

Tomato grafting, tasty melons among AgriLife event topics

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At this year's spring vegetable field day organized by Texas A&M AgriLife Research and Extension Center, presenters covered a wide range of topics. Among them were presentations on spinach, onions, grafted tomato plants, managing common diseases among tomatoes and research geared toward crafting consistently tasty melons for the consumer market.

According to Paul Schattennberg, media

Surprisingly, the third highest-produced fruit is the olive. All olives produced in Texas are milled for olive oil.

relations specialist and member of the news editing team of the AgriLife Communications department of the Texas A&M University System, 80 agricultural producers and others involved in agriculture were in attendance for the event. Counting research center personnel, that number exceeded 100.

Three presentations took place before the field tour at 9:15 a.m., and four presentations took place after lunch. Each pre-

sentation was roughly 15 minutes long.

Time in the field through hands-on learning and question-and-answer sessions was conducted from 9:15-11:15 a.m. In the field, participants stopped at eight different stations to learn about the research techniques being applied and the responses shown in plant growth and management.

TOMATO PRESENTATION

Daniel Leskovar, professor of vegetable physiology at Texas A&M AgriLife Research Center in Uvalde, gave a short presentation on grafted tomato plants. His research has focused on how well the grafted plants produce in the open field versus a high tunnel – a greenhouse-like shelter which provides ventilation

and sunshine but protects the plants from harmful elements such as wind.

The purpose of grafting plants is to mesh plants with desirable traits to rootstocks that are more hearty. According to Leskovar's research, rootstock varieties can provide differing levels of resistance to certain conditions and diseases. The benefits to grafting that he has seen include tolerance to heat stress and yield increase.

Leskovar was also one



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Flavia Alves, a visiting researcher from Brazil, demonstrates how to graft tomato plants. The demonstration was part of Texas A&M AgriLife Research and Extension Center's spring vegetable field day held May 11.

of the presenters in the field, showing attendees the difference between grafted tomato plants in the high tunnel versus

those planted in the field. As a control, Leskovar and his team planted non-grafted plants alongside the grafted ones.

Those in the field, matching the characteristics and care of the other plants in all but location, consistently under-

performed the plants in the high tunnel. Tomato plants in the field were planted later in the season to avoid the possibility of frost, and were thus not expected to have grown as large as those in the tunnel. However, some of them succumbed more easily to disease and other blights.

Grafted plants in the tunnel were more vigorous. They were much taller, grew a more dense canopy, and were generally more productive than non-grafted plants. However, the non-grafted plants produced fruit earlier than the grafted ones.

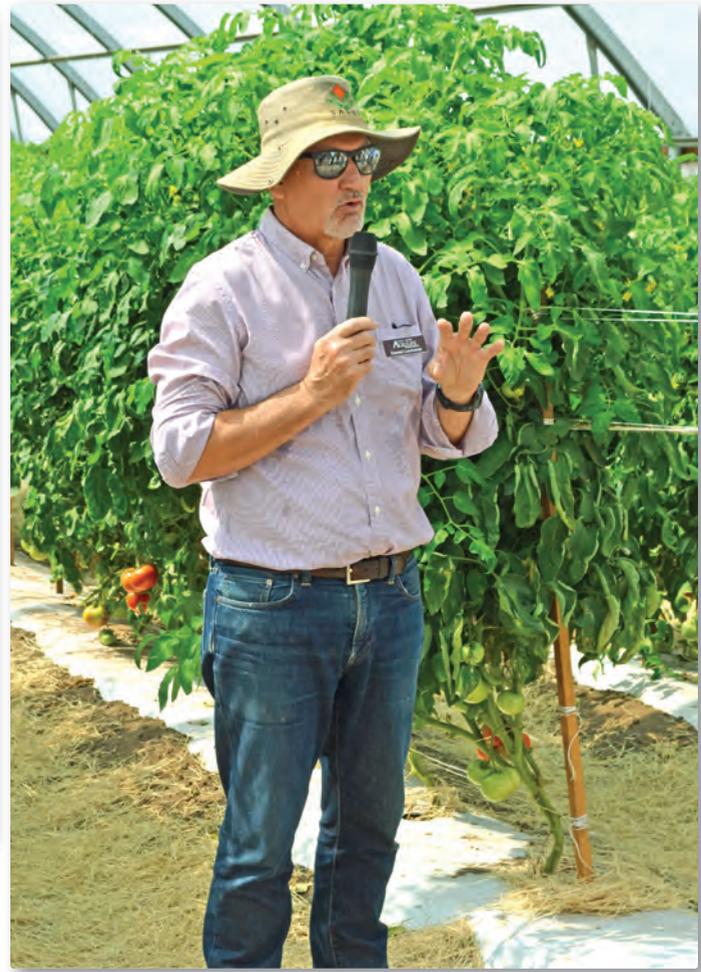
A caution to observe in grafted tomato plants is their dense canopy because it may have a greater propensity for bugs and diseases. "A good environment for plants is a good environment for insects," Leskovar said.

OLIVE PRESENTATION

On the field tour, attendees were taken to an olive grove which was planted by researchers in 2015. Though there are others, the arbequina variety is the main type of olive grown in the grove. Larry Stein talked with those gathered about the general state of olive cultivation in Texas.

The top fruit produced in the state, Stein said, was pecans. The second

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Daniel Leskovar, professor of vegetable physiology at Texas A&M AgriLife Research and Extension Center, shares with attendees the difference between his grafted tomato plants in the field (above) and those in the high tunnel (right). The presentation was part of AgriLife's spring vegetable field day on May 11.

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most-produced fruit are grapes. Surprisingly, the third highest-produced fruit is the olive. All olives produced in Texas are milled for olive oil.

Besides the infrastructure needed to process the olives into oil, the greatest challenge to olive production in the state is consistency of production from year to year due to severe changes in weather.

Olives need a consistent cold season in order to fruit. A lack of chill in 2017 produced no olives in Texas that year.

"If you can't have consistent production," Stein said, "it's not economical."

Stein and his team are working on developing a variety of olive tree which can withstand the pressures of the Texas climate.

"You need cold, but you can't have too much cold," he said.



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Subas Malla, Assistant Professor of vegetable breeding at Texas A&M AgriLife Research and Extension Center, speaks to his audience about the correlation between leaf wax composition and resistance to diseases and insects.

In his presentation indoors, Leskovar, who also serves as the A&M Center's director, briefly mentioned olive cultivation and olives' response to nitrogen. He studied the amount of nitrogen olive plants need and found that over-fertilizing with the nutrient can decrease the plant's overall productivity.

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Kuan Quin, a researcher with Texas A&M AgriLife Research and Extension Center, shares with attendees the importance of humic substances in soil structure and fertility. The talk was part of AgriLife's spring vegetable field day on May 11.