

# Grafting Persimmons: Step One

It's relatively easy to field-graft persimmon trees, making it possible to convert a male sapling into a fruit-bearing female. Step one takes place in winter.

By David A. Osborn and Dr. Karl V. Miller

In one of our previous articles in *Quality Whitetails*, "What Every Deer Hunter Should Know About Growing Persimmons," we mentioned it's possible to clone a productive, female persimmon tree by grafting a small piece of it onto another non-productive sapling, even if it's a male. "Bark grafting" is an easy and inexpensive process, and this article will explain the first step, which takes place in winter.

The technique we will describe involves collecting dormant grafting wood (scions) in winter and storing it in a refrigerator for grafting onto growing rootstock next spring or summer.

You probably already know the location of a persimmon that is particularly healthy and productive – you may have hunted near it this fall. Sometime after the tree loses all of its leaves, and before it produces new leaves next spring, collect dormant scions for grafting. **The best time to collect scions is from January to early March.** If you collect them in fall, the dormant buds might not have acquired enough winter chilling to break dormancy in spring. If you wait until after the buds open in spring, your grafting success might decline. However, once you cut scions from a tree, they must be properly stored until you need them. When properly stored, scions remain viable for a few months. However, if you leave the scions on the tree until late February or early March, it reduces the duration of time you must care for the scions in storage.

For scions, collect **healthy shoots grown the previous summer (1-year-old wood).** One-year-old

wood is the outermost growth on a tree's branch, and it often is a slightly different color than older wood. Also, you will see a growth ring separating it from older growth.

When collecting scions, always use a sharp pair of bypass pruning shears (two cutting blades). Do not use anvil-style shears (only one cutting blade) or dull shears because they damage the scions and reduce the percentage of successful grafts.

**Select shoots that have at least three or four well-developed buds, and when possible, wide spacing between the buds.** For some grafting techniques, it is important that the diameter of scions is similar to the diameter of the rootstock. However, scion diameter is not critical for bark grafting, which is David's preferred method for field-grafting persimmons. Cut shoots in lengths that are convenient for storage; **9- to 10-inch scions stack nicely in a 1-gallon Ziploc bag.** It's important to store them in a non-porous plastic bag so they do not



Scion wood from a female persimmon tree (the part wrapped in grafting tape) has been bark-grafted onto this male persimmon sapling, effectively cloning the fruit-producing female.

dry out during storage. **Wet one square of paper towel, wring it dry by squeezing all the water you can out of it, then wrap the prepared scions in the moist towel.** Moisture provided by the towel will keep the scions hydrated during storage. If the towel is too wet, the scions could be damaged by mold. Make sure to label the Ziploc bag for tree identification (this will be helpful when you later monitor tree characteristics and fruit production). Roll the bag from the end with the scions to force air out, then seal the top of the bag.



Place the packaged scions in a refrigerator with the thermostat set at 32-38° F. You don't want the scions to freeze solid, but you also don't want them to get warm enough for bud activation. **It is critical that your scions don't come into long-term contact with ethylene gas while in storage. Many fruits and vegetables release ethylene gas and, when stored in a refrigerator with grafting scions, can severely damage a scion's buds. Apples, apricots, avocados, peaches and nectarines, pears, and tomatoes release large amounts of ethylene when ripening and should never be stored in the same refrigerator as your scions.**

Every month, or so, inspect your scions for mold. If mold has formed, wash them under your sink faucet, soak them in a 10 percent solution of bleach (1/4 cup of bleach to 2 1/4 cups of water) for 10 minutes, and rinse them under the faucet before drying and repackaging them for continued storage.

On the next page, we will walk you through the process of field-grafting the scions you collect and store this winter. To get ready for that step, purchase a few inexpensive grafting supplies. You will need to have several 8-inch strips of rubber known as "grafting rubbers" or "grafting bands" and a roll of Parafilm grafting tape, both of which can be purchased online from select nursery supply companies.



# Grafting Persimmons: Step Two

In the second half of this series, the authors teach you how to clone a female persimmon tree by grafting the scion wood you collected in winter.



By David A. Osborn and Dr. Karl V. Miller

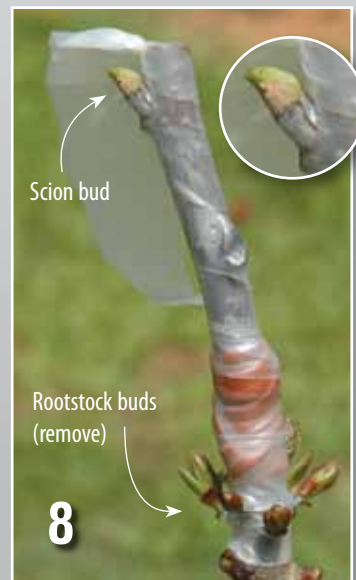
In the December 2010 issue of *Quality Whitetails*, we introduced you to the idea of using simple field-grafting techniques to turn any American persimmon tree seedling growing on your deer hunting property into a prolific fruit producer. If you followed our instructions and collected dormant grafting wood (scion) from a persimmon known to be a good producer, stored it correctly over winter, and acquired a few materials you'll need,

then you're ready for the second step. With a few easy-to-follow photographs, we will show you how to convert a persimmon seedling into a powerful deer attractant and reliable food source.

Find a persimmon seedling tree with a half-inch to 4-inch diameter trunk in a location where you want to attract deer. That tree will serve as your rootstock. It doesn't matter if it's a male or female tree; your scion came from another tree known

to be a heavy-fruiting female, and you're going to clone it using the rootstock.

Wait until the rootstock has fully leafed out to prepare it for grafting. Bark grafting will work anytime the bark can be lifted from the underlying wood, which usually starts in early May. Grafters refer to this condition as "bark slipping." The ideal timing is May to July between flushes of new growth, and you can confirm this by testing a seedling you don't plan to graft.





Don't wait until late summer because new growth from the grafted scion might not become dormant in time for the first freeze, possibly leading to cold damage.

Now, refer to the photos on the first page as we describe the grafting process.

**1** With sharp by-pass style pruning shears or a pruning saw, cut the rootstock trunk off at about chest height and remove any limbs below that cut. Use a sharp knife to make two vertical cuts through the bark just below where you severed the trunk. Then use your knife blade, or fingernail, to lift the bark away from the trunk. Pull the resulting bark flap down and away from the trunk. The bottom of this flap remains connected with the bark below it.

**2** With your sharp knife, slice away some of the exposed wood, cutting upward with your knife so you don't damage the bark flap. By removing some wood, you provide for a better union of scion to rootstock. However, on larger rootstock, if removing interior wood is too difficult, just leave it.

**3** Select a scion from your collection (dormant shoots you collected and stored last winter) and trim off the ends, leaving a short section with two or three healthy-looking buds. Make a sloping cut on one end of the scion to match the slope of the cut you made on the rootstock (in step 2). On the side of the scion opposite the sloping cut, use your knife to scrape away the bark, exposing the green cambium layer just beneath the bark. Be careful not to scrape all the way through to the wood, or to make a lateral cut through the cambium. This is the area that will be over-

lapped by the bark flap on the rootstock. Grafting is nothing more than the process of causing cambium of the scion to touch cambium of the rootstock long enough for knitting to occur and scar tissue (callus) to form. Really, it's not rocket science, just simple plant biology!

**4** Position the scion so the sloping cuts in the inner wood of the scion and rootstock fit together, and so the bark flap overlaps the exposed cambium on the scion.

**5** Pull the bark flap tight against the exposed cambium of the scion, while pressing the back of the scion against the inner wood of the rootstock.

**6** While maintaining a firm connection, use an 8-inch grafting rubber or similar material to tightly bind the graft union (grafting rubber was listed in your materials list in part one of this article). Starting

on the trunk of the rootstock and below the graft union, wrap the rubber around the trunk then back over itself to secure the tail of the rubber. Wrap the rubber around the trunk until you completely cover the entire graft union, pulling the rubber tight as you go.

**7** Starting below the graft union, wrap the union and the entire scion with a single layer of Parafilm tape. Overlapping all subsequent wraps of the tape will seal in moisture to prevent the scion from drying out before the graft union heals. Twist the upper tail of the tape to further prevent moisture loss from the exposed cut of the scion. (Finally, add a supporting stake that is taller than the entire tree to prevent birds from perching on the scion and potentially breaking it).



**Sun Visor:** Because the graft union can be damaged by intense heat until it has partially healed, make a sun shield from aluminum foil. Shield the scion and graft union from the south and west sun. Leave the north and east exposure open to provide less intense heating, which will stimulate knitting.

**8** In about 10 days, buds of the scion should swell and will break through the Parafilm. You are well on your way to having a productive persimmon tree. Note in this photo that buds of the rootstock (below the graft union) and the scion (above the graft union) are emerging.

### Step 3: Ongoing Maintenance

After about 30 to 45 days, you should remove the grafting rubber to prevent damage from trunk girdling. For the next two seasons after grafting, it is very important to pinch off all sprouts growing below the graft union (see photo 8). It is a tree's natural response to try to balance its top with its root system by inducing hidden buds along its trunk to sprout. If left to grow, leaves and stems located below the graft union will rob the scion of energy, and the scion will wither and die.

If you follow these instructions carefully and do your grafting at the right time, under favorable conditions, you should see very high success rates. Good luck, and good hunting!



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You can graft persimmon scion wood onto rootstocks up to about 4 inches in diameter, as seen in this photo, where a much smaller scion has been grafted onto a large rootstock.