Create a Mini Forest in Your Landscape
By Kate, O'Lenic, Master Gardener

The practice of creating mini forests, also known as pocket forests, nucleations or "superclumps" has been in wide use for over 10 years. Japanese botanist, Akira Miyawaki, is cited as the innovator of this technique for wasteland reforestation which began over 70 years ago. It has been so successful that forests have been created using this process or variations of it in Japan, India, Costa Rica, Honduras, Italy, Brazil, France, and in the US from Florida to New England, Missouri, Delaware, Iowa and Virginia. It is also something we homeowners can do to amp up our landscapes.

There are so many reasons to plant more trees. Trees convert carbon dioxide into oxygen so we can breathe easier. They help prevent floods by taking up water and support wildlife including pollinators by providing food, shelter and protection. Their root systems also help prevent erosion.

The basis of developing a mini forest is to densely plant trees and shrubs in a defined area with no lawn in the soon-to-be forest. Dense planting means you'll space trees and shrubs every 1 to 3 feet. Your plantings will mimic what a forest is like with tall (overstory) trees, shorter (understory) trees, shrubs, herbaceous plants and the forest floor. To select the right location and plants, think about how tall and wide the largest trees will be and make sure they are no closer than 10 to 20 feet from the house.

A nice size for a mini forest in a residential setting is a circle of about 15 feet in diameter. Oval and triangle shapes work well, too. Within that space, you could have up to 4 overstory trees, up to 5 fast growing trees, 3 or 4 understory trees, 8 to 10 shrubs, and mulch or other plantings about 2 feet past the edge of the forest. If you want to go all out, you could even extend the site with a meadow outside of the forest space.

First steps include preparing the site by removing grass, weeds and other plants. If needed, amend the soil. Soil testing is the best way to determine if any amendments are needed. Be sure the plants you choose are native to your area. There are great resources to help you with that, including "Tennessee Recommended Native Plants," available at: https://www.wildflower.org/collections/printable_QR_main.php?collection=TN and "Landscaping with Native Plants," at: https://tnstateparks.com/assets/pdf/additional-content/landscaping-native-plants.pdf.

Native plants are the best choices for successful growth and greatest benefit to pollinators and local wildlife. Some examples of fast-growing trees are red maple (*Acer rubrum*), sumac *(Rhus* spp.) and black locust *(Robinia pseudoacacia*). Overstory trees include red, white and willow oaks (*Quercus* spp.), and black gum (*Nyssa sylvatica*). Understory trees recommended include eastern redbud (*Cercis canadensis*) and flowering dogwood (*Cornus florida*). American holly (*Ilex opaca*) is another great understory tree that provides an evergreen touch.

There are a lot of fantastic shrubs to include such as viburnums, especially blackhaw viburnum (*Viburnum prunifolium)* which is deer resistant, witch hazel (*Hamamelis virginiana*), spicebush (Lindera benzoin) and New Jersey tea (*Ceanothus americanus*).

Once your forest is going, it will be shady, so ferns are wonderful plants to include. White wood aster (*Eurybia divaricata*) is terrific for fall color, wild ginger (*Asarum virginicum*) with its variegated leaves makes a beautiful groundcover, and for even more variety, consider adding sedges (*Carex* spp.) which are available in a wide range of leaf colors and textures.

Densely planted mini-forests have been found to grow 10 times faster than traditional planting. Having a variety of native trees, shrubs and other plants encourages biodiversity and supports the local ecology by improving pollination and soil health. Planting a forest versus a single tree greatly increased carbon capture and conversion to oxygen. And although it takes some effort, the long-term benefits are incredible.

See Resources at the end of this article for more details and photographs that show how successful this technique is. It is truly inspirational.

Resources

"Lawn and Garden Soil Samples," https://soillab.tennessee.edu/soil-testing/lawn-and-garden-soil-samples/

"How to Kill Grass to Create a New Garden Bed," https://yardandgarden.extension.iastate.edu/how-to/how-kill-grass-create-new-garden-bed

"Create a mini-forest - Forest creation best practice: translating a stormwater technique for the suburban lot," https://www.plantnovatrees.org/create-a-mini-forest

"Pocket Forest Principles," https://www.a2gov.org/media/zkwborvi/pocket-forest-principles.pdf

"Mini-Forest Project in Rochester," https://rochesterpollinators.org/pages/miniforest-project

"Pros and Cons of the Miyawaki Concept and Tiny Forests," https://rewilding.academy/ecosystem-restoration/pros-and-cons-of-the-miyawaki-concept-and-tiny-forests/

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