

Research shows grafted tomatoes have better chance to thrive

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Though tomatoes have a large market in Texas, farmers find it increasingly difficult to farm because of heat and pests. To combat these difficulties, farmers often have to weigh the pros and cons of tomato grafting.

Daniel Leskovar, professor of vegetable physiology at Texas A&M AgriLife Research in Uvalde, presented a talk on tomato grafting at the Combined Vegetable and Wheat Field Day at the AgriLife Uvalde Extension on May 18. His talk focused on grafting a better root system to increase production value.

“Grafting is not a new technology, it’s used all over,” he said. “The benefits include yield increases and plant promotion, so it’s worthwhile, even though it takes time.”

Leskovar said it takes

time because of the anatomy of the roots.

“The roots take time, but we want to develop better rootstock for farmers. It’s a state-wide project and a goal that we are working towards,” he said.

With five field locations for grafting, Leskovar and team were able to look at the differences in the root systems, as some grafting took place in both an open field and hoop-house.

“We have had the help of a lot of hands and people, and we have put a lot of time into this project,” Leskovar said. “It has taken a lot of coordination shipping the tomatoes back and forth between locations.”

However, shipping has proved itself useful, Leskovar said, as the locations showed the difference in growth in non-grafted and grafted tomatoes. Because there was a visible difference, horticultural sciences assistant professor Carlos

Avila from the AgriLife branch in Weslaco decided to measure the plant height.

“We saw a difference in plant height, and so we decided that we would start measuring that difference between the grafted and non-grafted tomatoes,” Avila said. “There is earlier development in the grafted tomatoes, and there’s bigger leaf sizes, which means there is more photosynthesis.”

Additionally, Leskovar and Avila found they could extend the season by using the hoop-house.

“By extending the season, we can have more pest and disease control. If we are farming in a part of the year when the really damaging diseases aren’t present, then we’re getting more tomatoes,” Leskovar said.

While grafting is expensive, Leskovar said it is worth the cost.

“You can farm more tomatoes and you can farm better tomatoes,”



Tomato grafting at Texas A&M AgriLife Research in Uvalde.

he said. “We can’t answer yet if grafting has an impact on taste and flavor, but I think it does. We usually have a taste test and people report a difference in flavor.”

Through grafting,

Leskovar and other researchers hope to create a stronger bond between farmers and the industry.

“We expect to strengthen collaborations between tomato growers

and the tomato industry,” Leskovar said. “We hope to change tomatoes and create the perfect rootstock.”

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