

## Preparing for Winter

**A**lthough temperatures drop and the activities in an avocado grove are fewer in the winter, it is not a time to rest. Avocados are tropical rainforest trees, and as such are active year-round. Winter is a great time to assess your previous year's production, the current status of your trees and how well set-up your trees are for the coming spring's bloom. As we go into winter, remember that your trees are sizing and maturing the fruit you will harvest next year, and developing the flower buds that will produce flowers and set fruit in spring. Following are some of the things that you should be evaluating in your grove going into and through winter to help ensure optimal tree health and productivity.

### Freeze Protection

The fall is a great time to begin getting ready for the most dangerous winter events—freezes. While there's no way to be certain if or when a freeze will occur, there are certain things you can do in and around your grove to be prepared.

Air drainage is critical during a freeze. Cold air will drain and settle in the lowest place in or around your grove and can cause severe damage to your trees. To allow for the best air drainage during a freeze consider doing some light pruning on the skirts of your trees so the air can flow easily across the grove floor. If there are barriers along the lowest point in

your grove (e.g., a tree line thick with undergrowth) cut holes or channels so that the cold air can flow through. If the air is stopped, it will back up into your grove and cause damage that could have been prevented.

During the coldest nights many growers will run their irrigation for frost protection. It's important to go through your grove well in advance of a freeze and check your irrigation system and make any needed repairs. Getting wet trying to fix a broken microsprinkler when it's 30°F is not fun. Remember, the small spaghetti tubes feeding microsprinklers freeze quickly when temperatures drop so have a plan in place to monitor the temperature in the cold spots of your grove and turn on the water before the system freezes.

If you have wind machines in your grove the fall is a great time to have them serviced and make any needed repairs or upgrades. Wind machines work best during radiational freezes when an inversion layer forms (cold air near the ground and warm air aloft). The wind machines mix the warm and cold air, raising the temperature near the ground, to protect the trees.

### Fertilization and Pruning

Fall is the recommended time to collect leaf samples for nutrient analysis. Sampled leaves should be from the spring flush (6-7 months old) and from non-fruiting branches.

A good indicator of whether your nutritional program is on track is if your leaves remain dark green through the winter and do not yellow and drop prematurely. To understand your leaf analyses you will need to look at the report in the context of the crop you just finished harvesting, the crop the trees are carrying for next year's harvest, and their bloom potential. If you are carrying a good crop through the winter, but your leaf analyses are marginal, it is likely you will see leaf yellowing as the tree mobilizes nutrients from the leaves to support the growing fruit. This may translate into a weak bloom and poor fruit set in spring. Being a tropical evergreen tree the avocado can take up nutrients throughout the winter so you still have the opportunity to improve your trees' nutrient status. However, due to cooler air and soil temperatures the rate of uptake will be slower than in spring and summer so your fertilizer should be applied at a lower rate than during those times. Be careful not to apply too much nitrogen late in the year, which can stimulate a growth flush that is easily damaged by frost. Work with your grove manager or farm advisor to develop specific fertilizer recommendations for your grove.

A tree's typical response to pruning is to produce a growth flush so, like nitrogen, pruning needs to be carefully timed to not stimulate a flush that will be damaged by frosts

or freezes. However, winter is a good time to evaluate your trees and think about their pruning needs. What kind of crop load are your trees carrying? Did they produce a strong summer flush that is now developing a lot of flower buds for a strong bloom? These are scenarios that could put your tree into a strong alternate bearing cycle and you may want to be thinking about pruning as a tool to correct that. Pruning can be used to thin a heavy bloom to prevent setting too heavy a crop. Likewise, pruning in late spring can be used to stimulate a strong summer flush to improve bloom potential the next year.

### Irrigation and Salinity Management

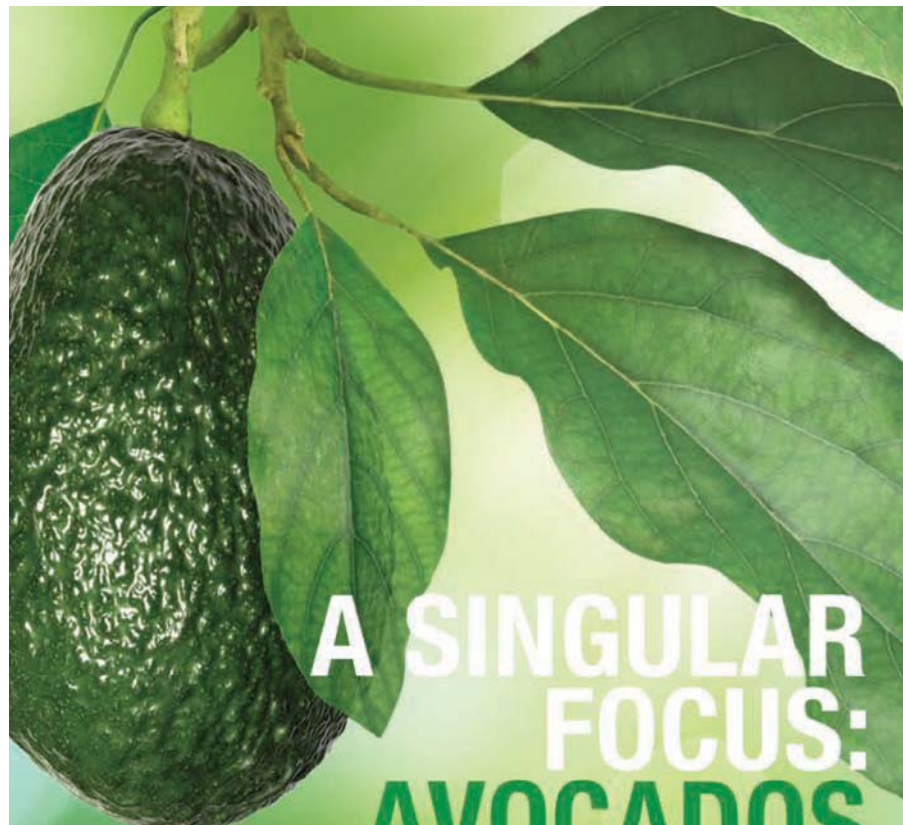
Avocados are the most sensitive fruit tree crop to salinity so properly managing salinity is critical. Salts occur naturally in irrigation water, but can be much higher than occur naturally in reclaimed water. As the tree takes up water from the soil, salts are left behind and can accumulate to toxic levels over time. Thus, it is necessary to routinely run a “leaching fraction” following irrigation (typically 10% to 15%) to push salts out of the root zone.

As we move into winter, the soils in avocado groves have accumulated salts over the summer from irrigation. Because winter rainfall in Southern California typically comes in small doses, the salts accumulated in the soil can go back into solution and be highly concentrated in the root zone, causing severe salt burn to the trees. Thus, running a couple of good leaching irrigations prior to the winter rainy season will help to avoid this. Also, be prepared to run your irrigation during or immediately following the first couple of rain events to help dilute and further leach the salts that the rain puts back into solution.

These are just a few things to be considering as you prepare your

grove for winter. As you make your management decisions it will be important to consider where your trees are in their current year’s growth cycle and keep in mind how this is affected by the previous year’s growth and will affect the next year’s growth (see Better Growing, Fall 2012 *From*

*the Grove*). Since every grove is different it is important to consult with your grove manager or farm advisor to develop specific recommendations for your grove that take into account soil type, microclimate, and grove history. 🥑



**A SINGULAR  
FOCUS:  
AVOCADOS**

**With California  
as our foundation**

For over 30 years, West Pak Avocado has been owned and operated by the same California Growers.

Learn how West Pak can be part of your foundation.

**WESTPAK**  
AVOCADOS, INC.

800-266-4414  
[www.westpakavocado.com](http://www.westpakavocado.com)