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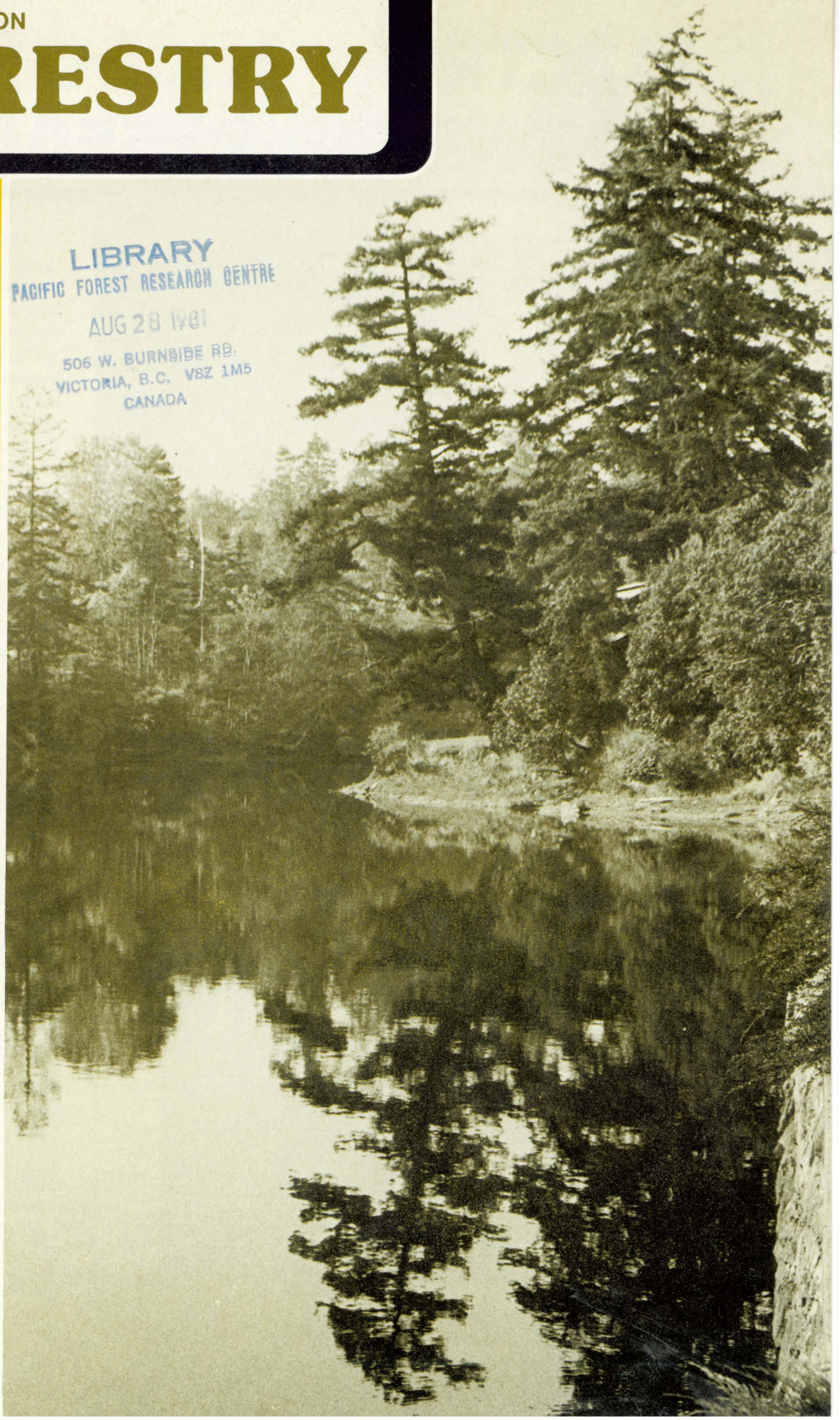
INFORMATION FORESTRY



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Pacific Forest Research Centre
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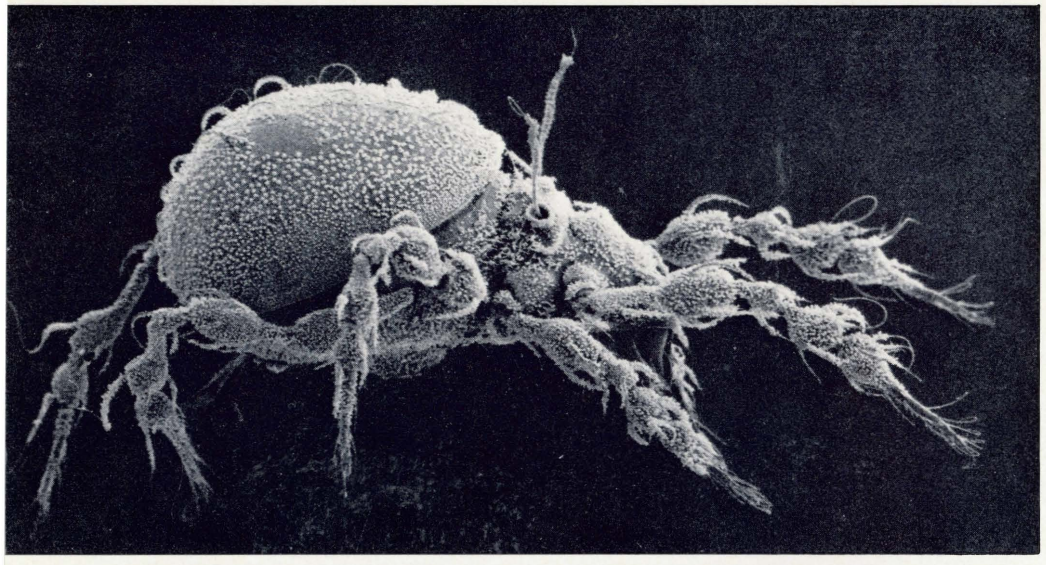
Canada

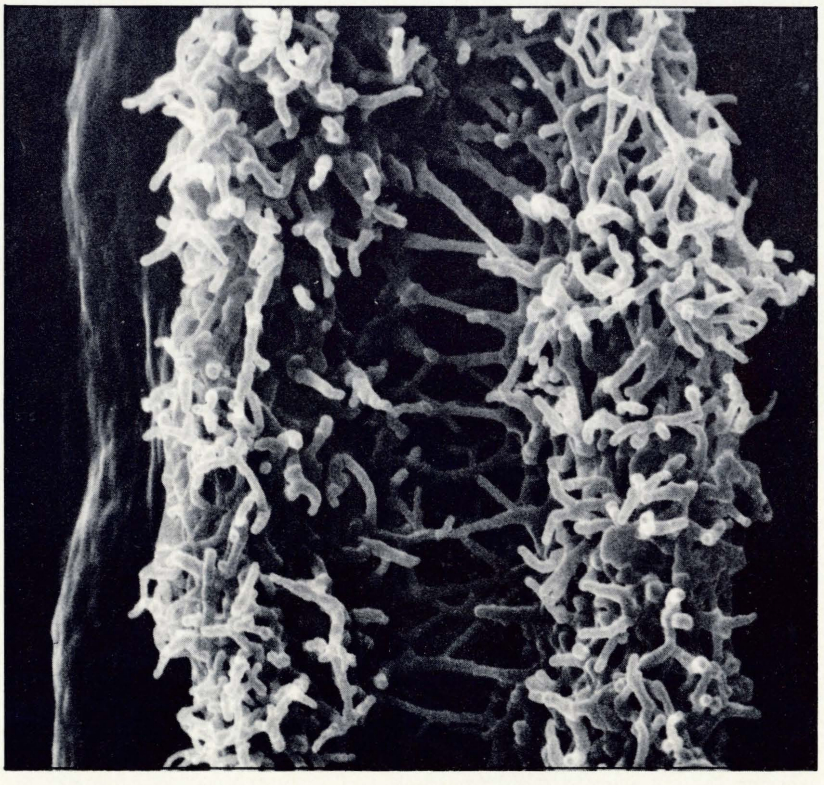
ELECTRON MICROSCOPE MAGNIFIES RESEARCH



An oribatid mite of the Damaeidae family (magnified 100 times). One of the thousands of soil mites involved in the decomposition of forest litter.

The Pacific Forest Research Centre has recently installed a scanning electron microscope (SEM). The unique feature of an SEM is its ability to scan the surface of a specimen with a beam of electrons and project an image of the specimen onto a fluorescent screen. The major advantages of this type of microscope are the enormous range of magnification available, from as little as 10 X magnification to more than 100.000 times, and a large depth of field that can be brought into sharp focus. These two advantages make it possible to record with great clarity complete specimens as large as 10mm or as small as 1/10.000mm on a single micrograph. Specimens up to 25 mm across can be examined one section at a time by moving the stage.

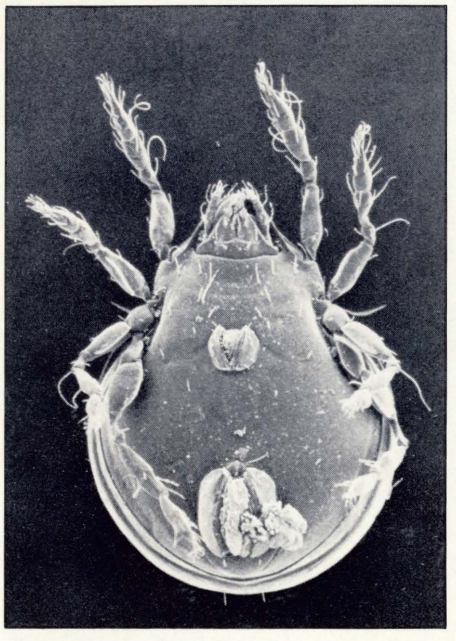
A committee of 10 scientists and senior technicians spent about three months evaluating instrument design and testing the performance of several SEM's before deciding on the microscope best suited to the research of this Centre. **Mrs. Lesley Manning,** who is now technician in charge of the microscope, conducted the performance tests.



◀ A breathing pore on the surface of a pine needle — magnified 4,000 times.

by Dr. Malcolm Shrimpton

Before the arrival of our SEM, five scientists had been working on microscopes at other laboratories in Victoria, Vancouver and Nanaimo. The work of these scientists can now be expanded and continued more efficiently on our own instrument. Eighteen scientists working in many different areas of forest science at this Centre will have various aspects of their work enhanced because of the new avenues for research opened by this instrument. The SEM will benefit research into such different fields of forest science as the formation and characteristics of forest soils, insect pests and diseases of the forest, their mode of action and methods for their control, the viability of tree seeds, tree growth, and the physiology and anatomy of forest trees. ■



A member of the Kodiakellidae (magnified 86 times) from the Shawnigan Lake research site. This family of oribatid mite was previously known only in Alaska.

Deputy Minister Visits Research Centre

During whirlwind tour through Pacific Forest Research Centre on June 26 **Deputy Minister J.B. Seaborn** listens with interest as research technician **Dorothy Chu** explains a rot condition in a Douglas-fir disc. During 90-minute visit the deputy also met senior staff members, had briefing on insect and disease problems of region, and visited the centre's seed and pathology labs. ■

Eleanor To Study In Sweden

PFRC research officer **Eleanor McMullan** was slated to leave Victoria in August for a two-year education leave with the faculty of forestry at the Swedish University of Agricultural Sciences where she hopes to attain her PhD. Eleanor has been with PFRC since 1967 and is in charge of the centre's chemical services lab. The Swedish university is in Umea, north of Stockholm and close to the Arctic Circle. ■

JOHN WIENS

A One Man Art Department

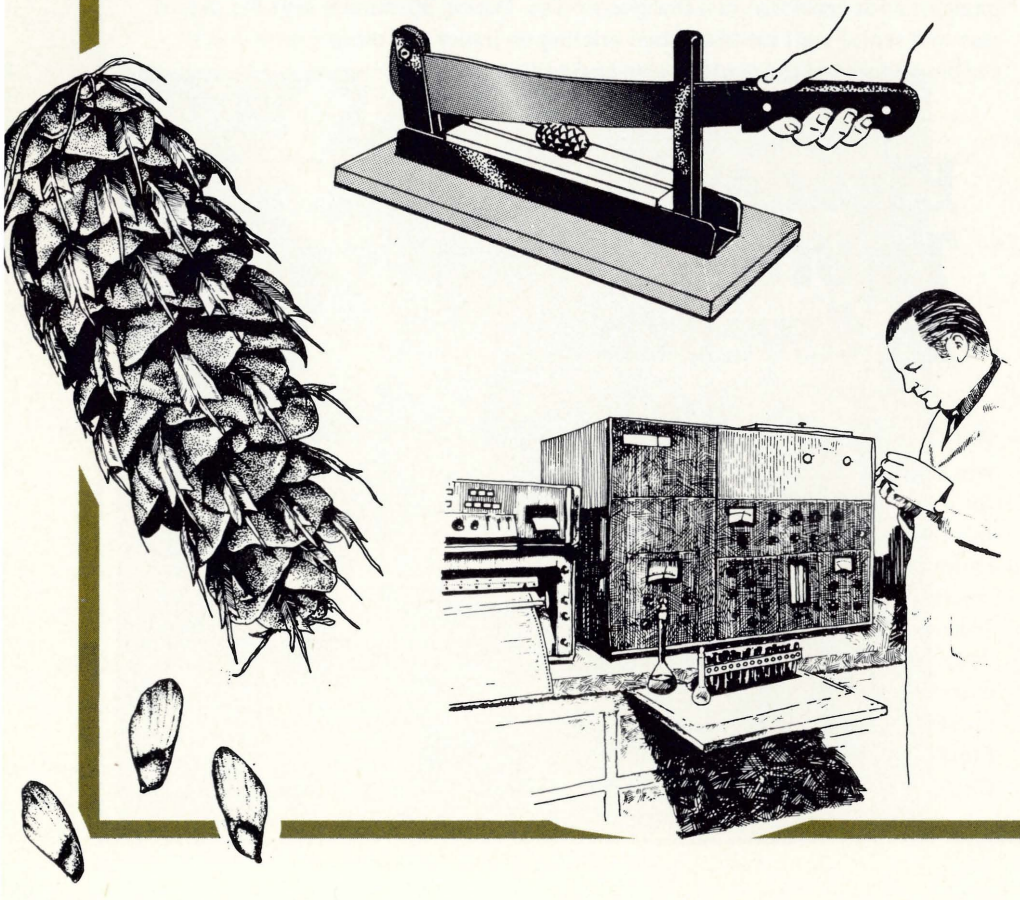
Over the years many people have had warm praise for various publications produced by the Pacific Forest Research Centre. Janet LaLonde, head of the Scientific & Technical Publications Unit in Ottawa headquarters of CFS, has complimentary remarks about the layout and design; and B.C.-Yukon Regional Director Ross Macdonald, with similar comment, says "we are lucky to have him."

The "him" is 37-year-old Winnipeg-born **John Wiens,** who has served as a graphic artist with the Canadian Forestry Service for the past 14 years – the first three at the former research laboratory in Winnipeg, and the last 11 years at the Pacific Forest Research Centre in Victoria.

His work has been described as "lively and interesting" and reflects a variety of practical experience gained since he left high school in Winnipeg. He spent three years with the printing department of Canadian Aviation Electronics in Winnipeg; received an Associate of Arts degree from St. Cloud State College in Minnesota; spent half a year with the Department of National Defence in Winnipeg; and for a short while attended a teachers' college at the University of Manitoba.

John's first assigments with CFS were confined to charts and graphs, but over the years the scope broadened extensively to include posters, maps, displays, brochures, scientific drawings, signs and even the occasional cartoon.

Among his first jobs, the artist recalls, was having to draw a mite by observing the little critter under a microscope. "It was so small it could barely be seen with the naked eye." And with a touch of humor, he adds: "It was a mite tough!" ■



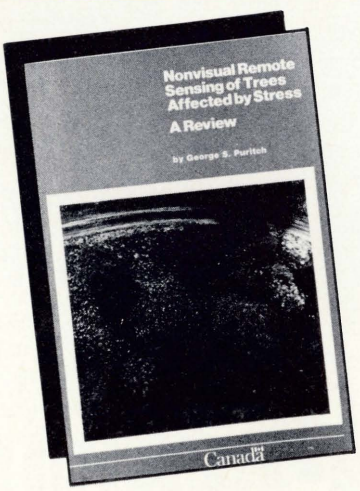
Thirty-three college and university students are spending their summer at the Pacific Forest Research Centre getting practical experience in a wide variety of forest environment studies and activities. Three are from the University of B.C., four from Victoria's Camosun College, and 26 from the University of Victoria. Among them, all computer technology students from Camosun College, are (from left) Janene Unwin, Pauline Pilon and Robert Owen. ■

INFORMATION PUBLICATIONS AVAILABLE FOR THE ASKING

Would you like to have your name added to the mailing list to receive Environment Canada general information publications such as notices of publications, bulletins, brochures, fact sheets, etc.?

It's a simple procedure. Just send your name and address to: **Michel Gagnon, DOE Departmental Enquiry Centre, Kioske Information, Main Floor, Terrasses de la Chaudiere, 10 Wellington St., Hull, Quebec, Canada K1A 0H3.**

You will receive a questionnaire on which you can indicate your specific area of interest. ■



Want this publication? Complete enclosed card and send to PFRC Information Office.

Nonvisual Remote Sensing of Trees Affected by Stress (A Review)

George S. Puritch

This paper provides a review of research dealing with the nonvisual remote sensing of stress-affected trees. A general background is provided of the characteristics of electromagnetic radiation (EMR) and some of the most commonly used sensing systems.

CFS / PFRC Forestry Technical Report 30

Mesachie Lake Field Station

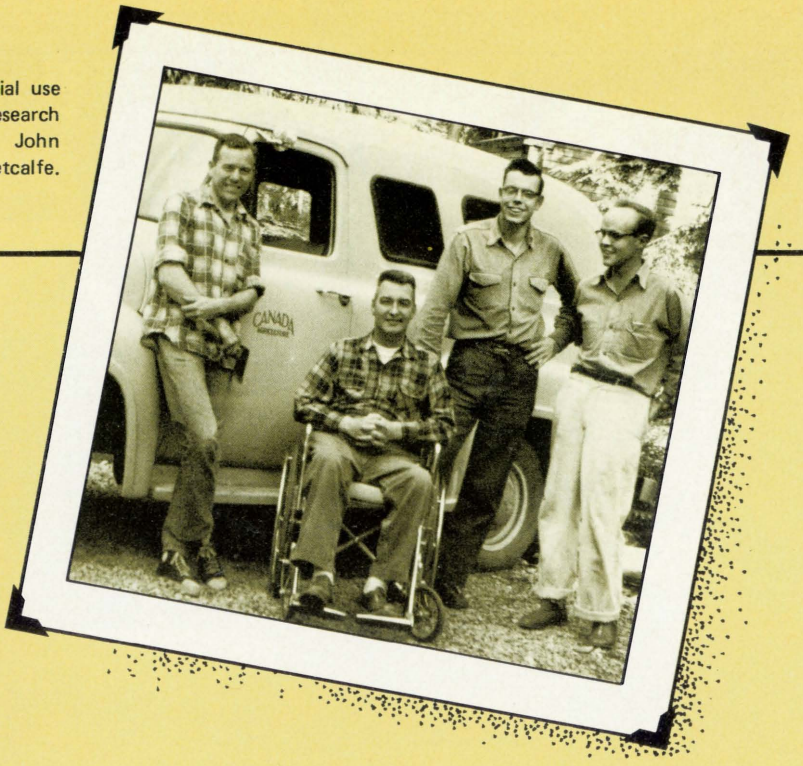
A provincial-federal forest research partnership which formally commenced 21 years ago will be over at the end of this year. But only as far as "paperwork" is concerned.

It was in December of 1960 that the British Columbia Forest Service granted a "special use permit" to the federal forestry organization for research purposes at Mesachie Lake — about 20 miles west of Duncan on Vancouver Island. For many years the area was referred to as the Mesachie Lake Field Station. Today, and more accurately, it is known as the Cowichan Lake Experiment Station.

The station's history goes back to 1929 when the area was designated a Provincial Forest Reserve. In the beginning it was merely a tent camp, and the only access was by boat from not-so-far-away Cowichan Lake Village. It was developed for forest research serving the coastal region.

The "special use permit" became effective on December 22 of 1960, but that was only formality. Actually federal forestry researchers had been conducting entomology and pathology studies in the area since 1941. Up to that time, and until 1960, such research had been handled by the Department of Agriculture. Their work focused on ambrosia beetles, various defoliators, and root rots. Among the many people who pioneeered the work there were **Malcolm Prebble, Kenneth Graham** and **Donald Buckland.** It was Prebble and Graham who turned carpenters for the occasion and "converted" an old Forest Service tent frame into an entomology and pathology cabin.

"It was not an easy job," recalls PFRC silviculturist **Jim Kinghorn,** who conducted a great deal of research at the station. "They used the old tent frames as a starting point . . . nothing was plumb and nothing was square."



In 1956, four years before the formality of a "special use permit" was in effect, these fellows were busy with research projects at the Mesachie Lake station. From left: John Chapman, Claire Farris, Jim Kinghorn and George Metcalfe.

The would-be carpenters also built a small rowboat – used on field work around the lake. It might not have been a shipbuilder's dream, but it got them there and back and "only leaked a little bit."

Over the years many PFRC entomologists, pathologists and others conducted extensive and rewarding research at the station. They unlocked many secrets and determined many solutions, and to this day many of their papers and reports are being used as guidelines and references.

Among that group (a number are still serving at PFRC) were: **Don Smith, Gerry Wyatt, Lew Fiddick, Mel Hughes, Willie Taylor, Stan Allen, Don Collis.** And over the years a large number of students spent their summers at the station. Many of them joined the federal or provincial forestry services soon after graduation . . . **Dave Dyer, Stuart Brown, Joan Gonnason, Doug Gillespie, Gerry Thomson, Tony Robinson** and **Jack Burch,** to list a few.

Through the '50's and '60's other names were added to the roster: **Bob McMinn, Gordon Wallis, Don Hope, John Chapman, Al Hedlin, Al Johnson, Glen Matthews** and **Slavoj Eis. Dick Smith** and **Hugh Craig** spent a lot of time there on the dwarf mistletoe problem. Over more recent years **Bill Nijholt, Jim Arnott** and occasionally visiting scientists have used the cabins as an operational base for studies being conducted in the Cowichan area.

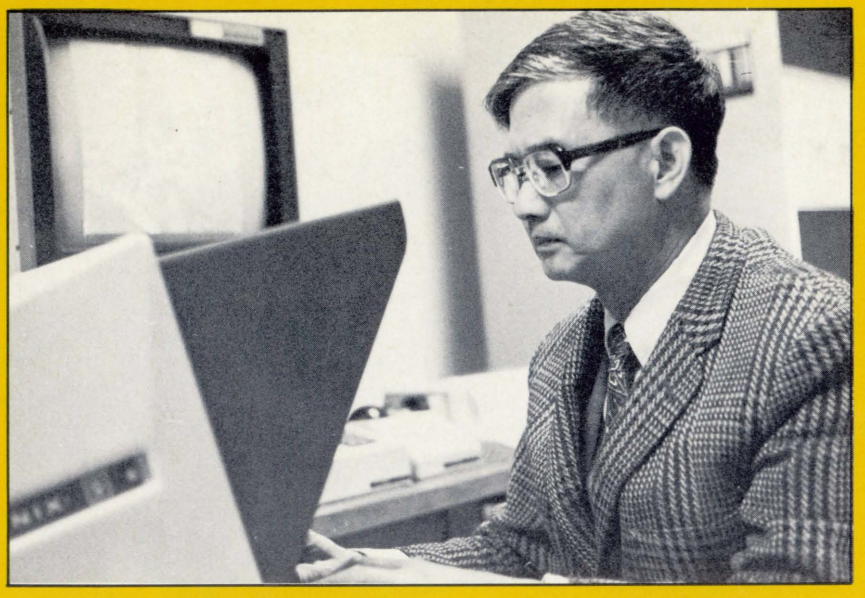
The older buildings were maintained well, and in 1957 a new office-lab structure was built at the station. Within a few years, however, the station was used less and less by PFRC researchers . . . for the good reason that many of the problems being tackled were being handled elsewhere.

It is doubtful the formal "lease" arrangement with the provincial authorities will be renewed, but as British Columbia's Chief Forester **Bill Young** said: "Our research people and those of the Canadian Forestry Service have worked together for many years as colleagues with common objectives . . . any time our facilities at the Cowichan Lake Experiment Station will be of help to them, they will be welcome." ■

ATHENS CALLING!

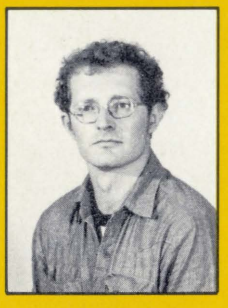
THE BUBBLE HASN'T BURST YET . . . **Dr. George Puritch,** a tree physiologist at PFRC, recently participated in a long-range interview about his work with fatty acids (soap) as a possible alternative to petrochemicals in the war against insects.

He took part in a talk show presented by radio station WOUB in Athens, Ohio. And how did they hear about Dr. Puritch? They saw an article in PFRC's **Information Forestry.** ■

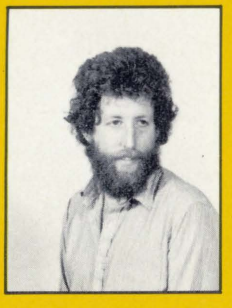


Infra-red Filming for Root Rot

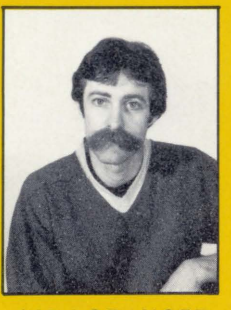
PFRC research scientist **Dr. Jim Lee** (above) and forest pathologist **Dr. Gordon Wallis** are working with the Greater Victoria Water District to determine seriousness and extent of a root rot infestation in the city's watershed area. The study has started with infra-red filming from aircraft — marking the first time such information has been collected by remote sensing in British Columbia. ■



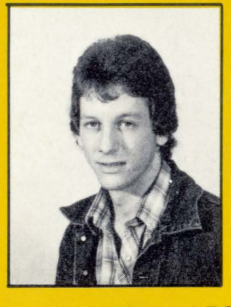
ROD GARBUTT
New Denver



NICK HUMPHREYS
Terrace



JIM LORANGER
Prince George



HENRY WOENSDREGT
Vernon

New Rangers

Four new forest pest survey technicians recently joined PFRC's forest insect and disease survey branch and are now on their summer field assignments. They are introduced here. ■

PROUD OF P.F.R.C.

"I am proud of the manner in which the staff of the Pacific Forest Research Centre has cooperated with your Band . . . ."

Federal Environment Minister John Roberts made this comment in a recent letter sent to **Chief Barnett Allison** of the Lower Similkameen Indian Band.

He was replying to correspondence from Chief Allison in which the latter had warm praise for the help and assistance given three band members who had spent 10 weeks at PFRC as part of a forest management training program.

"I am aware that the staff (of PFRC) are dedicated servants of people of Canada", the minister continued, "and it is most gratifying to receive a letter such as yours documenting this dedication." ■

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