

# Not Enough Cold Weather to Bear Fruit

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By late April, most home-owners with fruit and pecan trees have noticed that some of their fruit and pecan trees just aren't performing like they have in past years. Yes, that January 7<sup>th</sup> freeze event wreaked havoc on some of our citrus trees, but overall, the winter just wasn't cold enough, or cold long enough. Peach trees, as well as many other fruit trees, need a certain number of chill hours to produce fruit. Winter chilling is needed for fruit trees to break dormancy, bloom and grow normally in the spring. Not only has our warm winter affected the blooming of our peach, plum and pear trees, but our pecan trees, too.

The most common method to calculate chilling hours is counting the number of hours at or below 45 degrees F, from October 1<sup>st</sup> through February 28<sup>th</sup>/29<sup>th</sup>. When enough chilling accumulates, the buds are ready to grow in response to warm temperatures. If the buds do not receive sufficient chilling temperatures during winter to completely release dormancy, trees may develop physiological symptoms such as delayed and extended bloom, delayed foliation, reduced fruit set and reduced fruit quality. In Wharton County, most fruit trees are planted that have a chilling hour requirement of approximately 350-450 hours. I looked up the number of chill hours at [www.getchill.net](http://www.getchill.net), for the period of 10/01/16 through 02/28/17, and like the rest of the State of Texas, I found that Wharton County received half of the needed chill hours. For El Campo, approximately 210 chill hours; for East Bernard 235 chill hours; for Lane City, 220 chill hours.

In general, our pecan trees require 400 hours of temperature at or below 45 degrees. Because most winters satisfy the dormancy period required by pecan trees, there just hasn't been a great deal of research done on chilling hours of the various pecan varieties. The most recent work conducted was by Dr. George Ray McEachern, Extension Pecan Specialist (retired), in the early 1970s when he found that "Desirable" and "Mahan" varieties require at least 400 hours of chilling; "Stuart," 500 hours. A separate report in 1978 indicated 500 to 600 hours for these three varieties. The most common symptom I've seen this year with a few pecan varieties is delayed foliation. The cause for this is simply insufficient chilling hours. What can we expect of the pecan crop? A deficiency of chilling temperatures can delay foliation, increase fruit drop, and reduce yield.

There's not much we can do now but continue good growing practices to keep the trees healthy. That means continuing proper watering and fertilization. Use this past winter as an example of how few chilling hours our area can experience, and take some notes on which trees did produce in 2017, or didn't, and you might better predict how your trees will perform under winter conditions of future years. Should you go out and plant fruit tree varieties with lower chilling hours? The current chilling hour recommendation still stands. It's going to take more than just one or two mild winters to change the current recommendation. Planting a variety with lower chilling hours will be more susceptible to freeze damage due to early blooming. More information on proper care of fruit and nut trees is available at <http://aggie-horticulture.tamu.edu/fruit-nut/>