BREAKTIME

University of California Cooperative Extension

The Newsletter of the California Tree Failure Report Program
November 2001 Volume 12 #1

Report Count

As of November 1, 2001 there were 3001 reports in the database. Thanks to Kevin Kielty of Mayne Tree Experts of San Carlos for submitting the 3000th report! So far, we have only received 98 reports for failures in 2001 though, and that is well below average for this time of year. Last year's priority registration system for the Annual Meeting stimulated many of you to send in those reports that were languishing in a drawer. We hope that will happen again this year.

Priority Registration

Since the Annual Meeting is intended as an educational opportunity for CTFRP cooperators, we have initiated a "priority registration" program for individuals who have submitted reports between December 1, 2000 and December 14, 2001

If you have submitted at least two reports: your registration will be immediately processed (upon receipt). Cities, organizations, and companies will be credited with one registration for every two reports submitted (i.e., if your group submits 20 reports, you will be able to register 10 people).

If you have submitted one report: your registration will be held until Dec. 17 and processed then.

After Dec. 17, **ALL** registrations received will be processed on a first-come, first-served basis.

Please keep in mind that for the past three years we exceeded our registration capacity. Please ensure a place at the meeting by submitting your reports. **We want you there!!!**

CTFRP Web Site – www.treefail.ucdavis.edu

We are happy to have received several requests (via the website) for information. Also, we have noticed several other web sites linking to it.

The Forum page isn't being used. Is this because our set up isn't convenient or is it something else about information sharing sites? If you have any ideas about this or about anything you would like to see on the web site, please contact Katherine Jones at: kajones@ucdavis.edu.

From the Database – Location of Failure

Table 1. Percentage of failure reports in the CTFRP database (3001 total) for genera in four categories: overall, trunk, branch, and root. Overall combines reports for all failure types and locations. For example, 19.7% of all failures are for Pinus. Trunk, branch, and root categories give the percentage of all reports in the database for each genus and each failure type. For example, 6.6% of all failures are Quercus trunk failures.

OVERALL	%	TRUNK	%	BRANCH	%	ROOT	%
Pinus	19.7	Quercus	6.6	Pinus	7.1	Quercus	7.4
Quercus	19.5	Pinus	5.8	Eucalyptus	6.1	Pinus	6.4
Eucalyptus	13.8	Eucalyptus	3.1	Cypress	5.7	Eucalyptus	4.3
Cypress	11.5	Cypress	1.9	Quercus	5.2	Cypress	3.8
Acacia	3.8	Acacia	1.4	Fraxinus	2.1	Acacia	1.8
Fraxinus	3.8	Sequoia	.93	Ulmus	1.9	Fraxinus	1.1
Ulmus	3.4	Pyrus	.73	Cedrus	1.1	Ulmus	.76
Sequoia	1.8	Ulmus	.69	Pyrus	.63	Sequoia	.63
Pyrus	1.7	Liquidambar	.66	Liquidambar	.56	Cedrus	.39
Cedrus	1.7	Fraxinus	.59	Acacia	.53	Pyrus	.36
Liquidambar	1.3	Cedrus	.16	Sequoia	.26	Liquidambar	.06

Overall data indicates that 65% of all reports in the database are for Pinus, Quercus, Eucalyptus, and Cupressus. The next 7 genera represent only 17.5%. This result is most likely a reflection of the relative frequency of occurrence of these genera in the urban forest, rather than being indicative of a high frequency of failure: i.e., the most common species in the urban forest are also those most commonly reported in the CTFRP database.

Some variation among genera is found for the proportion of failures reported for each location (trunk, branch, root). In Eucalyptus, twice as many failures are reported for branches than trunks. Cupressus has almost 3 times more branch failures than trunk failures. In Quercus, root failures are highest, but distribution is fairly even among the 3 location categories. Similarly, there is a fairly even distribution for Pinus, but branch failures are most commonly reported.

Branch Failures

Table 2. Reports of branch failure at the point of attachment. The percentage of cases where decay exceeded 25% of the cross-sectional area and mean branch diameter at the point of failure are included.

Genus	# of failures	Av. diam. of failed branch	Decay extent at 26-100%
Eucalyptus	89	9.6"	14.8%
Pinus	63	12"	3%
Quercus	55	22"	58%
Fraxinus	54	10.2"	7%
Cupressus	54	11"	15.6%
Ulmus	30	10.5"	24%
Pyrus	15	7.7	8%
Liquidambar	13	6.2"	11%
Acacia	11	7.3"	20%
Cedrus	10	11"	0%

Table 3. Reports of branch failure along the branch (beyond the point of attachment). The percentage of cases where decay exceeded 25% of the cross-sectional area and mean branch diameter at point of failure are included.

Genus	# of failures	Av. diam. of failed branch	Decay extent at 26-100%
Pinus	152	11"	2.7%
Cupressus	118	10.9"	3.5%
Quercus	104	16.5"	43%
Eucalyptus	97	8.7"	7%
Ulmus	29	10"	19%
Cedrus	26	9.8"	0%
Fraxinus	10	10.5"	0%
Acacia	5	11.8"	25%
Pyrus	5	5.2"	20%
Liquidambar	4	7"	0%

Comparing tables 2 and 3, failures along the branch (ATB) are more common for some genera than failures at the point of attachment (POA). This is particularly the case for conifers. For Cedrus, Pinus, and Cupressus, ATB failures were 2.6 to 2.2 times more frequently reported than POA failures. Quercus is the only hardwood genus that has a substantially greater number of ATB failures than POA failures. For most hardwoods, POA failures are more common than ATB failures. Fraxinus, Liquidambar, Pyrus, and Acacia were reported to have 2 to 5 times more POA failures than ATB failures. Eucalyptus was the only genus with virtually equal numbers of the two types of branch failures.

For ATB failures, heavy lateral limbs was found to be the most common defect associated with failure. It appears that end weight reduction may be important consideration in the structural management of Cedrus, Pinus, Cupressus, and Quercus.

For POA failures, embedded bark was found to be the most common defect associated with failure. In these cases, the removal of branches with weak attachments (when the tree is young) and adequate vertical spacing of branches along the trunk would be important strategies to lower the potential for this type of failure.

In addition to end weight, decay is an important defect associated with ATB failures for Quercus (43%) and Ulmus (19%). Conversely, little decay was associated with ATB failures in Pinus, Cupressus, Eucalyptus, Cedrus, Fraxinus, and Liquidambar. Decay prevention and decay assessment in branches are important management considerations for Quercus and Ulmus.

For POA failures, decay was a factor frequently associated with failure in Quercus (58%) and Ulmus (24%), and to a lesser extent in Cupressus (15.6%) and Eucalyptus (14.8%). Again, decay management is an important consideration for Quercus and Ulmus.

L.R. Costello

Laurence Costello
Environmental Horticulture Advisor

Katherine Jones

Katherine Jones
Horticulture Associate