

Phytosanitary aspects of seedling production

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Abstract

In the province of Quebec, the production, sale and transport of plants for non-ornamental purposes are subject to a phytosanitary control. Quebec's *Service de la protection contre les insectes et les maladies (SPIM)* carries out the phytosanitary inspections. On completion of the inspections for deliverance of certificates, a certificate is granted to the producer if the plants are not found to be infected with either a disease or an insect that may cause an epidemic or an infestation.

Résumé

Au Québec, la production, la vente ainsi que le transport de plants d'arbres à des fins autres qu'ornementales sont assujettis à un contrôle phytosanitaire. Le Service de la protection contre les insectes et les maladies (SPIM) réalise les inspections du contrôle phytosanitaire. Lors de l'inspection pour fins de certification, on émet un certificat aux plants d'arbres exempts d'insectes ou de maladies pouvant causer une épidémie.

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Introduction

Since April 1987, the production, sale and transport of plants for non-ornamental purposes are subject to a phytosanitary control in the province of Quebec. This control is carried out as indicated in the Forest Act.

The *Service de la protection contre les insectes et les maladies (SPIM)* which has been responsible for phytosanitary inspections for forest nurseries since 1978, has been given the mandate to elaborate and to take in charge the procedure for this phytosanitary control.

The main purpose of this control is to prevent the introduction of diseases or insects that could result in epidemics or infestations in Quebec forests. It also assures perfect health of plants that are intended for outplanting.

The *SPIM* carries out three types of inspections:

- 1 — inspections for deliverance of certificates prior to shipments;
- 2 — summer inspection of growing material;
- 3 — fall inspections of growing material.

The first of these inspections is of greatest interest to the *SPIM*. A certificate attesting the perfect health of the plants is delivered at that time. The certificate is part of a report produced in 4 copies. Before a certificate of inspection is given, the plant-producer must submit a detailed inventory including species, lot number, age, location in the nursery and the number of plants. The expected dates on which the plants will be removed and shipped must also be indicated.

The certificates are delivered by inspectors designated by the Minister. In 1990, there were 8 such technicians. Inspections usually begin in early April and end in the fall; most are carried out in the months of April, May and June. In 1989, 340 million plants were inspected before outplanting. There were 796 certificates issued for 49 nurseries (8 provincially operated and 41 privately operated).

When a given lot of plants is found to be infected with either a disease or an insect that may cause an epidemic or an infestation, the inspector may order them destroyed and the certificate is not delivered. In 1990, two lots of jack pine were destroyed because infected by the scleroderris canker (*Gremmeniella abietina*).

On completion of an inspection, a copy of the certificate is given to the producer, another to the government personnel in charge of forest regeneration on private or crown lands and two copies are transferred to the *SPIM* entomology and pathology laboratories in Quebec City with samples of infected material. Correct identification is confirmed by laboratory personnel.

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The most important disease, insect and abiotic problems in Quebec nurseries are:

- 1 - scleroderris canker (*Gremmeniella abietina*) of pines (red pine, jack pine), found in bareroot stocks and in container production;
- 2 - root rot (*Cylindrocladium floridanum*, *Cylindrocarpon destructans* and *Fusarium* spp.) found in bareroot stocks of spruce (black, white, red and Norway);
- 3 - strawberry root weevil (*Otiorhynchus ovatus*) in bareroot stocks or in container production.
- 4 - white grubs (*Phyllophaga* sp.) in bareroot stocks;
- 5 - root kill, in container stocks;
- 6 - winter injury in container and bareroot stocks;
- 7 - gray mold (*Botrytis cinerea*) on spruce and pines, in container productions;
- 8 - snow blight (*Phacidium* sp., *Lophophacidium* sp.) and snow molds in bareroot stocks and occasionally in container production;
- 9 - Western gall rust (*Endocronartium harknessii*) in bareroot and container production of jack pine;
- 10 - cutworms (*Nomophila nearctica*, *Agrotis ipsilon*) in container production and bare-root productions.

In 1989, a total of 2210 identifications were made; 720 concerned insects while 1990 were related to various diseases.