



PEST WARFARE—This plane is waging chemical warfare against a pest threatening to destroy our forests—the spruce bud worm. The picture was taken over the Umatilla National Forest, Oregon.

FORESTRY

Pests Damage Forests

With diseases, insects kill trees at a rate rivalling fire. Helicopters used in defense of forest area to spray insecticides or weed killers.

➤ **INSECT** pests and diseases moving in on our forests damage them at a rate that rivals fire as a destroyer, Lyle F. Watts, chief of the U. S. Forest Service, declares in his annual report to the Secretary of Agriculture.

Large forest areas in the Western states are threatened by very serious infestation of the spruce budworm and various types of bark beetles. Unless this pest is soon controlled, it may ruin some 12 billion board feet of timber valued at about \$50,000,000, he predicts.

Forest tree diseases, such as the chestnut blight about 20 years ago, can wipe out entire species. Oak wilt in the central states and the white pine blister rust are now causing serious damage, and threaten to cause much more. These diseases can be beaten down only by continuous battle, the report states.

Two of the most important insect control projects of 1950 were the aerial dusting of 940,000 acres of Douglas fir in Oregon to control the spruce budworm and

the hand spraying of 800,000 spruce trees in Colorado to destroy beetles. The cost of these projects is shared by private individuals and government agencies that benefit from them.

Use of helicopters to spread plant killers, such as 2,4,5-T, shows considerable promise.

The forest area under organized fire protection now consists of 83% of the total in need of such protection. Although this is a gain over previous years, there is still an urgent need to extend fire protection to 70,000,000 acres of forest and watershed not now covered. About two-thirds of this forest land is in the Gulf and Southeastern states and includes some of the nation's most productive forests.

"A milestone in wilderness area protection" was the establishment of an airspace reservation over the Superior Roadless Areas in Minnesota, the report states. Airplanes are now forbidden to land in or to fly at less than 2,000 feet above the ground over this area. This helps to save the wilderness value of the forest by limit-

ing the number of people who can get into the area and disturb the natural primitive conditions. This was the first airspace reservation ever made in America for other than national defense or safety purposes.

Science News Letter, February 3, 1951

PHYSICS

Two More Metals Found Superconducting When Cold

➤ **DISCOVERY** that two more chemical elements, osmium and ruthenium, are superconducting to electricity when in very pure form and when at the extremely cold temperature of less than a degree above absolute zero has been made at the Royal Society Mond Laboratory at Cambridge, England.

Dr. B. B. Goodman reports (*NATURE*, Jan. 20) that superconductivity, a virtual disappearance of resistance to electricity, occurs for osmium at 0.71 degrees K. and for ruthenium at 0.47 degrees K. (Kelvin).

Superconductivity has been recently discovered in uranium and rhenium as well, showing that superconducting elements are located in areas of the chemical periodic table between the two regions where the earlier superconductors were located.

Down to within a few tenths of absolute zero, the following elements were discovered to be not superconducting: lithium, sodium, potassium, barium, yttrium, cerium, praseodymium, neodymium, manganese, palladium, irridium and platinum.

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Little is known concerning the whereabouts of *herring* in the period between September and January.

Avocados are available the year around; its Florida harvest season is from June through the winter, and in California the season is in the winter and spring.

The *opossum* equals or beats the rabbit in the multiplication game; the female cottontail produces a yearly average of 17 young in four litters, while the opossum does the same in two litters.

On This Week's Cover

➤ **NEW** Republic Thunderjet, jet-propelled fighting plane which has completed flight and other tests, has swept-back wings making it speedier than its 630-mile-per-hour predecessor, the F-84E, now doing valiant work in Korea. It can carry two droppable extra-fuel tanks and 18 five-inch aircraft rockets.

The view on the front cover of this week's *SCIENCE NEWS LETTER*, first in-flight picture, shows it carrying 24 five-inch High Velocity Aircraft Rockets.

Science News Letter, February 3, 1951
