

Too few chilling hours could affect Texas fruit crop

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Warm winter weather could mean too few chill hours for much of the state's fruit production areas, said Texas A&M AgriLife Extension Service experts.

Fruit trees, such as peaches and apples, depend on cool weather in the winter to promote proper physiological growth in the spring, said Dr. Larry Stein, AgriLife Extension horticulturist, Uvalde. If plants don't receive the required number of chill hours, the plants are slow to leaf out and this typically leads to poorly developed fruit or no fruit at all. Multiple seasons of inadequate chill hours can kill plants.

Damp, cloudy conditions and temperatures between 32-45 degrees are ideal for accruing chill hours, Stein said.

Chill hours begin to add up after the first freeze each fall, he said. Trees go dormant for the winter, but chill hours promote hormones that dilute growth inhibitors throughout the winter and prepare the plant to break dormancy and promote growth, bloom and set fruit.

But this winter has been one of the warmest on record and has experts and producers concerned the lack of chill hours could impact the state's fruit crops, especially peaches.

"Fruit trees need sufficient chill hours," he said. "The lack of chill hours is a big deal."

The lack of chill hours around the state has confused plants, Stein said, because growth inhibitors remain and are holding the trees back physiologically.

"Hormones in the buds are telling trees to remain dormant because the inhibitors are still there," he said. "Bloom has been delayed. Fruit set is erratic at best. Some fruit sets look like they may abort."

Jim Kamas, AgriLife Extension horticulturist in Fredericksburg, said it was the warmest winter in Central Texas he can remember in 22 growing seasons. And local news reports noted this winter was the warmest in Central Texas since 1906.

Most peach trees in the Fredericksburg area need 800-850 chilling hours to break dormancy and set fruit properly, Kamas said. The area received 525 chill hours this year.

"The trees look like it's still winter," he said. "Leaves are still slow to emerge."

Some producers applied BudPro, a growth regulator that replaces winter chill and induces uniform bud break, to help fruit trees along.

"It helps speed up the termination of dormancy as if flower buds were exposed to chilling and fully differentiated," Kamas said. "But it's still stressful on plants and we're waiting to see how they perform. Insufficient chilling can detract from the size and shape of the fruit."

Kamas said fruit with low chill-hour requirements, including some peach varieties, could perform well, though he said bloom and ripening times will be out of normal sequence.

Peach producers should know the extent of the damage within the next few weeks Kamas said. They will be cutting open fruit to see if viable seeds have formed.

Other fruits like grapes and blackberries, depending on the variety, were not affected by the warmer conditions, Kamas said. Strawberries were being harvested and appeared to be fine. However, he said it could be a tough year for apple orchards because the fruit trees are more susceptible to lack of chilling than peaches.

"Usually low chill hour varieties are hit or miss because they bud so early and typically face a freeze," Kamas said. "But this looks like it could be their year."