CANADA

Timber Talks

Department of Fisheries and Forestry

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A Potential Threat to Douglas fir Seed Crops No. 72

Many factors, usually inter-related, contribute to successful re-stocking by a tree species. An important one is the availability of viable seed. When there is evidence that seed production is inhibited or may become inhibited, reasons for such unsatisfactory conditions must be sought as a basis for their control. Observations in Douglas-fir stands in British Columiba indicated that conditions prevailed which were unfavorable for a good seed crop.

Examination of the trees showed that they were being attacked by an insect. The current year's shoots, which are the potential cone bearers, were flaccid and many of the partially developed cones on the previous year's shoots were dead.

The damaging insect is the Douglas-fir twig-mining beetle. The adult, which is black and about 3/16 inches in size, overwinters in the twigs and emerges in the spring when the new shoots are about 2 inches long. The beetle feeds by tunneling into the previous year's shoots, entering the twig just above the branch node. After penetrating for about 10-11 mm toward the base of the shoot, an egg chamber is excavated in which 1 or 2 pearl colored eggs are laid. The eggs hatch within about 14 days and the emerging larvae feed mainly on shoots of the previous year. Larval development is completed in about 30 days, followed by a pupation period of about 15 days in the tunnels excavated by the larvae. Young adults emerge in July and August and begin further tunneling in the previous year's shoots, where they eventually overwinter.

At present this insect pest is of minor economic importance. An excessive increase in their population, however, could materially reduce the supply of Douglas-fir seed. Constant vigilance must be maintained to be aware of such population increases.

REPORT: Douglas fir twig mining beetle, Pityophthorus orarius Bright (Coleoptera: Scolytidae). A.F. Hedlin and D.S. Ruth, Forest Research Laboratory, Victoria, B.C.