

Pitch canker appears in check

Trees 11-17-00
By **ROBIN MUSITELLI**
SENTINEL STAFF WRITER

SANTA CRUZ — Nature, taking its course, has apparently thwarted pitch canker, a deadly killer of Monterey pines.

Researchers say new evidence suggests pitch canker seems to come and go, and isn't always fatal.

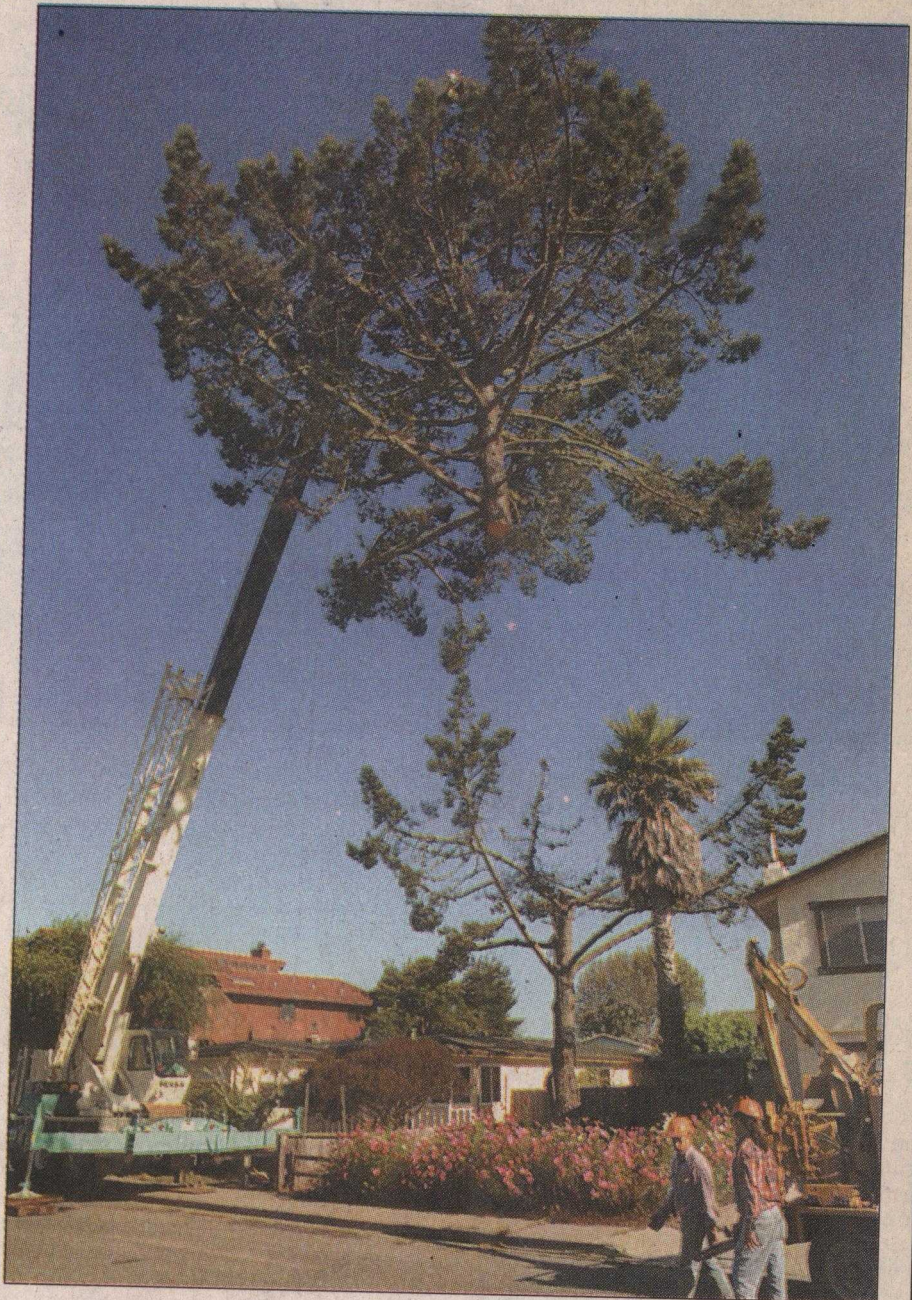
For the first time, scientists have also shown that trees can acquire a resistance to the virulent fungus. The findings are based on trees studied in Santa Cruz County.

"If what we have seen in the Santa Cruz area is an indication, ultimately the pace of infection will slow and a fraction of remaining trees will recover," said Tom Gordon, a professor of plant pathology at UC Davis.

"People should keep in mind the possibility that a tree might recover and not be too quick to write it off," said Susan Frankel, with the U.S. Department of Agriculture in Vallejo.

Gordon's findings, which were shared with other members of a statewide task force on pitch canker this week in Sacramento, are based on trees studied in Santa Cruz County.

Please see **CANKER** on Page A6



Dan Coyro/Sentinel

Pitch-cankered Monterey pine is removed from this Westside front yard near Natural Bridges.

Canker

Continued from Page A1

on 13 years of study on pines in Santa Cruz County, where the state's first case of pitch canker was discovered in Capitola in 1986.

Scientists theorized that the fungus was transported to Santa Cruz County trees on firewood or lumber from Mexico, where pitch canker has been a problem.

The fungus soon became a killer that stalked forests in 17 counties from Mendocino to San Diego. It hit the foggy coastal areas, where the weather is conducive to infection year-round, especially hard.

Hundreds of diseased trees were cut down along Highway 1. Thousands more tell-tale rust-colored crowns marred the evergreen ridges of Swanton, Waddell Canyon and the Chalk Mountains behind Ano Nuevo State Reserve.

Experts predicted that the deadly spores could destroy up to 85 percent of the Monterey pines, killing the trees within four years. The stricken trees often were finished off by bark beetles.

No cure was found.

But researchers are now scaling those predictions back, Gordon said. If the disease remains in remission in recovered trees, the extent of mortality won't be as great as predicted.

"It's also clear that in any case, it's taking a lot longer for most of the trees to die than we thought," Gordon said.

"You can say that the trees are in remission or recovering, but basically there are no new infections on the trees. We don't know if that will maintain itself — there may be another outbreak," said Don Owen, a researcher with California Department of Forestry who has studied the disease since 1987.

"But it appears that the pitch canker came and went. The long-term question is, will it come back?" Owen asked.

The trees in remission are concentrated in Santa Cruz County. Trees in the Monterey area appear to be fol-

lowing the same cycle.

Stands of infected pine at Soquel High School, Ramsay Park in Watsonville and San Lorenzo Park in Santa Cruz were monitored starting in 1987.

After five years, researchers saw a decrease in the spread of the canker, said Owen.

"Still a lot of trees died, but the pitch canker activity was going down," Owen said. "Some of the trees were heavily infected. By 2000, we couldn't find any infection on them."

Of the 34 trees studied at Soquel High School since 1987, 11 died. In 1998, of the 21 previously infected trees, only four were infected. In 2000 no active infection was found among the 21 trees.

This, Gordon said, may be an early indication of disease remission.

What makes some trees recover and others more prone to the disease isn't fully understood. Laboratory and field experiments, however, indicate that trees repeatedly inoculated with the fungus develop a resistance.

Trees respond to the fungus by sending resin to the infected area. The resinous cankers block the spread of the infection, but also block circulation to the branch, and the branch dies.

Previous exposure to the fungus "sort of primes the plant so that when it gets exposed again it responds more quickly," Gordon said.

"It's the speed that seems to make plants succeed in warding off" the disease, he said.

The trees that resist the fungus also seem to produce chemical compounds, one of which is similar to aspirin, that slow the invasion of the fungus.

"Each infection is separate and has a limited impact on the tree," said Owen. "The reason trees decline and are killed is that they get so many infections they're eaten away and then bark beetles finish them off. But the infections don't remain active indefinitely."

The recovered trees aren't necessarily a pretty sight. Cankers on the tree trunks can be seen, even though

the resin is dried. Branches put out new foliage which obscures the cankers.

The new findings have changed the recommendations on tree removal.

"What it means is that people should be careful about how they judge a tree," Owen said. "A tree that has a lot of infection still will not necessarily die. Don't assume it's going to die."

"It shouldn't be cut until it represents a hazard," Gordon said.

On the North Coast, Big Creek Lumber co-owner Lud McCrary said his loggers salvaged some of the diseased trees, treated the wood and sold them as fence posts.

But the diseased trees still there are a tremendous fire and physical hazard in the forest, he said.

"These trees die standing and when they finally get really rotten, the whole tree doesn't fall over, but maybe one half or a quarter of it will just break off and fall down," McCrary said.

McCrary said a piece of a tree fell and hit a horse when his daughter and son-in-law were horseback riding.

"Every once in a while on my road, there will be half a ton or so section of a pine tree that fell during the night. I always carry a chain saw with me."

Contact Robin Musitelli at
rmusitelli@santa-cruz.com.