



Linking Edible Arizona Forests

Growing Edible Arizona Forests, An Illustrated Guide

Excerpt from *leafnetworkaz.org*

Edible Tree Guide

LEARN Values, Characteristics of Edible Trees

- Chill Hour Requirements

Chill Hour Requirements

Chill hour requirements are the cumulative number of hours that wintering trees must spend between the temperatures of 32°F and 45°F to stimulate proper bud growth, fruit set and fruit development after the winter dormant period. Edible trees that have chill hour requirements are shown at **LEARN - Edible Trees that Grow in Arizona** at *leafnetworkaz.org*. Specific chill hours are available in the table below called **Chill Hour Requirements for Selected Edible Tree Species and Low Chill Varieties**. See the **Edible Tree Directory** at *leafnetworkaz.org* for the range of chill hours needed for the full range of Arizona edible tree species. For additional information, see *leafnetworkaz.org* **CHOOSE - Cold Air and Chill**.

Many fruit and nut trees that grow in temperate climates (climates that are moderate rather than extremely cold or hot) have chill hour requirements. Most temperate fruits, such as figs, pomegranates, olives, apples, pears, peaches, and plums require 200 to 2000 chill hours in the winter. Fruit and nut trees requiring long chill hours are suited to the higher elevations of Arizona (High Plateau/ Mountain and High Mountain areas), while fruits with low chill requirements (600 hours or below) grow best in the desert zones (Low to High Desert regions). In general, the later a fruit or nut tree typically blooms, the more chill hours it requires.

Determining tree chill requirements is not an exact science, so different sources have different ranges of chill hours. See the blue box to determine the chill hours available for your area of Arizona and choose trees accordingly. Many types of fruit and nut trees have low-chill varieties that can be planted in desert areas. Ask experts at local nurseries and Cooperative Extension offices for their recommendations for appropriate tree varieties for your areas. Experiment to see what grows best at your site.



Dormant pomegranate in winter is accumulating chill hours.

To calculate the Chill Hours available for your Arizona region, follow the steps below:

- Step 1. Go to the *Weather Underground* website to see meteorology stations across the US at <https://www.wunderground.com/wundermap/>. Find Arizona and click on the the weather station nearest you. Record the code for that weather station.
- Step 2. Go to the website *Get Chill Hours* at <http://getchill.net/>. Enter the Weather Underground weather station code for your area. The website will calculate the number of chill hours in your area.
- Step 3. Using the number of chill hours typical of your site, visit nurseries and websites that focus on fruit and nut varieties with different chill hour requirements to select appropriate trees.

FOR EXAMPLE: In Skull Valley, AZ find the nearest Weather Underground Station at <https://www.wunderground.com/us/az/skull-valley?MR=1>. The weather station code is: MYHSA3. Enter this code into the <http://getchill.net/> website, and select "calculate chill." Result for the "Below 45 Model" is 1194 chill hours. Result for the "Between 45 and 32 Model" is 1063 chill hours.

CHILL HOUR REQUIREMENTS FOR SELECTED EDIBLE TREE SPECIES AND LOW CHILL VARIETIES

Edible Tree Type	Normal Chill Hour Requirements	Low Chill Varieties for use in Desert Environments
Almond	250-600 hours	All-in-one, Garden Prince, Neplus Ultra, Nonparell Almond
Apple	100-1500 hours, depending on cultivar	Anna, Adina, Beverly Hills, Dorsett Golden, Early Dawn, Ein Shemer, Fuji, Gala, Golden Delicious, Gordon, Granny Smith, Michel, Mutsu, Pettingill, Red Fuji, Tropic Beauty, Valmour, Winter Banana, White Pearmain
Apricot	300-1000 hours	Autumn Royal, Castlebrite, Earligold, Floragold, Garden Annie, Gold Kist, Golden Amber, Katy, New Castle, Modesto, Patterson, Perfection, Royal, Royal Rosa, Snowball, Southern Giant
Cherry	400-1400 hours	Capulin cherry, Brooks, Lapins, Royal Rainier, Royal Lee, Minnie Royal
Fig	<100 hours	Adriatic, Black Jack, Black Madeira, Black Mission, Brown Turkey, Celeste, Conadria, Denny, Excell, Flanders, Italian Everbearing, White Kadota, Osborn, Panache, Pasquale, Peter's Honey, Tena, Texas Everbearing, Verte
Jujube	50-450, some up to 700 hours	Chico, Lang, Li
Mulberry	300-450 hours	Kaester, Illinois Everbearing, Persian, Phil's White, Sullivan,
Peach	150-1200 hours	August Pride, Babcock, Bonanza, Babcock, Champaign, Chelena, Desert Gold, Desert Red, Earligrande, Earlitreat, Early Amber, Eva's Pride, Flordaking, Flordaprince, Flordagrande, Four-star Daily News, Giant Babcock, Gulf Queen, Halloween, May Pride, Mid Pride, Red Baron, Santa Barbara, Saturn, Scarlet Robe, Southern Rose, Springtime, Strawberry Free, Tropiberta, Tropic Beauty, Tropic Snow, Tropic Sweet, Vallegrande, Ventura
Pear	200-1500 hours	Baldwin, Cornice, Flordahome, Hood, Kieffer
Asian Pear	200-1500 hours	Chojuro, Ishiwase, Kikusui, Shinko, Shinseiki, 20 th Century, Tsu Li, Yakumo, YaLi
Pecan	400-500 hours	Cheyenne, Choctaw, Comanche, Sioux, Western Schley
Persimmon	100-400 hours	Chocolate, Fuyu, Giant Fuyu, Hachiya, Honan Red, Izu, Maru, Nishimura Wase, Tamopan, Tanenashi
Plum	150-1500	Beauty, Burbank, Burgundy, Catalina, El Dorado, Elephant Heart, Elsie, Friar, Golden Nectar, Green Gage, Gulf Gold, Gulf Ruby, Hollywood, Howard Miracle, Kelsy, Laroda, Late Santa Rosa, Mariposa, Methley, Queen Ann, Santa Rosa, Satsuma, Shiro, Weeping Santa Rosa. Note, Japanese cultivars require fewer than European and American cultivars
Pomegranate	50-300 hours	Angel Red, Eversweet, Fleishmann, Gold, Grenada, Utah Sweet, Wonderful
Quince	100-500 hours	Orange, Pineapple