



# Chasing problems

University of Florida professor emeritus Gene Albrigo has been helping citrus growers improve production practices for 46 years, and he's still at it.

By **Tacy Callies**

## **GENE ALBRIGO**

**Born:** 1940 in Palmdale, California

**Education:** Bachelor's degree in pomology and master's degree in physiology from University of California-Davis; doctorate in horticulture from Rutgers University

**Industry involvement:** Planning International Society of Citriculture Congresses, getting sponsorships for the Florida State Horticultural Society program

**Volunteer service:** Has volunteered for Civitan International since the 1970s, helping those with developmental disorders and special needs students, as well as assisting with Special Olympics

**Personal motto:** "Learn your industry and its problems and work on the problems you have the capabilities to do something about."

**Family:** Married 54 years with three children, 10 grandchildren and six great-grandchildren

**Hobbies:** Volleyball, body surfing and woodworking

**Do-it-yourselfer:** "I want to do all the work around the house myself. Contractors charge too much and don't do a good enough job. I just recently gave up doing my own car repairs, except for oil changes."

**What you don't know about him:** Eats ice cream with his cat a few nights per week

**Short-lived nickname:** Before nutrition became the preferred method for dealing with HLB, he was briefly known as "Doctor Death" after developing a method to kill HLB-infected trees prior to removal.

**U**pon completing his doctorate at Rutgers University in 1968, Gene Albrigo had three job opportunities. One was working with potatoes in New York and another was at the U.S. Department of Agriculture fruit quality instrumentation lab in Maryland. He chose the third option instead, becoming an assistant University of Florida professor at the Citrus Research and Education Center (CREC).

"CREC was the best choice in fitting with my interest in fruit," says Albrigo, who grew up in California on a pear, peach and nectarine orchard. He stayed at CREC his entire career, retiring in 2010, but continues to work on important issues, including HLB, as emeritus professor.

## **PREHARVEST FRUIT DROP**

"Within the last few years, most of my time has been spent working on HLB and learning about phloem disruption," says Albrigo. "Almost all my time now is spent studying preharvest fruit drop."

He started a fruit-drop research project in 2012 which he is continuing with a two-year block grant from the Specialty Crops Research Initiative that began in January 2014. Questions he is hoping to answer include: What kinds of stress factors are contributing to excessive drop? Which ones can be compensated for? Can plant growth regulators help reduce drop?

"We're looking at how weather impacts the level of drop," he says. "Water stress (not enough or too much) may be very important. We think possibly HLB combined with citrus blight under foliar-enhanced nutrition programs could be a factor in declining trees." Albrigo is seeking additional support for the study from the Citrus Research and Development Foundation (CRDF).

"Initially fruit drop was more variable block to block this year than last in its severity," Albrigo says. "People weren't expecting it last year; now we are watching for it. More people are reporting severe problems, but it's too early to tell if it will be as bad, cumulatively, as last year. But for some growers, it already is as bad."

Albrigo says the best part of his job is "working and interacting with growers and helping them solve problems."

"Gene always displays enthusiasm and energy when tackling a new problem," says Ellis Hunt Jr. of Hunt Bros. Inc. "We have worked on various issues over the years and have learned and utilized knowledge gained from his work. Recently Gene has been working with us on a fruit drop study trying to find

different chemicals that would prevent premature fruit drop.”

“I retired in 2010 and I’m still here (at CREC),” says Albrigo. “I’m still writing flower bud advisories and doing research on a major problem. If we can keep fruit on the trees, the industry can sustain itself. I would like to contribute something to that overall goal. I think I’m slowing down, but I don’t know if you’d find anyone who would agree. I’m still chasing problems.”

### EARLY CAREER

Some of the citrus issues Albrigo recalls studying early in his career include preharvest conditions affecting quality, water stress in the Indian River area that caused peel disorders, grapefruit storage, fruit evaluation in Japan and citrus rust mite injuries.

“I steadily became more involved in whole plant physiology, working with pathologists and entomologists on disease interactions,” says Albrigo. In 1974, he published a comprehensive understanding of how citrus rust mite caused injury and how fruit responded to it. He helped determine citrus blight’s physiology and the sequence of symptom development in the 1980s.

### BIGGEST ACCOMPLISHMENT

In the early 1990s, Albrigo achieved what he considers to be his biggest career accomplishment: understanding and controlling citrus flowering and the factors that affect it. He put this knowledge to work and began sending Flower Bud Induction Overview and Advisory reports (found at <http://www.crec.ifas.ufl.edu/extension/flowerbud/index.shtml>) to growers throughout the year.

Next came the development of an interactive computer program called the Citrus Flower Monitor (<http://disc.ifas.ufl.edu/bloom/>), which gives growers the number of cool hours (68



“I like street rods from the 1930s and 1940s,” says Gene Albrigo, who used to rebuild car engines and is pictured here with his 1998 Porsche.

*“I retired in 2010 and I’m still here (at CREC). I’m still writing flower bud advisories and doing research on a major problem. If we can keep fruit on the trees, the industry can sustain itself. I would like to contribute something to that overall goal.”*

**Gene Albrigo**

degrees or less) needed for induction and development of flower buds based on weather in specific citrus-producing locations in Florida.

“It took me awhile to decide the biggest factor affecting production in Florida citrus was the effects of winter climate on flowering,” says Albrigo. “The total number of cool hours in winter is a key factor.”

Albrigo says there are many advantages to knowing when bloom will occur:

- Growers can apply drought stress during critical periods and can stop a specific initiation of growth if there have not been enough hours of cool accumulated.
- Growers may decide to apply gib-

berellic acid to stop further bud development to avoid an excessive crop.

• Growers can make decisions in January to plan their spray programs based on when flush will occur.

“My biggest regret is that I didn’t start studying flowering 10 years earlier,” Albrigo admits. “But I’m happy with how far we have come in understanding and controlling flowering under Florida conditions.”

Albrigo has submitted a proposal to the CRDF that would fund improvements he’d like to make to the Citrus Flower Monitor program, including a written summary of predicted bloom dates and a leaf flush predictor that would help growers know when to spray for HLB-spreading psyllids.

## Contributions to education

“It is no exaggeration to say that Gene Albrigo’s students form the backbone of the citrus production and processing industries in Florida,” says Jim Syvertsen, University of Florida emeritus professor.

“Gene led the development of the MS degree in citriculture and developed three Horticultural Sciences Department courses. A highlight of his teaching accomplishments is that he developed the audio-video delivery of classes within the College of Agriculture. Gene beta-tested two systems and bought a PolyCom System for the Citrus Research and Education Center before it became the standard for IFAS-wide distance education delivery of classes,

meetings and conferences.

“Many Florida citrus industry people have benefited from one or more of those courses as part of their daily decisions and professional development. His graduate students are in influential positions all over Florida and in many parts of the world.”

Albrigo has more than 130 published works and has co-authored several book chapters. He published the book Citrus (now in revision for the second edition) with Fred S. Davies. “The book covers all aspects of citrus production and has been used by other citrus instructors in their courses,” says Syvertsen.

