

Douglas-Fir Tussock Moth

Orgyia pseudotsugata (McDunnough)

Lepidoptera: Lymantriidae

Mason, R. R. 1979. How to sample larvae of the Douglas-fir tussock moth. Agric. Handb. 547. Washington, DC: *U.S. Department of Agriculture, Forest Service*; 15 p.

Objective: To provide a system that classifies *O. pseudotsugata* populations into general density categories that are meaningful for evaluating outbreak potential.

Abstract: The Douglas-fir tussock moth is a major defoliator of Douglas-fir, *Pseudotsuga menziesii* (Mirb.) Franco, and true firs, *Abies* spp., in western North America. Outbreaks occur quite unexpectedly so that a large number of trees are often defoliated before direct control measures can be applied. Growth loss, top-kill and tree mortality are common during outbreaks. The early detection of impending outbreak conditions is essential for managing this insect, and is measured by the number of larvae present when populations are low. This review contains detailed information on how to properly sample *O. pseudotsugata* populations.

Sampling Procedure: Most of the information contained in this handbook is presented elsewhere. However, the author provides clear and concise instructions explaining how to estimate larval densities by sampling the mid-crown (Mason 1969, 1970) and lower crown (Mason 1977) of host trees. Sequential sampling plans are also reviewed (Mason 1969, 1978). This manual is a useful supplement to previous publications, particularly if difficulty is encountered in understanding sampling methods.

References:

- *Mason, R. R. 1969. Sequential sampling of Douglas-fir tussock moth populations. Res. Note PNW-102. Portland, OR: *U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station*; 11p.
- *Mason, R. R. 1970. Development of sampling methods for the Douglas-fir tussock moth, *Hemerocampa pseudotsugata* (Lepidoptera: Lymantriidae). *Canadian Entomologist* 102: 836-845.
- *Mason, R. R. 1977. Sampling low-density populations of the Douglas-fir tussock moth by frequency of occurrence in the lower tree crown. Res. Pap. PNW-216. Portland, OR: *U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station*; 8 p.

*Mason, R. R. 1978. Detecting suboutbreak populations of the Douglas-fir tussock moth by sequential sampling of early larvae in the lower tree crown. Res. Pap. PNW-238. Portland, OR: *U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station*; 9 p.