FORESTRY

Fight Forest Fires With Water Bombs

➤ NEW METHODS for speeding up forest fire fighting in the vast reaches of Ontario province have been developed over the past year by the Ontario Department of Lands and Forests.

More than 40 modern single-engined aircraft, especially designed for work in the lake-studded Canadian forests, are used in conjunction with the new methods.

A way of bombing forest fires with water from the air was devised last season, and this year most of the aircraft fleet is equipped with the water-bombing release mechanism. For water-bombing, especially developed paper bags that hold water are used.

Parachutes are used to drop firefighting equipment to forest rangers on the ground to supply men with food and other essentials at base camps and at fireline posts.

After experimental use last summer, Polaroid quick-print type cameras are being used this year from patrol aircraft. The prints delivered to chief rangers from these cameras help determine the starting points of fires, spot the type of fuel and territory involved, and assist in quickly planning effective fire control measures.

Airborne loudspeakers can be used to instruct ground crews fighting fires, to direct persons lost in the northern brush and to broadcast fire hazard warnings.

To shuttle fire-fighting crews from water areas where they are landed by patrol aircraft to distant fire sites, helicopters will be used whenever possible.

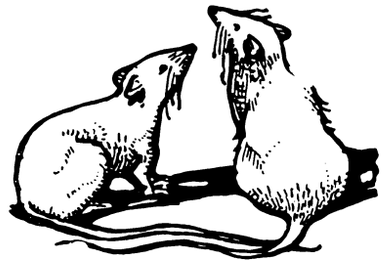
Since they could hover over a specific site, helicopters were used successfully last year for fire observation and fire control from the air.

A new type of caterpillar pack tractor will be used this year by ground fire crews to tote loads up to 700 pounds at walking speed over all types of rough terrain. This will allow fire-fighters to arrive at the scene of a forest fire in condition to fight the fires without a rest, where formerly they had to pack their equipment in on their backs. The pack tractors were developed by the department.

Science News Letter, August 22, 1953

ZOOLOGY

NATURE RAMBLINGS



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 will 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 generally menaces to health. 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, rodenticides have been developed that at least seem to provide man with proper weapons in the hitherto hopeless fight.

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A British Army officer reports that some Malayan *termites* can devour a pair of muddy boots in a night, leaving only nails and studs.

The house *wren* has been known to feed its young 1,200 times a day, principally with insects.

TECHNOLOGY

Listen in on Insect Larvae in Grain Kernels

➤ A RAPID method for detecting insect infestation of grains in storage bins may come soon, following the development of a device that listens for minute insect larvae hidden within the kernels.

The electronic listener, consisting of a low noise level audio amplifier and a suitable microphone and loudspeaker, picks up the sound of insect larvae and pupae as they move and feed inside grain kernels placed in a soundproof box. A record of the sound patterns can be made on an oscilloscope.

Drs. R. E. Adams, J. E. Wolfe, Max Milner and J. A. Shellenberger of Kansas State College report development of their listener in *Science* (Aug. 7).

Before the development of the listener, a normal delay of several weeks after fumigation of stored grains—time for emergence of surviving insects—was necessary to determine the effectiveness of the fumigation. However, with the listener, immediate detection of hidden surviving insects is possible.

Already under construction, the scientists said, is a listener to check fumigation effectiveness in mills and grain elevators.

A listener might be developed for large storage bins, they suggested, which would give a constant check on insect infestation within the bin without sampling or removing grain. This would work much like the permanent thermocouple systems now used in storage bins to give a constant check on heating of stored grains.

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Questions

CYTOLOGY—How can movies help in the study of disease viruses? p. 116.

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EDUCATION—How can Indians who do not read their own language be taught English? p. 117.

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PHYSICS—What is the water-weight equivalent of the core of a nucleus? p. 117.

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