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FOREST PATHOLOGY
CONIFER SEEDLING PATHOLOGY

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Extract from *Rothamsted Report* for 1968

The "Psychrophilic Seed Fungus".

The effect this unnamed endophyte has on the emergence of Sitka spruce and other seedlings was confirmed in 1968 at Wareham and Kennington, using methods previously described (*Report* for 1968, p. 156).

At Wareham, emergence of seedlings from broadcast Sitka spruce within an inch on either side of a line of inoculated seed was decreased by 80 per cent when sown early or late in February, by 30 and 53 per cent where sown early or late in March, and by 28 and 50 per cent where sown in April. The average loss over all six sowing dates was 53 per cent, but only 11 per cent where the seed was treated with thiram. Much of the thiram-treated seed that failed to emerge was sown early in February, so the fungicide was least effective when conditions most favoured infection and when seed lay dormant for two to three months. At Kennington the width of the "bare strip" of killed seeds depended on sowing date. It averaged 8.75, 4.25, 0.5, 1.5, 0.25 and 1.75 inches respectively for the six consecutive sowing dates from early February to late April.

Where other conifer species were inoculated similarly with the same isolate from Sitka spruce seed, they suffered much less than Sitka spruce. The fungus was re-isolated from ungerminated seed of Western hemlock, Lodgepole pine, Japanese larch and Douglas fir but not from Grand fir, Scots pine, Norway spruce and Corsican pine.