

Quantitative Model on the Relationship between *Armillaria* Root Rot and Temperature and Moisture in New Zealand *Pinus radiata* Plantations

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Abstract The incidence of *Armillaria* root rot was quantified based on temperature, rainfall, and soil moisture in New Zealand *Pinus radiata* plantations. The results showed that the disease incidence decreased with the increase of temperature, and increased with the increase of rainfall and soil moisture. A linear multiple regression model that predicts infection levels of *Armillaria* root rot was derived: $Y = -0.8 - 1.5T_1 + 15.1R_1 + 43.2L_1 + 11.1L_2$. This model might give a clue for the disease control.

Key words *Armillaria* root rot of *P. radiata*, temperature, rainfall, soil moisture, quantitative model

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国家自然科学基金重点项目“我国主要人工林生长模型、经营模型及优化控制”课题组在基金委的大力支持下,于1995年10月25日至29日在中国林业科学研究院资源信息研究所召开了林分密度和生长建模国际研讨会。会议由课题负责人唐守正研究员主持,邀请了南澳大利亚基础工业林业实验站的 Jerry Leech 教授,美国纽约州立大学环境科学和林学院的张连军助理教授,加拿大 Ontario, Sault Ste. Marie 的王永和助理教授,美国 Union Camp Corporation 的刘继平助理教授以及国内学者共 30 余人,会议交流论文 18 篇。与会人员对会议的成果给予了高度的评价,达到了互相交流和研讨的目的。为满足交流的需要,现拟将所有报告汇编成册,每册收工本费 100 元,欢迎来电或信函垂询。通讯地址:100091 北京颐和园后中国林科院 9 号信箱杜纪山,联系电话:(010)2582211 转 860。

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