



Cold Damage to Fruit Trees

Happy New Year! 2014 is off to a cold start! The subfreezing temperatures in January have everyone talking about the “Polar Vortex” and the deep freeze. Not only has it been cold, but it has been wet as well. Gardeners with fruit trees may be wondering how the cold weather will impact fruit crops in the Mid-South.

Buds and woody tissue of many fruit crops in Tennessee may have suffered significant cold injury as a result of the severe freeze events on January 5th, 6th and 7th. The degree of damage that a fruit tree receives will be dependent on numerous factors. These factors include type of fruit, variety/rootstock combination, health of the plant, duration of the cold, magnitude of the cold, weather conditions leading up to the cold event, cultural practices, and the health of the plant leading up to the onset of dormancy last fall. From these factors, you can see how important it is to maintain a healthy plant. It is too early to assess the full extent of any damage that may have occurred. It could be spring, or possibly summer, before this is possible.

Apples will do better than most fruit trees. They are more resistant to cold than most of the other fruit trees. The peach tree bud crops are probably thinned down but there may be enough surviving buds to still result in a good crop. Apricots are more severely damaged because of the shorter chilling requirement and some

dehardening of the buds may have already occurred by the time of the cold event. This is why apricots are not suggested as a crop for Tennessee. Figs may have suffered both bud and woody tissue damage. Some of the shoots may have been killed to the ground if they were not protected.

Healthy plants that maintained a good crop of leaves up until the time they went dormant this past fall should show less damage than those that had premature defoliation. The earlier the leaves drop, the weaker the plants will be. Weak plants cannot tolerate cold stress as well as healthy ones. Cold tolerance is related to stored reserves in the plant. Diseases, insects or low fertility can cause early leaf loss and weaken the plant.

So is the tree surviving? Live buds on many crops will swell. Use a sharpened knife to cross section buds which will allow you to examine the tissue inside. A healthy bud should be light green in color. Tissues that are tan or brown in color are damaged or dead. You can also scrape the bark of the shoots to reveal healthy wood that is white or light in color. If this tissue is brown or tan in color, damage has occurred.

Evaluating damage following subfreezing temperatures is the first step in maintaining a healthy tree. Please take time to examine your fruit trees for the conditions that were emphasized above. Don't assume the worst and think that your fruit crop cannot be saved.

I am certainly looking forward to warmer temperatures. I have had my fix of cold weather for now! Until next time, happy gardening!



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