

AG NOTES
By John Teague
UT/TSU Extension
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FREEZE DAMAGE

I get asked about what winter we are experiencing when we have a cold spell after a warm up. There are several spells and they are usually associated with whatever is blooming at the time. These names are sort of unofficial names, but they make for good conversation.

There's redbud winter, dogwood winter, locust winter, blackberry winter, and more. I'm sure that there are other winter names depending on the part of the country some folks might live in.

And I get asked when the last freeze might be expected, as well as the first killing frost of the year. The typical first frost date for our area is on average October 20, and the last frost date is April 15 to April 20, both depending on what and where you read it. This is important to gardeners and farmers who we depend on for producing food and fruits.

Dr. David Lockwood, our UT Extension fruit and nut specialist and nationally recognized with forty-five years of experience, shared these comments this week about possible freeze damage from a recent cold spell at the end of March and the first days of April.

"Low temperatures across the state on the nights of March 31, April 1 and 2 caused damage to fruit buds, blossoms and developing fruits of numerous crops. Depending on location, low temperatures ranged from the mid to upper 20's for two or three consecutive nights. The critical temperatures for mild damage to developing buds, blossoms and fruitlets was met on each of these nights and the point where severe losses would be expected was experienced in many areas for at least a couple of those nights. How vulnerable the crop was to damage from these low temperatures varied considerably. The type of fruit, variety, overall health of the plant and site characteristics all played a role in how much injury occurred. The actual level of damage to the developing crop will not be evident for a while after the actual cold events.

Maintaining a regular pest control program is expensive and the thought of spraying a crop where the expected yield has been decimated by cold temperatures is hard to accept. However, until a good estimate of losses can be developed, care should proceed under the assumption that a full crop still exists. To give up and stop following a normal spray program too early could be a mistake. I have seen situations where spray programs were discontinued only to later find out that there was sufficient crop remaining to justify normal care. Unfortunately, by the time this became evident, other problems had further reduced the size and quality of that remaining crop. Rather than giving up on a crop too early, wait at least a week or two to allow time to adequately assess the level of damage. After that time, injured buds and blossoms will have shriveled and not set fruit. The size difference between healthy, living fruits versus those damaged or killed should be substantial. In addition to smaller size, damaged fruitlets will have turned almost black in color as opposed to a healthy bright green color for undamaged fruitlets. Keep in mind that with several fruits, a "full crop" can be obtained with only about 10 percent of the buds on a healthy plant. Therefore, what initially might appear as severe crop damage may actually only be a heavy thinning. Such is the case for most of the tree fruits.

Successful, consistent fruit production is a multi-year affair. What is done (or not done) this year can have a direct impact on what happens next year and beyond. With most fruit crops, fruit bud initiation for next year's crop occurs during the current growing season. Neglecting to keep healthy leaves on trees/vines/bushes can compromise the number and strength of fruit buds initiated resulting in a potentially light crop for the next year. Also, keep in mind that even in situations where a severe crop loss has occurred, there will inevitably be a few surviving fruits. Disease and insect problems are

apt to develop on these and if left untreated they can complicate production pest control problems next year.”

For commercial operations, I have links to the 2021 pest control guides. For homeowners with small operations, the link to our publication Disease and Insect Control in Home Fruit Plantings, Publication 1622, is https://extension.tennessee.edu/morgan/Documents/disease_PB1622.pdf

On another note, we had extensive damage to our 2020 wheat crop, with the critical temperatures in the damage zone for only 2-3 hours during the pollination process. It was bad for those who had that crop last year.

For farmers who have a year’s worth of time and money invested, it is devastating to experience a loss. Whether it is fruit, vegetables, grain or other crops, damage can be huge from weather, disease, insects and other natural issues in a matter of minutes.

I can remember a hail storm damaging my grandfather’s tobacco crop when I was a small child, and the disappointment for him and my grandmother was extreme. I cringe when I hear about an event like this, knowing first-hand what it can mean to a family.

It hurts.