

Step by Step guide for Apple Grafting

Initial Instruction from Eric Johnson, *Widespread Malus*, guide created by Deidre Jaeger, 4/1/2019, updated by Amy Dunbar-Wallis 3/27/2020

All photos from: <https://www.instructables.com/id/Grafting-a-Multi-variety-Apple-Tree/>

Supply Checklist

- Rootstock
- Scion material (newest growth from the tip of the branch down to a band of ring growth scars)
- Damp paper towels
- Sharp, sterilized pruners
- Wooden safety jig; or thick gardening gloves and towel
- Sharp, sterilized pocket knife
- Optional: cutting board
- Parafilm grafting tape (1')/ cheese wax /Buddy Tape.
- Aluminum labels or tree tags
- pot for completed grafts, partially full of wet sand
- Alcohol spray bottle (isopropyl 70%)

Step 1: Prepare the rootstock

- a) Select a rootstock to work with and gently wrap a damp paper towel around the roots to prevent them from drying out while you graft
- b) Remove any buds from the stem of the rootstock
- c) Trim the top few inches of the rootstock with your sterilized pruners
- d) Place the tip of the rootstock through the hole of wooden safety jig adjacent and parallel to the wooden dowel so that the roots are on the same side as the wooden dowel and 1 inch of the freshly cut rootstock tip emerges out of the flat plane of the jig. If you do not have a safety jig, wear gardening gloves and wrap a dish towel around the root stock just below the depth of your desired cleft cut.
- e) In one hand, hold the wooden dowel of the jig and root stock stem close to your belly, in the other hand use the **sharp** pocket knife to slowly rock the knife toward the flat plane of the jig to smoothly cut a 1 inch length slice down the center of the rootstock.



Step 2: Prepare the scion

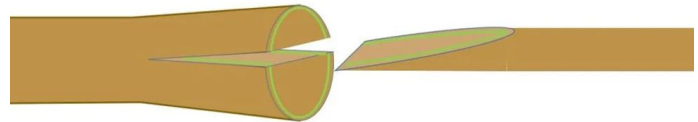
- a) Cut a section with 2-3 buds on the scion material
 - i) If possible, avoid the very top of the scion, since the nutrient ratios can be different than lower in the stem. If there isn't



- enough material to be choosy, then graft what you can.
- ii) Avoid grafting any scions with evidence of fireblight bacteria. While uncommon in new growth, there can be little cankers (scabs of splitting bark layers) with overwintering bacteria on the outside of the bark. There can also be dehydrated, discolored parts of the stem, typically from the tip extending toward the base that show fireblight has already entered the tissue.
- b) When you've found a healthy 2-3 bud section, make a fresh clip to expose fresh material and give yourself as much space between two buds as possible below your lowest bud.
 - c) Hold the scion in one hand and your pocket knife in the other, then keep the knife steady as you pull the scion across the knife to remove around 1 inch of inner green cambium and pith. This should be an angled, smooth and planar cut to taper the end of your scion base. Be sure the buds are pointing in the correct direction!
 - d) Repeat the cut on the opposite side of the scion, so that the base forms a V shape that is as symmetrical as possible (think wedge shaped)

Step 3: Join the rootstock and scion through a cleft graft

- a) Carefully slide the scion onto one side the rootstock slit, making sure to line up the thin green line of tissue (cambium) on the scion to connect with the green line of tissue on the rootstock
 - i) It is essential that the scion sits snugly in the rootstock split, avoid any gaps between the scion and the rootstock
 - ii) Aim for 1 inch of scion to rootstock connection.



Step 4: Seal the graft site with parafilm

- a) Gently stretch the parafilm before wrapping them snugly wrap parafilm along the 1.5-2 inch graft site to help bind the scion and rootstock together.
- b) Seal the top of the scion with cheese wax or another small piece of parafilm.

Step 5: Label the new graft

- a) Imprint your initials on the label with a pen
- b) Twist the metal tie onto scion so it sits just above the top of the rootstock, ensuring it isn't too tight for the wood under the tie to expand, but it's too loose that it falls to the base of the rootstock.

Step 6: Return the rootstock to pot and recover roots

- a) Be sure to cover the roots and first few inches of root stock in damp sand. In a few weeks you should see new growth emerge from the grafted scion material.

- b) If you notice lateral growth from the root stock, gently remove that growth so that all of the plant's energy is going into healing the graft site and feeding the scion. Do not remove new growth from the scion material though!
- c) Once healthy leaves are present on the scion portion, repot into a soil mixture and keep well watered but not boggy. It is ok for the graft to dry a bit between waterings. Once the graft is well established and the "whip" is one-year old, it will be ready for planting in the ground.