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# Citrus Pruning

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## 3 Pruning Practices

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### Learner Guide

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1<sup>st</sup> edition 2017

The content of this module is based on audio-visual material produced by the Citrus Academy.

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**Visual material production:**  
Media World

**Additional information sources:**  
Citrus Academy Production Learning Material  
CRI Citrus Production Guidelines

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## Introduction

Citrus trees are pruned to get more light into the canopy of the trees, to keep the trees from growing too big and tall, and to remove unwanted parts, like deadwood and water shoots. How trees on a particular farm have to be pruned depends on a few factors, including the age of the trees, the size and shape of the trees, the planting density, the type of citrus, and whether there is anything specific that must be corrected with pruning.

A pruning team will usually get a clear instruction and demonstration from the farm manager on how the trees in an orchard need to be pruned. The pruning team must follow these instructions for every tree in that orchard, so that all of the trees will be similar in their shape, size and growth.

The golden rules for a pruner is, firstly, to always cut less rather than more. You can always go back and remove one or two more branches if you have not pruned enough, but you can never undo cuts when you have pruned too much. The second golden rule is never to cut too much fruit-bearing wood. When you are working inside a tree canopy you should be removing deadwood, broken branches, poor quality bearing wood, crossing branches, double branches, greening branches and water shoots.

## Health and Safety

To prune citrus trees you will use mostly pruning shears and a pruning saw. Make sure that your tools are sharp and working properly, so that you can prune quickly and won't damage the trees. You must always remember that there is the danger of getting injured by one of these sharp tools. Be careful to only use the tools in the correct way, and to carry and store them safely. If any of your equipment becomes damaged, report it immediately to your supervisor. Wear thick PVC gloves while you are pruning to protect your hands and forearms, especially when you are working on thorny trees.

One of the most common pruning injuries is muscle injury to the hand that holds the pruning shears. The repetitive motion of cutting can cause your hand to cramp. It is important to use the right size shears for your hand, preferably with shock absorbers, and rest your hand every now and again. If you find that your hand keeps getting sore and tired, check your shears. The blades might be blunt or out of alignment, or the shears may need to be greased. You can also lightly push down on the branch that you are cutting with your other hand to ease the pressure on the blade of the pruning shear. This will allow for much less tension on your pruning hand.

Preferably, pruners should not climb into trees as this is a way of spreading Phytophthora into the tree, causing bark scaling and even branch canker. The best practise is to make use of ladders. When you are using a ladder, make sure that it is secure against the tree and safe for you to climb.

If you should get injured, ask for help immediately and get treatment. There should be a first aid kit with the pruning team in the orchard so that small injuries can be treated there and then.

## Pruning Actions – Mature Trees

There are six basic pruning actions that are used on mature citrus trees. The instruction from the farm manager will tell you which of these actions are needed in a particular orchard.

### Cutting Windows

Windows are cut in the canopy of a citrus tree to allow more light into the inside of the canopy, where we want more fruit to grow. To cut windows, select two or three branches and saw them off as deep into the tree as you can, which means as close as possible to the place where they grow out of their mother branch.

The best branches to select are those that grow out of the tree making it too tall. This will make windows in the top of the tree. Windows should be cut into the side of the tree as well. Make sure that you select the right branch and that you know where the window will be once you have cut the branch.

Be careful whenever you use a pruning saw. They are made to saw only in one direction, usually when you pull them towards you. If you try to saw when pushing the saw, you can twist and break the blade.

### Removing Water Shoots

Water shoots are new shoots that grow out of old branches. They usually grow inside the tree canopy, and they are long and thin and will often grow right out of the top of the tree. Use your pruning shears or pruning saw to cut the shoot flush with the branch that it grows out of.

Sometimes, if there is no other green shoots growing inside a tree canopy, you may be told to leave a part of the water shoot, about the length of your pruning shear.

Remove water shoots growing from the base of the framework, as they become very vigorous and cause shading on the inside of the canopy. Also be on the lookout for shoots that grow from the rootstock, which is the main trunk of the tree close to the ground. Break them off whenever you see them.

### Removing Deadwood

Deadwood is dry, hard twigs or branches inside the tree canopy. The best way to remove deadwood is to break it off with your hand while wearing gloves. If it is too thick for you to break it, use your pruning saw.

### Removing Crossed Branches

Look inside the tree canopy for branches that have grown crossed or twisted with other branches. Saw these branches off as deep as you can.

## Skirting

Skirting means removing or cutting back branches and twigs that grow close to the ground. This is done so that there won't be fruit hanging too close to the ground. Use your pruning shears to cut off everything that hangs below the skirting height. It is useful to have a skirting stick that shows you the correct skirting height.

If you find a branch that is partly lying on the ground, cut it back to where it forms a strong scaffold, or if that is not possible, saw that branch off inside the tree, as deep as you can.

## Removing Shoulders

Some trees grow to have shoulders, which you will see at the top of the tree canopy on the sides of the tree that go into the space between the tree rows. If these shoulders are left they will cause shading lower down in the tree and will also make it more difficult for spray machines to get into the orchard.

See what branches are making the shoulders, and saw them off them as deep into the canopy as you can. This action will also open up windows in the side of the tree canopy.

## Pruning Procedures – Mature Trees

There are generally two types of pruning procedures for citrus orchards. The one is maintenance pruning, which is usually done every year. Sometimes it is necessary to do corrective pruning, when trees have been damaged by disease, hail, frost, floods, lightning or severe droughts. Corrective pruning is also sometimes necessary if pruning has not been done for some time, and trees have grown wild and dense.

### Maintenance Pruning

Normal maintenance pruning is done mostly in the winter, after picking is finished. Your pruning instruction will tell you which of the pruning actions we described above you will need to use. If you are using all of them, the best order to do them in is to first cut windows, which will make it easier for you to see inside the tree canopy, then remove water shoots and deadwood in the tree canopy, then skirt the tree, and lastly remove the shoulders if there are any. Once you have done this, check the height of the tree. The farm manager will tell you how high he wants the trees to be. If the tree is still too high, pick one or two more branches and remove them too.

Another kind of maintenance pruning is summer pruning. Whenever you prune a citrus tree, the tree will respond over the next few weeks by growing a lot more twigs and leaves in the places where the cuts were made and where there is now enough sunlight inside the tree. This regrowth can sometimes be too much, and it can cause the canopy to become dense again, which will keep sunlight from getting into the tree canopy. For this reason you may be asked to remove some of the regrowth during the summer. Make sure that you know exactly what, where and how much to cut.

## Corrective Pruning

The farm manager will give you very specific instructions for corrective pruning. If trees have been damaged you will usually be asked to remove the damaged part of the tree. The best way most of the time is to cut out branches as deep as possible, close to the place where they grew out of. If you are pruning trees that have grown wild, you may be asked to cut more windows, or to remove a lot more vegetation than usual. Follow these instructions carefully.

## Pruning Procedures – Young Trees

Before citrus trees start bearing fruit, best practice is to prune very lightly, and more than once a year. Note that not all farms prune young trees, but if they do, the farm manager will give clear instructions on how he wants the young trees to be pruned, and it is very important that you follow these instructions.

Be especially careful with young trees not to prune too much. Usually you will prune the tree so that the canopy is balanced and in shape. You will also have a look at how the branches of the young tree are growing. The trunk should be straight and from it at most five or six branches should be growing at various heights, spaced around the tree. Also look out for branches that are twisted and crossed, and remove them. Where more than one branch is growing close together in the same direction, remove one. Lastly, make sure that no shoots are growing from the rootstock.

## Equipment Use and Sterilisation

In the Pruning Equipment module we looked in detail at the steps you need to take to keep your equipment clean and in good working order. It is in your own interest to do this regularly – you will work faster and better, and there will be less chance of injuring yourself. If you are left-handed, ask your supervisor for left-handed pruning shears. The blades of left-handed shears are reversed. If you use right-handed shears with your left hand, you will not be able to see where you are cutting.

Pruning equipment must be sterilised after every row to make sure that they won't carry diseases from one tree to another. There are different ways to sterilise tools, but mostly the sterilisation solution is either sprayed on the tools, or the tools are dipped in it. Be sure to follow these instructions carefully.