

TREE PEST BATTLE

One of Canada's costliest and most destructive pests, the spruce budworm, has a new enemy.

Dr. Arthur Retnakaran, of the Insect Pathology Research Institute of the Ontario Department of Fisheries and Forestry, Sault Ste. Marie, recently visited Atomic Energy of Canada's Chalk River Nuclear Laboratories to irradiate several adult budworm moths in an AECL Gammacell irradiator.

He is experimenting with the "sterile-male" technique, as well as other methods, to find controls for the spruce budworm, which overruns valuable forest land every year in Eastern Canada. Theoretically, sterile males released in the field compete with normal spruce budworm males.



Technician John French places budworm moths in a Gammacell unit. The irradiated males will be able to mate with females but there will be no offspring.

The sterile-male technique of controlling insects involves rearing, sterilizing and releasing males in sufficient numbers to exceed the natural male population. The sterile males then compete with the natural males, and, under appropriate conditions, most of the females will lay sterile eggs. Almost total control can be achieved by repeating the process for a few generations.

The budworm moths were brought to CRNL in glass tubes. They were "knocked out" with a whiff of carbon dioxide. Some were given doses of 25 kilorads, others 30, and afterwards mated.

Dr. Retnakaran found several advantages in working with radiation sources. It is possible to "label" the male sperm of the budworm with a radioactive tracer, so that the female can be checked to determine whether she has mated with an irradiated or a non-irradiated male.

Spraying with insecticides pollutes air and water, but the irradiation technique is a "clean" one. So also is the "juvenile-hormone" technique, which keeps the budworm in the juvenile state much longer than normal, and curtails egg production by the female.

How does one transport 250-newly-hatched spruce budworm moths in cold weather? Dr. Retnakaran, technician John French, and assistant Christopher Rose placed each in a glass tube, which was labelled to show the age of the moth. Protection against temperature variations was achieved by placing the tubes in a box along with a fan and heating element which was plugged into the cigarette lighter of their station wagon.

SOAPSTONE AVAILABLE FOR ESKIMO ART

Commenting on reports that Eskimos might be prevented from quarrying soapstone for carving purposes because the ground was covered by mineral claims, Mr. Jean Chrétien, Minister of Indian Affairs and Northern Development, stated recently that without a permit or payment of fees, any resident of the Northwest Territories could take reasonable quantities of sand, gravel or stone for his own use from any territorial lands when the surface rights had not been otherwise disposed.

QUARRYING, NOT MINING

The Minister declared that the quarrying of stone for carving did not constitute mining, and he said he would take steps to have the necessary information regarding soapstone quarries and their location compiled to ensure that surface rights and quarrying rights would not be granted where that would prevent Eskimos from obtaining adequate soapstone supplies. If an Eskimo co-operative desired to take large quantities of soapstone on a regular basis, a quarrying permit or lease could be obtained from the Department of Indian Affairs and Northern Development without difficulty.

Mr. Chrétien added that his Department and the Government of the Northwest Territories had always given assistance to the sculptors and their marketing agency, not only in ensuring the availability of an adequate supply of soapstone but also in encouraging the development of Northern art to its present high level of recognition. He promised that this assistance would continue.

WIND SPEED ON HIGH BUILDINGS

A new technique for measuring the effect of wind on high-rise buildings has been developed by engineers of the National Research Council of Canada.

Preliminary test results indicate that existing low-speed aeronautical wind tunnels can be successfully adapted for the study of surface wind effects in and around building structures. Cities usually have low-wind speeds because buildings cut down wind. Tall, slab-like buildings deflect part of the wind and, in so doing, push it downward, thereby increasing pedestrian discomfort. Wind speed increases with height, and people at the top of a 600-foot building, for example, may feel some sway