

# PROGRESS

## Reaching new heights



**T**o say that tree care technology has improved since tree care became a profession in the 1800s is an understatement. The methods and equipment the earliest workers employed seem all-out archaic by today's standards, tree care professionals marvel.

And as dangerous as tree care is — it still stands among the world's top five most dangerous professions — advances in techniques, pesticides and equipment have at least made the profession safer than it used to be.

"The [earliest] gear was pretty primitive compared to the equipment we use today," says R.J. Laverne, a master arborist with The Davey Institute. "As far as hand tools, the hand saw was the tool of choice."

In the 1920s, hand saws began to improve, says Sierra Moreno Mercantile owner Don Blair, whose father, Millard, worked as an arborist for 73 years. Like John Davey, who founded Davey Tree in 1880, and Francis A. Bartlett, who founded Bartlett Tree Experts in 1907, Millard was among the profession's trailblazers.

When the Fanno No. 8 chainsaw was developed in the early 1930s, saws made even greater strides, says Blair. It cut on a push stroke, which made it safer than other saws.

But it wasn't until after World War II that the industry modernized. That's when tools such as power saws, brush chippers and aerial lifts hit the market. "The chainsaw and the aerial lift are two things that took tree surgery from an art to an industry," Blair says.

"The chainsaws we have now are safer, more ergonomically designed," asserts certified arborist Steve Tanaka,

### Tree care is still a risky field, but technological advances have made it a little safer.

manager of the tree division at Artis Tree, Venice, FL.

"You have less fatigue on your body when you're operating them, because they're lighter," he says — much more so than the saws of the 1950s, which were so heavy and hard to maneuver they required two men to operate them.

"Equipment in general has enabled the tree care business to become much safer and faster," says Andy Felix, president of Tree Tech, Foxboro, MA.

#### Plant health

Tree cavity work has improved as well. "The early arborists used to approach holes and cavities in trees much like dentists approach cavities in teeth," Laverne says. "They would use chisels and mallets and chisel away the decayed wood, then they filled the holes or cavities with concrete."

Arborists eventually realized that chiseling breaks through a tree's natural defensive barrier, actually facilitating decay and the spread of disease.

When Dr. Alex Shigo of the USDA Forest Service uncovered how trees process decay in the mid-1970s, it "completely changed the way we look at our pruning standards and the way people make cuts," Blair says. "[Shigo] discovered that cuts didn't need to be painted anymore. He was the guru that brought light to the darkness."

#### Safety advances

According to Laverne, tree care safety is the greatest advance of the last 30 or 40 years. Modern safety mechanisms

reduce injuries, Tanaka adds, citing automatic stops on chippers.

More specialized climbing equipment has made tree work safer as well. Slings hold more weight than they used to, Tanaka says. And the creation of lowering blocks and friction reducers, which allow tree workers to manage more weight in the air and exert less energy, has "greatly increased the scope of what we're doing."

#### Pest control

"In my dad's time, they needed to provide insect control, so they took motor oil and mixed it with ammonia to create an emulsion," Blair says.

Those primitive techniques are long gone. Modern pesticides have brought much better pest control. But they also created a flurry of environmental hazards.

"I remember Dutch Elm Disease was a problem when I was growing up and the tree care companies spraying DDT on the trees in huge volumes — to the dripping point," Laverne says.

Ironically, says Blair, it was Dutch Elm, another product of the 1950s, that increased demand for tree removal and gave rise to the profession.

Rachel Carson's book "Silent Spring" had a huge impact on pesticide use, Laverne says. From it, people came to see that a tree is a living organism capable of fending off pests on its own.

"We now approach the problem by keeping the tree healthy," Laverne says. "It's a whole lot different than the way we used to do things."