How to Plant Containerized Trees

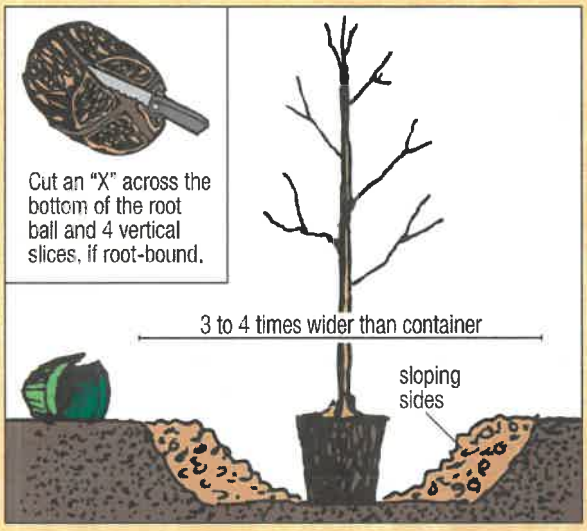
Trees from nurseries are often potted in a container. These instructions are for planting containerized trees.

1. Dig a hole the same depth of the container and 3 to 4 times wider than the container. The hole should have sloping sides like a saucer to allow for proper root growth.

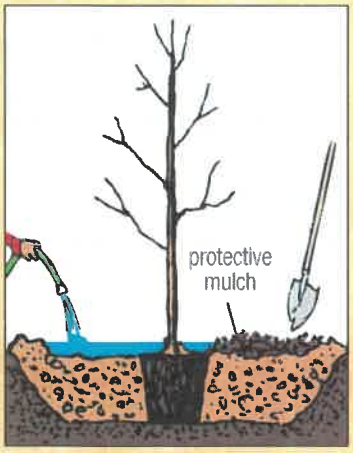
2. Lay the tree on its side and carefully remove the tree from the container, keeping the soil around the roots intact. It helps to tap the outside of the container to loosen the edge. Carefully slide the tree from the container. Don't yank the tree out of the container as this can separate the roots from the tree.

3. Sometimes containerized trees become root-bound or the roots look like they're about to circle the root ball. If your tree is like this, cut an X across the bottom of the root ball and four vertical slices along the sides of the root ball with a sharp knife.

4. Set the tree in the middle of the hole. Avoid planting the tree too deep. If the root collar sits below the top of the hole, compact some soil under the tree so that the root flare at the base of the trunk is slightly above ground level. Using some soil, secure the tree in a straight position, then fill and firmly pack the hole with the original soil, making sure there aren't any air pockets. Keep backfilling until the soil is just below the root collar.

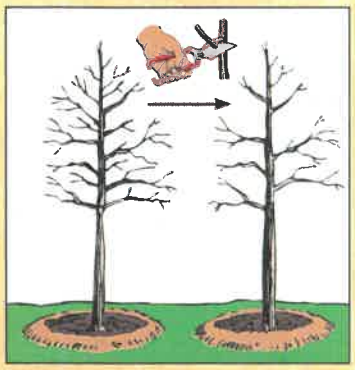


5. Create a water-holding basin around the hole and give the tree a good watering. After the water has soaked in, spread protective mulch 2-4 inches deep in a 3-foot diameter area around the base of the tree, but not touching the trunk.



6. The soil and mulch around your trees should be kept moist but not soggy. During dry weather, generously water the tree every 7 to 10 days during the first year. Water slowly at the dripline.

7. Remove any tags and labels from the tree as these will affect the tree as it grows. You may need to prune any broken or dead branches. (Please refer to the **arborday.org** pruning guide.)



Fertilizer? DO NOT use fertilizer, potting soil, or chemicals on your newly planted trees. Such products will kill your young trees.

Watering: Keeping your trees watered is important during their first year. Keep the soil and mulch moist but not soggy. In dry weather, you should water generously every 7 to 10 days. The water should soak into the soil and mulch. Avoid watering so much that you see standing water.

Arbor Day Foundation®
100 Arbor Avenue • Nebraska City, NE • 68410 888-448-7337
arborday.org

For step by step videos and more planting info go to **arborday.org/HowToPlant**

90174201

COPLEY TOWNSHIP
TREE CITY USA

Arbor Day Foundation®

PLANT TREES

Parent/Guardian Name _____

Parent/Guardian Phone & Email _____

Student Name _____

Student Age/Grade _____

___ Yes, I give Copley Township permission to display the attached work.

Parent/Guardian Signature _____

RETURN BY **APRIL 30TH** TO
COPLEY TOWNHALL
1540 S. CLEVELAND-MASSILLON RD

OR TAKE A PICTURE AND EMAIL
TO CHUNT@COPLEY.OH.US

Agriculture and Environmental Systems Career Pathway

Secondary Pathway: **Natural Resource Management** Postsecondary Program: **Urban Forestry**

An Example of Courses with Secondary and Postsecondary Credits

Secondary	7 8	English I	Algebra I	Science	Social Studies	Fine Arts	Ag, Food, & Natural Resources	
	9 10	English II	Geometry	Biology	World History	Health (.5) PE (.5)	Environmental Science	Natural Resources / World Languages
	11	English III	Algebra II	Chemistry	U.S. History	Forestry & Woodland Ecosystems	World Languages	
	12	English IV	Trigonometry/ Calculus	Physics	U.S. Government	Urban Forestry	Environmental Systems Management	
Postsecondary	Year 1 1st Semester	English Composition	College Algebra	Computer Systems	Intro to Horticulture	Horticultural Botany	Humanities Elective	
	Year 1 2nd Semester	Chemistry	Algebra II	Arboriculture	Plant Identification & Selection I	Landscape Construction	Tree Care Co-Op I	
	Year 2 1st Semester	Communication	Intro to Business	Soil & Horticulture Management	Plant Identification & Selection II	Occupational Regulations & Safety	Irrigation Design & Maintenance	
	Year 2 2nd Semester	Professional Selling Techniques	Environmental Earth Science	Urban Forestry	Principles of Pest Management	Social Sciences Elective	Tree Care Co-Op II	

High School Career-Technical Education Program Courses

High School Courses for Postsecondary Credit (including Apprenticeship Hours) and the Corresponding Postsecondary Courses

Required Courses

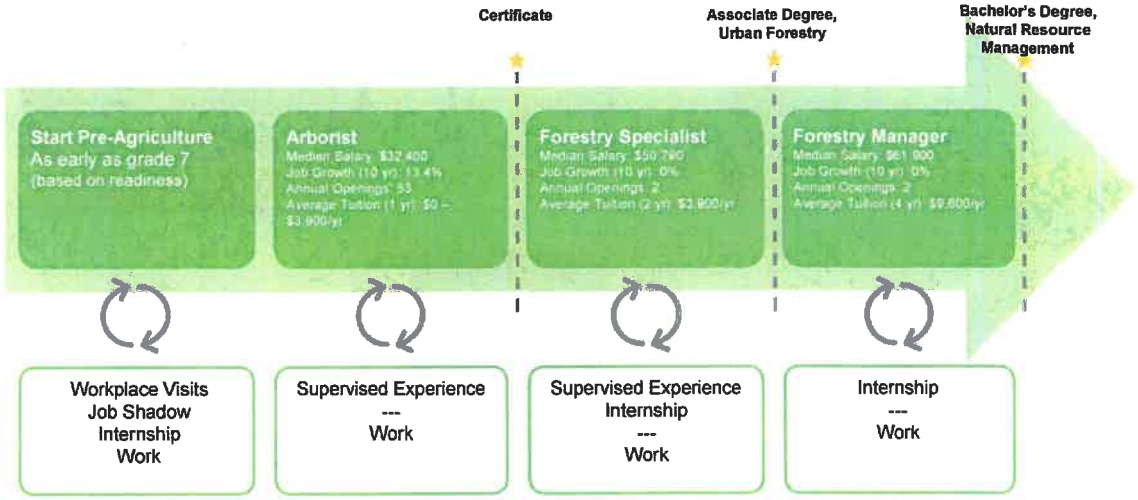
Recommended Electives

Visit education.ohio.gov/CareerConnections for reference information. 5/2016

Course titles and sequences will vary between schools.

Ohio | Department of Education — Ohio MEANS Jobs. — Ohio | Department of Higher Education

Agriculture and Environmental Systems Career Pathway



Provided by middle schools, high schools, employers, Ohio Tech Centers, and colleges.

Preparing students for multiple options after high school:
gainful employment and/or postsecondary study.

Ohio In-demand Occupations

Data reflects 2014 Ohio labor statistics and public institutions of higher education for 2013-2014. For specific tuition costs, visit ohiohighered.org.

Ohio | Department of Education — Ohio MEANS Jobs. — Ohio | Department of Higher Education

GIS SPECIALIST
GREEN JOB FACT SHEET

PROJECT LEARNING TREE

A geographic information system (GIS) is a set of digital mapping tools that helps to organize, communicate, and understand information about our world. GIS specialists use scientific research, spatial data, and expert opinions to help develop plans and management strategies. In forestry, they analyze forestry patterns and trends, map natural disasters, track wildlife, measure logging rates, and more.

THE BIG PICTURE

GIS specialists compile a wide variety of data and prepare maps and reports to help monitor the environment and ensure sustainability. Their work involves:

- Managing forests and natural resources.
- Monitoring and analyzing climate patterns.
- Contributing to land-use planning.

IS THIS CAREER RIGHT FOR YOU?

Although some GIS specialists do field work, most work at a desk. GIS specialists are good at focusing on details when managing, analyzing, and mapping data. They can also see connections between spatial data and real-world conditions. To succeed in this job, you need computer experience, statistical and analytical abilities, and problem-solving skills.

MOVING FORWARD

Here's a path of study that could lead to a career as a GIS specialist. You'll likely need a four-year college or even a graduate degree.

HIGH SCHOOL: Try to take geography, computer science, and physics classes.

COLLEGE: Earn a bachelor's degree in GIS, geomatics, geography, computer science, or environmental sciences. Gain hands-on experience in a real-world setting through a one-year GIS graduate certificate or an internship, or by volunteering for a nonprofit organization.

For more about green jobs, visit **www.plt.org/workingforforests**

Are you a VISUAL thinker? Do you like using MAPS and graphs to make sense of the world? If so, this might be the perfect career for you!

SALARY

U.S. salaries range from about $50,000 to $92,000 per year and average about $80,000.

WHERE CAN YOU GROW?

A career in GIS can include work as a cartographer, geographer, remote sensing technician, environmental scientist, or landscape planner. Some possible employers:

- Federal, state, or local government agencies
- Private companies
- Colleges or universities

SUSTAINABILITY MANAGER
GREEN JOB FACT SHEET

PROJECT LEARNING TREE

Sustainability managers ensure that organizations set and meet environmental goals, adhere to environmental standards, and minimize environmental harm. They make sure that organizations' business practices are economically, socially, and environmentally sustainable. Their job is to ensure that people and the planet prosper now and in the future.

THE BIG PICTURE

Sustainability managers promote environmental protection and social responsibility, while also maintaining profitability, by:

- Developing sustainability plans to help organizations conserve energy, use resources wisely, and manage waste.
- Ensuring that organizations comply with environmental, health, and safety regulations.
- Keeping current on the latest sustainability trends, products, and certifications.

IS THIS CAREER RIGHT FOR YOU?

Sustainability managers must be organized and must enjoy multi-tasking. They lead teams, coordinate among departments, and communicate with internal and external stakeholders. To succeed in this job, you need an analytical mind to identify problems and research solutions.

MOVING FORWARD

Here's a path of study that could lead to a career as a sustainability manager. You'll likely need a four-year college or even a graduate degree.

HIGH SCHOOL: Focus on environmental science, biology, chemistry, engineering, and economics. Volunteer for environmental initiatives in your area to gain hands-on experience.

COLLEGE: Earn a bachelor's degree in business, environmental science, environmental management, engineering, or sustainability. Consider earning a master's degree in environmental policy, economics, or business administration.

For more about green jobs, visit **www.plt.org/workingforforests**

Do you like thinking about the FUTURE? Are you passionate about finding SOLUTIONS to environmental challenges? If so, this might be the perfect career for you!

SALARY

U.S. salaries range from about $50,000 to $115,000 per year and average about $73,000.

WHERE CAN YOU GROW?

A career in sustainability management can include work as a business manager, production manager, accountant, or compliance officer. Some possible employers:

- Federal, state, and local government agencies
- Manufacturing facilities
- Nonprofit organizations
- Universities, colleges, and other academic institutions
- Environmental consultant firms

MACHINE OPERATOR
GREEN JOB FACT SHEET

Machine operators work with mechanical or computer-operated equipment. They calibrate machines to launch production, determine optimal settings, and oversee material operations. They are responsible for ensuring that equipment is working properly.

THE BIG PICTURE

In the forestry sector, machine operators drive harvesting and roadbuilding machinery or operate equipment in lumbermills or papermills. Their work helps to process wood, paper, and forest products by:

- Helping to assess forest sites and terrain.
- Running machines like skidders, feller bunchers, loaders, and sawmill or paper machines.
- Safely handling logs, paper pulp, and other forest materials.

IS THIS CAREER RIGHT FOR YOU?

This is often a fast-paced, physically demanding job. Machine operators are good at using tools and following safety rules. Because they work with heavy machinery, they wear safety equipment like hard hats, safety boots, and ear protection. To succeed in this job, you need to be detail-oriented and have good hand–eye coordination and problem-solving skills.

MOVING FORWARD

Here's a path of study that could lead to a career as a machine operator. It is a great choice if you are looking for a job right out of high school or a more limited college experience.

HIGH SCHOOL: Take advantage of any career and technical education program (CTE) your school may have. Gain entry-level work experience as a warehouse worker or production worker. Look for machine operator apprenticeships.

COLLEGE: To get a job in the forestry sector, it is helpful to take college courses in wood science or wood technology, but it is not required.

For more about green jobs, visit **www.plt.org/workingforforests**

PROJECT LEARNING TREE

Do you enjoy working with your HANDS? Do you love making things with specialized TOOLS?
If so, this might be the perfect career for you!

SALARY

U.S. salaries range from about $19,000 to $74,000 per year and average about $36,700.

WHERE CAN YOU GROW?

A career as a machine operator can include work as a machinist, millwright, assembler, or construction worker. Some possible employers:

- Federal or state government agencies
- Forest products companies

FORESTRY TECHNICIAN
GREEN JOB FACT SHEET

Forestry technicians gather data, monitor resource use, and inform decision-making. Their tasks vary depending on their employer's needs. On any given day, they might work on a conservation project, supervise a tree nursery, or help to coordinate fire suppression efforts. They work as part of a forest management team, often under the direction of a forester.

THE BIG PICTURE

Forestry technicians assist professional foresters in managing forest resources. They help to ensure the sustainability of forests for future generations by:

- Monitoring for harmful insects or tree diseases.
- Coordinating reforestation efforts after trees are harvested or destroyed by fire.
- Calculating sustainable yields of forest trees.

IS THIS CAREER RIGHT FOR YOU?

Forestry technicians need to know basic forest management techniques and to have experience with specific forestry tools, such as prisms, clinometers, and calipers, or geographic information system (GIS) and database programs. To succeed in this job, you need collaboration and planning skills, because you'll often be working in a team.

MOVING FORWARD

Here's a path of study that could lead to a career as a forestry technician. You'll likely need vocational experience or a two-year associate degree.

HIGH SCHOOL: Focus on science and math courses. Gain on-the-job experience through summer employment at the parks department, or through a work–study program or internship.

COLLEGE: Many junior and community colleges offer two-year programs leading to an associate degree in forest technology with courses in land surveying, timber cruising, forest protection, wildlife management, and logging.

For more about green jobs, visit **www.plt.org/workingforforests**

PROJECT LEARNING TREE

Do you like being OUTDOORS and working with your HANDS? Are you excited by a job that is different every day?
If so, this might be the perfect career for you!

SALARY

U.S. salaries range from about $23,000 to $51,000 per year and average about $34,000.

WHERE CAN YOU GROW?

A career as a forestry technician can include jobs in silviculture, natural resources, maintenance, or invasive species, and work as a utility forester. Some possible employers:

- Federal and state government agencies that manage public forest lands for recreation and conservation
- Companies that manage forests for wood or paper products
- Companies in the mining, petroleum, and railroad industries

HYDROLOGIST
GREEN JOB FACT SHEET

PROJECT LEARNING TREE

Hydrologists are scientists who study the structure and function of lakes, rivers, and watershed systems. They analyze water levels and the rates, timing, and distribution of water flows. In forestry, they analyze how tree harvesting affects aquatic ecosystems, and they work with foresters and wildlife biologists on conservation. Hydrologists gather information in the forest, then head back to the lab to analyze data and report findings.

THE BIG PICTURE

Hydrologists investigate water and the water cycle to solve important questions, by:

- Learning how streamflow shapes forests.
- Studying the ways in which climate change affects watersheds.
- Understanding the environmental consequences of erosion, drought, and other water-related issues.

IS THIS CAREER RIGHT FOR YOU?

Hydrologists have great research and analysis skills. They gather information and use critical thinking to identify and solve problems. To succeed in this job, you need strong communication skills and must be comfortable working in and near bodies of water.

MOVING FORWARD

Here's a path of study that could lead to a career in hydrology. You'll likely need a four-year college or even a graduate degree.

HIGH SCHOOL: Focus on biology, statistics, social sciences, math, and physics classes.

COLLEGE: Choose a hydrology concentration within a geoscience, engineering, environmental science, or Earth science program. Earn a master's degree to get more opportunities and a higher salary.

For more about green jobs, visit **www.plt.org/workingforforests**

Are you drawn to WATER? Are you curious about the relationship between water, CLIMATE, the Earth, and living things? If so, this might be the perfect career for you!

SALARY

U.S. salaries range from about $40,000 to $96,000 per year and average about $61,000.

WHERE CAN YOU GROW?

A career as a hydrologist can include working as a climatologist, environmental geologist, oceanographer, or hydrogeologist. Possible employers include:

- Federal, state, or local governments
- Management, scientific, and technical consulting companies
- Private companies that provide engineering services

FORESTER
GREEN JOB FACT SHEET

PROJECT LEARNING TREE

Every day, foresters across the United States lace up their boots, put on their high-visibility vests, and head out to the woods. They gather information about forest health so they can predict and identify problems. They also create detailed plans to harvest and regenerate forests. They are responsible for protecting important wildlife habitats, cultural areas, and other historical assets within forests.

THE BIG PICTURE

Foresters manage our forests so that the communities and wildlife that depend on them can thrive. As problem solvers, they balance the ecological, social, and economic value of forests by:

- Creating plans that tackle challenges and achieve long-term forest management goals.
- Using scientific information and research to help make decisions that ensure the long-term health of a forest.
- Monitoring the impacts of their decisions, in order to make better choices in the future.

IS THIS CAREER RIGHT FOR YOU?

Since foresters work in the field, in the office, or in the lab, they have diverse skills: writing, data analysis, and plant and animal identification. Foresters must organize and moderate meetings and talk about their plans to many different people, including Indigenous communities and government representatives. To succeed in this job, you should be a good communicator.

MOVING FORWARD

Here's a path of study that could lead to a career as a forester. You'll likely need a four-year college degree.

HIGH SCHOOL: Focus on biology, chemistry, mathematics, physics, and pre-calculus classes.

COLLEGE: Earn a bachelor's degree in forestry. Visit the ForestryUSA website for a list of U.S. colleges and universities that offer forestry degrees.

For more about green jobs, visit **www.plt.org/workingforforests**

Do you care about wildlife, the ENVIRONMENT, and forests? Do you feel most comfortable in the OUTDOORS, getting your hands dirty? If so, this might be the perfect career for you!

SALARY

U.S. salaries range from about $47,000 to $97,000 per year and average about $70,000.

WHERE CAN YOU GROW?

Careers in forestry include forestry technician, extension agent, land conservation specialist, and arborist. Some possible employers and tasks:

- Forestry companies (creating timber management plans)
- Government agencies (developing policy)
- Private landowners (developing property management plans)
- Schools or universities (inspiring the next generation of leaders)
- Nonprofit organizations (contributing to education, conservation, and research)