

CARE OF YOUR NEWLY-GRAFTED APPLE TREE

Healing the graft union

Your new tree is small, just getting started, and needs good care. Its most immediate need is conditions that allow for the graft junction to heal and knit the two parts of the tree together. Without proper healing the graft will not live, and you won't have the variety of apple you'd hoped.

GRAFT JUNCTION -- this is where the scion and rootstock meet. This must heal together for the new tree to succeed.

The scion may dry out more quickly than the graft junction can heal, so we wrap the whole area to keep everything moist while the graft heals.

If your newly-grafted tree is dormant, as ours are, you should find a cool, but not freezing, place for it to sit for a couple of weeks. Unheated garages can work well, as can the shady north side of a building -- but outdoors, you must take care not to let the graft freeze.

If your graft is already in a pot, that's perfect. Water the pot a few times over the next two weeks. If it's not yet in a pot, you'll need to put it in a pot and set that in the cool location you've selected.

I use an unheated garage, and I crack the garage door open a few inches at night to let it cool off. Closing the garage door in the morning helps keep the graft cool during the day.



SCION -- this will become the trunk and branches of the tree. It is a stick from a tree of the variety of apple you'd like.

ROOTSTOCK -- this will become the root system and bottom few inches of the tree's trunk. Any apple seedling can be used, but oftentimes grafters use rootstocks propagated from cuttings. We are using EMLA111 rootstock, clonally propagated from cuttings.

EMLA111 makes a tree that is drought tolerant when established, tolerant of a variety of soil types, and well-anchored to resist damage from high winds. It is a good all-purpose rootstock for the Boulder area.

Using EMLA111, your tree will take 5-8 years to begin bearing fruit (sometimes longer -- this is a general average number). Eventually, it can grow to 20 feet tall or taller, and can live for many decades.

Your tree has been grafted while dormant – it hasn't fully woken up for the growing season. The plastic tape used to seal the graft junction is there to keep the graft protected while it heals. Buds that grow out of the scion will easily grow right through the thin plastic covering them. There is no need to worry about that plastic restricting growth in any way. The plastic covering the rootstock just below the graft junction is thicker and can be removed later in the growing season (see below).

Under these conditions, keep the new tree moist and cool for the next two weeks in a shady location. If you have taken a bare-root graft home, you can pot it up in a 2-3 gallon pot of moist sand (water every few days). If your new tree is already in a pot, you can keep it in that pot.

The best cool location stays cool day and night. I use an unheated garage. At night, I crack the garage door open to let cool air in. During the day, I close it to keep the garage cool. Ideally, your spot will be 40F-50F, but as long as it is cool and above freezing, you'll be in good shape. Don't stress if daytime temperatures in your cool space creep up into the 60s or even a bit higher, as long as it cools off well at night.

If you don't have a garage or shed, the north side of a building can work, but you must bring the pot indoors if it's going to be below freezing at night.

After two weeks of healing, you can plant the tree in a temporary location for a year (a garden with good soil, for example), or put the pot out in the sun to grow for the summer.

NOTE: IF THE BUDS BEGIN TO GROW BEFORE TWO WEEKS ARE OVER, YOUR TREE WILL NEED TO BE PUT OUT IN THE SUN SO THAT IT CAN START GROWING.

In all likelihood, your tree will be fine. You may want to loosely wrap some aluminum foil, shiny side out, around the graft junction, too keep it cool for the rest of the two week period. But, don't cover any growing buds on the scion.

Care of the growing tree

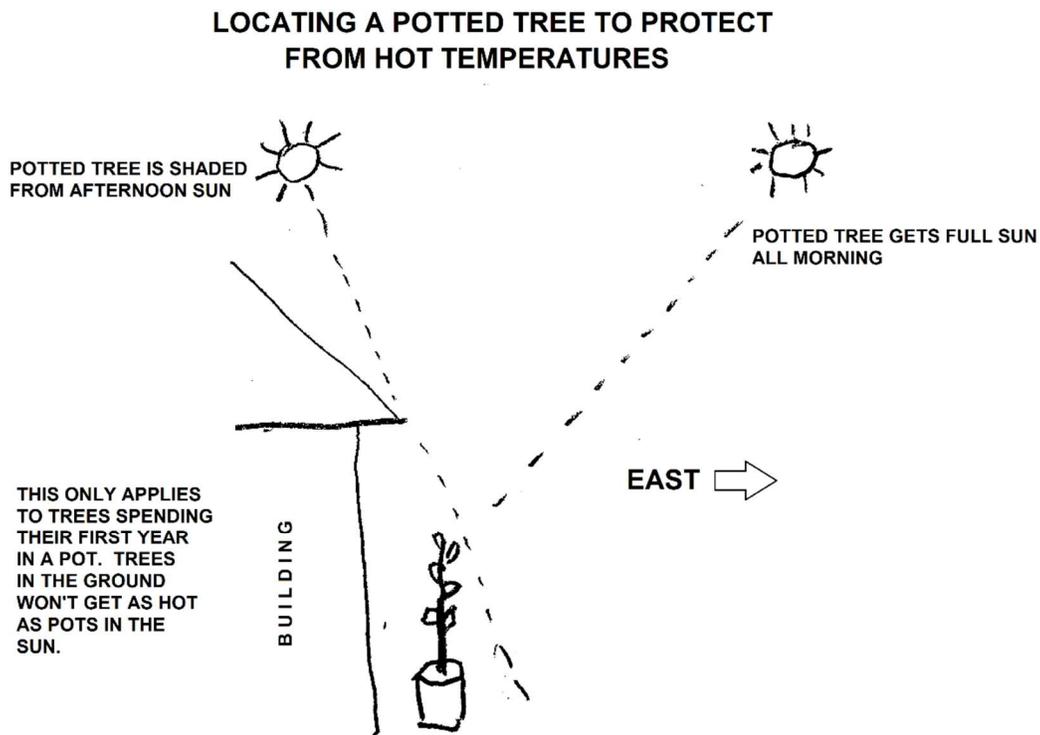
FREEZING TEMPERATURES: Be sure your tree is protected from below-freezing temperatures until danger of frost is past. Pots can be brought indoors. Trees planted in the ground can have a chair or sawhorse placed above them, with a tarp or blanket draped over to keep freezing temperatures out.

LOCATION: It is possible to plant out a newly-grafted tree in its final location once the graft has healed, but it's not recommended.

It's best to put it in a garden with good soil and full sun. Make sure the tree is planted at the proper depth, with the highest roots an inch below the surface of the soil. If there are very short roots starting to grow at a spot just above this, plant those an inch below the soil.

Please note: If you want to plant the tree in a garden bed for the year, transplant it before the leaves get more than a half-inch or so long. Its root system is still very small, and if planted when leaves are out, you're likely to cause serious transplant shock. It's better in that case to keep the tree in a pot for the rest of this growing season.

It's also okay to keep the tree in a pot for the first year, but it may get hot in the sun and sometimes might need water more than once a day to avoid water stress. Pots heat up quickly in the sun to temperatures that aren't healthy for new trees. I place my pots on the east side of a building, so that they get half a day of sun and grow well, but are shaded in the afternoon during the hottest temperatures.



Some people use nursery shade cloth on a frame system to keep the trees in 50% shade at all times.

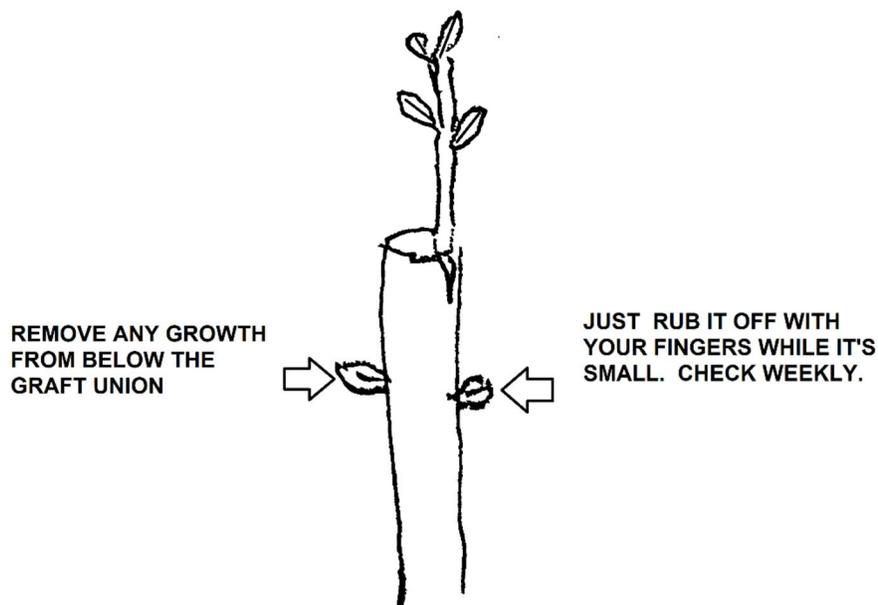
It's also a good idea to mulch the soil surface of your pot with Autumn leaves or wood chips, to keep the hot sun off of the soil surface.

FERTILIZER: If growing in good garden soil, you might want to topdress with compost. In a either a pot or in the soil, you can also topdress with an organic fertilizer such as Fox Farm 6-4-5 'Happy Frog.' McGuckin Hardware in Boulder will carry this or a similar organic fertilizer. Follow package directions. Do not fertilize after July 4th.

I also foliar feed weekly with a highly dilute fish emulsion solution until early July.

WATER: Don't let your tree go through water stress, but don't overwater, either. I find that I need to water pots daily during the summer, or more often in really hot weather. Trees in the ground at my house can get by with water once every 5-7 days (water more often for the first month). Your results may vary.

BUDS GROWING FROM BELOW THE GRAFT UNION: The rootstock will attempt to grow some branches from below the graft union. These should be removed by hand as soon as you notice them, ideally before they're more than an inch or so long. Check your trees frequently – at least once a week.



It's best not to remove these sprouts when the temperature is consistently in the 70s and moist, as these conditions allow for a serious disease, fireblight, to get into the tree through fresh wounds. Remove new growth when the temperature is higher and the air is dry.

PLASTIC AROUND THE GRAFT UNION: Once you have 4" of new growth coming out of a bud on the scion, the graft has almost certainly taken well. At this point, you should very carefully slice through the layers of plastic tape surrounding the rootstock and peel them off. Do not attempt to remove the (much thinner) plastic from the scion during the first growing season.

ANIMALS: Protect your tree from deer, rabbits, dogs, etc. I put a small fence of chicken wire or hardware cloth around trees in the ground to keep the rabbits out. Deer are excluded by a fence around the yard, but a hoop of taller chicken wire could also do the trick, if supported by a sturdy stake or post. The greatest danger from dogs is urine, which can kill the tree. **DON'T SKIMP ON PROTECTION FROM ANIMALS.** It's easy to lose all of your work in a few minutes to a hungry critter.

WINTER: In Boulder, I keep potted apples outdoors in a well-protected location for the winter. I place them up against the house and then mulch them in with Autumn leaves. I have never lost trees when I've done a good job of this.

Most years, you will need to water in the winter. I check my pots every couple of weeks and water if needed on an above-freezing day. Same thing for trees in the ground.

How much should I expect my tree to grow this year?

I've seen trees grow five feet, but I've also seen them grow six inches. A small minority of the trees I grow "stall out." This is probably due to suboptimal growing conditions, and it seems that once a tree makes this take-it-slow decision, it'll often stay small during the first growing season even with good care. Fortunately, it may take off better when planted in its final location the next year.

My tree died. Now what?

It can happen to anyone, though with good conditions and care, the great majority of newly-grafted trees will survive. If you're not sure that you provided proper care, let us know if you'd like to talk in more detail. Perhaps we can troubleshoot and provide additional suggestions. Unfortunately, we can't make guarantees. The best we can do is make sure the tree is grafted well and give instructions for care during the tree's fragile first year. We'd be happy to work with you to graft a new tree next year.

QUESTIONS?

If you have questions, we'll try to answer them. Post a question on the Widespread Malus facebook page, or send an email to Eric Johnson at the address shown on the 'CONTACT US' page at www.widespreadmalus.org.