

## Citizens Restoring American Chestnuts (CRAC) Planting Instructions



Thank you for participating in the Citizens Restoring American Chestnuts (CRAC) project, which is led by the University of Maryland Center for Environmental Science Appalachian Laboratory and funded by the Chesapeake Bay Trust. You now have the task of planting your chestnut seeds and seedling(s).

### Selecting site

- Chestnuts are very susceptible to root rot. Therefore, you must plant them in an area where the soil is well drained, yet moist. Planting your trees on a slope may help alleviate any drainage issues.
- Choose an area that gets a good portion of sun throughout the day.
- Space your trees 10-20 feet apart.

### Planting seedlings

- You may wish to wait until after the last frost to plant (i.e., late May). If you aren't going to plant your seedlings right away, please be sure to keep them watered and protect them from the frost.
- Prepare a hole that is as deep and twice as wide as the planting container. Be sure there isn't a rock at the bottom of the hole, as this could interfere with root growth.
- Carefully remove your seedling from the planting container, taking care to support the roots and not break the taproot. Hold your seedling in the hole so that the bottom of the taproot is just above the bottom of the hole, and gently fill the hole back in with soil. Continue filling until the soil surface is level with the root collar of the seedling (the root collar is where the top of the potting soil was on the seedling when it was in the container).
- It is a good idea to lightly tamp the soil surrounding the tree in order to push the soil around the roots. Any air pockets could cause the roots to dry out.
- If possible, add mulch around your tree. This will help the soil retain moisture and control weeds. But do not allow any mulch to touch the trunk, as this could cause it to rot or become infested by pests.
- Water your trees when you first plant them. The soil around the tree may look dry, but check beneath the surface to make sure the soil feels moist. If the soil feels dry over the next few weeks, please water the trees. We are interested in how well the trees will do in natural conditions throughout our region; therefore, please do not use herbicides, pesticides or fertilizers, and do not water them after the first 2-3 weeks.

### Planting seeds

- Again, you may wish to wait until after the last frost to plant (i.e., late May). If you aren't going to plant your seeds right away, please place the bag of seeds in the refrigerator. Doing this will prevent them from drying out.
- Loosen the topsoil and plant the chestnut no more than 1 inch below the soil surface. Plant the seed with the taproot facing down. If a taproot is not present, plant the seed with its flat side down.
- Mice, voles, and squirrels like to eat the chestnuts. Please protect the nuts by placing a 2- to 3-inch diameter tube around the chestnut. At least 2 inches of the tube should be buried below the soil surface, and at least 2 inches should emerge above the soil surface.

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- It may also be helpful to place a small piece of screen on top of the tube you plant your chestnut seed in. This will help eliminate herbivory.
- As the seed germinates and develops, please remove the tube and screen, and fence your seedling (see next section) to protect the seedling from deer.
- Once you have planted your seedlings, if possible, please return your bags/cones to the box inside the front entrance of the Appalachian Laboratory.

#### Protecting your seedlings from deer browsing

- To prevent any leaf damage caused by deer, it is very important you place fencing around your seedlings. Be sure it is at least 4 feet tall.
- Attach the fencing to sturdy stakes. Zip ties can be used for this.
- Please do not use tree tubes. Chestnut leaves are big and will be damaged in tree tubes. Rate of survival is lower in tree tubes than in fenced-in enclosures.

#### Preventing transplant shock

- Transplanting a seedling from its container into the ground can be very stressful on the seedling, especially its delicate root system. These seedlings were grown in a greenhouse under optimal conditions, so they may experience signs of transplant shock when planted into the ground.
- Until its root system becomes established, the seedling may be very sensitive. Avoid rough handling and damage to the roots, and do not allow the roots to dry out during the planting process. Making sure the soil is gently compacted around the root system may also help alleviate any shock the tree may go through.
- Signs of transplant shock include wilting, yellowing or curling of the leaves on your seedlings. Do not panic if you see signs of transplant shock, as many plants will eventually recover. Keep an eye out for new leaf growth. If new leaf growth does not occur within 2-3 weeks, please let us know. We may be able to provide you with replacement seeds if your seedling dies from the transplant shock.

#### Documenting tree identification (ID) numbers

- You need to include the ID number for each seed and seedling with your observations. This number can be found on an aluminum tag or plastic stake with each seed and seedling; please keep this on or with them.
- We also recommend you draw a map of the location of your seeds and seedlings, and label each with the appropriate tree ID. You can refer to this drawing if you lose any plant tags or stakes.
- If you lose a plant ID tag or stake, please call the project coordinator (see below) and we will provide that information to you.

Please see the *Citizens Restoring American Chestnuts Datasheet Instructions* for guidance on making and reporting observations on your new trees. We hope that you will enjoy watching these American chestnut seedlings grow! Please contact Cassie Doty at 301-689-7134 or chestnuts@al.umces.edu if you have any questions about your seedlings.