

## The Cost to Raise a Fruit Tree

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Many of us love the idea of harvesting our own tree-ripened fruit. What a pleasure it is biting into an apple that is crisp and sweet, or picking handfuls of ripe cherries to gorge on, or eating a fresh peach that is so juicy that you need to be outside to keep from making a mess. These are fine images but they don't tell the whole story of home grown fruit. In reality fruit trees take many years to come into bearing, they require a lot of time for training, pruning, fruit thinning, spraying and harvesting. And because fruit trees have a large number of pests that can damage your tree or crop you may not even get a very good crop unless you are very disciplined. Many people may not realize it but local fruit producers that allow their crops to mature on the tree and then allow you to pick them give you the fresh crops you desire without the cost or trouble of producing your own. Let me take you through the first four years of a fruit trees life to show you how your time and costs add up to some pretty expensive fruit.

During **The First Year** it is necessary to buy a fruit tree from a local nursery or order one through a catalog. We will be buying and caring for an apple tree. Most trees will cost about \$25 retail. You will find out that you need at least two apple trees so they will pollinate each other. It is best to order your trees in December so they arrive, bare-root and ready to plant, by February.

Now you head out to the backyard to locate your new trees. You need a spot that will get eight hours of sun for the trees to grow well. It will take you about half an hour to plant each tree. Dig that hole about twice as big as the root area. Most homeowners with a large backyard can use EMLA 7 rootstock with their apple trees. EMLA 7 will make a tree about sixty percent the size of a standard tree. Space your trees 15-18 feet apart and expect your tree to get 10-12 feet tall. If you have a small backyard you may want to use a dwarfing rootstock like EMLA 9 or EMLA26. These trees will only get 7-8 feet tall and wide. These trees will require a stake or other kind of support.

In the first year you will need to train the trees to a central leader shape that has a primary trunk going straight up with branches being widespread and well distributed around the trunk. This will require making some branch spreaders and spending an hour training your two trees throughout the summer.

During the first year your trees will not have a crop on them so you will not need to do a lot of spraying but you will need to protect the trees from fungi and bacterial blights as well as a few insects. You should go ahead and buy some products now and they will last for two to three seasons. Sprays are mostly needed in the dormant season just before bud break and in the late bloom period. Spraying will become more complex as your trees get older and you are protecting a crop.

Cost of two apple trees	\$50	Spray materials for several years	\$45
Labor for planting (one hour)	\$20	Sprayer	\$25
Labor for training in summer	\$20	Tri-pod ladder, 10'	\$130
Pruning lopper	\$45	Pruning handsaw	\$30
Pruning hand shears	\$25	<b>Total cost for the first year</b>	<b>\$ 390</b>

**The Second Year.** Assuming your trees survived the first growing season, your first job in the second year will be to prune them during their dormant period from December to March. In our area it is generally recommended to let the worst of winter pass before pruning in February. Pruning young fruit trees should be a very minimal job. You do not want to remove very much wood during the first three years. You will be taking off water sprouts or suckers and any limbs that would be out of place from you desired shape.

This will be the first winter that you will have developing flower buds that will need to be protected with dormant sprays. You will be making one November dormant oil and copper spray, one February lime-sulfur spray and a lime-sulfur spray just before bud break when you see a little pink on the bud. You will also want to make another sulfur spray when the petals have fallen post bloom.

March or April is a good time to be putting a little fertilizer around the drip line of the trees. A good rule of thumb to follow is to use 1/8<sup>th</sup> of a pound of triple ten fertilizer for each year of age the tree has. Sprinkle the fertilizer around don't drop it in one place.

In late May or early June you will want to spend about a half an hour with each tree thinning fruit that sets in groups of three to four fruit per spur. Whether a tree is young or old you will want to reduce the fruit number to one fruit per spur and the fruit should also be about six inches apart.

Spring to early summer is the time of the year that you will need to control codling moth. You will need to spray 2-3 times, with an insecticide, starting 17-21 days after full bloom. You should place a few pheromone traps in your trees to monitor the insect populations then spray when the counts get to 5 moths in a trap. You can also use Cyd-X a virus, or Spinosad an organic insecticide to get good control of codling moth . If your area has apple maggots present you may need to spray in late July with Malathion or Pyrethrin. Red sticky balls can be hung in the trees to monitor apple maggot populations.

If you have a successful summer you will harvest about a dozen fruit from each of your small trees. Don't let too many fruit set on the tree during the first couple of years. You don't want to break limbs.

2 sprays with fungicide, labor	\$20	Fruit thinning, labor	\$20
3 sprays with insecticide, labor	\$30	Fertilizer	\$10
4 pheromone traps and lures	\$30	Fall cleanup of leaves and fruit	\$20
Pruning and training, labor	\$20	<b>Total cost for the third year</b>	<b>\$150</b>

**The Third Year.** Now that you are in to the third year you are getting pretty knowledgeable about when to spray and when to prune and how to train your trees. You are getting smarter at the right time because your tree is getting larger and you are being challenged to know how to control its size. Too much pruning of a young tree will result in the tree becoming very vigorous while too little pruning leads to a dense tree that will produce too many small fruit with poor color. You will need to spend about an hour pruning these two trees.

You will also need to spend about an hour each time you spray your trees. You have probably used up the initial spray materials you bought the first year so it is necessary to buy another round of lime-sulfur, copper and horticultural oil. When you get to the spring you probably will still have enough insecticide left from last year to make it through this third year.

During the third season you will now see quite a few fruit spurs forming on your branches. You will need to do more fruit thinning than the previous year. You will also have more fruit on the tree to protect from wild animals. This may turn out to be one of your greatest frustrations as a fruit grower. You have put a lot of energy into producing fruit only to see the birds, foxes and raccoons eat it. You may decide to buy a net to keep the birds out but it doesn't work very well for foxes and raccoons.

2 sprays with fungicide, labor	\$20	Fruit thinning, labor	\$20
3 sprays with insecticide, labor	\$30	Tree netting	\$25
4 pheromone traps and lures	\$30	Fall cleanup of leaves and fruit	\$20
Fungicides	\$30	<b>Total cost for the third year</b>	<b>\$205</b>
Pruning and training, labor	\$20		

**The Fourth Year.** This is the year that you have been waiting for. Your trees are now entering their productive years. For most apples these productive years start around the fourth or fifth year and can continue for thirty years or more if the trees are well cared for.

You will spend quite a bit more time pruning this year and in the years ahead than you did in the previous years, especially if you get lazy and decide to skip a year. Budget about one hour for pruning and training each tree from this point forward.

You will make the same 2-3 sprays of fungicide and insecticide that you made in the third year, but you will be using more products each year as your trees get larger. You may decide your one-gallon sprayer is not large enough to give your trees good spray coverage. If you decide to get a four or five gallon sprayer it will cost you about one hundred dollars. Make sure you keep getting the pheromone traps and lures and monitoring your insects in the traps. This may allow you to reduce or eliminate several sprays.

2 sprays with fungicide, labor	\$20	Fruit thinning, labor	\$30
3 sprays with insecticide, labor	\$30	Pruning and training, labor	\$20
4 pheromone traps and lures	\$30	Fall cleanup of leaves and fruit	\$20
Fungicides and insecticides	\$40	Fertilizer	\$10
		<b>Total cost for the fourth year</b>	<b>\$200</b>

**Total cost for four years** **\$945**

**Total cost (minus labor) for four years** **\$485**

If you look back now to see what it will cost to raise these apple trees you will have reached a total of \$945. You may say that the labor cost is unrealistic since you will be doing the work yourself, but your time is worth something. I used a figure of \$10/hr to put a value to it. If you took out all the labor charges for planting, training, pruning, spraying and cleaning up it would reduce your costs by \$460 but you would still need to spend \$485 on equipment and spray materials. If you were to tell me you would be raising your trees organically so you wouldn't need so many spray materials you would be wrong. The dormant sprays are all organically approved and the insecticide sprays would then need to be shifted to Spinosad, Cyd-X virus, Rotenone or Surround. You will still need these sprays to produce nice quality fruit.

In reality most homeowners will not buy all this equipment and use all these products. Most homeowners won't remember to spray at the proper time and the fruit they get probably won't be as nice as the fruit being sold locally in Douglas County at fresh market fruit stands. Many homeowners will also lose trees to insects and disease and it's not uncommon to lose a crop to a spring frost. Homeowners will often lose interest in caring for their trees creating a harbor for insects and disease that will move out to attack commercial orchards.

There can be a lot of disappointments growing fruit but if you commit to doing a good job and you get lucky you may also enjoy the process of producing your own fruit. If you produce nice fruit it still probably costs you a lot more than you would pay a local grower for all you could eat. Remember that you can buy a whole box of apples, peaches or pears for about \$20 locally and we estimated you will spend over \$100 a year to raise just a couple trees. The other worthy point of buying fruit from local producers is that it keeps them in business to provide us with tree ripened and nutritious fruit.