

NEWS RELEASE
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HOME FRUIT TREES IN MARIPOSA COUNTY

BACKYARD HORTICULTURE

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In many parts of Mariposa County, most common fruit trees can be successfully grown. One factor that determines whether or not a particular variety will set a good crop is the chilling requirement.

According to the home orchard information at the University of California, Davis, in the winter months, a tree's internal processes are in a state of rest, known as dormancy, due to the presence of growth inhibitors. Growth will not occur even under ideal temperature conditions. This prevents the trees from beginning to grow during atypical periods of warm weather only to become damaged by normal freezing temperatures later on in the winter or early spring.

Dormancy is broken when sufficient cold temperature breaks down the growth inhibitors within the tree. This is called vernalization, "chilling," or "winter chill." A specific number of cumulative hours of chilling (temperatures between 32°F - 45°F) are required to break dormancy, which varies from variety to variety. Once the appropriate number of hours of chilling have been achieved by a variety, active growth resumes in the spring, but only after trees are exposed to warm enough temperatures for natural growth processes to begin. Most of Northern California receives between 800 and 1,500 hours of vernalization each winter. Southern California may only receive 100-400 hours.

The number of hours below 45°F is a fair index of the adequacy of winter chilling. The chilling requirements of selected temperate tree fruits and nuts expressed as the number of hours < 45°F needed to break dormancy are shown below. December and January are usually the most critical months. If each of these two months has approximately 400 hours of temperatures below 45°F distributed fairly evenly, then troubles related to mild winters are less likely.

<u>Type of Fruit</u>	<u>Approx. Hours <45°F Needed to Break Dormancy</u>
Almond	200 – 300
Apple	1,200 – 1,500
Apricot	700 – 1,000
Cherry, sour	1,200
Cherry, sweet	1,100 – 1,300
Chestnut	300 – 400
Fig	few hours
Filbert (Hazelnut)	1,500
Kiwifruit	600 – 850
Olive	200 – 300
Peach/Nectarine	650 – 850
Pear	1,200 – 1,500
Pecan	400 – 500
Persimmon	< 100
Pistachio	1,000
Plum, European	800 – 1,100

<u>Type of Fruit</u>	<u>Approx. Hours <45°F Needed to Break Dormancy</u>
Plum, Japanese	700 – 1,000
Pomegranate	200 – 300
Quince	300 – 400
Walnut, Persian	700 (Payne) – 1,500 (Franquette)

From the chart, even those varieties requiring the most in chilling hours need up to 1500. The central valley of California usually receives between 1,100 and 1,300. Based on our just-completed research for Mariposa, at 2,000 feet elevation, we normally have around 1,600 chilling hours between November 1 and March 30. So, even the most demanding varieties will receive adequate chilling. For more information, visit the UCD web site at: <http://homeorchard.ucdavis.edu/general-tree.shtml>

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