

PINEWOOD NEMATODE SURVEYS  
PACIFIC & YUKON REGION

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During 1990, additional sampling for the pinewood nematode emphasized hemlock and cedar in order to obtain information to support a possible exemption of some species from the pending European ban of non-kiln dried lumber. These species are not common hosts for Monochamus wood borers, the most common vector of the nematode. Surveys focused on logs in dryland sorting yards, on stressed or dying forest trees and lumber, particularly that with bark or evidence of insect damage.

All samples were promptly returned to the laboratory, any insects identified and then extracted for nematodes using the Baermann funnel technique by F. Ring.

Throughout the region, 19 log yards, more than 200 forest sites and 30 mills were sampled in 1990. In each case more than 100 trees, logs or boards were observed with the greatest attention focused on declining trees, older insect-affected trees or logs, and low grade boards. More than 778 samples were extracted and examined for nematodes in 1990 (658 logs, 23 potential insect vectors and 107 boards).

From 1980 to 1990 more than 2000 samples have been specifically extracted for nematodes (1151 trees or logs, 107 boards, and 745 "vectors"- of which at least half were Monochamus spp.). Of these extractions, 43% were from pine, 16% cedar, 15% western hemlock, 12% Abies, 8% Douglas-fir, 5% spruce, and 1% misc.

In 1990, only one sample, a white spruce, woodborer-attacked log from Watson Lake, Yukon contained PWN (confirmed by J. Sutherland). Along with the five previously infected trees and one adult Monochamus clamator these are the only positive records in more than 2000 samples (0.30% incidence). This continues to support our findings that pinewood nematode is extremely rare in forests of this region with only individual, predisposed trees affected at a few widely distributed locations.

With a variety of other nematodes, largely fungal feeders or insect parasites, found in 28% of the wood samples and 10% of the vectors, it is demonstrated that the sampling techniques are adequate. None of the boards examined contained pinewood nematode and only six contained any other nematodes. However, sampling of lumber was not a major portion of the survey which was mostly directed to materials where there was a greater chance of detection.

The potential vector, Monochamus sp., while widely distributed, represent a relatively small portion (4.3%) of the more than 12 000 records of collections from stem sections of conifers within the regional FIDS Infobase. Of these longhorned wood borers, 20% were recovered from spruce, 16% pines, 14% Douglas-fir, 5% true firs, 0.05% hemlock and the 45% balance were perched or captured in flight. As reported in our April 1990 Pest Report, only one Monochamus scutellatus was detected in 370 western hemlock logs examined during the dry land sort survey. An additional 205 hemlock and 585 cedar logs were examined during the summer in six different sorting yards with no additional Monochamus located (0.17% incidence in hemlock and none in cedar). Overall, 24% of the logs had evidence of insect activity (other cerambycids, buprestids, bark beetles, etc.), but this is a worst-case situation since survey efforts were concentrated on older-cut logs.

This information is provided as essential background to the biological and quarantine discussions involving more than \$600 million in export lumber annually from B.C.; to help assess the level of risk posed by a pest of such infrequent occurrence; as a summary of earlier reports, some of which were based on preliminary identifications; and as an aid in planning treatment alternatives.

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