

## **Post Rock Answers**

**By Cassie Thiessen January 19<sup>th</sup>, 2024**

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### **Cloning Apple Trees**

Haven you ever eaten a really great tasting apple and wished you could have a tree full of them in your backyard? Or, maybe you want to reproduce an old apple tree that was special for some reason (planted by grandparents, great producer, etc.) You might think it would be as simple as saving seeds from that apple and germinating them. There's actually a lot more to the process than you may think. Unfortunately, apples grown from seed will not be like the parent. About 1 in every 80,000 apple trees grown from seed will be as good as the apples we are used to eating. Apple trees grown from seed usually have small and inferior quality fruit.

If you want a tree exactly like the parent, you must propagate that tree vegetatively. In the case of apples, this usually means grafting. Grafting is defined as a special type of plant propagation, in which a part of the plant is joined to another part of the plant and these two parts grow together to form a new plant.

Apple trees are actually quite easy to graft, even for novices. Don't be afraid to try even if you haven't grafted before. The step that needs to be done at this time of year is the choosing and cutting of scion wood or small branches that will be grafted on top of a rootstock. Scion wood are shoots grown from the previous season, and should be cut with clean shears or a knife and placed immediately into moistened burlap or a plastic bag.

If you don't have an existing tree to graft onto, you will need to plant a rootstock this spring, then be ready to graft the following season (late winter- early spring). Fruit trees are normally grafted (or budded) onto specially selected rootstocks. These rootstocks usually reduce tree size. For example, a tree that normally would reach 25 feet tall will only reach 10 feet if it is grown on a certain rootstock. Dwarfing rootstocks also allow apples to bear fruit a year or two earlier.

Note that rootstock reduces tree size, not fruit size. Therefore, a Golden Delicious tree that only reaches 8 feet tall due to a dwarfing rootstock will bear the same size fruit as a Golden Delicious tree that is 25 feet tall.

A tree on its own roots normally takes 5 to 7 years before it will bear fruit. Semi-dwarf trees bear in 4 to 5 years, and dwarf trees bear in 3 to 4 years. Unfortunately, not all dwarfing

rootstocks are well adapted to Kansas conditions. Semi-dwarf trees usually are a better choice for us. Fully dwarfed trees often are uprooted or break at the graft during high winds. Semi-dwarf trees are usually more than 50% the size of a standard (non-dwarfed) tree.

So, where do you buy rootstocks to graft onto? Most nurseries only sell trees that are already grafted. A company that does sell rootstocks is Raintree Nursery, in Morton, WA. Another is Cummins Nursery, in New York. Go to their websites for more information or to make an order.

Which rootstock is best? There are a several choices that should work well in Kansas. An old favorite is Malling-Merton (MM) 111 as it is well-adapted to Kansas conditions and can tolerate heavier soils. Trees will be 80% the size of a “standard” tree. Malling-Merton (MM) 106 is a good choice for well-drained soils. Trees will be about 70% the size of a standard tree. Other rootstocks can be used but make sure they are well-anchored and not described as brittle.

It is also possible to buy a tree from a local nursery and graft your clone onto a side branch. This will give you one tree that produces two different apples. One disadvantage of this method is that it is possible to prune off the special clone by mistake in later years.

This information does not include the details of grafting or budding or subsequent care. The Missouri Extension Service has an excellent publication on grafting, simply Google “MU Extension Grafting”.

Grafting can be a fun hobby and a great way to make more plants for your orchard. There are many resources, books, and videos available to learn more. If you have any questions, please call your local Extension office.

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