

Careers in the

Jobs for people with green thumbs

Business is blooming for workers who plan landscapes, sow seeds, and tend to plant growth. Dig into these descriptions of green-industry occupations and some suggestions for how to enter them.

by Kevin M. McCarron

Do you enjoy working with flowers, trees, and greenery? Would you like to turn backyards into natural showplaces? How about growing and maintaining the turf on a football field?

If so, you might be on a green career path. And an interest in installing, growing, and caring for plants can be profitable. The U.S. Department of Agriculture estimates that wholesale receipts for greenhouse and nursery crops totaled \$15.7 billion in 2004, up about 20 percent from 1998. In addition, according to the National Gardening Association, spending on landscape installation and construction tripled—rising from \$3.6 billion in 1997 to \$11.2 billion in 2002.

Kevin M. McCarron is an economist in the Office of Occupational Statistics and Employment Projections, BLS, (202) 691-5710.

green industry

All that growth means lots of jobs and variety for the people who decide what to grow and for the people who tend those plants. Some of these occupations, such as landscape architect, require formal education; others do not. People often start out in grounds maintenance or retail jobs, for example, and work their way, by acquiring either education or experience or both, into occupations that require more skill and offer higher pay.

This article examines the green industry: its occupations, its working conditions, and ways to get started. Resources for learning more about the industry and the occupations in it are at the end of the article. And a box on page 28 defines the industry and identifies the types of places where plant lovers often work.

Green-industry occupations

Experience in planning landscapes and installing and caring for plants provides fertile ground for careers. Landscape architects and landscape designers arrange outdoor space in ways that meet clients' needs. Grounds maintenance and greenhouse workers, supervisors and landscape contractors, nursery and greenhouse managers, and turf managers do the hands-on work of installing and caring for plant life. These occupations are a sample of the career choices available.

Landscape architects

Landscape architects design yards, parks, golf courses, and any other residential or commercial landscape. They plan the locations of trees, flowers, roads, walkways,

buildings, and drainage. Their goal is to create a landscape that is functional and healthy as well as beautiful.

Landscape architects also collaborate with environmental scientists and foresters to find the best ways to conserve or restore natural resources. They might find ways to conserve existing trees, for example, or to create healthy environments for native plants and animals. Some landscape architects design lawns and other residential properties, but most concentrate on designing commercial parks; public works projects, such as airports and highways; and other large-scale projects that require a landscape architect's technical expertise.

When starting a project, landscape architects meet with their clients to find out what kind of environment they want, what it will be used for, and what it should look like. Landscape architects research local environmental and other regulations to determine the feasibility of ideas.

Then, landscape architects create detailed plans using computer-aided design (CAD) software, a drawing program that helps them to determine the correct grading of inclines and calculate the amount of soil that needs to be removed from or added to the site. The plans address issues of topography and grading at the site—its hills, valleys, and other variations in height.

Landscape architects also address structural issues, such as the placement and building of retaining walls. Other planning experts, including building architects, surveyors, engineers, and environmental scientists, work with landscape architects to make decisions about the arrangement of roads and buildings.

Much of landscape architects' time working on projects is spent indoors—creating designs on computers, doing research, developing budgets and cost estimates, and meeting with clients and other professionals. But these architects also spend time outdoors, visiting landscape sites and monitoring each project's progress.

Qualifications and training. Landscape architects should be creative and artistic. And because they work with clients and other professionals, landscape architects must have strong communication and interpersonal skills.

Among occupations in the green industry, landscape architects have the most stringent entry requirements. Forty-seven States require landscape architects to be licensed. And although exact criteria for licensure vary

by State, landscape architects are usually required to have at least a bachelor's degree and to pass a licensing exam administered by the Council of Landscape Architectural Registration Boards. Some States require and administer an additional exam that covers local laws and regulations.

Bachelor's degree programs for landscape architects usually include courses in surveying, construction, site design, ecology, soil and plant science, and geology. Many landscape architects also study business, which may be particularly useful in this occupation because more than one-fifth of the workers are self-employed.

Earnings. According to the U.S. Bureau of Labor Statistics (BLS), landscape architects who worked for a wage or salary had median annual earnings of \$53,120 in May 2004. Half of these workers earned between \$40,930 and \$70,400. The top-earning 10 percent made more than \$90,850; the lowest earning 10 percent made less than \$32,390. BLS does not have earnings data on self-employed landscape architects.

What is the green industry?

The business of growing flowers, greenery, trees, and vegetables and of planting them in the landscape is commonly called the green industry.

The U.S. Department of Agriculture (USDA) focuses on crop yields when it measures the green industry. It looks at floriculture—the growing of garden plants, vegetables, cut flowers, and potted flowering plants and of seedlings, cuttings, and other propagative floriculture materials. The USDA also assesses the production of nursery crops, such as conifers, deciduous trees, ornamentals, Christmas trees, and fruit and nut plants. Workers in the green industry grow all of these plants.

Installing and maintaining plants are also part of the green industry. Workers in this segment of the industry may manage the turf on sports fields and golf courses or design and install landscapes in parks, schools, commercial sites, and individual yards.

Workplaces for people with green thumbs run the gamut from small landscaping operations to huge garden centers. Sod farms, greenhouses, and nurseries hire people to produce the greenery needed for landscaping work. Landscaping maintenance firms employ people to mow grass, maintain equipment, spray for insects, and prune trees. And nearly all institutions, such as hospitals, universities, golf courses—even shopping malls—need people to manage their landscapes and plants.

Landscape designers

Like landscape architects, landscape designers plan landscapes. But these workers focus primarily on design, plants, and plant science. Landscape designers do not need to be licensed, so their occupation may not be as clearly defined as that of landscape architects.

Landscape designers usually plan residential properties and gardens and the landscapes around small businesses. Rather than concentrate on topography and engineering, however, landscape designers focus on creating inviting outdoor spaces for clients. Landscape designers are aided in these efforts by their knowledge of plants and of how well plants grow in different environments.

Like landscape architects, designers also consider ecological issues. Landscape architects sometimes rely on designers to determine the best plant choices for a given soil type,



climate, and levels of light and moisture. For example, landscape designers often learn about native plants and suggest species that are attuned to an area's soils, insect population, and rainfall.

Qualifications and training. Like landscape architects, landscape designers need a sense of artistry and an ability to work well with others. Landscape designers also need to understand horticulture, especially different types of plants and plant diseases. Knowledge of CAD software and drafting is helpful, but many landscape designers create designs by hand for clients who prefer a more personal touch.

According to industry sources, many designers have an associate, bachelor's, or master's degree in a subject related to plants, such as horticulture, botany, or soil science. The Association of Professional Landscape Designers offers certification to members who have at least 2 years of experience and submit an acceptable portfolio of designs.

Earnings. BLS does not collect specific data on landscape designers. Industry sources suggest that they usually earn less than landscape architects.

Greenhouse and grounds maintenance workers

Many plant lovers begin their careers by working in greenhouses and nurseries or on grounds maintenance. Workers in both occupations concentrate on the care and upkeep of vegetation.

Greenhouse and nursery workers start the growth of various flowers, shrubs, and young plants, or seedlings, in a controlled environment. When the plants are hardy enough, nursery workers transplant them to open fields and then fertilize them and set up irrigation systems. When the plants are ready for sale, greenhouse or retail workers help customers to find the ones that best suit their needs.

Grounds maintenance workers, sometimes called landscapers, groundskeepers, or gardeners, are perhaps the best known occupation in the green industry. These workers perform the familiar tasks of mowing, watering, fertilizing, pruning, and weeding landscapes and gardens. They follow design specifications for installing flowers, plants, lighting, and sprinkler systems and for building walkways, patios, and decks.

Grounds maintenance workers also use and fix landscaping equipment, including power saws, mowers, tractors, and aerators. Some workers specialize in apply-

ing pesticides and, in most States, receive training and licensure. Others become tree trimmers and pruners.

The tasks that grounds maintenance workers do depend on where they work. Those who work on sports fields, golf courses, or other kinds of turf use special equipment under the direction of turf managers. Other grounds maintenance workers are hired for residential jobs involving the care of yards and gardens. Still others work in cemeteries, hospitals, and universities and other institutions that have a campus.

Grounds maintenance duties change with the seasons. During the spring, workers are busy planting, fertilizing, tilling, and pruning summer- and fall-blooming shrubs. Summer is usually the season for routine care, such as mowing, watering, weeding, and pruning spring-flowering shrubs. In the fall, workers rake leaves and prepare plants for the winter. And winter is a time for controlling moisture, protecting plants from the elements, and clearing away snow and debris.

Qualifications and training. Greenhouse and grounds maintenance workers need to listen well and follow directions. They usually learn their required tasks on the job. Many workers also complete formal training in safety practices. Most States require workers who use pesticides to be certified, which usually involves passing a test to demonstrate ability in safely applying pesticides. These tests are usually administered by States' agriculture departments or environmental conservation departments.

Entry-level greenhouse and grounds maintenance workers can advance to supervisory occupations by gaining experience; taking classes in plant and soil science,



safety and business practices, or equipment maintenance; and receiving certification from a professional association, such as the Professional Landcare Network.

Earnings. According to BLS, landscaping and groundskeeping workers had median annual earnings of \$20,420 in May 2004. Half of these workers earned between \$16,720 and \$25,710. The top-earning 10 percent made more than \$33,080, and the lowest earning 10 percent made less than \$14,600.

Pesticide handlers, sprayers, and applicators made more, with median annual earnings of \$25,590. The top-earning 10 percent made more than \$36,920. The lowest earning 10 percent made less than \$17,960.

The grounds maintenance workers with the highest average pay were tree trimmers and pruners. In May 2004, their median annual earnings were \$26,150. The top-earning 10 percent made over \$41,870, and the lowest earning 10 percent made less than \$17,290.

All of these earnings figures are for wage-and-salary workers. Self-employed workers are not included.

Supervisors and landscape contractors

Other workers in the green industry manage people and projects. Supervisors, commonly known as crew leaders, plan projects and oversee work. Landscape contractors are supervisors who also run their own businesses.

Supervisors and contractors plan work schedules, inspect equipment, solve problems, and prepare cost estimates. Contractors and high-level supervisors procure plant materials from wholesalers and install the materials onsite, either supervising groups of workers or doing the job alone. They meet with designers and clients before interpreting and executing plans and technical drawings. They also ensure that plants are healthy and well situated.

Some landscape contractors are also designers, combining the hands-on skill of landscape installation with knowledge of design and horticulture to complete “design/build” projects. Often using CAD software, these workers create a design that includes plants, shrubs, trees, walkways, walls, and other features that will be in the final landscape. Then, they install or oversee the installation of the elements of the project.

Qualifications and training. Many supervisors and contractors train primarily on the job. Workers may obtain on-the-job experience working with a landscape nursery, landscape maintenance or construction firm, or other related business.

But many of these workers also get formal training, especially if they want to do design work, to attract a larger client base, or to work on large-scale projects. Two- and four-year programs are available in horticulture, agriculture, or landscaping. Programs with a con-



tracting focus may include courses in landscape design interpretation and construction, plant materials, and plant maintenance; specialized training in areas such as graphics, surveying, soils, turf grass management and disease, and insect control; and business-related courses, such as accounting, finance, economics, and marketing.

Some States require landscape contractors to be licensed. Even if it is not required, many contractors pursue certification hoping to attract potential clients. National certification is available after passing an exam administered by the Professional Landcare Network, often in partnership with State agencies. The Professional Grounds Management Society also offers certification to grounds managers or landscape contractors who have experience or education after high school or both and who have passed an exam administered by the society.

Earnings. BLS does not have earnings data for supervisors and landscape contractors who own their own businesses. But it does have data for those who are employed in wage-and-salary jobs, working for others. According to BLS, the median annual earnings of first-line supervisors of landscaping, lawn service, and grounds-keeping workers were \$35,340 in May 2004, with the top-earning 10 percent making more than \$57,050 and the lowest earning 10 percent making less than \$22,500.

Among managers who worked in other people's

landscaping companies, earnings were higher. In May 2004, chief executives in the landscaping services industry had median annual earnings of \$114,680, and general and operations managers had median annual earnings of \$73,550.

Nursery and greenhouse managers

Nursery and greenhouse managers use technical expertise and supervisory skills to keep crops of vegetables, flowers, and trees healthy. They plan and oversee the planting, feeding, and watering of these crops. Other responsibilities may include planting and caring for crops themselves, deciding on the appropriate climate inside greenhouses, or taking steps (such as providing covering) to protect outdoor plants from temperature extremes. Managers also watch for signs of damage from plant diseases and pests and determine how to eradicate them.

Overseeing a nursery or greenhouse takes careful scheduling and recordkeeping. It also requires training and supervising a team of workers. Some managers also decide which plants to produce and how much they should be sold for.

Qualifications and training. Nursery and greenhouse managers sometimes learn on the job, advancing into supervisory roles from entry-level positions. But many others get additional education after high school.

These managers often have a bachelor's degree in horticulture, botany, soil science, agriculture, or landscaping. Experience or training in business and personnel management is also helpful.

Earnings. BLS does not have specific earnings information for these workers.

Turf grass managers

Turf grass managers maintain large grassy areas in places such as golf courses, sod farms, parks, schools, and playing fields. These managers aerate, reseed, and fertilize existing turf and mow, water, and weed the grass. Turf managers who care for playing fields and stadium turf draw markings on the grass and set up equipment, which may include anything from goalposts for games to performance stages for special events. Turf grass managers also supervise the installation, programming, and repair of irrigation systems to maintain an ideal level of moisture, which is critical to turf strength: too little moisture causes grass to wither, and too much makes roots fragile.

Whether turf grass managers supervise few or many workers or perform tasks themselves depends on the size and complexity of the turf that they oversee. A turf grass manager of a professional golf course, for example, is more likely to require several workers than the manager of a high school football field, who may work alone.

Qualifications and training. Turf grass managers must understand plant science, including botany, turf grass physiology and ecology, and plant diseases, to protect turf from insects, diseases, and weeds. Most managers have extensive experience, and many have a bachelor's degree. Some turf managers are certified by the Professional Grounds Management Society.

Earnings. Earnings of turf grass managers vary widely. BLS counts these workers among first-line managers or supervisors of landscaping, lawn service, and groundskeeping workers. As stated previously, the median annual earnings of these workers, some of whom are turf managers, were \$35,340 in May 2004. Other industry sources suggest that annual earnings can range from about \$40,000 to \$200,000.

Working conditions: More than sunshine and rain

Climate, location, and career choice are among the many variables that affect the working conditions of people in

the green industry. The milder weather and longer growing seasons in warmer States contribute to higher output and, in turn, more opportunity for continuous employment in many green-industry occupations. But other occupations are not as dependent on weather.

Climate and locale

The green industry is affected by the climate and the length of the growing season. Both depend on geographic location, which in turn affects the work environment. For example, greenhouses in colder States need to be heated, so they must be made of glass or plastic. But in warmer States, such as Florida, many growers use temporary, shade-type greenhouses, which are designed to protect seedlings from the harsh sun. As a result, growers in these States can plant their crops directly in the fields using shade-type greenhouses, saving the time and expense of transplanting from a traditional greenhouse into a field.

Although every State produces greenhouse and nursery crops, output from greenhouses is, not surprisingly, much higher in the warm southern States. Southern States have the highest production of foliage plants for indoor or patio display and of bedding and gardening plants. Western States lead the country in production of cut flowers and potted flowering plants.

Work options

People working in green-industry jobs are often outdoors. The opportunity to work with nature and in nature is, for many, one of the main attractions of these jobs. But some tasks can also be based primarily indoors—or be physically demanding or even dangerous, such as when either pesticides or planting equipment are used.

The growing season may also affect the availability of work opportunities. Outdoor planting of trees and shrubs, laying new sod, or pruning or removing trees, for example, can usually be done only when the ground is free of ice and snow—a major concern in cold northern States, where the ground may be frozen for several months. Landscape construction and installation workers in States with harsh winters may try to log as many hours as they can during warmer months. Many of these workers take other, often unrelated, jobs during the winter.

Some people with green thumbs work almost entirely indoors. They may tend greenhouses, garden centers, or indoor gardens in malls, museums, and other buildings, for example. Many workers, even those who work

outdoors much of the time, may spend some of their workdays in offices doing administrative tasks, such as filling out schedules, reviewing invoices, or completing other paperwork. And landscape designers, architects, and contractors work indoors to create plans and to meet with other professionals and clients.

Sprouting a career: Gardening and other undertakings

Many times, people are drawn to jobs in the green industry because they like to raise plants. Gardening, studying plant life, and caring for lawns are all excellent ways to cultivate an interest.

Gardening

Having a garden or joining a garden club is a good way to start learning about plants. But for more comprehensive education, many people participate in “master gardener” training programs offered at little or no cost by the agricultural cooperative extension services of State land-grant universities. Typically, gardeners in these programs learn about topics such as botany, composting, organic gardening, pesticide use and safety, and soils and fertilizers.

At the end of the training, participants are certified as master gardeners, a credential that can later help in their quest for a job in the green industry. In return for certification, gardeners agree to donate a specified number of hours to community education service that is related to what they have learned. They might perform environmental gardening demonstrations or teach a seminar, for example.

Plant studies

The study of plant life can begin early. Students in junior high and high school can take classes in subjects such as biology, botany, and environmental science.

But the best preparation for a future in the green industry includes other subjects as well. Mathematics helps with calculating and measuring fertilizers and additives, preparing cost estimates, and managing business affairs. And classes related to communications are helpful in these careers, which nearly always require interaction with clients or with other workers.

Lawn care

People of all ages can get a headstart on landscape careers by operating a one-person, informal lawn care business. These entrepreneurs solicit business from residential customers, charging fees to do basic groundskeeping tasks, such as mowing, weeding, hedge trimming, and gardening.

A common endeavor for teenagers, this pursuit provides experience in business, customer relations, and gardening and groundskeeping. Exposure to this kind of work may help them to decide whether to pursue a career in the green industry.

Lawn care is a good way to gauge interest in a green career.



A rosy future for green jobs

Work with plant life is growing—in more ways than one. According to BLS projections, the occupations related to plants and landscaping will gain thousands of jobs between 2002 and 2012. Over this decade, employment for both landscape architects and landscape and greenhouse workers is expected to increase by about 22 percent. That's faster than the average employment growth projected for all occupations.

BLS does not make projections specifically for landscape contractors, nursery supervisors, or turf grass managers. Instead, these types of jobs are counted among those of first-line supervisors or managers of landscaping, lawn service, and groundskeeping workers. Employment in this occupational group also is expected to increase by about 22 percent.

What is causing this employment growth spurt in green-industry occupations? The higher demand for landscaping services comes primarily from homeowners who are improving their yards as a way to increase or protect the value of their houses. Increased construction activity for housing and institutional buildings also should support the demand for people who plan landscapes and work with plants.

Still, job growth is only a small part of what's creating opportunities for people who work with vegetation. Many other openings are expected to come from the need to replace current workers who permanently leave their occupations. Landscape workers, with several thousand openings expected over the projections decade, are a prime example of this. But every plant-related occupation is expected to need workers to replace others who leave.

Digging deeper

For more information about occupations related to plants, visit your local library or career center. Many books and resources describe green-industry occupations and how to train for them.

One of the resources available at many libraries and career centers is the *Occupational Outlook Handbook*. The *Handbook*, which is also available and searchable online at www.bls.gov/oco, describes the job duties, working conditions, earnings, employment, and training requirements of plant-related occupations studied by BLS.

The occupations profiled in this article are among

many in the green industry. Others include the following, most of which are described in more detail in the *Handbook*:

✂ Arborists, also known as tree doctors, care for trees and diagnose and treat diseased trees. (In the spring 2001 *OOQ*, see “You’re a *what?* Arborist,” online at www.bls.gov/opub/ooq/2001/spring/yawhat.htm.)

✂ Farmers manage the crops that grow in farm fields and greenhouses. (For more information about modern farming practices, see “Farming in the 21st century: A modern business in a modern world,” elsewhere in this issue of the *OOQ* and online at www.bls.gov/opub/ooq/2005/spring/art02.pdf.)

✂ Forest workers plant trees in forests and timberlands, remove dead trees, and spray pesticides.

✂ Foresters manage and take inventory of forests, supervise the planting of new trees, and monitor forest health.

✂ Horticulturists and botanists research plants, plant diseases, genetics, cross-breeding, and other techniques for growing vegetation.

✂ Horticulture and botany technicians assist scientists with experiments and in caring for, testing, and breeding plants.

✂ Plant curators breed and grow plants for botanical gardens and zoos, participate in conservation plant-breeding programs, plan exhibits, and teach the public.

✂ Urban foresters manage the trees and public gardens of a city by choosing, caring for, and monitoring plants and by working with volunteers.

Universities and community colleges can provide information about horticultural training programs. The cooperative extension services at State land-grant universities also have information for people interested in qualifying to become master gardeners. And information about working with native plants can be obtained at the Native Plant Societies of the United States and Canada, online at www.newfs.org/nps.htm#US.

The following associations also provide information about careers in the green industry:

Professional Landcare Network (PLANET)
950 Herndon Pkwy., Suite 450
Herndon, VA 20170-5528
Toll-free: 1 (800) 395-2522
(703) 736-9666
www.landcarenetwork.org

Association of Professional Landscape Designers
1924 N. Second St.
Harrisburg, PA 17102-2209
(717) 238-9780
www.apld.org

Professional Grounds Management Society
720 Light St.
Baltimore, MD 21230
Toll-free: 1 (800) 609-PGMS (609-7467)
(410) 223-2861
www.pgms.org

U.S. Department of Agriculture
Cooperative State Research, Education, and
Extension Service
1400 Independence Ave. SW., Stop 2201
Washington, DC 20250-2201
Toll-free: 1 (800) FED-INFO (333-4636)
(202) 720-7441
www.csrees.usda.gov/about/jobs.html

Finally, you can learn more about jobs in the green industry from people who have them. Many workers are happy to talk about what they do and can give firsthand accounts of their careers. OOQ



*surf to your future with
the OOQ online!*



www.bls.gov/opub/ooq/ooqhome.htm