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Saving trees takes cold calculation

By Catherine Saillant
Times Staff Writer

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In an all-night battle marked by bone-chilling cold, the screech of frost alarms and roaring wind machines, Ojai citrus grower Emily Ayala focused on keeping her Pixie tangerine trees alive.

Ayala started the machines around 10 p.m. Friday, when the thermometer hit 32 degrees. Joined by her husband and father, she was back out at 1 a.m. to light smudge pots, trying to create some badly needed heat.

By 3 a.m., when temperatures had plunged to the mid-20s, Ayala, who is four months pregnant, finally crawled into bed. She and her family have farmed 75 acres in this often cold corner of the Ojai Valley for five generations.

"There's not much you can do," said the 34-year-old Ayala, surveying foot-long icicles hanging like fringe from the bottom of orange trees early Saturday morning. "I like farming because I'm my own boss to some extent. Mother Nature is the real boss on a day like today."

Still, she wasn't giving up as she prepared to try to save her crops a second time Saturday night, when temperatures were expected to drop again.

A few miles away, another Ojai grower, Jim Churchill, was taking some of the same precautions Friday night. As he walked his 17 acres of citrus and avocados near midnight, he made quick calculations on what was worth trying to save and what he should let go. "I'm writing them off," Churchill said of a small grove of Hass avocados adjoining his citrus orchard. "I just can't save them."

It was a battle happening around the state as the cold snap had its greatest effect on citrus groves. Some areas — particularly Ojai and parts of Tulare, Kern, Fresno and Madera counties — suffered partial or total crop losses, officials said. "We suffered a hit," said Joel Nelson of California Citrus Mutual, a growers organization.

Elsewhere, the weather broke records in Southern California, delighted skiers and provided strangers with a conversation ice-breaker but generally didn't keep people from going about their business.

As the sun was fading Friday, Churchill and his wife, Lisa Brenneis, rushed to cover tangerines with freeze-protection fabric. Their long overnight struggle had begun in earnest.

Friends had arrived earlier in the day to help out. Marty Fujita and her 12-year-old daughter, Dana Cook, hastily pulled ripe fruit from branches. Fujita's husband, Chuck Cook, helped Churchill drape the sheeting over the tree tops.

Long rolls of the white fabric cost \$3,000, but they'll be a good investment if they are able to save the 6-foot-tall young trees, Brenneis said. Working quickly, Churchill and Brenneis were able to cover several rows of the orchard by nightfall.

Churchill's father bought the land in the 1970s, and Churchill began farming it in the 1980s. Over the years, he and his wife have built a small family operation that sells to local markets and restaurants and at farmers' markets in Los Angeles and Ventura counties.

By 10 p.m., Churchill was back in the orchard, checking thermometers by flashlight. Temperatures were already down to 31 degrees and an earlier breeze had disappeared.

That wasn't good news, especially for his avocados, which are more sensitive to frost than citrus. Churchill decided it would not be worth turning on his wind machine in the avocado grove.

"It goes against my grain," he said. "But I'd spend hundreds of dollars on propane to run it, and it probably won't make a difference anyway."

Turning his attention to his citrus, Churchill decided to start the wind machines and turn on his sprinklers. Running water gives off heat as it freezes, adding a couple of degrees' warmth to the fruit and trees, according to Claire Smith of the Sunkist Growers Assn. Wind machines keep warm air from rising, sending it back down to the trees and ground.

Churchill fired up a machine and waited a few minutes. Then he rechecked the thermometer. The moving air had raised the temperature one degree.

He then turned on the sprinklers, checking to make sure they were operating properly, and headed back to his van for the drive home. He would return to the orchard several times during the night.

Both Churchill and Ayala remember the freeze of 1998, when they lost fruit but not trees. They nonetheless suffered losses in the tens of thousands of dollars. They also recall, without bitterness, the even deeper freeze of 1990, when many trees died. With at least one more night of subfreezing temperatures, further crop damage remained a troubling possibility.

"I noticed today that the avocado trees are fried," Ayala said Saturday. "That means we will probably lose some of that crop." As for overall damage, "we have no idea yet."

Ayala and Churchill both grow Pixie tangerines, among other citrus. The tiny orange fruit, said to grow particularly well in the Ojai Valley, has become a valuable crop in recent years as its popularity soared in high-end markets and trendy restaurants.

Both said they would concentrate on saving this year's Pixie crop, to be harvested in March. If temperatures stay below 25 degrees for even a few hours, it will be a fight just

to save the trees, they said.

Overnight temperatures Friday dropped to around 25 degrees. Forecasters were calling for colder temperatures Saturday night, perhaps as low as 22 in Ojai.

"My instinct is that the mature Pixie trees will survive but we'll lose the fruit," Churchill said.

Back at her ranch, Ayala had turned on her wind machines around the same time as Churchill. When that was done, she went back into her house to warm up.

She had summoned her father earlier, when the frost alarm sounded. Now Ayala, her father, Tony Thacher, and her husband, Tony Ayala, stood around a fireplace, debating what to do next. How much humidity was in the air? Was there any wind? How low would the temperatures go?

"My grandfather had it down to a science," Emily Ayala said. "I think it takes a lifetime of learning."

They decided not to take a chance with the tangerines. All three headed out to the grove around 1 a.m., and under a biting cold, star-filled sky used small torches to light dozens of smudge pots.

They went about their work silently, unable to talk above the din of the wind machines. Every so often, Thacher would rustle a branch to see if the leaves had frozen.

"If it sounds crunchy, that's bad," Emily Ayala explained. "They're all right so far."

The pots radiated heat, throwing off smoke from exhaust vents. By the time the family finished, about two hours later, they had managed to raise the temperature in the orchard by one degree, to 26.

It didn't dip much lower after that, Ayala said. After touring the orchards early Saturday, she sneaked in a short nap before preparing for another long, cold night.

"We're trying to keep positive," she said.

catherine.saillant@latimes.com

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