

When you get your order: Immediate Care

When your new trees and plants arrive they are breaking dormancy and need to be planted as soon as possible. The longer they remain unplanted, the more stressed they become and the longer their recovery will take.

DO NOT ALLOW ROOTS TO DRY OUT AT ALL!!!

Trees & Shrubs: Planting Within 48 Hours

Leave the plastic wrapping around the root ball. Add some water to remoisten the packing material and store your trees/plants in a cool shaded place like a shed, barn or cellar. Avoid heat and sunlight.

Trees & Shrubs: If You Cannot Plant Within 48 Hours

You may keep plants for a week or two by following one of two temporary measures and continuing to water trees when they need it.

1) Remove the plastic wrap around the root ball. Store plants in a cool shaded place. Wrap the roots in wet shredded newspaper or sawdust, packing firmly to eliminate air pockets. Water thoroughly.

2) "Heel in" your plants. Dig a trench or turn back an appropriate amount of earth and bury roots; tamp firmly to remove air pockets. Water thoroughly.

Asparagus

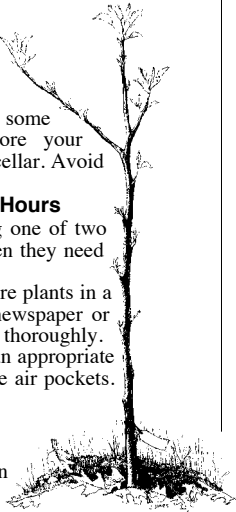
Open up asparagus roots and store dry and uncovered in a cool shaded place.

Strawberries

Refrigerate strawberry plants until you are ready to plant them.

Perennials

Open bags and check the stock immediately. Roots and crowns should be firm and pliable, not squishy or brittle. If they are slightly dry, add a little water or, if they are going to be potted up soon, soak the roots. Generally, a little surface mold is harmless and will not affect the plant's future performance. If you cannot pot the crowns up immediately, store them in a cool (35-40°) location for a short time. See page 53 for details.



TREE PLANTING AND CARE

Choosing a Site for Fruit Trees and Berries

The best sites for fruit crops have well-drained fertile soils, protection from wind, good air drainage, and full sun. A gentle slope and six to eight hours of full sun per day is ideal. Good air flow will moderate frosts and fungal disease. If possible, avoid "frost pockets."

Sunny south- or west-facing slopes are not advisable for less hardy varieties. These slopes tend to warm up before the danger of frost has passed. Trees may flower prematurely and then be damaged by frost, causing loss of fruit. South and west slopes may also have widely fluctuating early spring temperatures that can damage less hardy trees.

Soil pH for fruit trees should be between 5.5 and 8.0, towards the lower end for apples, the higher end for peaches, and in the middle for others. Fruit species have optimal space requirements. See chart below.

Do not plant trees where power lines will interfere with them.

Fall Preparation or Spring Initial Feeding for Fruit Trees

If you're interested in preparing locations for your trees this fall, or for feeding newly planted fruit trees, the following amendment recipe should address most sites in the eastern U.S., which tend to be acidic, and moderate to low in calcium and phosphorus. You can apply this mix as a mulch to your newly planted tree in the spring. To order any of these products, refer to the Organic Growers Supply section of our Seed catalog or website.

Deluxe Method

Without digging the hole, cover an area 4-6' in diameter with:

- 5 lbs gypsum or Hi-Cal lime
- 5 lbs colloidal phosphate (short-term calcium and phosphorus)
- 5 lbs azomite (long-term minerals and trace minerals)
- 5 lbs granite meal or greensand (for improved soil texture)
- 2-3 lbs menafee humates (aids mineral and rock-powder breakdown)

For building high levels of humus, also add:

- 2 lbs alfalfa meal
- 2 lbs bone char or bone meal
- 2 lbs kelp meal
- 2 lbs blood meal
- 100 lbs compost (1/8 yard)
- BioDynamic preps (optional)

Cover with a 3-4" mulch of lawn clippings, leaves or "brush" chips, which will smother the sod, conserve moisture, prevent leaching, and provide a habitat for soil organisms to break down the recipe. In the spring, pull back the mulch and dig your tree hole, incorporating the mineral supplements and compost into the backfill.

Simpler Method

Forgo the soil amendments and simply pile 1-2 wheelbarrow loads of compost on each planting-hole site. If you live by the ocean, add a couple of wheelbarrows of seaweed. Then cover with mulch. In the spring, pull back the mulch and plant your fruit tree, incorporating the compost into the hole as you dig.

Feeding older fruit trees

Cover the surface of the ground out to the drip line with the same materials listed above. For larger trees (five years and older) increase the mineral amount to 10-15 pounds each. For ancient trees you can add up to 25 lbs of each mineral in a ring beneath the drip line. Mulch as described above.

Plant Spacing of Fruit Trees and Berries

	between plants	between rows
Apples, Semi-dwarf	15'	15'
Apples, Standard	25-30'	25-30'
Asparagus	1-2'	4'
Blackberries	3-4'	6-12'
Blueberries, highbush	3-6'	8-10'
Blueberries, lowbush	1'	1'
Filazel	4'	hedge
Grapes	8'	8-10'
Kiwis	10'	10'
Nut trees - orchard	35'	35'
Nut trees - forest	20'	20'
Pears, Asian Pears	20'	20'
Raspberries	2'	6-12'
Stone Fruit	15-20'	15-20'
Strawberries	see instructions, p. 28	
Sweet Cherries	25'	25'



Sweating Nursery Stock

Some trees and shrubs become extremely dormant during refrigerated storage. These include: Amelanchier (juneberry), Betula (birch), Celtis (hackberry), Cercis (redbud), Crataegus (hawthorne), Morus (mulberry), Quercus (oak), and Potentilla (cinquefoil).

Sweating nursery stock ensures breaking of dormancy. The easiest way to force any tree to break bud is to pot it and set it in a greenhouse or polyhouse. After the tree begins to leaf out, transplant it outdoors. If you don't have a greenhouse, lay the trees in a shady place, 45-70°, such as a garage, basement, barn, greenhouse, or outdoors in the shade. Cover the whole plant with very damp packing material (hay, newspaper, etc.) followed by a sheet of plastic. Sweating will take several days; check the buds every day. The trees are ready to plant when the buds begin to swell.

Warm May weather will give the best results. Until then, heel your trees in, or store them with roots covered in a cool barn or garage.

The basics of tree care are outlined here and are designed to get you going. Obviously we can't tell you everything you need to know in a few pages. Additional information, such as location and soil preferences, about specific plants is in the item descriptions. Reading, observation, trial and error, and talking with other growers and extension agents can expand your knowledge of trees and shrubs. A soil test is useful in determining the specific needs of your site.

Consult the Fedco Seeds catalog, Organic Growers Supply section, book list for some recommended reference books, or look for information on the internet. There are many useful links at our website, www.fedcoseeds.com.



General Planting Directions for Trees and Shrubs

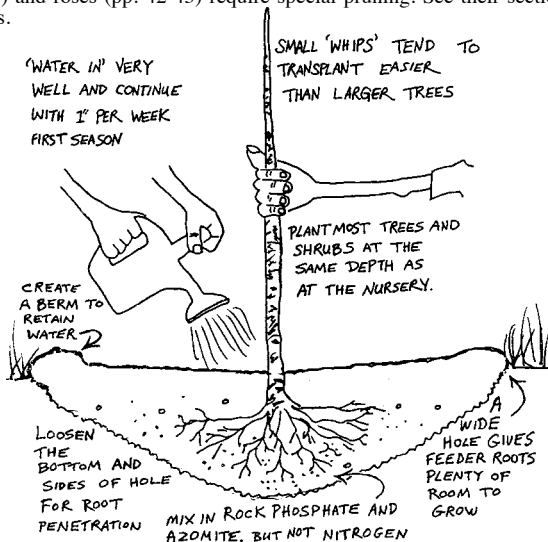
Dig a large hole, at least twice as wide and about as deep as the root system. Most roots grow laterally and need plenty of room to spread out. Your trees will benefit if the hole is at least 3' wide. Loosen up the soil at the bottom of the hole and especially around the sides. For fruit trees, if you haven't used a deluxe fall preparation, you may add a 3-pound bag of our planting mix (available from the Organic Growers Supply section of the Fedco Seeds catalog), or well-aged compost and mineral fertilizers such as rock phosphate, but not manure or other nitrogen sources. We add about a coffee-can of rock phosphate for each fruit tree. You may also add a handful of azomite at this time. Replace the topsoil around the roots where it will do the most good. If you situate non-fruit trees according to their requirements, there is no need to add any supplements to your soil. This is the best way to ensure that your plants will thrive for many years.

For best results plant on cool cloudy days in the early morning or late afternoon. Soak deciduous trees and shrubs for up to 24 hours before planting. Keep the roots from drying out. Even a few minutes in the sun and breeze can kill a tree or shrub. Keep them in a bucket of water as you plant.

Generally you should plant trees and shrubs at the same depth that they grew in the nursery. Plant semi-dwarf or dwarf fruit trees with the graft 2" above ground level. Spread the roots out as you set the trees in the holes. Make a mound at the bottom of the hole over which to spread the roots. Give your trees plenty of water to "puddle in" as you plant. Wiggle the trunk as the water seeps in to ensure that the roots are settled in with no air pockets. Leave a berm around each tree so water will seep in and not run off. Keep them well watered throughout the first summer. They require the equivalent of 1-2" rain per week. A good soaking is effective; sprinkling is not.

Initial Pruning

Prune dead or injured branches and roots on all trees and shrubs. Further pruning of most trees is not necessary at planting time. Do not prune tops or prune or bend tap roots of nut trees. Specific preplanting pruning requirements for small fruits and some ornamentals is noted in their respective sections and more general information on pruning begins on p. 38. Conifers (p. 45) and roses (pp. 42-43) require special pruning. See their sections for details.



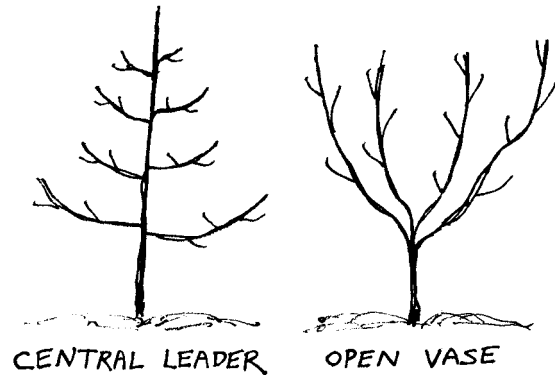
Pruning Fruit Trees

Avoid pruning young trees except to establish a basic shape. Pruning young trees delays bearing. On apple and pear trees, leave the central leader alone and let it grow. It's ok to cut off extra trunks and large branches. Always remove suckers or root shoots from fruit trees. On peaches and plums, the trees may want to develop 2-4 leaders, or an open-vase shape. Always prune just above a good strong bud that faces a direction you'd like your plant to grow.



Pruning your young apple tree

Think seriously about establishing the long-term shape of your apple tree when it is young. How you shape your tree is largely a matter of personal preference. We grow only standard trees. We want the lowest scaffold (branch layer) to be very wide to collect as much sun as possible. If too low, these long branches will rest on the ground under the weight of fruit and deer will have a field day. Plus, it becomes difficult to mow, mulch, etc. We recommend training standard apple trees to have the first scaffold at about 4-6' high.



Once the tree begins to bear you will want to prune annually. Good pruning brings sunlight to all parts of your tree. Maximum sunlight encourages more and higher-quality fruit. Sunlight also encourages fruit buds to form for next year's crop. A well-pruned tree will produce larger fruit and will tend toward more annual bearing. Good pruning discourages fungal diseases and promotes greater spray penetration. There's an old saying that a bird should be able to fly through your fruit tree. Any good book on growing fruit trees will provide you the information you need. Pruning is not difficult to do and will make a huge difference.

Most pruning should be done in late winter or early spring, although some say the best time to prune is when you have your clippers in your hand. We recommend a good-quality pair of hand shears and a lightweight pruning saw. You may also wish to invest in long-handled loppers, a pole pruner or a pole saw. Keep your pruning tools sharp for smooth, clean cuts.

Consult old and new books as well as orcharding articles and develop a system that works for you.

Weeping crabapples require special pruning. See p. 51 for instructions.

Mulch

Keep weeds and especially grass away from new trees and shrubs. Apply a 2-4" mulch of composted material, leaves, wood chips or hay out as far as the drip line. A 1/2-1" topdressing of alfalfa meal beneath the mulch may substantially reduce transplant shock. Keep mulch back several inches from the tree trunks. We lay down cardboard or newspaper and spread mulch on top of it. Mulch encourages earthworms, holds moisture, keeps down weeds, insulates against excess heat and cold, aerates and loosens soils, builds humus and fertilizes feeder roots, 90% of which are within 6" of the surface.



Staking

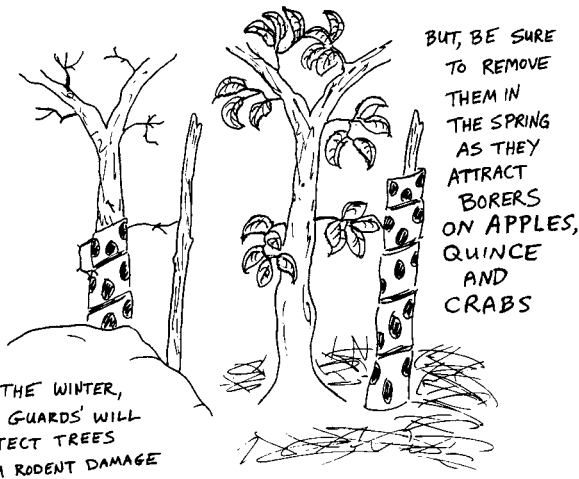


Newly planted standard-sized fruit trees and ornamental trees seldom need staking. Dwarf trees require staking. Semi-dwarfs may require staking. If your tree is in a very windy site or develops a leaning habit, staking may help. Drive a stout post near the tree. Wrap the tree trunk with a scrap of burlap or rubber to protect against abrasion. Secure the wrapped part of the tree to the post with string or wire. Tie the tree somewhat loosely, as a slight rocking motion will encourage rooting. Once roots are well anchored, the stake may not be needed. Mark small trees with a stake with ribbons to warn operators of lawn mowers, tractors, cars, skidders and Bradley armored vehicles.



Mouse/Vole Protection

Fruit trees and ornamentals are sometimes girdled by mice or voles eating the bark. Girdling will usually kill the tree or shrub. The danger is greatest in winter. Keep the grass mowed in the fall and remove large mulch piles from near the trunks. Rodents like to nest in hay more than in chip mulches. A wrap of window screening or a plastic spiral tree guard will protect your tree from being girdled. If you use screening or plastic spiral tree guards on apple, quince or crabapple trees, remove them from April to October, as they attract borers if left on the tree in the summer. You can leave plastic spiral tree guards on most other trees year round.

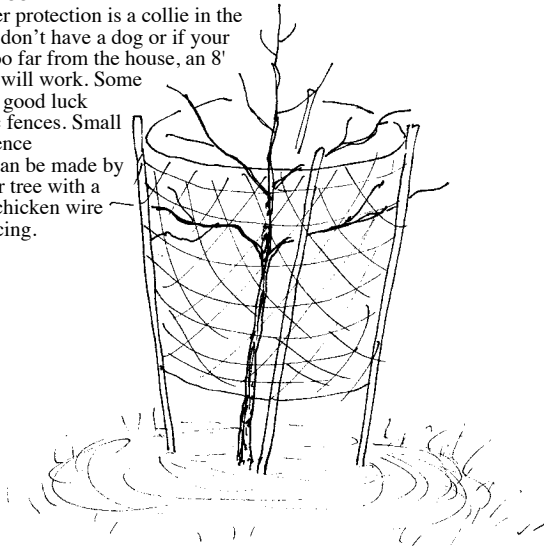


BUT, BE SURE TO REMOVE THEM IN THE SPRING AS THEY ATTRACT BORERS ON APPLES, QUINCE AND CRABS

IN THE WINTER, 'TREE GUARDS' WILL PROTECT TREES FROM RODENT DAMAGE

Oh Dear, Deer!

The best deer protection is a collie in the yard. If you don't have a dog or if your orchard is too far from the house, an 8' sheep fence will work. Some people have good luck with electric fences. Small protective fence enclosures can be made by circling your tree with a cylinder of chicken wire or other fencing.



Beware of the Apple Borer!

In many parts of central and northern New England the roundheaded apple-tree borer (*Saperda candida*) is the number one enemy of young apple, crabapple and quince trees. If you are growing young apple trees in these locations, you must protect your trees from this pest. Farther south and north the borer may not be a pest. If you don't know if they are a problem in your area, check with any grower near you: they'll know. Otherwise, err on the side of caution. The borer does not endanger other fruit trees or ornamentals.

The borer beetle lays its eggs under the bark near the base of the tree. The developing larvae tunnel through the wood, eventually weakening the tree until it crumbles and falls over. The trouble sign is small deposits of orange sawdust, called frass, at the base of the tree, usually appearing in June or July. Left unchecked, borers usually mean death for your trees.

Borers thrive in shady moist warm environments. Keep grass back at least 6" from the tree base. Activity is most prevalent in June and July. Keep a lookout for the frass. Locate the hole or soft spot in the trunk and insert a wire until you locate and kill the larvae. Cut away soft, spongy pockets with a knife. Even serious carving is less harmful to the tree than leaving the larvae alive inside.

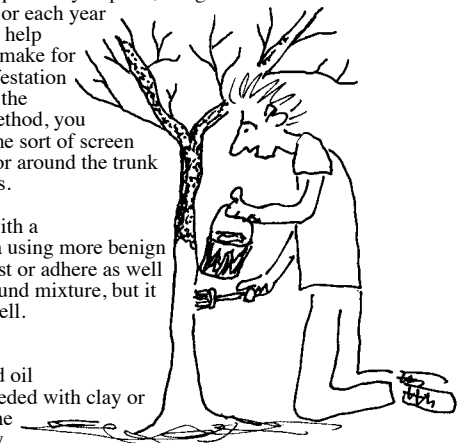
After years of experimentation, I think that painting is the best deterrent. I've tried a number of recipes and this is my favorite. It's easy and requires no hard-to-find ingredients. Mix white interior latex paint with joint compound. (The stuff you smear on sheet rock joints and nail holes—you can buy a small tub at any hardware store. Some exterior paint formulations contain ingredients that can harm the underlying phloem.) The consistency should be thick but still quite easy to paint, not glob

on. Repaint periodically or each year as needed. This mix will help deter borers. It will also make for easy detection of any infestation you may have. Look for the frass! Using the paint method, you will also need to put some sort of screen or plastic rodent protector around the trunk during the winter months.

We are experimenting with a borer-protection formula using more benign ingredients. It doesn't last or adhere as well as the paint-joint compound mixture, but it appears to work fairly well.

- 2 qt quick lime
- 4 gal milk
- 1 gal boiled linseed oil

Mix well. Thicken as needed with clay or Surround (available in the Organic Growers Supply section of the Fedco Seeds catalog). Apply with a paint brush. Reapply as needed.



For many years I used a homemade "screen saver" wrapped around the young trees to deter borers. No more. I've given up and switched to the paint method. I recommend you do too.

Aphids and ants

Aphids can do a lot of damage to apple trees and they make the young leaves look gross. Here's an easy solution. Wrap a piece of stiff paper about 6" wide around the trunk about a foot or two off the ground. Tape this "sleeve" to itself but not to the tree. Smear Tanglefoot on the paper. In a day or two no more aphids.

