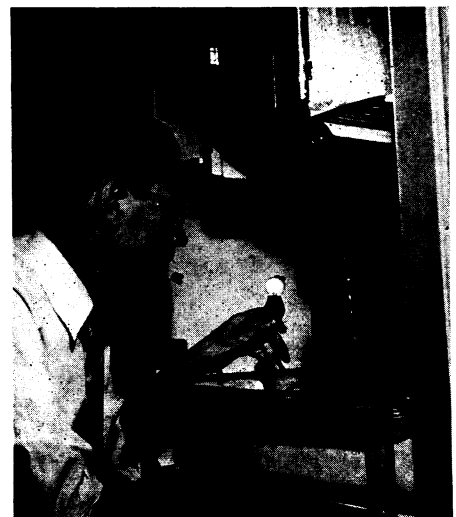
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increasing the yield of apples, preventing the premature dropping of fruit, and killing potato vines before harvesting the tubers.

The research program carried out at Camp Detrick was first suggested by Prof. E. J. Kraus of the University of Chicago, and some of the first work was done in his laboratory there, just across the street from the site of the first nuclear-energy pile. Some of the later experiments were also carried out at the U. S. Department of Agriculture's experiment station at Beltsville, Md. A considerable number of compounds used, which had never previously been made, were synthesized by Prof. Melvin S. Newman at Ohio State University.

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**BACTERIA BLASTER**—This miniature lamp was designed especially to provide bactericidal ultraviolet protection and air-purifying ozone in home refrigerators. Its designer is shown checking the ultraviolet produced by the lamp in a refrigerator cabinet.



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