

Pitch Canker Extension Project: Introduction

The Center for Forestry at U.C. Berkeley (UCB) has been working closely with the pitch canker research team at UCB and U.C. Davis (UCD) to prioritize research needs and evaluate educational outreach opportunities. Research on factors affecting risk for pitch canker are being developed by Professors Tom Gordon of UCD and Dave Wood of UCB, together with their research laboratory staff.

With funding provided through the California Department of Forestry and Fire Protection, the Center for Forestry developed a series of outreach and extension education tools on pitch canker. The Center worked with its network of county-based U.C. Cooperative Extension (UCCE) offices throughout the state, as well as a diverse array of clientele groups with an interest in management of forests.

In addition, U.C. committed internal financial resources to pitch canker efforts by adding a career track Cooperative Extension specialist in forest pathology to work part of the time on pitch canker programs. This position was filled in winter 2000.

Pitch Canker Extension Project: Educational Documents

A series of educational leaflets were developed on various aspects of pitch canker, including: symptoms, geographic and host range, tree species susceptibility, risk rating systems, genetics of the fungus, epidemiology, economic importance, and management recommendations. The educational leaflets were prepared for a variety of audiences.

These publications were produced and printed by the U.C. DANR publication unit, and made available through the U.C. publication catalog. All publications developed are available through the Center for Forestry web pages (see below).

- * Pitch Canker: Integrated Pest Management for Home Gardeners and Landscape Professionals UC ANR Pest Management Leaflet 74107 (PDF)
- * Pitch Canker in Christmas Tree Farms (PDF)
- * Pitch Canker: A Technical Review UC ANR Publication 21616 (PDF)
- * Frequently Asked Questions About Pitch Canker UC ANR Publication 8025 (PDF)
- * UC Pitch Canker Severity Rating System

In addition, a powerpoint presentation was developed on an overview of the disease. This can be viewed at: [Powerpoint Presentation on Management Options for Pitch Canker](#)

For information on getting a copy on CD-ROM, please e-mail the Center for Forestry at: forestry@nature.berkeley.edu

Pitch Canker Extension Project: Outreach & Training

During the course of the Pitch Canker Outreach project, a total of 40 formal presentations were held. The Training sessions were coordinated by the Center for Forestry, working with local UCCE, CDF, and Agricultural Commissioners offices. The subject matter included disease recognition, relevant aspects of the biology of the disease, management recommendations, economic factors, and policy issues. The programs included both indoor lectures, as well as field observation of areas with the disease. An estimated 3,900 individuals participated in these various educational programs.

The programs were directed at a variety of audiences

- * Professional Audiences (California registered professional foresters, arborists, land managers) - 17 presentations
- * Non-California (national, international) audience policy makers, professionals, scientists - 7 presentations
- * Presentations to General public, homeowners, Christmas tree growers - 8 presentations
- * Presentations to Pest control advisors, pest management industry • 8 presentations

Forest Pest Council's Pitch Canker Task Force

Pitch Canker Extension Project: UC Severity Rating System

Andrew J. Storer, David L. Wood and Thomas R. Gordon.
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The University of California Pitch Canker Severity Rating System is designed for use in all pine species with symptoms of pitch canker. By gathering the baseline data outlined below, datasets from different areas will be comparable, and severity ratings can be assigned to trees according to the needs of the user.

This rating system assumes that the observer can accurately identify symptoms of pitch canker. The pictures (upcoming) do not replace professional training in the identification of pitch canker.

The risk rating system described here has been developed from long term monitoring of pitch canker in a number of studies. Plots used in these studies included areas in Santa Cruz, Monterey, Alameda, San Mateo and other adjacent counties between 1992 and the present.

These studies include:

1. Urban Monterey pine plots established in 1992.

Storer, A. J., T. R. Gordon, D. L. Wood and P. L. Dallara. 1995. Entomological and pathological aspects of pitch canker disease in California. In Hain, F. P., S. M. Salom, W. F. Ravlin, T. L. Payne and K. F. Raffa eds. Proceedings of a Joint IUFRO Working Party Conference, Maui, Hawaii, February 6-11, 1994. pp 573-586.

Storer, A. J., D. L. Wood and T. R. Gordon. 2000. The Epidemiology of Pitch Canker of Monterey Pine in California. In preparation.

2. Monterey pine plots established in native Monterey pine forests on the Monterey peninsula in 1996.

Wikler, K., A. J. Storer, W. Newman, T. R. Gordon and D. L. Wood. 2000. The dynamics of an introduced pathogen in a native Monterey pine (*Pinus radiata*) forest. In preparation.

3. Plots established in 1999 in Monterey pines, knobcone pines, bishop pines and ponderosa pines.

4. Plots established in 1999 along transects from east to west through the San Francisco bay area into the Diablo Valley.

Symptom type	Count	Score type
1. Branch Tips (BT rating)	Zero	BT
	1 or 2	BT
	3 to 10	BT
	More than 10	BT
2. Stem Cankers (SC rating)	Zero	SC
	One	SC
	More than 1	SC
3. Top Kill (TK rating)	None	TK
	Less than 10%	TK
	10% - 50%	TK
	More than 50%	TK