



Ornamental Plants in the Landscape

Learning Outcomes

After studying this chapter, you should be able to:

- | | |
|---|--|
| <p>10.1 Describe the functions of trees in the landscape.</p> <p>10.2 Describe the functions of shrubs.</p> <p>10.3 Describe the function of herbaceous perennials.</p> <p>10.4 Understand the role and function of turfgrasses.</p> <p>10.5 Explain how ground covers are incorporated into a landscape design.</p> | <p>10.6 Describe the functions of vines as part of a landscape.</p> <p>10.7 Identify methods of using edible plants.</p> <p>10.8 Understand the role of aquatic plants.</p> <p>10.9 Explain the usage of geophytes.</p> <p>10.10 Describe how plants are used to create landscapes.</p> <p>10.11 Identify constructed plant forms, such as topiaries and espalier.</p> |
|---|--|

Key Terms

aquatic plant
bedding plant
climbing stem root
clinger
clinging stem root
dormant
dwarf shrub
edible landscaping

emergent plant
espalier
floating leaf plant
grass-like plant
heat island
herbaceous perennial
large shrub
large tree

medium shrub
ornamental grass
scrambler
shrub
small tree
specimen
submersed aquatic plant
tendrill

topiary
tree
twiner
windbreak
woody plant

Introduction

Most landscape designs include a large variety of plant materials. Many of the plants are chosen for their functionality as well as their aesthetic value. These plants often serve multiple purposes, such as providing shade or privacy while adding color and interest to the landscape. The multitude of materials available make it possible for designers to choose plants that will enhance the design, please the client, and thrive in the landscape. In this chapter, you will

learn about the many types of ornamental plants and the ways they can be used in landscape designs.

Trees

Few plants can provide the beauty of established trees, **Figure 10-1**. A *tree* is a woody perennial plant, typically with one main stem that grows to a mature height of at least 15'. A *woody plant* is defined as a plant that produces wood as its structural tissue. Trees used in landscapes may be evergreen trees and remain green throughout the year or deciduous trees, which shed their leaves annually. Although evergreens remain green throughout the year, it is important to note that they do shed leaves or needles throughout the year. How much a tree sheds may be of concern to a client that prefers a low-maintenance landscape. Evergreen magnolias, for example, litter leathery foliage throughout the year. The number of needles that pines drop, in addition to cones, depends on the species and environmental conditions. Another factor to consider is the time a tree takes to reach maturity and its expected life span. Most nurseries offer trees of varying height or maturity. Clients may choose trees that are close to their mature height to establish a mature landscape much sooner than if younger trees were installed, **Figure 10-2**.

Tree Sizes

Trees can be divided into two categories: small and large. *Small trees* have a mature height approximately up to 25'. *Large trees* are defined as those having a mature height over 25'.

Small Trees

Small trees are easily incorporated in landscape designs and are used more frequently than large trees. Small trees are often used as specimens.



Milleflore_Images/Shutterstock.com

Figure 10-1. Few plants provide the aesthetic beauty and functionality of trees, such as the Jacaranda trees (*Jacaranda mimosifolia*) shown here.





Single-Stemmed Trees	Multi-Stemmed Trees
 <p data-bbox="336 478 544 498"><i>Kpboonjit/Shutterstock.com</i></p> <p data-bbox="164 513 635 635">Single-stemmed trees are available in many shapes, heights, and species that provide shade and make interesting focal points.</p>	 <p data-bbox="863 492 995 527"><i>Jorge Salcedo/Shutterstock.com</i></p> <p data-bbox="671 533 1150 686">Multi-stemmed trees are open structures at their base, have greater foliage mass than single-stemmed trees, and provide broad canopies with an increased amount of shade.</p>
Broadleaf Evergreen Trees	Needled Evergreen Trees
 <p data-bbox="368 1054 520 1089"><i>Potapov_Alexander/Shutterstock.com</i></p> <p data-bbox="164 1095 651 1248">These evergreen trees provide color and interest throughout year and often have prolific flowering. They are drought tolerant and adaptable to climate change and can add lush foliage in some xeriscapes.</p>	 <p data-bbox="863 1054 1059 1075"><i>anmbph/Shutterstock.com</i></p> <p data-bbox="671 1085 1158 1238">These evergreen trees, which are available in many shapes, heights, and colors, provide color and interest to the landscape throughout the year. They can also be used to build effective windbreaks.</p>

Figure 10-2. Trees provide aesthetics unmatched by any other category of plant material. Large trees help frame the view and provide a backdrop for the landscape.

A *specimen* is a plant that is a focal point due to its aesthetic characteristics, including leaf color, unique growth habit, exfoliating bark, and/or floral and fruit displays.

When used as an accent, small trees complement other plants through their floral or fruiting display, **Figure 10-3A**. The flowers, fruits, and seeds can be the most exciting display for a plant during the year. Small trees used as specimens are focal points due to their aesthetic properties. These properties include interesting leaf color, unique growth habit, exfoliating bark, and/or floral and fruit displays, **Figure 10-3B**.

Large Trees

In addition to providing shade and contributing oxygen to the atmosphere, large trees may be used as windbreaks or specimens. A *windbreak* is a row or rows of trees planted to divert wind, **Figure 10-4**. Evergreens are often planted



A Manfred Ruckzio/Shutterstock.com **B** meteorite/Shutterstock.com; 3000ad/Shutterstock.com
Figure 10-3. A—Small trees, such as this Japanese maple (*Acer palmatum*), provide interest throughout the year. The weeping growth habit, fine-textured leaves, and beautiful fall color make these trees highly desired in any landscape. B—Small trees are excellent sources of spring color. Many small trees, such as crape myrtle, have attractive flowers and ornamental bark.



KPG_Payless/Shutterstock.com
Figure 10-4. Many types of plants can function as windbreaks. Windbreaks provide shelter from the wind and other elements to create a more pleasant outdoor living area.

along the north and west sides of the property to create a windbreak because they provide protection year-round. The dense growth habit that alters the speed and direction of the wind can also be used as a sound buffer. The ability of trees to buffer sound is especially important when the outdoor living area is near a busy and noisy street. Large trees are also used as specimens in landscape designs.

Species

Some plants fall into more than one category. The plant's species will determine the category in which it belongs. Crape Myrtle (*Lagerstroemia indica*), for example, has many different cultivars. The cultivars range in mature heights of 36" tall shrubs to trees that are over 30' tall, **Figure 10-5**.

Small trees commonly used in landscape designs include Japanese maple, dogwood, crape myrtle, saucer magnolia, eastern redbud, and Japanese apricot. Large trees used in landscape designs include beech, white ash, sycamore, southern magnolia, eastern white pine, loblolly pine, and various oaks. See **Figure 10-6**.

Functions

Trees are used to create shade, add color, provide wind protection, serve as sound buffers, and provide framework for a design. Trees also sequester carbon from the atmosphere and lower temperature on heat islands. An urban *heat island* is an area in which the temperature is higher than that of the surrounding areas due to human activities. Buildings, pavement, concrete, and other structures help create heat islands, such as the planted areas found between rows in parking lots.

Shade

Trees provide shade for outdoor living areas and permanent structures, such as a home or garage. The temperature in shaded areas is lower than the temperature in areas fully exposed to the sun. A designer can use shade from trees to create a more enjoyable outdoor living space, **Figure 10-7**. The direction of the cast shade depends on the size of the tree as well as the time of the year. If a large deciduous tree is desired, installation on the southwest side of



Noel V. Baebler/Shutterstock.com

Figure 10-5. Cultivar selection is extremely important when selecting plant materials. Plants, such as crape myrtles (*Lagerstroemia indica*), are available in a wide variety of cultivars. Mature heights range from just a few feet to over 30' tall.



A James Andrews1/Shutterstock.com



B Susan Edmondson/Shutterstock.com

Figure 10-6. A—Small trees, such as the flowering crabapple, provide beautiful floral displays that make strong statements. B—White ash does not provide a showy floral display; however, its growth habit and architecture make it a desirable large tree for many landscapes.



Leonardo da/Shutterstock.com

Figure 10-7. Trees in urban areas provide shade along the city sidewalks.

a structure is recommended. Placing the tree on the southwest side of the home will provide shade cast over the house during the summer months. In the winter, a deciduous tree will shed its leaves and allow sunlight to pass through its branches and help warm the home.

Color

Color is another important function that trees provide. The leaves easily attract the eye due to the dense growth habit. The color or texture of the bark can also be used in a design. In many areas, the fall color of deciduous trees is the most noticeable aspects of trees. Maples, gums, and ginkgo trees provide striking fall color.

Framework

Few living plant materials have as much architectural impact as trees. Trees provide framework for landscape designs and help soften the sharp lines created by buildings. The variety of heights available provide the designer many options when creating his or her design.

Shrubs

Shrubs are woody plants that are available in various heights and have more than one stem. Depending on the species, shrubs range from 18" to approximately 20'. Shrubs typically feature dense growth habit and are commonly used as ornamentals. They may be selected for flower color, growth habit, scent, fruit, or leaf color, **Figure 10-8**. Shrubs may be used to soften the hard surface of building's foundation or to conceal objects, such as an air conditioning unit. As a hedge, shrubs can establish boundaries or provide privacy. Shrubs that thicken and provide foliage from the ground up make effective privacy borders. Shrubs are classified as dwarf, medium, or large and are all available in evergreen or deciduous forms.

- **Dwarf shrubs** are shrubs with a mature height of less than 4'. Dwarf shrubs are commonly used in areas where short, low-maintenance plants are desired. Dwarf shrubs are ideal for use under windows and other structures.
- **Medium shrubs** are shrubs ranging in height from 4' to 6'. Medium shrubs are commonly used as foundation plants. Medium shrubs used around a foundation require less pruning than large shrubs.
- **Large shrubs** are shrubs with a mature height over 6'. Large shrubs are commonly used as corner foundation plants, hedges, and privacy screens, **Figure 10-9**. Their dense growth habit also makes them effective windbreaks and sound barriers. Large shrubs may also be pruned and formed into specimen plants that resemble trees or other shapes.



Christopher D. Hart

Figure 10-8. Shrubs come in many shapes, sizes, and colors. Such a wide variety allows for selection of the perfect shrub for virtually every site.

- **Evergreen shrubs** effectively provide year-round interest and privacy. A designer can use different evergreen shrubs to create visual interest with varying leaf sizes, colors, and textures, **Figure 10-10**. Glossy Abelia (*Abelia x grandiflora*) and Azalea (*Rhododendron obtusum*), for example, have ornamental leaves all year and blooms in spring, early summer, or late summer. The bloom time varies by species.
- **Deciduous shrubs** are available with many leaf types, sizes, and colors. Some varieties offer a spectacular, albeit short-lived, display of flowers. The designer must consider how deciduous shrubs will impact the landscape after they lose their leaves. A combination of evergreen and deciduous shrubs is often used to create visual interest year-round.

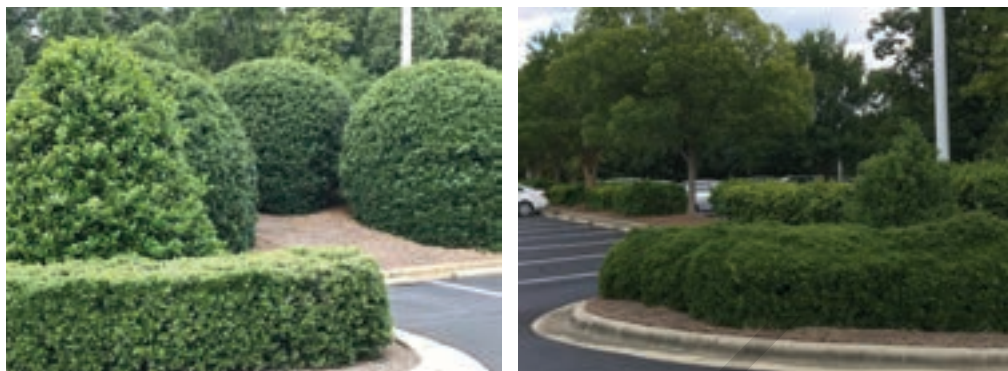


romakoma/Shutterstock.com

Figure 10-9. Large shrubs can be used to create a living wall that provides privacy and protection.

Shrub Species

With so many shrubs available, designers can always find one that will suit any area of the landscape. Many shrubs, such as azaleas, rhododendrons, and hydrangeas, are often selected for the beautiful and colorful blooms but they also have attractive foliage. Boxwoods make excellent shaped hedges and topiaries and provide color and interest throughout the year. Hollies are available as small evergreen shrubs to trees that grow over 80'. Hollies provide color throughout the year and berries that help sustain wildlife in



Christopher D. Hart

Figure 10-10. Various growth shapes and growth habits of plants can be used to create year-round visual interest.



A

Christopher D. Hart



B

Mccallk69/Shutterstock.com

Figure 10-11. A—Kaleidoscope Abelia is a small shrub featuring red, green, yellow, and purple foliage. B—Azaleas offer early spring flowers unrivaled by few other shrubs.

the winter. Other popular shrubs include Glossy Abelia, Winter Daphne, Indian Hawthorn, Pfitzer's Juniper, and Wax Myrtle, **Figure 10-11**.

Shrub Cultivars

Cultivar selection is of utmost importance when selecting shrubs for a design because each cultivar possesses unique characteristics. *Ilex vomitoria* 'Pendula,' for example, is a large weeping evergreen shrub with a mature height of 15'. (Pendula is Latin for weeping.) It features beautiful red berries. *Ilex vomitoria* 'Nana,' dwarf yaupon holly, is a dwarf evergreen shrub with a mature height of 5'. Red fruit is rarely seen on dwarf yaupon holly. Plant breeders have also created shrubs with prolonged bloom time. Roses, hydrangeas, and azaleas that bloom multiple times throughout the year for prolonged periods can be used to provide more color and interest.

Herbaceous Perennials

Herbaceous perennials are herbaceous plants (plant with a soft, succulent stem) that die to the ground, become dormant, and return the next growing season. When a plant is *dormant*, the buds and seeds are inhibited from growing until the environmental conditions become ideal for the plant to grow. These plants do not have aboveground woody stems. Hosta and sedum are popular herbaceous perennials. Herbaceous perennials are

popular with designers and clients because they come back year after year and most require little maintenance and are easy to grow, **Figure 10-12**. They also grow larger each year and often can be divided and planted in other locations.

Some herbaceous perennials are known for their blooms and growth habits, but many are chosen for their unique foliage. Most perennials are versatile and may be grown in containers, used as fillers between shrubs, or used as ground cover. Few plants can rival the ornamental impact of herbaceous perennials.

Herbaceous Perennial Species

Herbaceous perennials have been favorites of landscape designers and professional and amateur gardeners for years. Perennials, such as daylilies, daisies, and purple coneflowers, adorn residential and commercial landscapes across the country. Other popular perennials include yarrow, hollyhock, columbine, clematis, larkspur, and phlox, **Figure 10-13**.

Cultivars

Plant breeders have developed thousands of cultivars of many favorite herbaceous perennials. Over 2000 hosta cultivars have been named and each plant is unique in its height, flower color, width, and variegation pattern. *Hosta* 'Blue Mouse Ears,' for example, has a mature height of 8" and features tiny leaves that resemble mouse ears whereas *Hosta* 'Blue Angel' has large leaves and grows to a mature height of 32". The different cultivars enable designers to use plant species in areas where the original species may not thrive.

Ornamental Grasses

True *ornamental grasses* are perennial grasses belonging to the Poaceae family that range in size from 12" to over 10', **Figure 10-14**. Many people may consider ornamental grasses and grass-like plants herbaceous perennials. However, grasses are botanically different from herbaceous ornamentals and are visually unique due to these differences. These grasses have a wide color range and varying leaf size and textures. They can be used as focal points easily due to their unique aesthetic qualities. The blooms and seedheads are also unique and visually appealing. Ornamental grasses also provide movement and interest during the winter season.

Ornamental grasses are very drought tolerant due to their strong fibrous root system that has very efficient water uptake. Their resistance to drought makes



Manfred Ruckszio/Shutterstock.com; Debu55y/Shutterstock.com

Figure 10-12. Euphorbia is a drought-tolerant perennial that provides unique visual interest. This type of herbaceous perennial provides interesting colors and textures that can quickly become a focal point in any landscape.



Anna Gratysh/Shutterstock.com



Thinglas/Shutterstock.com



Del Boy/Shutterstock.com

Figure 10-13. Herbaceous perennials offer unique floral and leaf color that few other plants can match.



Christopher D. Hart



Jahina_Photography/Shutterstock.com

Figure 10-14. Ornamental grasses and grass-like plants provide interesting colors, flowers, and textures. They are also great options when landscaping a site that is in full sun and receives little moisture.



Job Narinnate/Shutterstock.com



MLN/Shutterstock.com

Figure 10-15. Sedges and cattails are plants that resemble grasses but are not true grass plants.

them excellent candidates for some xeriscapes. Clump-forming species grow in neat mounds and are not invasive. However, rhizome-forming species can quickly spread if not kept under control. Designers must choose species carefully as ornamental grasses range in height from a few inches to several feet.

Grass-Like Plants

Grass-like plants resemble grasses but belong to different families. Carex, for example, is a type of sedge that belongs to the *Cyperaceae* family. Grass-like plants and ornamental grasses are not only aesthetically pleasing, they are very useful in problem areas of the landscape. Both types of plants, for example, can be selected to tolerate shade, wet areas,

and drought. Plants can also be selected to flourish in both the cool season and the warm season. Grass-like plants include sedges, rushes, and cattails, **Figure 10-15**.

Turfgrasses

Properly installed and maintained turf makes an immediate impact on the landscape unlike any other part of the design. Turfgrass is often the base on which the site is landscaped, and it often occupies a large percentage of the landscape site, **Figure 10-16**. There are many varieties of turfgrass, and the designer must determine which variety will suit the landscape and meet the

customer's expectations. Important characteristics to consider include wear tolerance, disease resistance, density, color, shade tolerance, drought tolerance, and maintenance requirements. The designer must also know which types grow best in warmer climates and which will thrive in cooler climates.

There are several methods of installation with varying costs, including seeding, sodding, and plugging. (These methods are explained in the following turfgrass chapters.) The client and designer must determine which method suits the project's budget. Fertilization and pest control along with maintenance procedures, such as mowing and aerating, make turfgrass very labor intensive.



SingjaiStock/Shutterstock.com

Figure 10-16. A winding path of thick, healthy turfgrass creates an inviting landscape. The lawn is often the first part of the landscape that is noticed.

Ground Covers

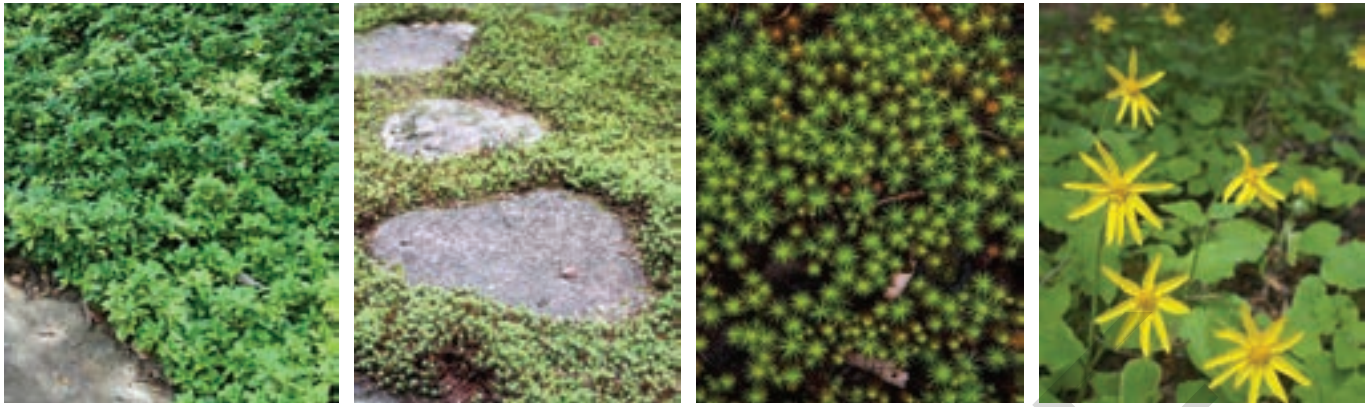
A ground cover is a low growing (usually less than 18"), spreading plant that can quickly cover a large area, **Figure 10-17**. Most ground covers are perennial plants that require less maintenance than most other ornamentals. These low-growing plants may be selected for their color, texture, or flowers. Ground covers are typically woody plants but may also be herbaceous. Most woody ground covers are evergreens. Ground covers are used for steep or problem areas as well as to create areas requiring little or no maintenance once established.

- As an attractive alternative to turfgrass on slopes that are too steep to mow easily.
- As weed barriers by providing dense plantings that slow or eliminate weeds in areas, such as the floor of an outdoor room.



A ESB Essentials/Shutterstock.com **B** photowind/Shutterstock.com **C** EQRoy/Shutterstock.com

Figure 10-17. A mix of ground covers is visually appealing and practical. Choose plant species that require the same environmental needs as the surrounding plants. A—Star sedum (*Sedum lineare* 'Golden Teardrop'). B—Creeping juniper (*Juniperus horizontalis* 'Golden Carpet'). C—Carpet bugleweed (*Ajuga reptans*).



Christopher D. Hart

J. Henning Buchholz/Shutterstock.com

O.C Ritz/Shutterstock.com

PhotoTrippingAmerica/Shutterstock.com

Figure 10-18. Ground covers are low growing and hug the soil, making them effective for erosion prevention. The dense growth habit of ground covers also prevents weeds.

- For erosion control by slowing water flow on slopes and/or drainage areas. A woody evergreen, such as a juniper, would be a good selection.
- To landscape an area where turfgrass will not grow due to extreme site conditions.
- In place of turfgrass in areas of the landscape that are too wet or have too much shade.
- To create a landscape bed requiring little routine maintenance and where the height of plant material is important.

The ground cover selected will depend on the intended function. Ground covers, for example, are commonly used in parking lot islands. The ground covers create a bed that requires little maintenance, and the short height does not block the drivers' view over the bed. The plants are also tall enough to deter people from walking through the beds. Some other types of plants can be modified to serve as ground covers. Vines, for example, can be trained to cover an area. Common ground covers include bugleweed, holly fern, and junipers, **Figure 10-18**.

Vines

A *vine* is a woody-stemmed plant with a growth habit of climbing or trailing. Vines attach to structures with tendrils, twiners, scramblers, climbers, and climbing stem roots and must have support or a structure to climb. The manner in which a vine attaches and its weight or the weight of its fruit may require a specific type of support structure.

- **Tendrils.** A tendril is a modified leaf that is used to climb by coiling around the support structure, **Figure 10-19A**. Structures should have thin poles or lattice or wire to make it easier for the tendrils to grasp. Grapes, passionflower, and sweet peas use tendrils to climb.
- **Twiners.** Vines with a twining growth habit use their leaves or stems to wrap around a support structure. Twiners, unlike tendrils which use a modified leaf, wrap existing leaves or stems around the structure. Twining vines include clematis, wisteria, honeysuckle, and pole beans, **Figure 10-19B**. Twiners require a heavy-duty support structure.



Zeljko_Zizak_Photoaphy/Shutterstock.com; PeingjaiChiangmai/Shutterstock.com; Jorge Salcedo/Shutterstock.com; Terry J Taylor/Shutterstock.com; mizy/Shutterstock.com

Figure 10-19. Vines climb in different ways. It is extremely important to match the vine to the climbing structure to ensure the vine will climb the structure and, in some cases, not become too heavy for the structure. A—Tendril. B—Twiner (honeysuckle). C—Scrambler (roses). D—Boston ivy. E—English ivy.

- **Scramblers.** Scramblers are vines with very long, strong, flexible stems that must be physically attached to a climbing structure. Stems of scramblers often have thorns, **Figure 10-19C**. Climbing roses are scramblers. These vines may need a strong support structure.
- **Clingers.** These vines attach to structures with their adhesive pads and aerial roots. These vines can climb virtually on any surface. Boston ivy and Virginia creeper are common vines that have adhesive pads, **Figure 10-19D**.
- **Climbing stem roots.** Vines that climb using their stems and root structures are referred to as climbing or **clinging stem roots**. These root structures can damage paint and mortar, especially if they are pulled off the structure. These vines can climb on virtually any surface. Common vines with stem roots include English ivy and wintergreen euonymus, **Figure 10-19E**.

Although vines are a relatively small category of ornamental plants, they provide material that is unique and aesthetically pleasing. A passionflower (*Passiflora incarnate*), for example, has unique flowers that automatically make the vine a focal point, **Figure 10-20**. Vines such as honeysuckle (*Lonicera* spp.), provide a sweet fragrance that may draw the visitor to a specific location. Grape vines (*Vitis vinifera*) can be used to incorporate



EQRoy/Shutterstock.com

Figure 10-20. Passionflower is a vine with a very distinct flower and rather bland foliage. Plants are selected for a variety of reasons, and the site along with the demands of the client will dictate selection of plant material.

Career Connection



Brie Arthur

Brie Arthur, Garden Communicator

Originally from southeastern Michigan, Brie Arthur is a home gardener, author, and communicator who discovered her love of horticulture through 4-H. She studied Landscape Design and Horticulture at Purdue University and initially worked as an estate gardener at the Montrose Gardens in Hillsborough, North Carolina. She spent more than a decade as a professional plant propagator at Plant Delights Nursery and Camellia Forest Nursery before transitioning her focus on Green Industry communications through writing, public speaking, film production, and consulting. She is a published author with her debut book, *The Foodscape Revolution*.

As Vice President of Horticulture at Gardenuity, a direct-to-consumer on-line gardening company, Brie is able to use her plant knowledge and extensive grower network to reach consumers nationally. The goal of Gardenuity is to make growing herbs and vegetables as accessible as possible and to engage young customers by connecting growing plants to a healthy diet and clean living.

In her role as a garden industry communicator, Brie is leading the national suburban Foodscape movement; a model of community development that incorporates sustainable, local food production. She speaks internationally and is a correspondent on the PBS television show *Growing a Greener World*, sharing practical gardening advice from her one-acre suburban foodscape.

In 2017, Brie was awarded the first “Emerging Professional” distinction by the American Horticultural Society. Brie serves as GWA (Garden Writers of America) National Director of Region IV representing garden communicators across the southeast United States. As a founding member of *Emergent: A Group for Growing Professionals*, she encourages an open dialogue and networking opportunities between seasoned professionals and rising green industry members. She sits on the Executive Committee for the International Plant Propagators Southern Region and is on the board of directors for the North Carolina Botanical Garden Foundation.

“Working in the realm of garden industry communications has been an amazing transition in my career. I have control of my schedule, my pay rates, and am able to travel across the United States and beyond inspiring others to embrace the hobby of growing plants.” —Brie Arthur

Consider This

1. Brie Arthur has held many positions in the green industry. In what ways did each experience contribute to the following position?
2. What types of personal goals would you set for yourself to follow a path similar to Brie’s?
3. In what special niche of the green industry are you interested?

edibles into the landscape. Vines may become aggressive and spread quickly. Before planting a vine, research available species of vines and select the best cultivar for your area.

Edible Plants

Edible landscaping is landscaping that incorporates edible plants in the ornamental areas of a landscape. Rather than using a dedicated area for fruit and vegetable production, both annual and perennial fruits and vegetables

are planted throughout the ornamental landscaping. Edibles provide fresh food and add color, texture, and shapes to the design, **Figure 10-21**.

- Herbs, such as basil, thyme, oregano, and cilantro, have unique scents and are harvested regularly for food preparation.
- There are also edible flowers, such as marigolds, borage, sweet William, and pansies, which can be added to food dishes and used as garnish.
- Grape vines can be used as most other vines would be used with the added bonus of fresh grapes.
- Kale is often used as a border plant that provides late season color as well as food.



Figure 10-21. Edible plants can be aesthetically pleasing as well as functional.

Many edibles have features that are similar to those of ornamental plants and can be used in the design for these features. In some instances, edibles can be used and replaced with the next seasonal crop. The types of edibles incorporated into the landscape depend on the preference of the client or homeowner.

Aquatic Plants

Aquatic plants are species that grow in water or in soils saturated with water. Aquatic plants are categorized as emergent, floating leaf, and submersed. *Emergent plants* are rooted in the soil. The leaves, stems, and flowers of emergent plants rise above the water surface. Emergent aquatic plants tolerate areas that are saturated with water and can be used in bogs and rain gardens. *Floating leaf plants* are also rooted in the ground below the water. Their leaves float on the water surface. *Submersed aquatic plants* are rooted in the soil and have most of their leaf structure below the water surface, **Figure 10-22**. When growing in a pond, aquatic plants offer aquatic animals places to hide and rest.



A



B



C

Christopher D. Hart

Figure 10-22. Aquatic plants offer unique characteristics that differ greatly from other landscape plants. The pitcher plant and Venus flytrap (A/B), for example, are carnivorous plants that catch and eat small insects that wander onto their sticky surface. A yellow water lily (C) floats on the water surface and is available in various colors.

Geophytes

Safety First

Always call 811 to have all buried telephone, gas, electrical, and water lines marked before beginning any excavation or planting.

Geophytes are plants with an underground nutrient and water storage organ. Geophytes are divided into seven categories: bulbs, corms, tubers, tuberous stems, tuberous roots, rhizomes, and pseudobulbs. Geophytes are popular with designers because most are spreading perennials that fill in areas over time. A designer can include geophytes that bloom at different times of the year to ensure color throughout the seasons. With proper planning, the landscape can have flowers blooming from spring until fall. Daffodils, crocus, and tulips bring springtime to mind because they are the earliest bloomers. These flowers may bloom when there is still snow on the ground.

Color Display

Geophytes have striking colors and are commonly used in areas needing accents or splashes of color, **Figure 10-23**. Different species that bloom at the same time are often combined in beds. Common combinations include daffodils, crocus, pansies, and tulips.

Hands-On Landscaping

Planting Geophytes

Soil preparation for geophytes is vital to their success. Adding amendments and manipulating the soil to alter its physical and chemical properties will help ensure they will grow and flower.

1. Prepare the planting area by hand or with a rototiller. Till deep areas (at least 8") because the loose backfill will allow for better emergence.
2. Test the soil and add amendments as needed. The pH range should be between 6 and 7.
3. Work the amendments into the soil. Recommended amendments include leaf mulch, composted plant materials, composted animal manures, bone meal (providing phosphorus), and/or other clean sources of organic matter.
4. Prepare the holes. If you have a label, follow the instructions for planting depth and spacing. In general, large bulbs are planted 8" deep and small bulbs are planted 4" or 5" deep. If you want the geophytes to naturalize or divide, plant them by hand. If you want a more structured design, use a bulb planter to keep them evenly spaced.
5. Place the geophyte in the hole with the pointed end up and the roots pointing down.
6. Fill the holes with the loose backfill and lightly compress the soil.
7. Water the planting area.
8. When the flowers have completed blooming, deadhead the flowers but leave the foliage intact. The foliage will continue to gather nutrients for the following season.
9. Cut the foliage to ground level after it turns yellow or brown.

Consider This

1. Do all geophytes have the same life span? What occurs when the geophyte reaches the end of its life span?
2. Do any geophytes need to be dug up and stored over winter? Explain why this should/should not be done and with which types.
3. Do any geophytes bloom continuously throughout the season? Identify those that bloom continuously and those that last a short time.



Anton_Ivanov/Shutterstock.com

Figure 10-23. Geophyte planting beds can create a striking display of color when they are well planned and carefully installed.

Additional Uses for Plants in Landscape Design

Specific areas of the landscape need specific categories of plants to achieve an aesthetically pleasing and functional landscape. For example, seasonal color is often created by using bedding plants in various planting beds throughout the landscape. Bedding plants are commonly purchased in flats and are massed together to create a striking display.

Bedding Plants

Bedding plants are typically annual plants installed mainly for their seasonal floral or foliage presentation. They are often replaced every six to eight months, depending on location and climate. Color displays are often one of the first things people notice in a landscape. Many annuals, such as caladium, coleus, impatiens, and geraniums, are used as bedding plants, **Figure 10-24**.

Border or Line Plants

Plants can be used to delineate property lines or provide a visual barrier between areas. When large deciduous trees are used as border plants, the trunks provide the delineation. Hedges may also serve as border plants. Many broadleaf and narrow-leaf evergreens are chosen due to their consistent greenery and vigorous growth.

Facer Plants

Facer plants can be placed at the base of larger plants for ground coverage and contrasting colors or textures,



Christopher D. Hart

Figure 10-24. Bedding plants are used to provide seasonal color to the landscape. They can be used to create striking displays in window boxes by mixing species.



Christopher D. Hart

Figure 10-25. A facier plant is used to cover the base or the stem of the plants growing behind it.



Imagenet/Shutterstock.com

Figure 10-26. Foundation plants refer to a wide category of landscape plants that are suitable for using against the foundation of a home or other structure. Foundation plantings help soften the stiff lines created by construction materials, such as brick and metal. Foundation plantings help the structure appear more naturalized.

corner plantings because they provide foliage year-round and can be lightly pruned to maintain the pyramidal shape.

Mass Plantings

Massing is the practice of planting many of the same type of plant very close together. Massing provides sweeps of colors that create dramatic effects, especially when contrasted with monochromatic sweeps of other colors. Plants should be installed in a diagonal pattern rather than a rectangular pattern. The diagonal, staggered pattern provides more room for the plants to fully mature in width and uses more plants, **Figure 10-27**. Rectangular spacing leaves small gaps between plants. The plants must be equidistant (spaced equally apart) to ensure proper coverage is achieved.

Figure 10-25. Facier plants are often used at the base of large plants because their foliage is sparse due to lack of sunlight. If space allows, facier plants can be integrated into a design as a stair-step, a method of gradually increasing plant height.

Foundation Plants

Foundation plants are installed adjacent to the foundation of a structure. These plants, which are typically shrubs, can be used to create a contrast of colors and textures between the house and plant materials. These plants are often less than 4' in height and are mostly grown for foliage display.

The same types of shrubs used as foundation plants can be used to create a low border. A low border is often less than 3' and used to direct traffic flow or the path of the eye. In many cases, frequent shearing is needed to maintain the low border and keep the foliage growing tightly together, **Figure 10-26**.

Corner Plantings

A landscape designer can use plants to soften hard architectural lines and narrow the distance from the soil surface to those lines. A pyramidal plant can be installed on the structure's corners to soften outward facing vertical lines. The same plant can be applied to an inward facing vertical line as well. Evergreens are commonly used as



Figure 10-27. A/B—Mass plantings of (A) pink Muhly grass and (B) black, red, and yellow tulips provide a sweep of color. C—Diagonal planting provides sufficient growing space and creates a pattern of diagonal lines that can be viewed from different directions.

Massed plants have lower weed pressure due to foliar shading, buffered root temperatures, and reduced water needs. Massing can be used with perennials and annuals.

Topiary

A *topiary* is a shrub that has been pruned and sheared into an interesting shape or imaginative character. Strategic pruning is used to form the basic shape of a topiary. The early pruning is followed by repeated shearing until the plant has acquired the desired form. Topiaries need trimming or shearing on a regular basis to maintain their shape, **Figure 10-28**.

Espalier

Espalier is a unique plant training method and form of topiary pruning. The plant is trained to grow flat against a wall or other support. Espalier can be used to create visually appealing forms and shapes against a vertical surface and to incorporate edibles into the landscape while conserving space. A fruit tree, for example, can be trained to grow against a garden wall. Espalier is often used as a focal point or at the end of a line of plants, **Figure 10-29**.



Federico Magonio/Shutterstock.com

Figure 10-28. Interesting shapes and figures are created with topiary pruning. Topiary plants require high maintenance and must be routinely sheared to maintain their desired shape.



EagleEyes/Shutterstock.com

Figure 10-29. *Pyracantha* (*Pyracantha coccinea*) is commonly espaliered to grow flat against a wall or other structure. Espalier plants are unique and often become a focal point of the design.



Summary

- Trees are used to create shade, add color, provide wind protection, serve as sound buffers, and provide framework for a design.
- Shrubs are woody plants available in dwarf, medium, and large sizes.
- Shrubs are selected for flower color, growth habit, scent, fruit, or leaf color.
- Shrub cultivar selection is of utmost importance because each cultivar possesses unique characteristics.
- Some herbaceous perennials are known for their blooms and growth habits, but many are chosen for their unique foliage.
- True ornamental perennial grasses belong to the Poaceae family and range in size from 12" to over 10'.
- Ornamental grasses and grass-like plants are often tolerant of extremely wet or dry site conditions.
- Turfgrass, which often occupies a large percentage of the landscape site, is often the base on which the site is landscaped.
- Ground covers are low, spreading plants that can quickly cover large areas that will require little or no maintenance.
- Vines are plants with a growth habit of climbing or trailing by attaching to structures with tendrils, twining, and/or aerial roots.
- Edible landscaping incorporates edible plants in the ornamental areas of a design.
- Geophytes are perennials that are often used to provide splashes of color.
- Bedding plants are annuals installed for their floral or foliage presentation.
- Border or line plants can be used to delineate property lines or provide a visual barrier between areas.
- Facer plants can be placed at the base of larger plants for ground coverage and contrasting colors or textures.
- Foundation plants can be used to create a contrast of colors and textures between a building's foundation and plant materials.
- Corner plants soften hard architectural lines and narrow the distance from the soil surface to those lines.
- Massing is the practice of planting many of the same type of plant very close together to create sweeps of colors that create dramatic effect.
- A topiary is a shrub that has been pruned and sheared into an interesting shape.
- Espalier, which is a form of topiary pruning, is a plant training method in which the plant is trained to grow flat against a wall or other support.

Chapter Review

Answer the following questions using the information provided in this chapter.

1. A tree that is a focal point due to its aesthetic characteristics is referred to as a _____.
 - A. sample
 - B. spiritual
 - C. specimen
 - D. simple
2. *True or False?* Deciduous trees are often planted along the north and west sides of a property to create a windbreak with their dense growth.
3. *True or False?* A large deciduous tree is best placed on the northwest side of a home to cast shade during summer months.
4. For which of the following purposes are shrubs used?
 - A. Foundation plants
 - B. Scent, fruit, and color
 - C. Growth habit
 - D. All are correct.
5. Which of the following apply to herbaceous perennials?
 - A. They have aboveground woody stems.
 - B. They require little maintenance.
 - C. They include grasses from the Poaceae family.
 - D. They have limited cultivars.
6. Which of the following are important characteristics to consider when choosing turfgrass species?
 - A. Wear, drought, and shade tolerance
 - B. Disease resistance and density
 - C. Color and maintenance needs
 - D. All are correct.
7. Of the following, which is likely to be used in place of turfgrass in areas that are wet or have too much shade?
 - A. Ground cover
 - B. Grass-like plants
 - C. Ornamental grass
 - D. Boxwood shrubs
8. Vines require a support structure to climb and attach themselves with _____.
 - A. twiners
 - B. tendrils
 - C. aerial roots
 - D. All are correct.
9. Landscaping that incorporates annual and perennial fruits and vegetables throughout the ornamental plants is referred to as _____.
 - A. virtuous landscaping
 - B. food landscaping
 - C. edible landscaping
 - D. This is not a landscaping method.
10. *True or False?* Submersed plants, floating leaf plants, and emergent plants have root systems that float just below the water surface.
11. Tuberos roots, rhizomes, bulbs, corms, tubers, tuberous stems, and pseudobulbs are _____.
 - A. geophytes
 - B. aquatic plants
 - C. ground covers
 - D. glorifides
12. *True or False?* Border plants are placed at the base of smaller plants for ground cover.
13. *True or False?* Facer plants are used to delineate property or provide a visual barrier.
14. A shrub that has been pruned and sheared into an interesting shape or imaginative character is a(n) _____.
 - A. espalier
 - B. massing
 - C. topiary
 - D. facing
15. A plant training technique in which a plant is trained to grow flat against a wall or other support is _____.
 - A. espalier
 - B. massing
 - C. topiary
 - D. facing

Critical Thinking

1. How would you explain the benefits and drawbacks of planting only crabapple trees that do not bear fruit?
2. How would you explain to someone why certain tree species should not be planted near a structure?
3. How could landscaping contribute to helping reduce food shortages?

Suggested Activities

1. You and your business partner are landscaping a property that is located close to a noisy highway. The noise is unpleasant to the client and he or she would like a quiet backyard. How can this be achieved with plants? Work with a partner to find a solution.
2. Design a hedge to be used to separate property lines from an adjacent property in a residential neighborhood. The property line measures 195'. Be sure to include the number of plants that it will take to install the hedge.
3. Form groups of 4 to 5, and identify examples of screens, borders, foundation plants, or mass plantings. You may photograph examples in your neighborhood or find landscape photos online. As a group, discuss whether the effectiveness is optimized and, if not, determine the steps necessary to correct it. Create a visual presentation for the class.
4. You have a bed that you wish to plant in ajuga. It is recommended that the plants be planted 18" off center (OC). The rectangular bed measures 20' × 30'. How many plants will you need to install the bed?
5. Working in groups of 2 to 4, design an edible landscape for a small area at your school. Include various edibles that will become available during different seasons of the year.
6. Review the NALP's indoor plant identification list. Obtain images of the plants listed and create a visual presentation. The images may also be used to create flashcards. Include the botanical and common names on the back of the cards.
7. Expand on the preceding activity by including pathogens, pests, and cultural damage that are common problems with indoor plants.
8. Identify and sketch the different forms of flowers and how they affect reproduction. Include the seeds and fruit of the plant and summarize their functions.

Nursery/Landscape Plant Identification

The following plant identification glossary contains more than 100 plants (ranging from smaller flowering specimens to shrubs and trees) commonly grown and used in landscaping applications. This illustrated glossary has been provided to help you familiarize yourself with these plants, and as a means of studying for career development events in which plant identification is a major component. To help you identify the plants, each entry includes the botanical name and at least one common name. There is also a list of the names alphabetized by common names at the end of the glossary. This glossary is by no means all-inclusive, as there are innumerable varieties and cultivars available to growers everywhere. However, it contains a good variety for you to begin your studies.



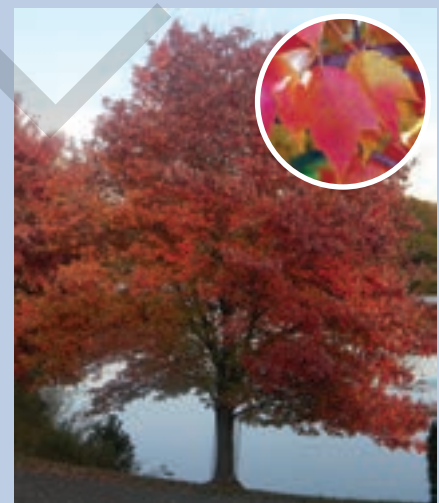
alybaba

Abelia × *grandiflora* cv.,
Glossy Abelia



ukmooney; Frank11

Acer palmatum cv.,
Japanese Maple



Flombardo; Richard A. McQuirk

Acer rubrum cv., Red Maple



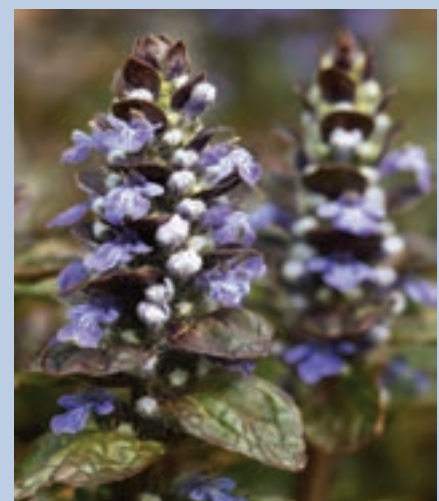
Melinda Fawver

Acer saccharum cv.,
Sugar Maple



Taweesak Sriwannawit

Aglaonema commutatum,
Chinese Evergreen



Bildagentur Zoonar GmbH

Ajuga reptans cv.,
Carpet Bugle



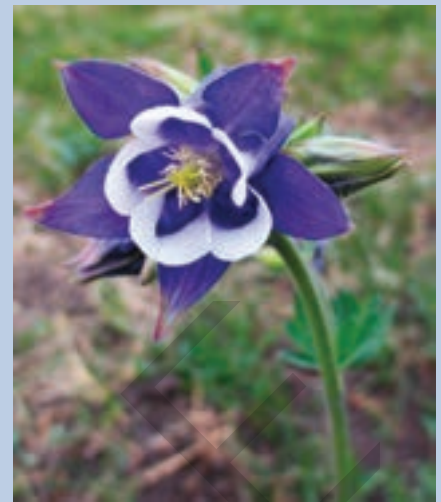
Peter Turner Photography; ArgenLant

Amelanchier arborea,
Downy Serviceberry



Charles Wayne Lytton

Antirrhinum majus,
snapdragon



Real Moment

Aquilegia × hybrida cv.,
Columbine



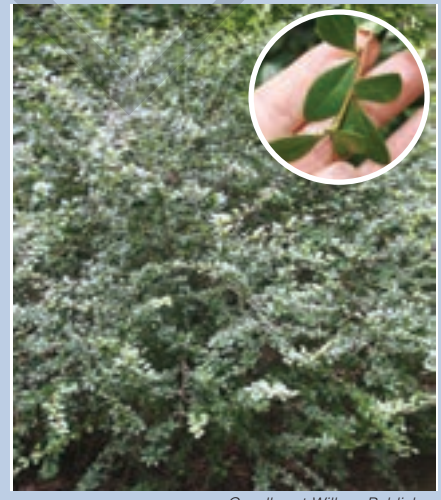
photosoft

Astilbe hybrid cv., Astilbe



Supitcha McAdam

Begonia semperflorens-cultorum,
Wax Begonia



Goodheart-Willcox Publisher

Berberis × mentorensis,
Mentor Barberry



axz700; Sue Sweeney

Betula nigra, River Birch



Goodheart-Willcox Publisher

Brassaia actinophylla,
Schefflera, Octopus Tree



Doikanoy

Buddleia davidii cv.,
Butterfly Bush



photology1971

Buxus microphylla cv., Littleleaf Boxwood



Irina Kuzmina

Camellia japonica cv., Common Camellia



ID1974; Grigory Stoyakin

Cedrus atlantica 'Glauca,' Blue Atlas Cedar



Melinda Fawver; Real Moment

Cercis canadensis, Redbud



Kapustin Igor; Denis Vesely

Chaenomeles speciosa cv., Japanese (Flowering) Quince



Dagmar Breu; photowind

Clematis hybrid, Clematis



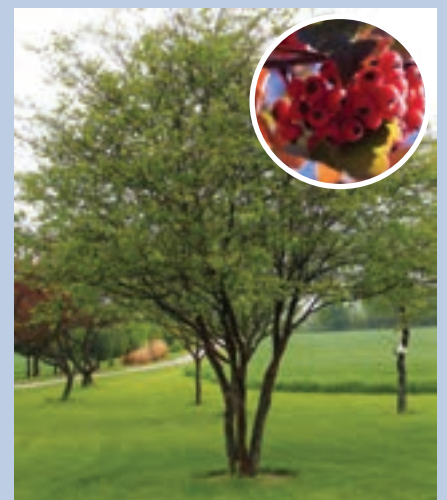
Mariusz S. Jurgielewicz; Zocchi Roberto

Cornus florida cv., Flowering Dogwood



Ian Grainger

Cotoneaster dammeri, Bearberry Cotoneaster



F. D. Richards; Arina P. Habich

Crataegus phaenopyrum, Washington Hawthorn



Goodheart-Willcox Publisher

Cynodon dactylon cv.,
Bermudagrass



COULANGES

Dieffenbachia maculata cv.,
Spotted Dumb Cane



Steve Bower

Dracaena deremensis 'Warneckii,'
Striped Dracaena



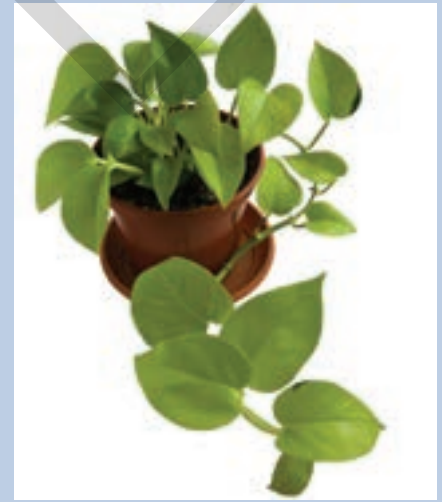
Moritorus

Dracaena fragans 'Massangeana,'
Corn Plant



jaroslava V

Echinaceae purpurea, Purple
Coneflower



Bondarenko

Epipremnum spp., Pothos



Matt Lavin: Kees Zwanenburg

Euonymus alatus, Winged
Euonymus



Natalya Chumak

Euonymus fortunei cv.,
Wintercreeper



Willow; Appaloosa

Fagus sylvatica cv.,
European Beech



Goodheart-Willcox Publisher

Festuca spp. and cv., Fescue



Natalia Pyzhova

Ficus benamina, Benjamin Fig



Imageman

Ficus elastica 'Decora,'
Decora Rubber Plant



Devonx; Natalia Berlizeva

Forsythia × *intermedia* cv.,
Border Forsythia



Topimages

Gaillardia aristata cv.,
Common Blanketflower



phriwwai

Gardenia jasminoides cv.,
Gardenia



Mark Baldwin v.apl

Ginkgo biloba, Ginkgo,
Maidenhair Tree



Sally Wallis

Gleditsia triacanthos inermis cv.,
Thornless Honeylocust



KPG_Payless

Hedera helix cv., English Ivy



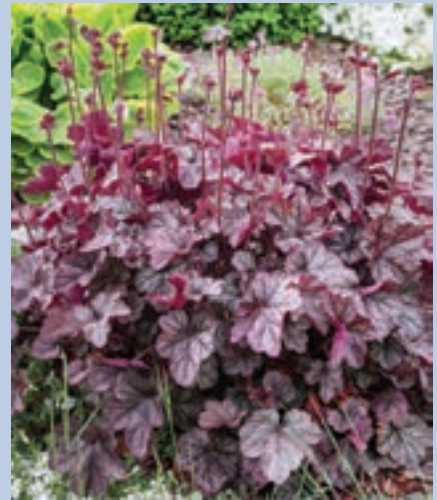
Aunyaluck

Helleborus orientalis cv.,
Lenten Rose



Olena Sergejeva; reya-photographer

Heemerocallis spp. and cv.,
Day Lily



Helen Liam

Heuchera cv., Coral Bells,
Alumroot



Sergey

Hibiscus syriacus cv.,
Rose of Sharon



DGSHU

Hosta × *hybrida* cv.,
Plaintain Lily



Tanya rusa; guentermanaus

Hydrangea macrophylla,
Bigleaf Hydrangea



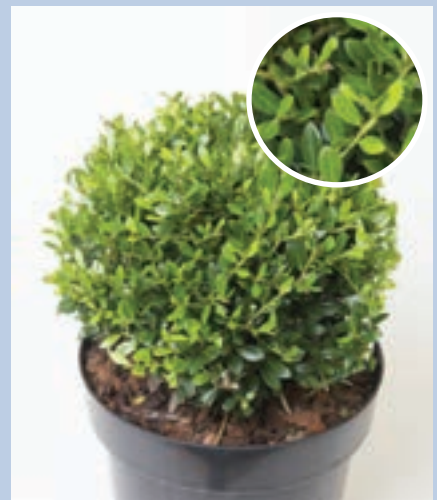
guentermanaus

Hydrangea quercifolia,
Oakleaf Hydrangea



High Mountain

Ilex cornuta cv., Chinese Holly



InfoFlowersPlants

Ilex crenata cv., Japanese
Holly



InfoFlowersPlants

Ilex x meserveae cv.,
Meserve Holly



Motorolka

Impatiens hybrid cv.,
Impatiens



ANATOL

Iris x germanica,
florentina/bearded iris



Peter Turner Photography

Itea virginica, Sweetspire



Radovan1; VanHart

Juniperus chinensis cv.,
Chinese Juniper



Photowind

Juniperus horizontalis cv.,
Creeping Juniper



Janken; chinahbzyg

Lagerstroemia indica cv.,
Crape Myrtle



Manfred Ruckszio

Lavendula angustifolia cv.,
English Lavender



val lawless

Leucanthemum x superbum
cv., Shasta Daisy



Lilyana Vynogradova

Liquidambar styraciflua, Sweet Gum



Peter Turner Photography; Nick Pecker

Liriodendron tulipifera, Tuliptree



BONNIE WATTON

Liriope spp. and cv., Lilyturf



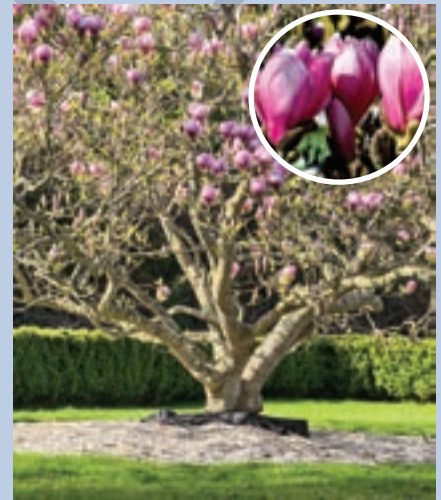
Calin Tatu

Lonicera japonica 'Halliana,'
Hall's Japanese Honeysuckle



Charles F. Gibson; Stephen Farhall

Magnolia grandiflora cv.,
Southern Magnolia



romioshots: Simon Groewe

Magnolia × *soulangiana* cv.,
Chinese (Saucer) Magnolia



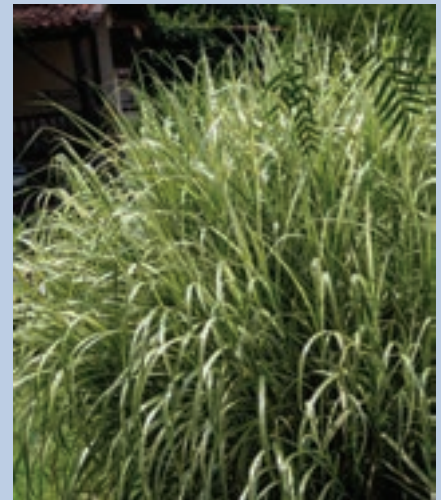
Anna Bogush

Mahonia aquifolia cv.,
Oregon Grape



Nina B; Nick Pecker

Malus spp. and cv., Flowering
Crabapple



Flower Garden

Miscanthus sinensis cv.,
Miscanthus Grass



forest pictures; M.M.PHOTO

Myrica pensylvanica, Bayberry



Peter Turner Photography; simona pavan

Nandina domestica,
Heavenly Bamboo



Nanya; Isabel Eve

Narcissus species, Daffodil



Del Boy; Kyle Selcer

Nyssa sylvatica, Sour
(Black) Gum



Divgradcuri

Pachysandra terminalis,
Japanese Spurge



Nick Pecker

Paeonia hybrid cv., Peony



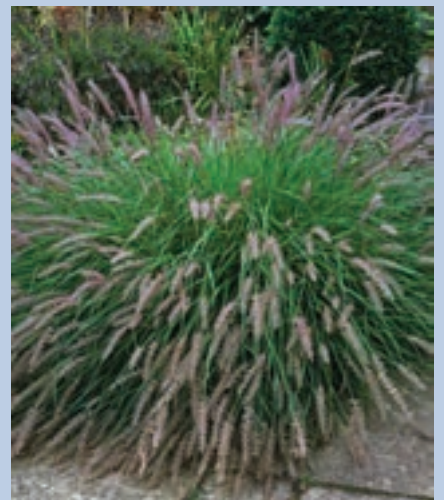
Vladimira

Parthenocissus tricuspidata,
Boston Ivy



Lapa Smile

Pelargonium × hortorum cv.,
Zonal Geranium



Del Boy

Pennisetum ruppelia sp.,
Fountain Grass



Luke Neale Photography

Petunia × *hybrida* cv., Petunia



Skyprayer2005

Philodendron scandens oxycardium,
Heartleaf Philodendron



Galina Bolshakova 69

Phlox paniculate,
Garden Phlox



Sergey V Kalyakin

Phlox subulata cv., Moss Pink



Zyankarlo; Gherzak

Picea abies, Norway Spruce



USDA NRCS; Bozhena Melnyk

Picea pungens cv., Colorado
(Blue) Spruce



crystaldream; BeppeNob

Pieris japonica, Lily-of-the-Valley
Bush



photowind

Pinus mugo, Mugo Pine



Peter Turner Photography

Pinus strobus, Eastern
White Pine



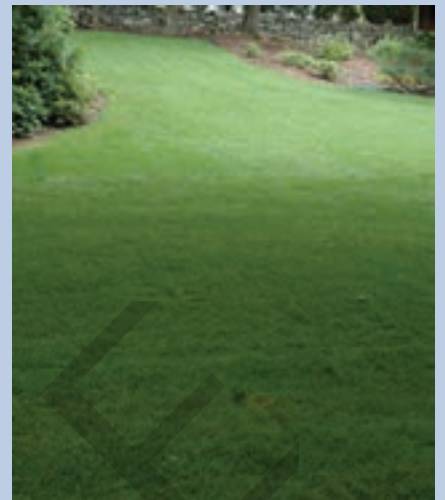
Manuel Ascanio; Huaykwang

Pinus thunbergiana or *thunbergii*,
Japanese Black Pine



simona pavan; Martin Fowler

Platanus x *acerifolia*, London
Planetree



Laura Glickstein

Poa pratensis cv., Kentucky
Bluegrass



Ketut Agus Suardika; Nikolay Kurzenko

Podocarpus macrophyllus,
Southern Yew



gubernat; coco312

Potentilla fruticosa cv., Shrubby
Cinquefoil



Gabriela Beres

Prunus laurocerasus cv.,
Cherry Laurel



s_oleg

Cercis canadensis, Redbud



Alex Dmr; haris_M

Pyracantha coccinea cv.,
Firethorn



Photodigitaal.ni; valzan

Quercus alba, White Oak



Josh Jackson; Steven Russell Smith Photos

Quercus palustris, Pin Oak



Mark Wagner jopelka

Quercus rubra, Red Oak



Mark Terribery

Rhododendron × *catawbiense*,
Catawba Hybrid Rhododendron



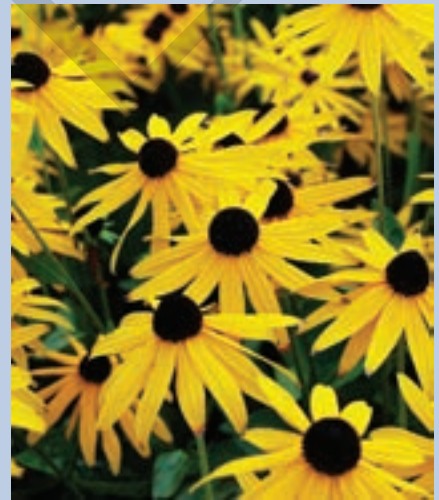
J Need

Rhododendron hybrid, Exbury
Hybrid Azalea



Rennes

Rosa spp., Landscape/Shrub
Rose cv.



Olga P

Rudbeckia fulgida, Black-Eyed
Susan



Manfred Ruckszio

Salvia nemorosa cv., Meadow
Sage



Tamara Obodjeieva; Starover Sibiriak

Sedum spp., Sedum



Ru Bai Le

Solenostemon scutellarioides,
Coleus



Mark Herreid; Sunny Hudson

Spiraea × bumalda,
Bumalda Spirea



Vitaly Titov; Ioflo69

Syringa vulgaris cv.,
Common Lilac



Peter Turner Photography; ribeiroantonio

Taxodium distichum,
Bald Cypress



IrynaL; InfoFlowersPlants

Taxus spp. and cv., Yew



Aleksandr Nizienko; APugach

Thuja occidentalis cv.,
American Arborvitae



Peter Turner Photography; Digoarpi

Tilia cordata, Littleleaf Linden



guentermanaus; Melinda Fawver

Tsuga canadensis,
Canadian Hemlock



jolei

Verbena × hybrida cv., Garden
Verbena



Nikolay Kurzenko

Viburnum × burkwoodii,
Burkwood Viburnum



MaKo-studio

Viburnum trilobum, American Cranberrybush Viburnum



Przemyslaw Muszynski

Vinca minor cv., Periwinkle



Jordan Tan

Viola × wittrockiana cv., Pansy



Anna Gratys

Weigela florida, Weigelia



miya38

Wisteria sinensis cv., Chinese Wisteria



catus

Yucca filamentosa, Adam's Needle



Jordi Roy

Yucca gigantea; *Yucca elephantipes*, Giant Yucca



Lubos Chlubny

Allium schoenoprasu, Chives



Reksik

Anethum graveolens, Dill



Graham Corney

Coriandrum sativum, Cilantro or Coriander



chuyuss

Mentha sp, Mint



fedsax

Ocimum basilicum, Small Leaf Greek Basil



mil87olia

Petroselinum crispum, Parsley



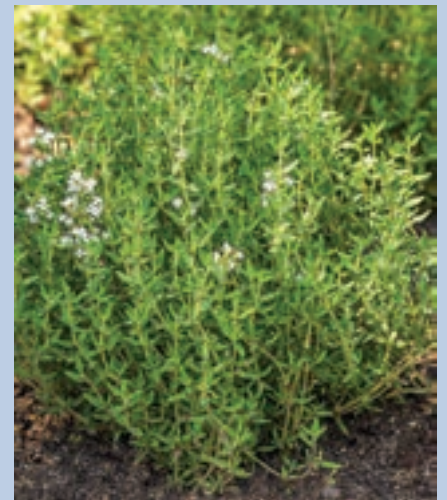
pilialoha

Rosmarinus officinalis, Rosemary



Ryan Yee

Salvia officinalis, Sage



Frank Fischbach

Thymus vulgaris, Thyme