Plant your containers like a pro
Ideas for condos, porches & patios

Container gardening

50+ INSPIRING PLANT COMBOS

From the publisher of
GARDENMAKING
Inspiring & informing home gardeners

SPECIAL GARDEN GUIDE

HOW TO

Design gorgeous containers

Grow edibles in pots

Keep your plants thriving

EDITOR'S NOTE

Pot luck

I started growing plants in containers for the same reason many people do: I was new to gardening and containers seemed a lot easier than tackling an entire garden, where there were too many holes to dig, too many decisions to make and way too much space to contemplate. A few pots, a few plants and a couple of bags of soil—what could be simpler? My first attempts were fun—and probably laid the foundation for my love of gardening—but when I look back on those forlorn petunias struggling in compacted soil with not enough water and no fertilizer, it's no wonder my first results were disappointing. Nevertheless, I was hooked!

A few decades have passed since my foray into container gardening. Today, I grow far too many plants in way too many containers—mainly because I love the chance to experiment with new colour combinations, try new plants, create outlandish surprises. Every year is different, and equally exciting. I'd be less than candid if I didn't own up to some duds, but these never seem to spoil my enthusiasm. For me, a garden without several lush containers, baskets and boxes would be a dismal sight indeed.

I hope that the ideas and information in this Special Garden Guide from *Garden Making* magazine will inspire you to create a container garden that suits your style, your budget and your space. Most of all, I hope you will discover that gardening in containers is a fun, easy and exciting way to personalize your garden.

Beckie.

Beckie Fox, Editor-in-Chief, *Garden Making*

Photos: Roger Yip

From the publisher of
GARDENMAKING

SPECIAL GARDEN GUIDE

CONTENTS

CONTAINER GARDENING

GARDENMAKING.COM

Inspiring and Informing Canada's Gardeners

Opposite: Michael Graydon for *Garden Making*. This page, clockwise from bottom left: Oksana Struk/istock; Richard Bloom, Julia Boulton, Lee Avison, Lynn Keddie/Gap; Proven Winners.
Cover photograph: Friedrich Strauss/Gap

GARDEN DESIGN

Download PDFs of garden bed planting plans.

gardenmaking.com/design

GARDENS TO VISIT

What to look for at great garden destinations.

gardenmaking.com/gardens-to-visit

CONTAINER GARDENING

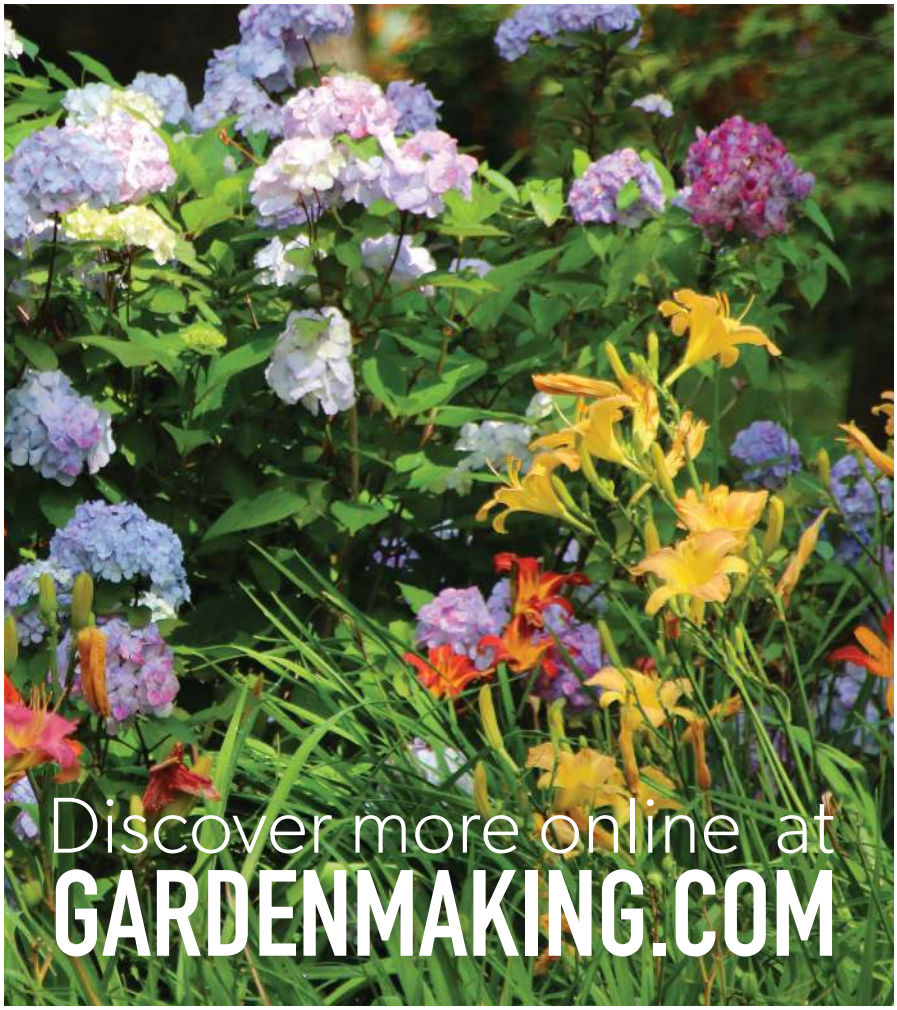
Ideas for new container combos for your pots.

gardenmaking.com/container-gardening

GET BACK ISSUES

Order single copies of *Garden Making* magazine.

gardenmaking.com/shop



Garden Making regularly adds articles with useful information and ideas at gardenmaking.com. You'll find gardening tips, design ideas, plant suggestions, gardening events, gardens to visit, free downloads and more at gardenmaking.com – the trusted Canadian source for gardeners in a northern climate.

GARDENMAKING
Inspiring & informing home gardeners

STAY CONNECTED

Find local events for gardeners

Listings by province now at gardenmaking.com/events

Container gardening

SPECIAL GARDEN GUIDE

From the publisher of

GARDENMAKING
Inspiring & informing home gardeners

Editor-in-Chief **BECKIE FOX**
Design Director **GARY HALL**

HORTICULTURAL CONSULTANT Judith Adam
CONTRIBUTING EDITOR Deanna Dority
PRODUCTION CONSULTANT Maria Musikka

CONTRIBUTORS
John Barrett, Hilary Bellis, Laura Berman, Steven Biggs, Mark Burstyn, Mark Cullen, Yvonne Cunnington, Yvonne Duivenvoorden, Jerry Filipski, Michael Graydon, Uli Havermann, Lorraine Hunter, Niki Jabbour, Liz Klose, Laura Langston, Jeff Mason, Tony Post, Kate Seaver, Stephen Westcott-Gratton, Roger Yip, Karen York, Paul Zammit

Publisher **MICHAEL FOX**

GARDEN MAKING published by Inspiring Media Inc.
Box 808,Niagara-on-the-Lake, ON L0S 1J0
Mailing address in U.S.:
Garden Making, Box 2510, Niagara Falls, NY 14302
Email: publisher@gardenmaking.com
Telephone: 905-468-2999
Facsimile: 866-857-4262
Website: gardenmaking.com

SERVICE
Email: service@gardenmaking.com
Toll-free: 866-637-4262
Online: gardenmaking.com/service

SHOP
Print and digital issues available at gardenmaking.com/shop

MORE FOR YOU AT GARDENMAKING.COM
Go to gardenmaking.com for gardening tips, design ideas, plant suggestions, gardening events, free downloads and more.

NOTICES & ACKNOWLEDGEMENTS

Services:
Printed in Canada by Lowe-Martin Group
Colour by Clarity Colour, Limited
Distributed by Coast to Coast Newsstand Services
Publications Mail Agreement 41953017

Canada
Ontario Media Development Corporation / Société de développement de l'industrie des médias de l'Ontario
Magazines Canada

We acknowledge the support of the Government of Canada

Made possible with the support of the Ontario Media Development Corporation.

FSC www.fsc.org MIX Paper from responsible sources FSC® C016931

Garden Making prints on paper with 10% post-consumer content. Details at gardenmaking.com/environment

SPECIAL GARDEN GUIDE

1

CONTAINER GARDENING

STARTING OUT

GARDENMAKING.COM

PAGES
5–30

Photo: Oksana Struk/istock

Ready, set... grow!

The reasons to grow plants in containers are as varied as the reasons we garden. When you run short of space in your traditional garden, you may turn to containers as a way to enjoy more plants. Or, you may tuck in a container or two of colourful annuals in areas where perennials have finished blooming. Containers also let you test drive specimens you've not grown before or add colour to a porch or patio. And, if you garden on the concrete floor of a balcony or roof, it's the only game around.

But the best reason to grow plants in containers is the amazing creativity it affords. The pairing of a gorgeous terracotta pot with contrasting leaf shapes and complementary flower colours placed at the bend of a path makes a visitor stop and admire its beauty. Similarly, a cluster of pots overflowing with beautiful blooms can help blend a terrace or deck with the garden beyond, and create an inviting setting in which to relax or entertain guests.

All gardening is an exciting blend of science and art: the knowledge of how plants grow keeps them beautiful and healthy, while the creativity to display them in imaginative ways enhances our surroundings. This balance is especially crucial when using containers as decorative accents—even the most elegant urn looks woebegone if the plants in it are struggling to keep their flowery heads aloft. Conversely, the healthiest plants may be less than riveting if we don't take the time to match them with suitable containers displayed in attractive combinations.

*Left: A carefree mix of Mexican sunflowers (*Tithonia rotundifolia*), purple heliotrope, browellia, and trailing grey helichrysum fill an antique container.*

Arguably, the most important principle to understand is that growing plants in pots is different from growing plants in a traditional garden. The soil is different, the watering and fertilizing needs are different, and the criteria for choosing plants are different. Plants also grow differently in a container, and they require different planting methods. So it is different, but it's not difficult. There's nothing complicated about these differences, and understanding them will determine whether your container gardening experience will be a satisfying one—or a frustrating one.

Photo: Roger Yip

PLAN FIRST, PLANT LATER

Good container gardens begin with a bit of forethought. Before putting plant to pot, ask yourself:

1. Where is the pot going to go?
2. How much time am I willing to spend caring for it?

These questions are pretty basic, but you'd be surprised how many times enthusiastic gardeners dash out to buy plants and pots, plant everything in a rush, only to realize midway through the season that things are not going as well as they had hoped: the effect isn't what they expected or the plants are suffering or they're tied to a watering can or...

The problem isn't a lack of gardening skills or that there's some mythical secret to achieving stunning floral displays in a pot—it's just that things weren't thought through.

ASSESS YOUR SITE

When it comes to where to place containers, think of what real estate agents tell us: location, location, location. Walk around your house and garden and imagine where pots would look best. Here are a few likely spots:

FRONT ENTRANCE

Visitors to your home appreciate a warm welcome, and the front entranceway or porch is the perfect place to add a personal statement. (However, make sure your "statement" doesn't make walking to and from the front door a hazard!) If stairs are too narrow for a container, try a hanging basket in one corner.

This is a highly visible area, so choose plants with long-term interest, and plant containers so they have visual impact from day one. How does the entranceway look from the sidewalk or road? A few small pots filled with dainty pansies and petunias won't be noticed. Be bold! Imagine the drama of dahlias, cannas and ornamental grasses.

BACK PATIOS, TERRACES AND DECKS

These are usually more intimate areas—often where you dine, barbecue, relax or entertain. Fragrant plants are appreciated here, and if the kitchen is nearby, it's the perfect spot for herbs and small vegetables. On wooden decks, where standing water might create stains or cause the wood to rot, raise large planters a few inches off the surface, use plant saucers under small pots or place a collection of pots on a pretty plant stand.

VERTICAL SPACES

Walls and fences are often boring and monotonous. A half-basket enhances a bare wall, much as a painting breaks up an interior wall. Or, consider mounting a series of hanging baskets on sturdy L-brackets along a wooden fence.

WINDOW LEDGES

Not all house styles suit window boxes, but if you have a traditional-style house and deep window ledges, window boxes are a beautiful accent. One of the advantages is that the blooms are visible to the home's occupants as well as passersby. If your house doesn't have window ledges, mount the boxes directly below the bottom of the window to the side of the house.

Of course, you can use shapes other than boxes. A row of matching terracotta pots lined up along the ledge outside a kitchen window, each planted with one perfect pansy—or whatever captures your fancy—can be quite charming.

MAKE A FOCAL POINT

A focal point in the garden is like punctuation in a sentence: it acts as a guide for our eyes, drawing them through a space and showing them where to linger. If you have a perennial border that has a gap in midsummer, a large pot of complementary-coloured flowers, raised slightly above the perennial foliage, draws the eye through the bed and beyond. Or, use a boldly planted urn at the intersection of paths in an ornamental vegetable garden. If you have a long path that ends at a bench, flank either end of the seat with containers to highlight the area and give it even more prominence. Adding a focal point to your garden is easy with a container of beautiful plants.

MIX EQUAL PARTS OPTIMISM AND REALISM

After walking through your garden and imagining the possibilities, you'll have likely drawn up a list of five or 10 or more ideal locations. This is where the second point—How much time do I have?—comes into play. It's important to understand that although there is nothing difficult about growing plants in pots, container gardening often requires more frequent, ongoing maintenance, sometimes watering on a daily basis, for example.You'll need to empty and store pots at the end of the season and replant next year. If you're already pressed for time, consider adding just two or three large containers filled with easy-to-care-for plants, and place them where you'll receive the most enjoyment from them. Gardening should be fun, not a chore, and the quickest way to make gardening seem like work is to try to do too much.

One size doesn't fit all

Large containers dominate their immediate surroundings, so site them where you want to accent your garden's good points: an entranceway, the foot of an arbour, the edge of a pond, the seating area on a deck. Don't expect a large container to camouflage an eyesore—unless the container is so large it obscures the object entirely! Hanging moss baskets from the eaves of a dilapidated metal shed or placing pots of annuals on either side of a garage door only draw attention to these structures. Instead, place a planter in another part of the yard to create a visual treat—a dynamite container will distract viewers from your garden's less desirable features.

Small containers can be delightful, too, and are well suited to showing off the attributes of diminutive treasures like violets, sedums and tiny alpine plants. In the hurly-burly of perennial and shrub borders, petite plants can be easily overwhelmed. Place a small wicker basket brimming with miniature roses near a chaise longue where each flower can be admired, or elevate a shallow bowl of hens and chicks on a pedestal set in a drift of creeping thyme.

Clustering various sizes of containers near an entrance creates a colourful welcome. Filling each with a single type of flower adds a bold look and reads well from a distance.

Photo: Friedrich Strauss/Gap

Potscapes as problem solvers

If you have horrible soil that requires a few seasons of amending before it's ready for planting, or you're in rented quarters, growing plants in containers lets you partake in all the joys of gardening regardless of your soil—or lack of it. Likewise, urban gardeners with a postage-stamp garden where only a small area receives sunlight can pot up a half-dozen containers and rotate them to make best use of the sliver of sun they do have.

Gardeners who live in a high-rise condo can use a long, narrow balcony as a place to grow climbing morning glories, cherry tomatoes and cheerful, sturdy marigolds, rather than as a boring storage area for mountain bikes and other gear. For those who find bending down to their garden at ground level increasingly difficult, a series of raised planting boxes can mean the difference between abandoning gardening or being able to carry on with what they love.

Brighten a narrow side garden with pots of easygoing nasturtiums and scarlet geraniums. Repeating the plantings at the far end draws your eye through the space.

Photo: Roger Yip

Choosing containers

Do you want a stylish, dramatic container at your front door? Will you use pots to grow plants you don't have room for in your jam-packed beds and borders? Or, do you live in a high-rise condominium or apartment and the only way to flex your green thumb is with planters on a balcony? Once you've decided where you'll place your pots, baskets or window boxes, it's time to decide on the materials they're made from, as well as the right sizes and styles for your garden.

Photo: Roger Yip

Today, the options for containers are mind-boggling, and the quest for the perfect pot can be a bewildering journey. Advances in manufacturing processes and the development of new plastics, resins, moulds and finishes mean it's possible to find realistic and lightweight look-alikes of antique lead and stone, and many of the new pots are lighter and more frost tolerant than their predecessors. The price range is broader, too. You can still find good containers for a few dollars, but you can also find stunners that cost a few hundred. Obviously, those in this price range are a long-term investment, since the container will be with you far longer than the plants you fill it with. But before getting too caught up in a container's style and finish, consider two qualities—and they have nothing to do with price: Does it allow for drainage? Is it the appropriate size?

DRAINAGE

It's imperative that excess water be able to drain away from plant roots, which is why containers with drainage holes are your best option. Don't assume careful watering will compensate for the lack of an opening at the bottom to allow excess water to drain. You'll either water too shallowly, and the plants will fail to thrive, or you'll miscalculate (usually more than once) and the roots will end up rotting in the soggy soil at the bottom of the pot where excess water will collect.

If the pot of your dreams has no drainage hole, place a slightly smaller plastic or fibre container (sometimes called a liner) inside. The liner should be placed on a riser at least an inch (2.5 cm) above the base of the decorative container so excess water can drain, keeping the bottom of the liner from sitting in water.

SIZE FOR THE SITE

Big containers usually require less daily attention because they need less frequent watering and they hold more soil (which provides more insulation for roots during extremes of heat and cold); they also have more visual impact than small containers. However, small containers can serve a purpose, too. You may want to display a collection of herbs on an antique plant stand, for example, with each plant potted individually. Just be prepared to provide more frequent attention to these small-scale displays.

DO I LIKE IT? CAN I AFFORD IT? WILL IT LAST?

Once you've found containers you like that have drainage holes and are the right size, you can then consider other factors: your style, budget and climate. If you live where winters remain below freezing, and you plan to leave your containers outdoors, you'll need frost-resistant ones. If, at the end of each season, you empty your plants onto the compost pile and stack the pots in the garage until next spring, lightweight, stackable pots will be a bigger priority than tolerance to frost. If you garden on a balcony or rooftop, and have lugged bags of potting soil up the stairs, you know soil is heavy: using lightweight plastic or wood will reduce the overall weight of your rooftop potscape. Even if you're not gardening several stories up, to make gardening easier, you'll want to consider the portability and weight of containers you buy.

Give some thought to the design of the container you're considering. Take your cue from your house, other structures in your garden and the garden's overall design. If you have a quaint Cape Cod, willow baskets and painted wood are likely a better fit than formal cast-iron urns. If your garden features a restrained palate of ornamental grasses, long vistas and carefully pruned hedges, sleek concrete planters will reinforce a minimalist look.

Finally, consider how much of your gardening budget you want to spend on containers. Fancy concrete or intricate resin designs can cost several hundred dollars, and you may prefer to spend the majority of your gardening budget on plants. Sometimes, the most personalized and clever potscapes use repurposed containers—old baskets, pails, barrels and other found objects—to great effect. A beautiful container garden doesn't require a huge budget; the plants and how you combine them should be the stars, no matter what containers you choose.

To help you decide which materials will best suit your style, budget and climate, here's an overiew of the more common ones available today.

Fibreglass

Easy for manufacturers to mould and paint, fibreglass containers come in a variety of shapes and sizes, especially large sizes that would be extremely costly and heavy if made from the natural materials they often mimic—lead, stone, ceramic or wood. It's easy to be fooled by black "cast-iron" urns—until you pick one up and realize it's lightweight fibreglass.

Fibreglass is less expensive than stone but more costly than plastic, terracotta and wood. It retains moisture well and can be left outdoors over winter; however, it offers little in the way of insulation.

Fibre

Not everyone considers the pebbly cardboard-type containers, in which many plants come home from the nursery, a long-term option, but the material makes an economical, unobtrusive receptacle. It has an earthy look—the dark brown colour resembles soil—and a fibre container fades into the background, letting its contents take centre stage. Admittedly, fibre may not be the look you're after for a formal entrance, but it's practical for hanging baskets and window boxes filled with trailing plants that soon disguise most of the container.

Lasting only a couple of seasons, fibre is lightweight, biodegradable and more porous than terracotta. The pressed fibres are usually recycled paper, or sometimes wood fibre.

Photo: Juliette Wade/Gap

Durable and classic, reconstituted stone and concrete are the epitome of elegance.

STONE AND CONCRETE

Probably the most durable—and most expensive—container material is composition, or reconstituted, stone. (Forget about real stone, such as marble or sandstone—its rarity makes it forbiddingly dear.) Composition stone, a mix of concrete and crushed stone first made in the 18th century, looks much like real stone. It can be cast into various shapes, and acquires an attractive patina of moss and lichens as it ages. Composition stone and the less costly cast-concrete containers provide good insulation during fluctuating temperatures, and they retain moisture. Durable and classic, a reconstituted stone container is the epitome of classic elegance. Cast-concrete planters sometimes look more utilitarian and contemporary than stone. Those made with an exposed-aggregate surface have a rugged simplicity that complements an urban, industrial look. Placement requires forethought—it takes more than one person to move a large concrete container. Reconstituted stone and concrete pots are frost resistant, while large, well-made examples are virtually frost-proof.

MAINTENANCE

➲ Use water and a soft brush to clean reconstituted stone; a stiff brush is fine for cast concrete.

Plastic

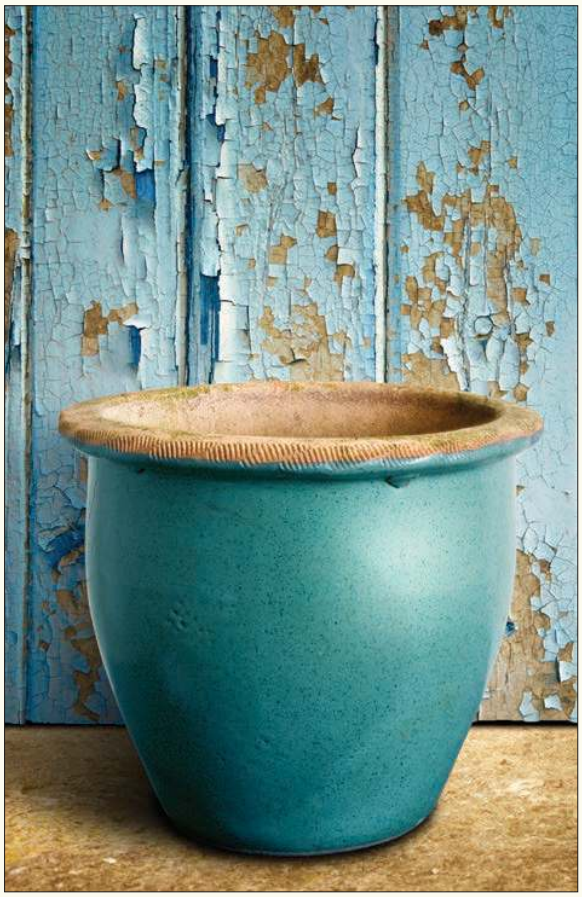
Once frequently rejected solely on aesthetic grounds, plastic containers have had a makeover in recent years. New designs, manufacturing processes and finishes mean many of them easily resemble more expensive materials. Plastic has several advantages over other materials. High on the list of desirable characteristics is its affordability, although the best-looking terracotta replicas are often the same price as the real thing. But if you need to outfit a bare balcony or deck economically, or plan to grow all your vegetables in large containers, plastic may be your salvation.

Plastic pots are easy to clean and lightweight, although the latter property can become a hazard if situated in a windy spot and planted with top-heavy specimens.

Soil stays moist two to three times longer in a plastic pot than it does in one made from terracotta or wood. However, its ability to retain moisture does have a downside: fertilizer salts can't leach out of the sides of the pot, and may reach levels high enough to burn plant roots. Don't overfeed—or overwater—plants growing in plastic containers. Some styles come with reservoirs to hold water, with a capillary or wick system drawing water as needed. These are good options for people whose lifestyle warrants a low-maintenance setup.

Plastic offers little insulation—roots in a dark plastic hanging basket can cook on a hot, sunny day. Lower-quality plastic containers fade in the sun and become brittle when exposed to winter's extreme temperatures. Good plastic is labelled UV stabilized.

Photos, left to right: Visions/Age; Roger Yip



TERRACOTTA & EARTHENWARE

The sizes, ornamentation, shapes and styles offered in terracotta are almost limitless, and the warm, natural colour of the clay complements all plants and most design schemes, from blowsy, romantic cottage gardens to minimalist terraces with contemporary lines. There's no doubt the relationship between terracotta and plants is a long-standing one—much of it is based on tradition, but there are practical reasons, too.

Plants and terracotta have been linked together for centuries (see "The Tale of Terracotta," page 96). The Italian phrase means "cooked earth"—more precisely, clay that's baked in a kiln. The type of clay and the temperature at which it's fired determine the durability of the finished product. Pots fired at a high temperature are more frost resistant than those fired at a lower heat, because the high firing makes a harder, less porous pot. Moisture is less likely to permeate the walls, freeze and expand, which causes cracks in the pot. However, sometimes even soil left in a frost-resistant pot over winter can freeze and expand, and put enough pressure on the sides to cause it to crack—it may be frost resistant, but not frost-proof.

Terracotta's porosity is both an advantage and disadvantage. Roots appreciate the cooling effects from the air exchange terracotta provides, and fertilizer salts rarely build up inside these pots because they're able to leach out during watering. (Most people consider the white, powdery residue on the outside a decorative characteristic of aging, but if you want to remove it, scrub with a weak solution of warm water and bleach.) Should you accidentally overwater a plant, the clay will absorb the excess water, although it does have its limits.

The downside is that this breathability means water evaporates more quickly in a terracotta pot than one made from plastic or metal. Small pots that dry out too quickly can first be lined with a clear plastic bag, then filled with soil and planted. Either cut a few drainage holes in the bottom of the bag before inserting it in the pot, or punch a hole in the plastic, directly above the drainage hole, by poking a

Photos, left to right: Chris Price, Blackbeck/istock

pencil or skewer up through the hole after the pot is filled with soil.

Prices of terracotta pots vary considerably and, as is often the case, a quality piece costs more. Generally, terracotta is less expensive than metal or concrete. Most of what's available in Canada is imported from Italy or Mexico, and prices reflect the quality of workmanship, currency exchange and shipping costs. Some Mexican pots with thick walls may have been dried in the sun, rather than a kiln, and will deteriorate after a few years.

Terracotta pots can be hand-thrown or mass-produced (the clay is pressed into moulds), and the latter is usually less expensive. Hand-thrown pots are more durable because the clay is "worked" into a pot shape and not forced into a mould; the walls are usually thicker, too. There's no doubt a hand-thrown pot is beautiful to behold, a work of art for your garden.

All terracotta is breakable, no matter how well made, which is something to consider if you're storing a handcrafted piece of art next to your car door over the winter.

Other indications of quality to look for are more than one drainage hole in large containers, and a ridge around the base to raise the pot slightly off the surface it sits on—both of which will facilitate drainage. Some terracotta is glazed on the outside, which slows down evaporation. Eventually these finishes wear or flake off, but the pot is still serviceable, although it may have lost some of its aesthetic appeal.

EARTHENWARE

Earthenware, another type of fired clay, shares many of terracotta's characteristics, but is coarser and more porous. Most of the examples on the market today are imported from China or other Asian countries and feature a shiny, coloured glaze on the outside; inside, the pots are usually an ivory shade. They often come with a matching saucer. Those without drainage holes make beautiful containers for water gardens. Glazed earthenware pots retain moisture better than terracotta versions do; however, they're just as breakable and more likely to be damaged by frost than most terracotta pots.

MAINTENANCE

- Soak brand-new terracotta containers in water for an hour or two before planting up. This prevents the unseasoned clay from wicking away water from the moist soil, leaving your plants thirsty.
- Terracotta and earthenware pots are more difficult to clean and sterilize than plastic, fibreglass and metal containers. In the fall, empty the pots and use a wire brush to loosen soil. Wash the inside with a weak bleach and water solution (one part bleach to nine parts water), rinse and store upside down under shelter.

Adding patina

One of terracotta's attractions is that it ages gracefully. The lichens and moss that cover old pots add a sense of permanence and character to a garden setting. (The aging process is faster with hand-thrown pots than with mass-produced versions.)

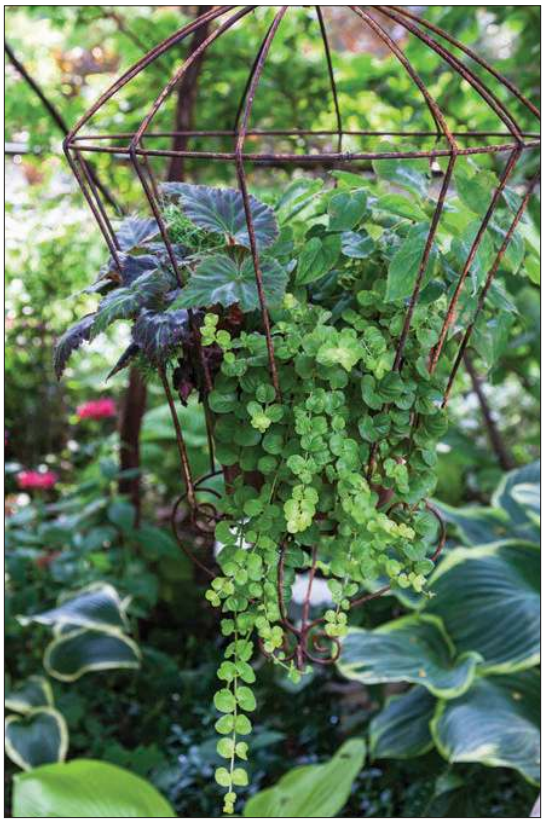
However, the process does take a few seasons. To encourage algae to grow more quickly on a new terracotta container, paint a thin coat of plain yogourt or buttermilk on the outside; mix in some soil or compost to help things along. Place the treated pot in the shade and spray occasionally with water or water mixed with liquid fertilizer. An easier method is to periodically rub the surface of a new pot with a handful of damp garden detritus, such as grass clippings, moist soil or leaf prunings.

If you simply want to lighten and soften the bright orange of new terracotta, brush on a wash of water mixed with powdered horticultural lime.

[TIP]

Of all the container materials available, glazed earthenware probably offers the widest colour range. A large vivid blue, glowing ochre or cherry red glazed pot is eye-catching when placed on a bed of groundcover under a shade tree, even when unplanted. A collection of hostas, herbs or other foliage plants is always a safe choice for a colourful planter, but for more drama, choose flowers that match the glaze.

Photo: Cass Greene/istock



METALS

The elegant lead, iron and bronze urns we see in photos of grand estates of yesteryear have a high appeal rating—and an equally high price tag. At least their not-insubstantial weight discourages theft. The highly festooned antiques are decidedly formal, and some are so ornate and detailed, they're best left unplanted, and placed on a plinth to be admired.

There are other metal containers, ones of this century, that are more attainable. Cast-iron urns with black, brown or white finishes are readily available at most garden centres, hardware stores and grocery chains at a reasonable cost. Keep in mind, although it retains moisture well and is impervious to frost damage, cast iron is heavy to move around. Most rust over time—an undesirable characteristic for some, a bonus for others seeking an instant aged look.

If new or antique cast iron, bronze or lead suits neither your taste nor your budget, you might find the simplicity of galvanized pails, boxes and tubs more appealing. Three galvanized pails nailed near the top of a wooden fence and filled with blue and white trailing lobelia is charming and whimsical in a casual setting. You can easily drill holes in the bottoms for drainage. The shininess of new galvanized steel dulls over time—but it won't rust.

Heavy-gauge steel wire—intricate filigree confections or more basic frames of connected concentric circles—are often used for moss-lined, round hanging baskets or rectangular baskets for walls or below window ledges, sometimes called "hayracks" or "mangers." Look for sturdy construction with hanging chains (or hooks, in the case of wall baskets) that will support the weight of wet soil and plants. Openings between the wires should be spaced closely enough to keep the moss in place.

MAINTENANCE

Admittedly, cast iron rusts over time, but it usually makes an urn look like a family antique, rather than a recent acquisition. If rust holds little appeal for you, occasionally remove the rust and paint with a rust-proof enamel. A knowledgeable paint expert at a hardware store should be able to advise you.

Photos, left to right: Laura Berman; Roger Yip

WOOD

Wood fits into most planting schemes, from grand, formal Versailles boxes painted a crisp white and planted with clipped spheres of boxwood to rustic half-barrels overflowing with nasturtiums. It's likely the second-most prevalent material used for container plantings, after terracotta, and probably the first choice of balcony and rooftop gardeners. Balcony gardens often require large, deep containers for permanent plantings, in custom sizes, and wood is the perfect choice: it's lighter and less expensive than terracotta, stone or metal, and it offers better insulation.

Not all wood stands up to prolonged exposure to moisture. Hardwoods such as oak and teak are rot and moisture resistant, but expensive. More reasonably priced softwoods such as cedar, cypress and redwood resist decay, as well as wood-destroying fungi and insects.

Economical wood—pine and spruce, for example—are fine, too, but you'll need to treat them with a preservative, such as sealer, or primer and paint.

If you're at all handy, wood is an easy material to work with, and you can create custom-made containers that fit your window ledges perfectly, and paint them to match your house. Use galvanized wood screws, which won't rust; nails can easily pop out with the stress of heavy soil. It's easy to drill drainage holes in the bottoms of wooden boxes or planters, or if you're making your own, leave a narrow gap between the boards at the bottom.

MAINTENANCE

- If your wooden containers are painted, you'll need to repaint every two or three years. You may want to seal with a non-toxic preservative instead, especially if the boxes are permanently mounted on the house.
- To prolong the life of any wooden container, line the inside with plastic before planting, perforating the bottom of the plastic to allow for drainage. You can also buy ready-made rigid plastic or metal liners that fit standard-size wooden window boxes. Moisture will still reach the wood when excess water drains from the liner, but damp soil and fungi won't be in constant contact with the wood. Rigid liners also make planting wall-mounted window boxes simpler—plant the liner and then drop it in the already mounted window box.

Pot feet & saucers

Two useful accessories for container gardening are pot feet and pot saucers. Pot feet come in threes and raise a large pot a few inches off the ground, thereby allowing water to drain more freely out the drainage holes and air to circulate across the bottom. The pot feet are spaced equidistantly around the base to keep the container stable. Terracotta or cast-iron sets sold at garden centres can be highly decorative—frogs, duck feet or elegant acanthus leaves, for example. Small blocks of wood, bricks or small pot saucers turned upside down are perfectly serviceable, too. The key is to use objects of uniform size with flat tops.

Pot saucers can be used with any size container and are most commonly paired with terracotta, earthenware and plastic pots. They're beneficial if you're concerned about water damage to the sisal carpet on the balcony or the wooden surface of a deck. Glazed terracotta or plastic versions are the most watertight. Pot saucers need to be large enough to hold overflows. Remove any water that remains in the saucer an hour after watering or after a rain.

Photos, left to right: Roger Yip; Fionna Lee/Gap

EVERYTHING AND THE KITCHEN SINK

Frankly, some of the most intriguing containers didn't start out as plant receptacles at all. As long as the object holds soil and allows for drainage, you can widen your search to, well, anything: found objects such as old wheelbarrows, running shoes, olive oil tins, bird-baths, wooden fruit crates, bushel baskets, wicker baskets, decayed logs, discarded kettles, enamel colanders, a child's wagon—the list goes on. After all, good gardens benefit from a healthy dose of imagination.

Photo: Gary Hall

The scoop on soil

Let's face it: plants aren't designed to grow in confined places. Their roots are programmed to reach out in search of water and nutrients; they don't expect to be thwarted along the way by the walls of a container. If we expect plants to grow and thrive during their "containment," we must compensate with good soil that can deliver the nutrients, moisture and oxygen they need.

Photo: Yvonne Duivenvoorden/Masterfile

Unfortunately, ordinary garden soil, no matter how healthy, rich and friable, loses many of its desirable, natural characteristics once it's confined to a container. The frequent watering potted plants require quickly causes garden soil to become a compact, dense clod that restricts the movement of oxygen and water around plant roots. Roots can't breathe, water can't drain freely and the plants suffer. No matter how lovingly tended the plants, if they're grown in a container filled with soil simply dug from the backyard with no additional amendments, they won't thrive.

IF NOT GARDEN SOIL, THEN WHAT?

Soil used in containers needs to be able to absorb water more quickly and drain more freely than ordinary garden soil, and to do so without becoming dense and compacted. It should also be free of weed seeds, disease organisms, and harmful insects and their eggs and larvae.

If you're fortunate enough to have excellent garden soil right in your own backyard, you can mix in some sphagnum peat moss to help it retain water and add coarse sand, perlite or vermiculite (more on the amounts later) to improve aeration. You may want to sterilize the garden soil to reduce the chance of weeds and disease infecting your container plants.

Sterilizing—also called pasteurizing—is a messy, smelly undertaking, however. The garden soil must be heated to 180˚F (82˚C), which means baking it in an oven. The aroma as it bakes won't make you think of homemade apple pie.

Happily, garden centres, nurseries and hardware stores stock a plethora of commercial soil mixes suitable for growing plants in pots. All of them contain similar ingredients in various proportions to make a mix that can withstand repeated watering and maintain its structure over a long period of time. Or, you can buy the individual ingredients and concoct a custom mix.

SOIL VS. SOILLESS

Basically, there are two kinds of bagged commercial mixes sold for container growing—one contains no soil whatsoever, and is aptly called "soilless mix," or sometimes "seed-starting mix." A soilless mix is composed mostly of sphagnum peat moss, along with vermiculite and/or perlite; some may contain gypsum or limestone. (Limestone counteracts the acidity of the peat moss to make the soil mix more neutral, and therefore more suitable for growing a wide variety of plants.)

The second kind of container mix is "potting soil," and it does contain soil—a clean, rich topsoil—along with perlite and/or vermiculite, and perhaps some sand and peat moss. Manufacturers apply all sorts of names to bags of planting mixes designed for container growing: "basket mix," "seed-starting mix" and "window box and planter soil" are just a few.

The type of mix you use—soilless or soil-based—depends on what you're growing, the container's size and whether it's to be used for a permanent planting or a one-season wonder. Sometimes, what you choose comes down to personal preference—or what's already in your garage.

Photo: Rob Mattingley/istock

MORE ON SOIL MIXES

Soilless mixes are lightweight, clean and easy to work with, and are usually more expensive than soil-based types. They offer superb water retention, yet allow excess water to drain freely. Over time, these attributes decline, especially with small amounts of mix that are watered frequently. Ironically, if a container with soilless mix dries out completely, it's difficult to re-wet; bone-dry peat almost repels water. You must also be diligent about feeding plants because these mixes contain no nutrients. Add in a time-released fertilizer, according to package directions, when planting or use a water-soluble fertilizer when plants are growing.

Lift equal-sized bags of potting soil and a soilless mix and you'll appreciate the basic difference between the two. Because the former contains soil, it's heavier. Most potting soil formulations also contain peat moss, sand and perlite and/or vermiculite. Of course, soil offers more than weight: it provides nutrients and minerals for the plants. These serve as buffers should too much fertilizer reach a plant. Usually, if water-retaining polymers or fertilizer are included, they're listed on the package. Make note of this because you don't want to double dose by adding more at planting time.

Photo: Heidi Frerichs/istock

Which mix is best?

It depends. A soilless mix is good for hanging baskets and window boxes because it weighs considerably less than potting soil. For containers larger than 12 inches (30 cm) in diameter, consider combining soilless mix and potting soil for a lightweight mix that includes the water-retaining properties of a soilless mix with the nutrients found in soil; this is a good compromise if the potting soil you buy is quite dense and heavy with lots of clay.

Large containers that hold a dozen plants or those that will support plants for more than a season or two, such as containers of hardy or tender perennials to be wintered over, will benefit from the qualities soil and organic matter can provide. For exceptionally large containers, such as half-barrels, fill the bottom half with regular garden soil that's been amended with a bit of peat moss or perlite (not much), then use a commercial light potting soil for the rest. Blend some of the rich top layer into the denser bottom layer to prevent a barrier that might impede roots from growing or water from draining into the denser layer below.

Sometimes the kind of container mix you use comes down to knowing what feels right, recognizing a good texture, and understanding what's compatible with your watering habits, climate, plants, pots and other variables. Go ahead, get your hands dirty and find out what works best for you.

MIXOLOGY: MAKING YOUR OWN MEDIUM

One of the benefits to making your own is that you can customize the medium to suit your containers and plants. And if you need wheelbarrows of mix, buying the individual ingredients in bulk and stirring up your own might be more economical than buying bags of a ready-made version.

Following are recipes for different mixes—try one or two to see which you like best. If you're making a soil-based mix, you can use packaged potting soil or, if you're lucky enough to have healthy, loamy garden soil, use it instead. When using peat moss, moisten it before mixing; it will be less dusty to work with and will incorporate more easily with the other ingredients. Large, shallow bins or big, waterproof tarps are useful when mixing large amounts of container soil. Whether you're making your own or using a commercial mix, keep storage bins and leftover bags sealed to maintain moisture. You also don't want open bins or bags to get waterlogged when it rains.

Homemade container mixes

Basic soilless mix

6 parts sphagnum peat moss
1 part vermiculite
1 part perlite

Soilless mix with nutrients

1 bushel (35 L) sphagnum peat moss
1 bushel (35 L) vermiculite or perlite
2 cups (500 mL) bonemeal
6 tbsp (90 mL) superphosphate
6 tbsp (90 mL) ground limestone

VARIATIONS:

For a lighter-weight mix, use one part garden soil and one part vermiculite or perlite, not coarse sand.

For big balcony containers with permanent plantings, use two parts perlite and two parts vermiculite along with two parts soil and one part sphagnum peat moss.

Homemade soil-based mix

2 parts garden soil or potting soil
1 part sphagnum peat moss
1 part coarse sand, vermiculite or perlite

Photos, clockwise from top left: Stephanie Brown/Peaceful Valley & Grow Organic.com; Tarek El Sombati/istock; Stephanie Brown; Iwona Grodzka/istock; Dean Turner/istock (2)

The right combination

The pure joy of gardening is found in the plants we grow. Surrounding ourselves with our favourite colours and textures is easily done with container gardening. Annuals are probably still the most popular choices, but many stunning containers include perennials, bulbs, herbs, vegetables, fruit, shrubs and vines—even water plants.

That's not to say that by simply using the plants you like, beautiful results are guaranteed. Sometimes you'll be disappointed with a combination that turns out to be ghastly and gaudy or blasé and boring. Sometimes you may create a container that's at odds with the rest of your garden design and looks out of place. Here's what you need to know about design and colour to help you pair plants and pots to best effect.

Photo: Roger Yip

CONSIDER YOUR CONTAINERS

Choose plants that have an appropriate size and shape for the container they're intended for. For example, tall canna lilies or spiky ornamental grasses emphasize a tall, elegant container. Conversely, a wide, shallow bowl planted with low-growing plants such as portulaca, or hens and chicks is a pleasing partnership. A classic urn has vase-like, graceful lines that are complemented by arrangements that almost erupt from the top. A collection of plants that arch up and out, such as fuchsias, salvias and New Zealand flax, mimic these lines.

Containers in more basic shapes made with unadorned materials such as terracotta, wood and concrete provide a neutral backdrop and offer the most flexibility, adapting to a variety of colour schemes. Simple designs also work equally well with formal and informal, luxurious and conservative settings.

Highly decorated containers or those with unusual, complicated shapes look best with simple plantings: one type of flowering plant or a combination of foliage plants. A basic guideline when you're selecting a combination of different plants or several of one kind for a container is this: the more ornate, detailed or fussy the container, the better it will look if it's set off with simple, less-complicated plants.

DO A BACKGROUND CHECK

Just as you need to consider the design and colour of the containers, think about the backdrop behind the container of plants. If your pots will be clustered at the base of flowering shrubs or in front of a flower border, or around a pool with chairs, tables, awnings and other details, simple plant combinations or containers with one kind of plant are most effective. A plain background, such as a cedar hedge, a wall or a fence shows off a container filled with different colours and flower shapes.

CONTRAST PLANT TEXTURES AND SHAPES

Mixing different plants in a container is akin to creating a mini flower border, with many of the same design considerations. Choose plants with similar light and water requirements. Try to visualize what the plants will look like together, taking not just their colour, but also their size and texture into consideration. Contrasting plant characteristics adds interest to a design and can be accomplished by contrasting colours (blue lobelia and yellow marguerite daisies, for example), plant shapes (densely packed spires of snapdragon and the spreading branches of petunias) or leaf types (shiny hostas and fuzzy helichrysum). Contrasting the shape, size and texture of leaves and flowers provides a more elegant, subtle effect than a container filled with several contrasting flower colours. The phrase "a riot of colour" may not be what you're looking for.

It is possible to have too much contrast, especially when the containers themselves are the contrasting elements. Mixing divergent container styles—wicker baskets filled with pastel miniature roses next to black cast-iron urns filled with bold cannas—in the same garden space creates a slightly discordant mood. However, this may be exactly the effect you want. Just remember, the saying "beauty is in the eyes of the beholder" was also coined for a reason.

What's your style?

The types of plants and how they're displayed can reinforce the formal or informal design of a house or garden. Symmetrical, geometric plantings and pot placements are formal and more tailored. For example, two clipped boxwoods in matching containers, one on either side of the beginning of a path, are decidedly formal. Asymmetrical groupings, such as three or five various-sized containers, planted with several kinds of flowers clustered together beside an entrance project a more casual, relaxed mood. Plants spilling over the edges of containers, weaving together and basically having their own way are informal, while a standard rose (a rose grafted or pruned to resemble a small tree) or a tall urn filled with bold canna lilies is more formal. Don't be afraid to contrast styles to create surprise or emphasis, but remember, it takes moxie to mix several styles together in a small space.

Where's your viewpoint?

A wicker basket overflowing with pastel pansies and trailing lobelia is simple to create and makes a charming vignette on a table next to a wooden bench or in the centre of a patio table. But its charm is greatly reduced if viewed from afar. If you want the window boxes, hanging baskets or urns on your front porch to have an impact from the sidewalk, use boldly shaped flowers and foliage.

SCALE AND PROPORTION

Scale refers to how different sizes relate to one another. A design is in scale—or in proportion—when plants fit well together. Think of a forest with tall trees, an understorey of shrubs and smaller trees, and finally the flowering plants and groundcovers below. A gradual staggering of plant heights in a container is pleasing to the eye, too. Imagine a tall castor bean in a large pot surrounded by short marigolds. How much better the composition would look with a few dahlias to bridge the gap between the short marigolds and the tall castor bean. However, a tall standard rose with a carpet of English ivy circling the base of the plant is a lovely sight, too, and a good example of how knowing when to break the rules makes sense.

When in doubt

If you find yourself spending too much time wondering what plants go with each other, there's an easy solution. Take three or five containers of different sizes and mass one type of flowering or foliage plant in each. Then cluster them in smaller groups throughout your garden or deck. The overall effect is like a small border with drifts of flowers. In fact, many plants, especially those with distinctive characteristics, are best appreciated when grown by themselves in a container. Grasses, hostas and other foliage plants, as well as those with intricate flowers, such as lilies and pansies, can speak for themselves and don't always need companions.

PRETTY BUT PRACTICAL

Naturally, practical considerations come into play when choosing plants. Assuming you know where the containers will be placed, study the sun/shade patterns in the area. Although you can compensate for less-than-ideal situations by shifting pots to increase or decrease the amount of sun they receive, you'll have more reliable results if you match a plant's light requirements as closely as possible.

It's easier to grow shade lovers such as impatiens and coleus in sunny conditions if you plant them in large containers, where the soil will insulate against the heat, and keep them well watered. Sun lovers like morning glories and cosmos don't fare as well in shady spots and produce fewer blooms than if they were grown in full sun.

It also makes sense to combine plants with similar water requirements: impatiens and sedums in the same pot won't last long.

Photo: Visions/Age

WHEN IS ENOUGH, ENOUGH?

Knowing how many plants you'll need to fill a container is difficult to judge. Most people, when they first start out, don't use enough. The plants do eventually fill in, but for the first few months, the pot looks half finished.

Instant gratification is called for: space plants much more closely than is recommended. This may seem counterintuitive, but your diligent watering, feeding, pruning and deadheading, combined with good soil, will help mitigate the tight growing quarters, and the plants will respond generously. Pack in the plants—it's better to have two or three dynamite displays than to stretch your plant budget to barely fill five or six containers and be disappointed with the results.

Naturally, common sense plays a role, too. If you're using fast-growing annuals at the beginning of a long summer, you can plant not quite so densely. This saves money, not an insignificant consideration if you're planting a dozen window boxes. Some specimens fill out as they grow up, too. For example, a 14-inch (36-cm) pot holds eight mealycup sage (*Salvia farinacea*)—tall, slender plants—but only five or six flowering tobacco plants (*Nicotiana* spp. and cvs.), which have wide rosettes of leaves at their base. If you're filling a container with perennials, vines and foliage plants that come in four- or six-inch (10- or 15-cm) pots, space the root balls close together—touching is fine.

In container gardening, less is definitely not more.

Photo: Laura Berman

Opposite page: the subtle shades of cardoon, 'Pesto Perpetuo' basil, prostrate rosemary and purple sweet potato vine. Left: bold contrast with red fuchsia in a bright blue pot.

COLOUR ECHOES

One of the easiest ways to decide what plants to mix together is to follow the method "colour echoes," created by American garden writer Pamela Harper.

"A colour echo is the repetition of a colour as a means of creating unity, serenity, interest and charm in a garden," she writes in *Color Echoes: Harmonizing Color in the Garden*. Basically, the theory hinges on repeating colours or highlighting the secondary colour in a flower. For example, if you're using a mass of yellow pansies with burgundy faces, highlight the burgundy with a few burgundy tulips. Or highlight the purplish stems and leaves of 'Gartenmeister Bonstedt' fuchsia with purple fountain grass (*Pennisetum setaceum* 'Rubrum').

Harper suggests diluting the harshness of a strongly coloured flower with one of a paler tint: hot pink geraniums combined with paler pink verbena presents a more coherent picture than hot pink geraniums surrounded by stark white or purple verbenas.

Annuals or perennials?

Flowering annuals are often the mainstay of container gardens. The good soil, and regular feeding, watering and deadheading agrees with them, and most grow vigorously in a container environment. Don't be surprised if the impatiens in your planter grow to be bigger and better than the identical variety planted in your garden.

But many other kinds of plants—tender and hardy perennials, spring- and summer-flowering bulbs, herbs, vegetables, water plants, woody plants—offer interesting design possibilities, too. Tender perennials and many summer-flowering bulbs won't survive cold winters, but will live on if wintered over indoors. Sometimes, it makes more sense to simply treat those as annuals and replace them next year, especially if you have limited growing space and low-light conditions indoors.

However, if you want to save your favourite passion flower or caladium for next season, guidelines for wintering over these types of plants begin on page 92. Likewise, you may not want to overwinter the hardy perennials in your containers. But there are ways to save these plants too, from one year to the next, either by moving them into a more protected area or transplanting them into the garden. (In some climates and the right container, hardy perennials may require no extra protection.) When transplanting hardy perennials into the garden, do so in early fall to allow time for new roots to grow before hard frost hits.

Photo: Mark Burstyn

COLOUR COMMENTARY

Colour works in mysterious ways. Used wisely, it can create special effects that make a collection of plants greater than the sum of its parts. Used haphazardly, and the results will be too boring or too jarring.

Mother Nature doesn't have a colour consultant and she manages just fine, but we're sometimes flummoxed when it comes to choosing what goes with what. Entire books are devoted to colour theory—what our eye really sees as opposed to what we think we see, how colours affect our moods and our perception of space. There's no reason to spend sleepless nights wondering if the mauve geranium goes with the yellow marguerites—if you like how they look together, that's all that matters. But if you've ever wondered why blue flowers look more vivid when placed next to orange than they do beside purple or red blooms, or if you've ever aimed for something with oomph, but instead created a yawn, here are some tips for using colour effectively:

➲ When using more than one colour in a container, let one dominate, and use lesser amounts of the other(s) to accent and support it. Your eye will be easily led through the planting. For example, if you plant equal amounts of blue and white flowers, neither will register in a significant way—your eyes will jump from blue to white to blue again, unable to enjoy the composition as a whole, but rather perceiving the two equal parts (the colours) as separate entities.

➲ Sometimes we want the elegant, simple look of one colour—a monochromatic scheme. To keep it visually interesting, vary the flower shapes and sizes. For example, verbena, geraniums and fuchsias can be found in clear shades of pink, and each has differently shaped blooms. Conversely, if you're using a variety of divergent colours, consider using the same plant shape to tie them all together: yellow marguerites, blue kingfisher daisies and pink gerberas all have daisy shapes.

➲ Bright colours—red, gold, orange—are active, lively and warm. They fill an area and appear closer than they are. Cool colours are restful, soothing and receding. If you have a long, narrow patio or balcony, placing a container filled with bold, bright bidens, chartreuse coleus and coral geraniums at one narrow end will make that end appear closer, thereby making your patio appear shorter. If you want to accentuate a long vista, place a container at the farthest point and fill it with soft blues, creams and greys—a blue-leafed hosta, white snapdragons, heliotrope and silvery lamium, for example—and it will seem even farther away.

➲ Sun and shade affect how certain colours look, too. Pastel yellows, pinks, blues and lilacs and are complemented by soft, misty overcast skies (so common in England). These same colours look washed out under the strong sun during a Canadian prairie summer. Vivid reds, golds, oranges and purples glow in bright light. Think about your predominate climate and whether your containers will be displayed in bright, direct light or in shadier spots.

➲ White isn't always the answer. People faced with a colour dilemma ("Uh, oh. The orange daylilies and hot pink petunias clash") think injecting a few white flowers into the scheme will cool things down. Frankly, white doesn't always mitigate clashing colours; often, it highlights the contrasts. If you want to plant a variety of colours in a large container but are afraid the overall effect might be too chaotic, add more foliage plants or include ivory flowers or grey-leafed plants to tone things down. These shades are more neutralizing than bright white.

White shines—literally—at twilight and on moonlit nights, glowing as night falls and other colours fade in the encroaching darkness. The effect can be magical if you plant masses of white flowers near tables and chairs or along a path to the gazebo. Many white flowers are fragrant, too, such as regal lilies (*Lilium regale*) and tall, white flowering tobacco (*Nicotiana alata*). If you use your garden mainly at night, white and other light colours are best.

SPECIAL GARDEN GUIDE

2

CONTAINER GARDENING

50+ COMBOS

GARDENMAKING.COM

PAGES
31–74

Photo: Richard Bloom/Gap

Photo: FhF Greenmedia/Gap

THRILLERS, FILLERS & SPILLERS

Almost any plant will grow in a container if given enough room for its roots and the water and nutrients it needs to keep it in good health. But a "good" container plant does more than survive—it thrives in a container setting and wows us with its fabulous looks. The best plants for pots look beautiful in bloom and out, are disease and pest resistant, and don't aspire to gargantuan sizes that will overwhelm their containers. The good news is that there are hundreds—probably thousands—of plants that meet these basic criteria. The challenge is combining them with attractive partners so that together, the whole adds up to more than the sum of its parts.

Plants for containers usually fall into one of three main categories based on the role they play in a design. Thrillers are the specimen and accent plants—consider these the focal points of your container. Fillers are usually mounding plants that fill the middle tier, linking the tall or dominant specimen plant to the third category: the spillers. Spillers are trailing plants, softening the pot rim, and give a lush, full look to the overall design.

Flowering annuals are often the mainstay of container gardens. The good soil and regular feeding, watering and deadheading agrees with them, and they grow vigorously in a container environment. Increasingly, hardy perennials are used in mixed containers, a welcome respite from some of the more overused annuals, such as geraniums and petunias. But perennials usually cost more than annuals, and a planter full of them can cost more than twice as much as one filled with annuals. Other kinds of plants—such as spring- and summer-flowering bulbs, herbs, vegetables, water plants and woody plants—offer interesting design possibilities, too.

[IN THE MIX]

A single hosta acts as a specimen plant in this classic ornate concrete urn. Ornamental grasses make versatile accent plants (opposite page). Their spiky foliage provides a good contrast to many other leaf textures.

MY FAVOURITES

Tony Post, Valleybrook Gardens, Niagara-on-the-Lake, Ont.:

This easy combination is interesting from the day it's planted until winter. It's best in a sunny location.

- *Sedum rupestre* 'Angelina' adds vibrant yellow trailing foliage; it's evergreen and takes on orange tones in winter
- *Heuchera* 'Obsidian' (or any dark-leaved cultivar) is a great colour contrast to the sedum and it's also evergreen
- *Campanula poscharskyana* 'Blue Waterfall' is a great trailer that blooms all summer
- Leatherleaf sedge (*Carex buchananii*) adds height. The campanula will climb through it, showing the blue flowers against the beige grass

Thrillers: accent and specimen plants

These are usually tall plants, with an interesting structure or large, dramatic flowers or foliage. Accent plants act as a focal point, drawing the eye and holding our interest to encourage us to take in the entire composition. Specimen plants usually work alone, adding a singular, bold note to a container, although they may be underplanted with something subtle to round out the picture. An accent plant usually has a supporting cast that serves to heighten the star's beauty, not distract from it.

A container that uses more than one kind of strong accent plant is often discordant: each plant vies for attention, no one wins and the effect is a muddle.

Photos, left to right: Lee Avison/Gap; Visions/Age

[IN THE MIX]

Tall and trailing campanulas paired with chartreuse creeping Jenny and mounding euphorbia makes a well-balanced combination using the thrillers, fillers and spillers recipe. Opposite page: double impatiens with lobelia.

MY FAVOURITES

Jerry Filipski, gardening columnist for the *Edmonton Journal* and author of *Just Ask Jerry*, Parksville, B.C.:

Early in the season, just when the ground begins to warm, I seed dark blue trailing 'Regatta Sapphire' or Lucia Dark Blue lobelia in a container that holds a *Hosta montana* 'Aureomarginata'. The trailing dark blue lobelia contrasts beautifully against the chartreuse edges of the variegated hosta. Great for shady areas, and the hosta loves growing in the container; it will come back year after year.

Fillers: mounding plants

There are dozens of mounding, flowering plants to choose from, and they make up the bulk of container gardens. If we consider accent plants the stars of the container, filler plants are the supporting cast. Mass several of the same kind in one pot or use various plants with different colours, shapes and habits to make a harmonious combination.

Annuals and tender perennials bloom for most of the summer, while hardy perennials usually bloom for only three to four weeks.

If your design relies on perennial flowers to carry it off, you may need to substitute other plants when the blooms fade. Choose perennials that bloom for several weeks (or rebloom after deadheading) and have attractive leaves that will add interest after flowers fade.

Photos, left to right: Friedrich Strauss/Gap; Roger Yip

[IN THE MIX]

A densely planted bowl of pink and red geraniums, cherry calibrachoa, white bacopa and chartreuse sweet potato vine acts as a finial on a stone pedestal. Opposite page: white lobelia, a popular trailing annual.

MY FAVOURITES

Judith Adam, horticulturist and horticultural consultant for *Garden Making*, Toronto:

- Yellow, apricot or pink flowering maple (*Abutilon* cvs.)
- 'Alaska' nasturtiums, in mixed colours, with variegated green-and-cream foliage
- Regatta Series trailing lobelia, white or blue

I've grown this combination in a large pot in part shade for several years. The flowering maple grows to about 24 inches (60 cm), the nasturtiums are 12 inches (30 cm) and hang forward over the pot, while the long-blooming lobelia cascades down the side. These plants offer lots of colour, and I keep them going by fertilizing every third week.

Sometimes I set the container on top of another upside-down pot to raise the height. This makes the arrangement more effective, and closer for viewing.

Spillers: trailing plants

Vines are wonderful, versatile container plants. When trained to climb and clamber over obelisks, bamboo teepees or decorative wire supports, they quickly fill the vertical growing space in a container garden without requiring much room at ground level—perfect solutions for small spaces. In these cases, vines growing up supports act as thrillers—the focal point in your container.

When allowed to trail down, however, vines soften the harsh edges of containers, camouflage the sides of less attractive pots, weave their magic through the feet of other, more upright plants, and knit together to form glorious spheres of foliage and flowers in hanging moss baskets. It's the rare container that doesn't benefit from the addition of a well-chosen vine or trailing plant.

Photos, left to right: Jorge Salcedo/istock; Proven Winners

[IN THE MIX]

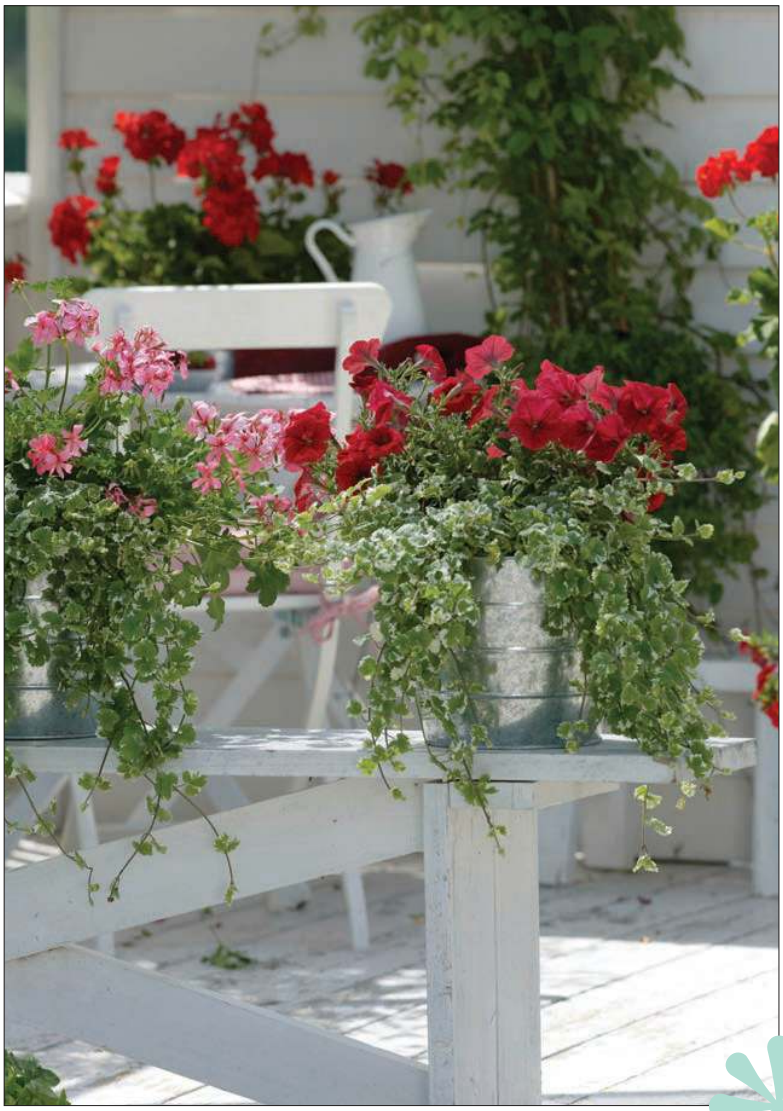
A warm combination of purple fountain grass, red calibrachoa and *Tradescantia zebrina*, a vigorous trailing plant. Opposite page: white benches set off rosy shades of geraniums and variegated English ivy.

Photo: Roger Yip

50+ INSPIRING COMBOS

PLANTING RECIPES

The plant combinations on the next several pages are just a starting point; soon you'll be on your way to more adventuresome container combos. Don't forget to include thrillers, fillers and spillers, as well as foliage plants for contrast and multi-season interest.



MY FAVOURITES

Stephen Westcott-Gratton, horticulturist, author of several gardening books and host of *Flower Power* (HGTV), Ontario:

I tend to keep it simple when it comes to container plantings. I planted this combination in two large containers on my back porch (southern exposure) and they bloomed prolifically until the first hard frosts.

- 3 'Maria Landy' upright fuchsia (*Fuchsia* 'Maria Landy'), with pink sepals, pale mauve corollas
- 6 to 8 'Princess Marina' heliotrope (*Heliotropum arborescens* 'Princess Marina') for fragrance
- 4 Wave Misty Lilac petunias

RICH REDS AND PURPLES

- Red flowering maple (*Abutilon* x 'Moned'), any bronze-leaf geranium, red-flowering lotus vine (*Lotus berthelottii*), crimson 'Empress of India' nasturtium
- Bronze New Zealand flax (*Phormium tenax*), deep burgundy coleus, chartreuse sweet potato vine (*Ipomoea batatus* 'Marguerita'), red fuchsia, trailing purple verbena
- Burgundy *Cordyline australis*, red *Pentas lanceolata*, burgundy 'Vera Jameson' sedum, pink diascia
- Red dahlias, black-eyed Susan vine (*Thunbergia alata*), purple fountain grass (*Pennisetum setaceum* 'Rubrum')
- Orange canna, scarlet geraniums, trailing purple petunia, Swedish ivy, purple trailing lobelia

Photo: Friedrich Strauss/Gap

[IN THE MIX]

An elegant urn suits this sophisticated combination of black millet, white caladiums, Persian shield (*Strobilanthes dyeriana*), *Plectranthus* Mona Lavender and variegated vinca vine. The light-coloured spiller shows up well against the dark container.

50+ INSPIRING COMBOS

DRAMATIC AND ELEGANT

- Purple fountain grass, black pansies, silver dusty miller, purple culinary sage (*Salvia officinalis* 'Purpurascens')
- Cardoon, deep purple petunias, silver-veined heuchera, Silver Falls dichondra, lilac bacopa
- Black colocasia, Japanese painted fern, white tuberous begonias, dark purple calibrachoa
- White mandevilla vine growing on an obelisk surrounded with small blue hostas and trailing white bacopa

Left: copper plant (*Acalypha wilkesiana* 'Haleakala'), Henna coleus, 'Indian Dunes' geranium, Samantha variegated lantana and Sweet Caroline Bronze sweet potato vine. Below: pink diascias and Pinstripe petunias.

MY FAVOURITES

Hilary Bellis, owner of It Can Be Arranged, Niagara-on-the-Lake, Ont.:

This combination looks great in a black container. The black plants bring the height up from the container, allowing the whole planter to make more of a statement.

- Black millet (*Pennisetum glaucum* 'Purple Majesty')
- Caladiums, white or white with pink splashes
- Persian shield (*Strobilanthes dyeriana*)
- Purple Swedish ivy (*Plectranthus purpuratus*)
- Silver Falls dichondra

Paul Zammit, director of horticulture, Toronto Botanical Garden:

If I were *really* forced to settle on one combination, it would be *Pelargonium* 'Indian Dunes' and *Alternanthera dentata* 'Purple Knight'. I love how the *Alternanthera* peeks out and through the geranium foliage. (I pinch off the geranium flowers as they develop.) Both plants are excellent growers and not bothered by many pests. In addition, I really love the fall colour of the geranium.

Photos, left to right: Roger Yip; Paul Zammitt, Ball Horticultural

[IN THE MIX]

Dramatic variegated caladium and dainty maidenhair fern are a duo for partial shade. Opposite page: small hostas grouped in a simple black container suit any style of garden. All of these plants can be overwintered from year to year.

Photo: Laura Berman

50+ INSPIRING COMBOS

SHADY COMPANIONS

- Tall fern, small blue hosta, white astilbe, shell-pink impatiens
- 'June' hosta (small lime-green hosta with green edges), black lilyturf (*Ophiopogon planiscapus*), purple violas
- Red-spotted caladium, Boston fern, red impatiens, variegated vinca vine

MY FAVOURITES

Lorraine Hunter, garden writer and editor, Toronto:

Use a few summer bulbs, such as Asiatic lilies, pineapple lilies (*Eucomis* spp. and cvs.), agapanthus or dahlia tubers, to add ongoing colour and fragrance to large patio containers. In spring, tuck them into the soil just before adding other plants and watch them change the overall look of your pots throughout the summer.

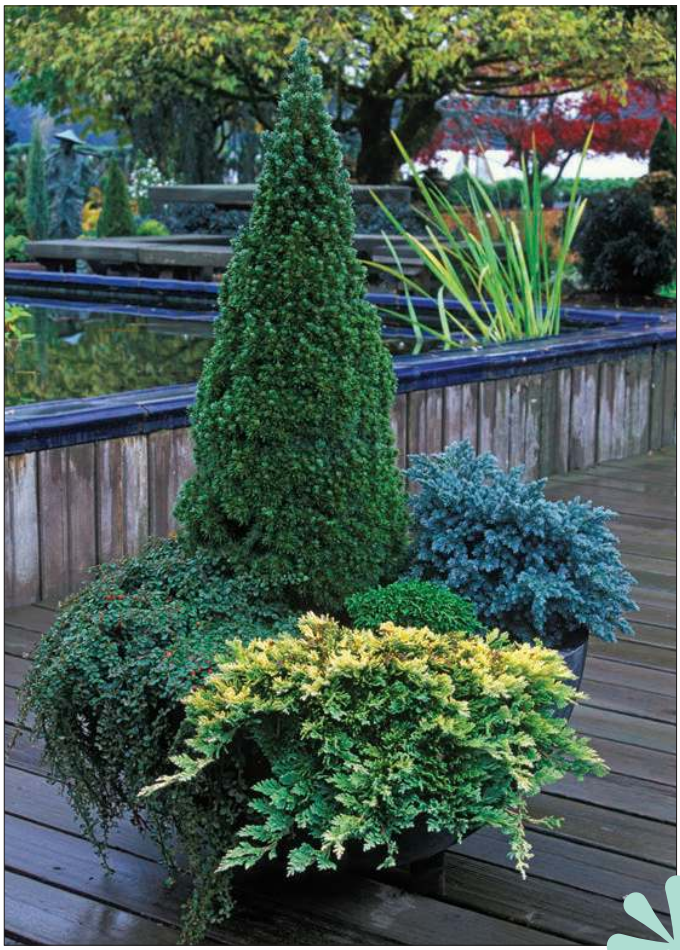
Photos, left to right: Visions/Gap; Proven Winners; Elena Blokhina/istock

[IN THE MIX]

Who needs flowers when there are so many wonderful foliage plants? Panda plant (*Kalanchoe tomentosa*), velvetleaf (*K. beharensis*), hearts on a string (*Ceropegia linearis* ssp. *woodii*) and Silver Falls dichondra shine in a terracotta pot.

Photo: Marianne Majerus

50+ INSPIRING COMBOS



MY FAVOURITES

Karen York, horticulturist and botanical author and editor, Victoria:

My favourites for containers are dwarf conifers. Available in a range of shapes, colours and sizes, they mingle companionably and are remarkably undemanding. I have a large concrete sink planted with a spreading hemlock, a gold-tipped Lawson false cypress and a little bun-shaped false cypress.

I also keep a large container for a more temporary display. The container is filled with a fine mulch and I simply sink little potted conifers into it. They don't dry out as quickly and look charming until they're moved to their final resting, er, planting space. (Note to plantaholics: the latter idea would work for all sorts of plants—you'll save water, your patio won't resemble a nursery, and you can mix and match to find the perfect pairings.)

Any small conifers will work, but my top picks are the false cypresses (*Chamaecyparis* spp. and cvs.), junipers (*Juniperus* spp. and cvs.), hemlocks (*Tsuga* spp. and cvs.) and firs (*Abies* spp. and cvs.).

COOL AND SOOTHING

- Blue heliotrope, magenta trailing petunias, white and pink Swan River daisies (*Brachyscome iberidifolia*), 'Ice Dance' Japanese sedge
- Dwarf purple buddleia, white geraniums, trailing lilac and purple verbena
- Bulbous oat grass (*Arrhenatherum elatius* var. *bulbosum* 'Variegatum'), blue Swan River daisies, lemon-yellow snapdragons, white petunias, yellow Dahlberg daisies (*Thymophylla tenuiloba*), English ivy
- Dark blue 'Victoria' salvia, silver dusty miller, white bacopa, blue ageratum, purple trailing verbena
- White marguerite, white geranium, blue *Convolvulus sabatius*, white trailing verbena, marbled or white-edged English ivy
- 'Purple Queen' tradescantia, pale blue and cream pansies, gold violas, lilac trailing lobelia

Above left: a year-round container with a small white spruce, horizontal juniper, creeping juniper, 'Blue Star' juniper and *Chamaecyparis pisifera*.

Photo: Richard Bloom/Gap

[TIP]

Fabulous foliage is in fashion for gardens, as well as for containers. Don't forget to include interesting foliage plants in your combinations—leaves act as a foil to flower colours, adding texture and contrast. Or, consider basing a design entirely on a lush combination of foliage plants—ornamental grass, tall papyrus or hosta for a focal point; variegated coleus or heucheras for fillers; and ivies or sweet potato vines for spillers. Foliage containers are also low maintenance—no deadheading!

1. 'Grand Tiara' hosta **2.** 'Paprika' heuchera
3. 'Wizard Scarlet' coleus **4.** Dragon Wing Red begonia
5. 'Margarita' sweet potato vine

Photos,clockwise from top left: Walters Gardens; Terra Nova; Aimin Tang/istock

4

COLOUR, TEXTURE AND FOLIAGE

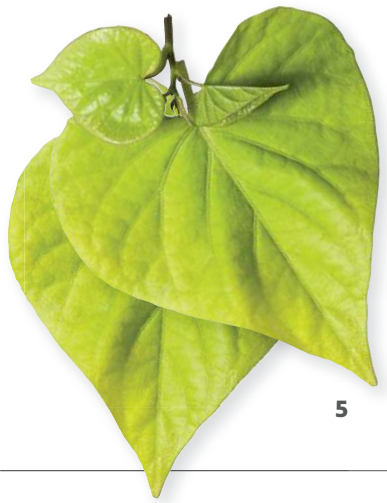
- ‘Gartenmeister Bonstedt’ fuchsia, ‘Vancouver Centennial’ geranium, dwarf blue fescue
- New Zealand flax, Dragon Wing Red begonia, ‘Purple Heart’ tradescantia, ‘Margarita’ sweet potato vine
- Miniature gold cypress, ‘Angelina’ sedum, wood spurge, Mexican heather (*Cuphea hyssopifolia*)

MY FAVOURITES

Jeff Mason, owner of Mason House Gardens, Uxbridge, Ont.:

For a tropical container, I combine:
- ‘Australia’ canna
- Imperial taro (*Colocasia esculenta* ‘Illustris’)
- Bowle’s golden grass (*Carex elata* ‘Aurea’)
- Papyrus (*Cyperus papyrus*)
- Rain lily (*Zephyranthes candida*)

For something simple but effective:
- Leatherleaf sedge (*Carex buchananii*)
- Crocosmia



5

Photos, left to right: Jonathan Buckley/Gap; Proven Winners

[IN THE MIX]

'Millennium' fuchsia, 'Obsidian' heuchera and a striped canna provide rich, saturated colours.

Opposite page: **1.** Tukana Scarlet Star verbena **2.** annual salvia **3.** French marigold **4.** variegated thyme

Photo: Marianne Majerus

50+ INSPIRING COMBOS

MY FAVOURITES

Niki Jabbour, author of *The Year Round Vegetable Gardener* and Halifax broadcaster:

Here's one of my favourite combinations for a pot that's at least 16 inches (40 cm) in diameter. It's best for late spring and summer:

- 1 'Sugar Baby' tomato or 'Bush Celebrity' tomato in the middle, staked or caged
- 3 'Spicy Globe' basils around the base of the tomato
- Several red and green leaf lettuces around the edges
- 1 nasturtium to cascade over the side

BRIGHT AND BOLD

- Red canna, 'Lime Green' tobacco plant, burgundy curly perilla (*Perilla frutescens* var. *crispa*), scarlet geranium, red trailing verbena
- Dark blue 'Victoria' salvia, red nasturtium, gold bidens, yellow variegated English ivy
- Burgundy coleus with lime-green picotee edge, purple-leaf heuchera, 'Limelight' licorice plant, 'Peaches and Cream' verbena
- Large gold African marigolds (pompom shape), red French marigolds (smaller single blooms), bronze-and-green coleus, black-eyed Susan vine, yellow marguerite daisies, red salvia
- Yellow dahlia, yellow-and-red pansies, gold variegated euonymus, lemon thyme, gold variegated English ivy

[TIP]

Most annuals bloom for several weeks—and bloom quickly—which makes them a popular choice for containers. Deadheading (removing dead blooms) prevents plants from going to seed, which triggers annuals to stop producing flowers. Diligent deadheading tricks plants into producing more and more blooms in their preprogrammed quest to set seed. Because producing flowers over a long period of time takes energy, annuals usually have higher fertilizer needs than other kinds of plants.

Photos, clockwise from top left: Proven Winners(2) ; Laura Berman (2)

MY FAVOURITES

Liz Klose, manager with the Canadian Nursery Landscape Association and director of Memorial University of Newfoundland Botanical Garden, St. John's:

Here are two of my favourite combinations, with plants listed in order of thriller, filler and spiller—my mantra when shopping for container plants.

Combo 1:

- Cardoon (*Cynara cardunculus*)
- Ornamental oregano (*Origanum rotundifolium* 'Kent Beauty')
- Lotus vine (*Lotus berthelotii*)

Combo 2:

- *Cordyline australis* 'Red Star'
- *Echeveria* 'Perle von Nürnberg'
- *Dichondra* Silver Falls

This was the ultimate in colour and texture contrast.

Steven Biggs, co-author of *No Guff Vegetable Gardening*, Toronto:

My favourite container recipe uses edibles. This is great when flowering annuals are fading—and it's made with frost-hardy edibles from the veggie patch.

- Tall, elegant leeks for height in the centre
- Flowering kale for the ruffled leaf texture
- Swiss chard for colour (it comes in orange, yellow and red)

Kate Seaver, owner of Kate's Garden, Unionville, Ont.:

Last summer, I was amazed by the dramatic impact of scarlet geraniums and scarlet mandevilla vine growing up an obelisk as a vertical accent. I used purple heliotrope as the contrast. It was low care and kept blooming until November.

Laura Langston, garden writer and former CBC journalist, Victoria:

- **'Mabel Grey' scented geranium (*Pelargonium* 'Mabel Grey') as my anchor plant**
- **Cape daisy (*Osteospermum* cvs.) with blooms that combine soft pink and yellow or pale peach in each bloom**
- **Heliotrope**
- **English thyme (*Thymus vulgaris*)**
- **Swan River daisy (*Brachyscome iberidifolia*), pale pink or violet, for filler**

For a large container, I'll use two Cape daisies and three heliotrope and fill from there. Smaller pots may get one or two of each; only one scented geranium, though.

Another combo I like is heliotrope with marigolds and trailing lobelia. I sometimes use an ornamental grass as an anchor for that combo.

John Barrett, director of sales, marketing and development, Veseys Seeds Ltd., Charlottetown:

We've been offering a window box collection for the past few years that was created for our home by my wife, Faye. In fact, we call the seed mix Faye's Window Box Collection. (I guess we won't win any awards for originality!)

- Blues Brothers lobelia
- White Knight Fuseable Mix lobelia
- Rose Star Ringo 2000 Series geranium
- Quartz Waterfall verbena
- Celebrity Series petunia
- Black-eyed White and Celestial Blue, Snow Series pansy

Photos clockwise from top left: Proven Winners (2) ; Laura Berman; Proven Winners. Opposite : Laura Berman

50+
INSPIRING
COMBOS

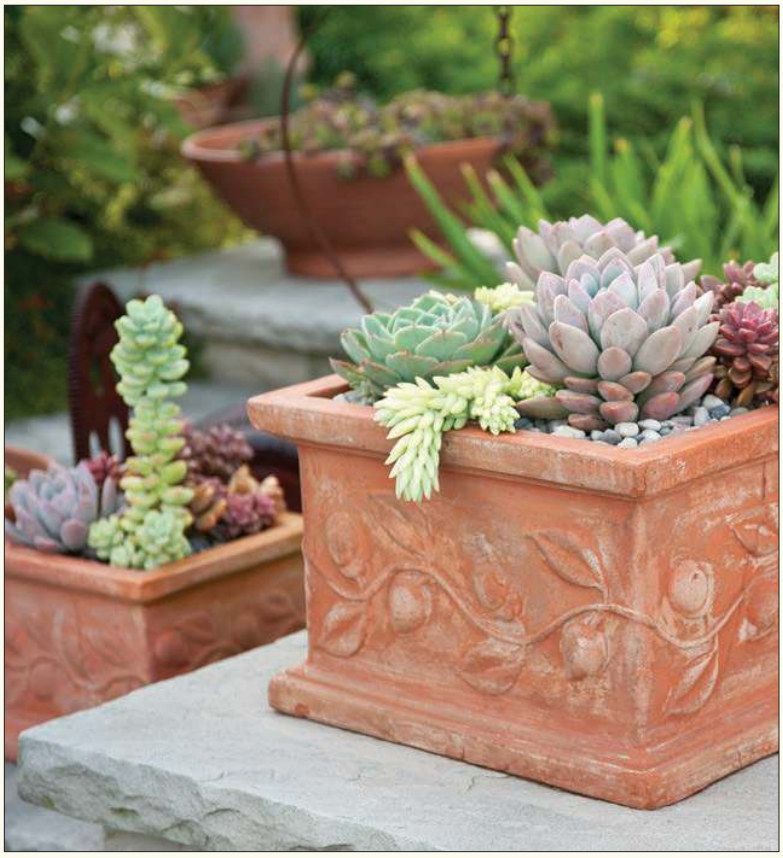
[IN THE MIX]

Pretty in purple: 'Victoria' salvia, variegated culinary sage, 'Burgundy Glow' ajuga and variegated English ivy.
Opposite page: **1.** Calliope Dark Red geranium **2.** Silver Falls dichondra **3.** Swiss chard **4.** Purple heliotrope

MY FAVOURITES

Mark Cullen, broadcaster and garden writer, Ontario:

I like combining Swiss chard with heuchera and carex (an ornamental grass), and English ivy hanging down the sides. 'Jethro Tull' coreopsis is great, too, if you can squeeze it in. The key is to overplant!



Yvonne Cunnington dispenses gardening inspiration at flower-gardening-made-easy.com, Ancaster, Ont.:

I love using succulents in containers. They're stylish, easy to care for and perfect for hot, sunny spots. I mix hens and chicks, echeverias, agaves and sedums to show off their wonderful sculptural shapes, colours, textures and symmetrical patterns.

They don't need much fertilizer and don't mind if you forget to water them for a week. Although most of the succulents I use aren't hardy, they're easy to keep through the winter. I take cuttings in the fall and set them under lights (a bright windowsill would be fine, too), water sparingly, and by spring I have a fresh crop ready for my containers.

Uli Havermann, assistant manager, perennial department at Plant World, Toronto, and volunteer at Toronto Botanical Garden:

My favourite containers feature specimens of one plant, grouped together. Several years ago, I saw a double row of coleus, each a different variety, planted in the same size terracotta pots, staged in a zigzag pattern. I repeated this idea at home by planting two different coleus in terracotta pots, lined up side by side in a window box that's the length of our dining room window. It looked amazing. Last summer, I had a fancy-leafed *Pelargonium* collection staged on Victorian wire plant stands.

Photos, left to right: Yvonne Cunnington; Uli Havermann

SPECIAL GARDEN GUIDE

3

CONTAINER GARDENING

DESIGN THEMES

GARDENMAKING.COM

PAGES
55–74

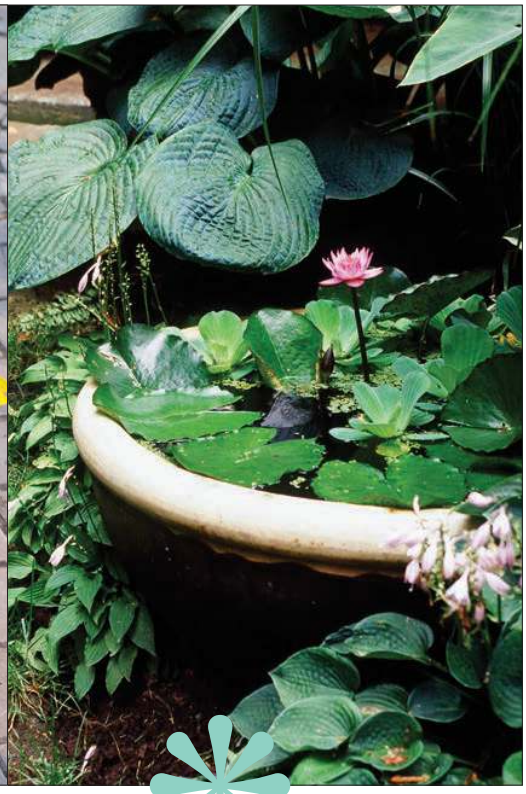
Photo: Lynn Keddie/Gap

Variations on a theme

Some of the most interesting and rewarding container gardens revolve around themes or hobbies. If alfresco dining is a summer ritual, surrounding your patio table with pots of fragrant blooms makes lingering over coffee even more enjoyable. Or, maybe you want a whole new dimension for your potscape: a small water garden with a water lily and a few other aquatics add a serene note.

Specialized gardens are fun to plan and easy to execute, and your imagination is one of the most important tools you'll use. Here are some suggestions to help you create something out of the ordinary.

Photo: Visions/Gap



WET AND WILD: WATER GARDENS

This is one time when using a pot with drainage holes is not a good idea. Containers that make good above-ground water gardens include wooden half-barrels (with a waterproof liner), glazed earthenware pots or galvanized tubs. Another option are well-crafted plastic or fibreglass terracotta look-alikes. The larger sizes (more than two feet / 60 cm in diameter) are usually manufactured without drainage holes.

If the container already has drainage holes, plug and caulk them with silicone. To waterproof a wooden barrel, line it with dark plastic polyethylene (staple to the top edge) or buy a preformed liner specifically made to fit inside a half-barrel. Garden centres that sell pond supplies often have these.

Large containers keep water at a more consistent temperature and reduce the rate of evaporation. They also allow for more plants. A half-barrel, which holds about 15 gallons (56 L), is big enough for one miniature water lily, two or three oxygenating plants, one or two floating plants, three or four small goldfish and two or three water snails. Each kind of flora and fauna has a role in keeping the container's mini-ecosystem healthy: the snails clean the sides of the barrel; the fish eat insects (mosquito larvae like stagnant water); oxygenating plants keep the water clean for the fish and snails; and floating plants provide shelter for fish and shade the water surface from too much sun, which causes algae.

Plant marginal, or "emergent," water plants in terracotta pots or plastic baskets. Use heavy loam—never peat moss, perlite or vermiculite, which floats to the surface—when potting up water plants. Even with heavy loam, you'll need to add coarse gravel to the top of the soil to prevent it from floating away. The pots of marginal plants are submerged, while the plants rise above water level. Oxygenating plants are also planted in pots, but usually rest beneath the water. Floating plants, the third category of water plants, don't grow in pots at all, but, as their name implies, float along the water's surface, their roots dangling below. Keep in mind that most water lilies, iris and other flowering plants need full sun to bloom.

Opposite page: floating water hyacinth. Above, left to right: marsh marigolds in a galvanized tub; a glazed earthenware container holds a miniature water lily.

Photos, left to right: Friedrich Strauss/Gap; Mark Burstyn

Tips for a container water garden

- Fill the container with water the day before planting and adding fish to let the water come to air temperature and the chlorine dissipate.
- Irrigate potted water plants thoroughly before immersing them in the container.
- Some marginal plants like to have their roots well below water level, others just below the surface. Check the plant label or consult a water gardening book for more precise information. The measurement given indicates the distance the soil surface—not the bottom of the pot—should be below the water. You can adjust the pot height by placing it on bricks or empty inverted pots.
- Aquatic plants need fertilizing too, but they're fed with tablets inserted into their pots, not with water-soluble or granular products. Water garden supply stores and large nurseries carry the tablets.
- Fish and water lilies don't like to be near moving water such as fountains. If you want to include a bubbler or small fountain in your container by means of a recirculating pump, you'll have to forgo these delights.
- When the water level drops due to evaporation, slowly add more water from the side of the container; that way, you won't disturb the soil or fish.

CHOOSING WATER PLANTS

When shopping for water plants, keep the three categories in mind—too many marginal plants, even dwarf varieties, in a container will crowd out everything else. Floaters multiply quickly, so you'll want just a few. Below are a few basic choices to consider.

MARGINAL PLANTS

Marsh marigold (*Caltha palustris*)

Dwarf papyrus (*Cyperus profiler*)

Yellow flag (*Iris pseudacorus*)

Blue flag (*I. versicolor*)

Dwarf water lilies (*Nymphaea* spp. and cvs.)

Pickerel rush (*Pontederia cordata*)

Dwarf cattail (*Typha minima*)

OXYGENATING PLANTS

Canadian pondweed (*Elodea canadensis*) Note: Pondweed is very invasive; don't let it escape into natural waterways.

Water violet (*Hottonia palustris*)

Arrowhead (*Sagittaria* spp.)

FLOATING PLANTS

Water fern (*Azolla filiculoides*)

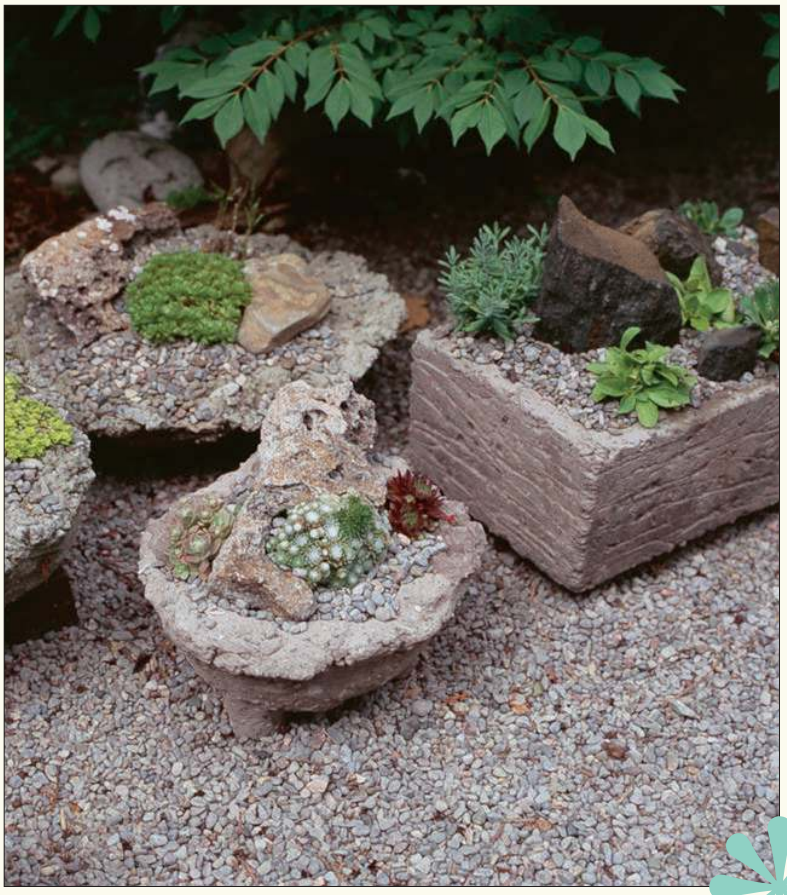
Water hyacinth (*Eichhornia crassipes*)

Frogbit (*Hydrocharis morsus-ranae*)

Water lettuce (*Pistia stratiotes*)

Above: white-flowering frogbit surrounds a miniature water lily bud. The upright, feathery plant is highly invasive parrot's feather, not recommended for water gardens.

Photo: Howard Rice/Gap



SMALL TREASURES: ALPINE GARDENS

If you want to enter into the charming world of alpines, start with the appropriate container. Natural materials and organic shapes enhance miniature landscapes created with these small rock garden plants, which usually hug the soil surface or grow no more than a few inches tall. Natural-looking terracotta or rough concrete bowls are good options—wide, shallow shapes seem to look best. Some creative types make their own free-form alpine containers with hypertufa, a mixture of Portland cement, perlite or vermiculite and peat moss for an even more natural look.

True alpines are plants native to mountainous areas above the treeline, but the term is loosely applied to any hardy perennial that's less than six inches (15 cm) tall, likes well-drained soil and doesn't spread too vigorously. Alpines require soil that can stay moist without being waterlogged: use two parts potting mix that includes soil and one part very coarse, gritty sand. Most alpines bloom in the spring or early summer and need full sun. If you're using a new container, age it by painting the surface with yogourt or buttermilk, and mist daily until the surface blooms with the desirable green mould that will make everyone think your alpine collection has been around for decades.

Fill your container almost to the rim and mound it slightly in the centre. This will prevent water from collecting around the crowns of the plants, which are especially susceptible to rot. Choose a variety of cushion and mat-forming plants, and space them in the container so that the dainty attributes of each can be appreciated. Some common rock garden plants are found in the *Sedum*, *Saxifraga*, *Dianthus*, *Campanula* and *Gentiana* genera. Mulch the exposed soil surface with a layer of coarse sand or pea gravel. A few small, flat rocks, partially submerged among the plants, are an attractive addition as long as the end result doesn't look like giant chocolate chips dropped from the sky. Monitor water carefully—alpines need moisture but detest soggy conditions. They grow slowly, so fertilize them much less often than other container plants—once or twice a year at most. Prune if plants get leggy or start to crowd each other. These diminutive treasures are very hardy, which means extra protection over winter is unnecessary as long as the plants don't get waterlogged during freeze-thaw cycles and the container they're growing in is frost-proof.

Photos, left to right: Roger Yip; Michael Graydon for *Garden Making*

FORCING THE ISSUE: SPRING-FLOWERING BULBS

A pot of colourful spring bulbs at the front door is a joyful sight after the grey weeks of winter. Plant tulips, daffodils, crocus, small alliums, muscari and hyacinths in the fall in containers, placing them so they're almost touching, with the tips of the bulbs an inch (2.5 cm) below the rim of the pot and just covered by potting soil. Water well and store over winter in a cool, dark location, such as an unheated garage or basement, or cold cellar. Check the pots occasionally, watering if the soil is bone-dry. When shoots emerge in early spring, move them out into partial shade for a few days before moving into a sunny spot—and enjoy the show.

If you lack storage space or forget to pot up some bulbs in the fall, buy pots already in bud or bloom in the spring. Place the pots in a decorative container, and camouflage the plastic rims with sphagnum moss.

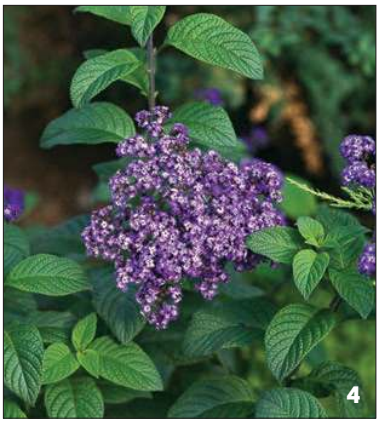
Bulbs grown this way are too exhausted to be forced a consecutive year, but you can plant them in the garden, where they may recuperate enough to bloom again the following year. Let the foliage die off naturally; removing it prematurely robs bulbs of energy that helps them form flowers.

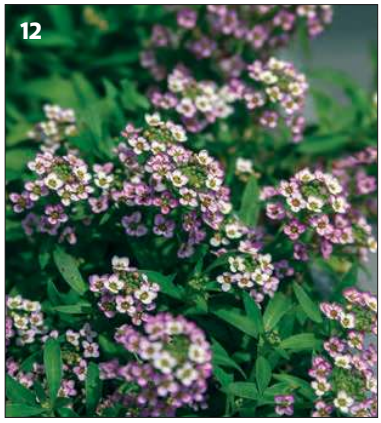
Photo: Jonathan Buckley/Gap

AROMA THERAPY: FRAGRANT GARDENS

A potted garden filled with fragrant flowers is one of the simplest to make. The key is determining what plants are truly effusive with their fragrance—not so stingy that in order to catch a whiff you must grow at least three dozen and position your nose an inch above the blooms, breathe deeply and concentrate.

Catalogue writers (and garden book and magazine writers, too) are often overly enthusiastic and optimistic about the fragrance factor of flowers. Below is a list of the most aromatic flowers and foliage—annuals, bulbs, vines, tender perennials—that will be noticed on a summer's eve as you relax outside, enjoying the warm night air. Set containers close to seating areas—a few feet (1 m) above ground, if practical—to maximize their olfactory impact. By placing scented plants along a path or beside steps, you increase your chances of brushing up against the plants as you pass by, which releases even more of their aroma. Or, place a window box of fragrant choices outside a bedroom window, where the scent can waft over you on night breezes. Balconies and small, enclosed garden areas are some of the best places for a fragrant garden because the scents are confined, making them more noticeable.





Fragrant plants

Here are a dozen ways to help make your garden smell wonderful

1. Lilies, especially *Lilium regale*

2. Moonflower vine, an annual in the morning glory family with huge white blooms that open at night

3. Old-fashioned sweetpeas, especially *Lathyrus cupani*

4. Heliotrope, an annual with deep purple flowerheads; also comes in a white variety, which is even more fragrant

5. Lavender

6. Jasmine

7. Mignonette (*Reseda odorata*), insignificant flowers, but powerfully fragrant

8. Petunias, especially the older varieties with large, floppy blooms

9. *Nicotiana alata*, a tall, white-flowering annual

10. *Hosta plantaginea*, as well as *H.* 'Royal Standard' and 'Aphrodite'

11. Dianthus

12. Sweet alyssum

Photos, clockwise left to right: Laura Berman; Kjell Brynildsen/istock; Laura Berman(2)

A TOUCH OF ROMANCE: ROSE GARDENS

Roses are good candidates for containers, as long as some thought is given when choosing from the hundreds available. Hybrid teas are lovely, as are the equally beautiful miniature, China, hybrid perpetual, polyantha and smaller Explorer roses (bred in Canada to withstand especially cold winters). Climbers, ramblers and large shrub roses aren't suited to containers. Plant pale pink miniature roses and blue trailing lobelia in a wicker basket for a soft, romantic effect, or splurge on a rose standard (floribundas and polyanthas are good choices) and site it in a prominent location in your loveliest pot.

To overwinter, place the rose in its container against the warmest wall in an unheated garage once it goes dormant outside, after a few hard frosts. Set the pot in a large garbage bag and loosely fold the top over the soil (don't seal it up tightly), around the base of the rose. Remove leaves as they fall and water during dormancy if the soil dries out completely. Your aim is to keep the rose dormant by not letting the root ball freeze and thaw; consistent temperatures and darkness will help.

In spring, move the pot back outdoors and prune lightly to trigger new growth; resume feeding.

[TIP]

Roses are heavy feeders, and when grown in containers, it's easy to give them extra meals. In spring, sprinkle a tablespoon (15 mL) of Epsom salts over the soil for each potted rose and water in to provide the magnesium sulphate they like. Roses also benefit from repotting in fresh soil every two or three years.

Photo: Friedrich Strauss/Gap

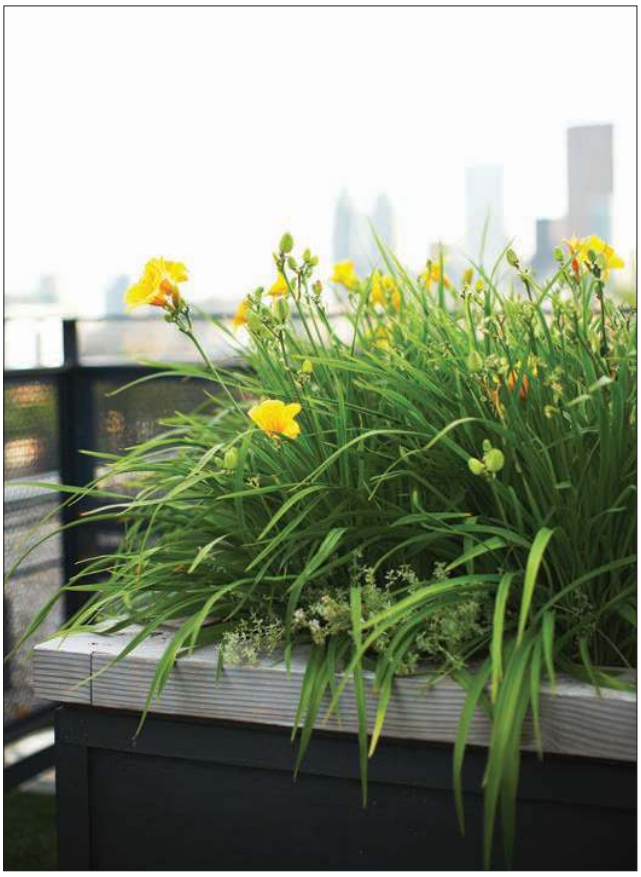
Gardens aflutter: bird & butterfly havens

One of the joys of gardening is watching visitors' reactions to all your efforts, and what better visitors to welcome than butterflies and hummingbirds. If you want to make your container garden a part of their travels, include a few of these plants, which provide the nectar they like.

Impatiens	Verbena
Lantana	Fuchsia
Petunia	Calendula
Nasturtium	Heliotrope
Zinnia	Nicotiana
Marigolds	Salvia

Opposite page: baskets of Henri Matisse roses and Superbena Bushy Merlot verbena. This page: dianthus, white nicotiana and trailing petunias.

Photo: Lynne Keddie/Gap



Gardening on high

Planting up containers for balconies and rooftops has a few additional challenges than doing so at ground level. To create a sky-high oasis means first taming an exposed site—one that offers little protection from the elements. The trees, hedges and fences that filter the wind, buffer temperature extremes and temper the sun in terra firma gardens aren't available a few stories up. Balconies and rooftops are surrounded by buildings that cast impenetrable shade—sometimes for half a day or more—and winds that barrel down between buildings can upend pots and strip off petals and leaves.

Of course, if you crave flowers, leaves, trees and vines outside your condo's sliding-glass doors, you're not going to let these "minor" inconveniences discourage you, are you? With careful planning and plant choices, a thriving, abundant high-rise garden is well within your reach.

Design pointers

Obviously, space is at a premium, especially on balconies, where you'll not only have plants, but likely a table and chairs, and perhaps a barbecue. Avoid prickly, thorny specimens in tight quarters—you don't want to be snagged on the way to the chaise longue. Look for plants that have interesting form and foliage, as well as pretty flowers. Let two or three plants act as focal points, and group a collection of smaller plants nearby.

The smaller the space, the bigger the impact the colours you choose will have. White and pale-coloured flowers lighten up a small space, making it seem larger. If the balcony is used mainly in the evenings, an all-white garden is lovely. For a cozy, dramatic, enveloping mood, choose a dark, rich palette—purple, blue, maroon, hot pink—tempered with plenty of rich, green foliage.

Photos, left to right: Michael Graydon

Rooftop gardens vs. gardening on a rooftop

The term "rooftop garden" doesn't always mean plants growing in pots and planters arranged on a flat roof. A growing ecologically sound movement, especially in urban areas, encourages owners of commercial and residential buildings to plant turfgrasses, wildflowers and other low-growing, drought-resistant species directly onto flat or sloping rooftops. The seeds or seedlings are planted into a shallow layer of soil that's contained in a membrane covering the entire surface. The aim is to cover as much unused roof space as possible in order to improve air quality, reflect heat and prevent storm water runoff from overloading storm sewage systems. The layer of soil and plants on a rooftop also provides insulating qualities that keep buildings warmer in winter, cooler in summer.

These types of rooftop gardens are more common in Europe and Asia than in North America, although the number of projects on this continent increases each year. In some German cities, new industrial buildings are required to install green roofs. In Switzerland, new buildings must relocate the green space covered by the building's footprint to the roof areas. For more information about rooftop gardens in Canada, go to Green Roofs for Healthy Cities (greenroofs.org).

WEIGHING YOUR OPTIONS

Before you begin lugging bags of potting soil up the elevator, determine if the surface you'll be gardening on can withstand the weight of containers, soil and water. (And you might want to measure the elevator before taking delivery of large trees or shrubs, just to make sure they'll fit.) The combined weight of these items is not insignificant: a wooden half-barrel filled with moist soil weighs about 200 pounds (99 kg). Allow a safety margin, especially if you have parties with a few dozen people on your roof or balcony. Always check with a building manager or superintendent for restrictions and weight limits before adding more than a few containers; consult a structural engineer if your plans are truly ambitious.

Place the heaviest pots along weight-bearing walls, normally the outer ones on a roof. If your roof garden plans are extensive, you may need to have a steel beam and deck joists installed. Lay decking in sections over the joists so any subsequent repairs won't require dismantling the entire floor.

There are ways to reduce the weight of planted containers. Use a soilless mix or a potting mix with a high proportion of peat moss, vermiculite or perlite—these materials weigh less than 100 per cent potting soil. Unfortunately, they also dry out more quickly, meaning plants require more frequent watering. Choose containers made of lightweight plastic, wood or fibreglass. Plastic and fibreglass have the additional benefit of being more moisture-retentive than heavier terracotta. However, plastic containers are sometimes a false economy because they become brittle when exposed to a few seasons of sun and frost. And their lightness can be hazardous on exceptionally windy days.

For short-term plantings (lasting a season or two) in large containers, place crushed plastic plant cell packs or Styrofoam chips in the bottom third of the pot to reduce the amount of soil needed. Place landscape cloth on top of the filler materials to prevent soil from filtering down. This might not be the best option for long-term, permanent plantings such as trees and shrubs, or vegetables that benefit from a large, healthy root system such as tomatoes or squash; but annuals will be fine.

[TIP]

Water not only adds weight to a balcony garden, but it can damage a balcony floor or find its way into the apartment or balcony below when it drains from pots. Consider installing a drainage system to take excess water out to downspouts, drains or eaves, and suspend a second floor of wood decking overtop.

Photo: Sol Algranti/istock

WHAT TO PLANT?

Once you've determined that your flooring is up to the stresses of weight and water, and you've decided on other practicalities, it's time to move on to more pleasant decisions: choosing plants.

The sky's the limit (pardon the pun), although you'd be wise to pass on plants with fragile blooms and big leaves that may easily be shredded by high winds. Plants with sturdy, leathery leaves like those on mandevilla and English ivy; thin, flexible leaves found on ornamental grasses and daylilies; and low-growing plants such as portulaca, thyme and sedums stand up to the rigours of high living.

If shrubs and trees are part of your design, choose iron-hardy specimens with open forms and small leaves. Siberian peashrub (*Caragana arborescens*), serviceberry (*Amelanchier* spp. and cvs.), amur maple (*Acer ginnala*), cutleaf staghorn sumac (*Rhus typhina* 'Dissecta'), Russian olive (*Elaeagnus angustifolia*) and mock orange (*Philadelphus* cvs.) are a few candidates. Young, single-stemmed trees may need staking for a year or two. If you don't want to invest in trees, choose other plants to give your garden height: ornamental grasses or vines, such as black-eyed Susan vine (*Thunburgia alata*), on obelisks or trellises; morning glories; or scarlet runner beans with pretty red blossoms and edible green beans.

Study the amount of sun your balcony or roof receives in spring, and again in midsummer. An adjacent wall may mean plants get strong sun for part of the day and solid shade the rest of the time. If necessary—and allowable—paint the walls white to increase the amount of reflected light.

Temperature extremes intensify above ground. Roots may cook in small black plastic pots sitting on a south-west-facing balcony. Choose plants that tolerate heat and plant them in large containers—soil is a great insulator. In winter, the wind is stronger and the temperatures are colder several stories high; a tree that survives in a container at the ground-level condominium below yours may not survive 15 floors above.

To repot or not?

As trees and shrubs grow in width and height, they'll need repotting if you're going to keep them from year to year. Signs that a plant needs repotting include soil that dries out quickly, tightly packed roots within a pot, roots protruding from drainage holes or water sitting on the soil's surface too long after watering. When moving plants to a larger container, don't increase the size by more than an inch or two (2.5 to 5 cm). If the volume of soil—and accompanying moisture—around the roots increases too abruptly, plants can rot from the sudden extra moisture.

The best time to repot is when a plant is actively growing. Moisten the soil before removing it from its container. Trim the bottom roots and loosen those growing along the sides; cut through any growing in a circle around the root ball. If you're faced with a thick, tight netting of roots, take a sharp knife and make three equally spaced vertical cuts along the sides from top to bottom. (This root brutality is to coax them to grow out into the new soil after they're replanted.)

If you end up removing a significant amount of roots while repotting, prune a corresponding amount of above-ground growth, too. Fewer roots means fewer nutrients reach stems, branches and leaves. Therefore, if you remove a quarter of a plant's roots, remove a quarter of its top growth, too.

Photos, left to right: drought-resistant Russian olive stands up to the stresses on a balcony; fast-growing black-eyed Susan vine.

Photos, left to right: Marcus Harpur/Gap; Terry Wilson/istock

PERMANENT PLANTINGS

High-rise gardeners, bereft of the hedges, trees and shrubs that ground-level gardeners enjoy, can be especially keen to grow deciduous or evergreen shrubs. Because it's impractical to bring these large specimens into a condo or apartment for overwintering, these permanent plantings need to withstand the rigours of winter outdoors.

Even roots in ground-level containers must be able to withstand colder temperatures than their counterparts growing in the garden (see "Overwintering Plants," page 92). Move that containerized tree up to the 10th floor and the temperature extremes are compounded. Winter winds are especially troublesome for coniferous trees and broadleaf evergreens, which transpire water through their needles and leaves throughout the year. If a root ball is frozen for long periods of time, the water lost through transpiration can't be replaced, and the foliage dries out, turns brown and drops off.

It's not just cold temperatures and drying winds that strike down plants that spend winter in containers far above the ground—the season's inevitable freeze/thaw cycles also contribute to their demise. A few warm, sunny days in early February will thaw the plant and its roots, tricking it into thinking spring is here, so the plant breaks dormancy. Of course, in most of Canada, spring is two to three months away. When the soil freezes again—as it inevitably does—any new growth triggered by the surprise thaw is killed. The stress of stopping and starting growth over and over again is too much for a woody plant, and it succumbs. Even on bitterly cold days, the sun may thaw the soil during the day, whereupon it freezes again at night.

Therefore, it's crucial to keep the plant in a dormant state until it truly is spring. Big planters that hold lots of soil provide more insulation for roots. Wooden containers are ideal for permanent plantings on balconies and roofs. They can be customized to fit odd-sized spaces and large, permanent plantings; plus, wood is a good insulator. Planters for perennials need to be at least 18 inches (45 cm) deep; trees and shrubs need two and a half feet (75 cm). It's simple to add wheels to wooden boxes, which makes moving heavy planters much easier. Line the inside with thick sheets of Styrofoam insulation, the kind used for house insulation, or tie the sheets around the outside of the containers after a hard frost. If you're using containers made from other frost-proof materials, tie insulation around their perimeters, too, to decrease the chances of premature thawing.

[TIP]

Make sure all balcony boxes, hanging baskets and wall-mounted containers are securely fastened. Tall trellises and obelisks catch the wind, too, and need to be firmly anchored or wired to a wall or railing, as well as inserted deeply into the soil.

MORE DESIGN IDEAS

- If a breathtaking view of the skyline brought you to a particular high-rise, don't obscure it with plants. Instead, position containers to frame the view.
- Use structures to enhance a rooftop or balcony garden. Trompe l'oeil (literally, "fool the eye") enlivens a plain, flat wall. Trellising with a false perspective is striking, too.
- The right angles and solid surfaces ubiquitous on most balconies and roofs make ideal backdrops for formal plantings. Square Versailles boxes with tightly trimmed conifers or a delicately pruned Japanese maple adds drama and structure. Formal designs rely on symmetry and repeating motifs: a series of identically planted hanging baskets or a monochromatic colour scheme reinforces a formal look.
- A more informal, cottage garden-style theme is also possible on a small balcony or roof. Camouflage the edges and surfaces of containers with mounding and trailing plants. Mix herbs and vegetables with your flowers. Choose containers in classic shapes made from natural materials—wood or terracotta. Screen the cityscape from view with annual vines and you may be able to imagine you've stumbled down a country path and are not several stories above ground.

Photo: Graham Strong/Gap

Grow up

One way to increase the available gardening space on a balcony is to use your abundant vertical space and plant annual or hardy perennial vines. They take up scant floor space, but offer a bower of beauty. Most grow quickly and provide plenty of colour, while some are fragrant (sweetpea, honeysuckle, jasmine, morning glory). Attach a ready-made trellis to a wall or nail its bottom eight inches (20 cm) to the back of a planting box. Eye hooks screwed into a wall with thin wire or twine strung through them is another way to make a climbing support for vines.

Several vines growing on a free-standing large, sturdy screen or wide trellis can diffuse wind, filter sun, provide privacy from neighbours or hide stored bicycles, plastic storage bins, etc. Make sure there are open spaces in the structure so wind can pass through (a solid surface creates turbulence), and anchor it firmly to the floor. Grow the vines in an attached planter at the base or in pots clustered at the bottom.

Carefully tie vines to supports as they grow to prevent long stems from snapping off in the wind. Use a figure-eight loop and soft cotton or jute twine; lengths of pantyhose work, too, but given the proximity of most balcony gardens, you or your neighbours may not want to gaze at torn hosiery all summer.

Photo: Claire Davies/Gap

Pushing the zones

Trees and shrubs are more expensive than most perennials and annuals, one of the main reasons to be realistic when overwintering plants on a balcony or roof. Considering the vagaries of winter, one must always be prepared for the occasional loss. Choose trees and shrubs hardy to two plant hardiness zones colder than where you live. For example, southern Toronto and Halifax are in Zone 6 on the Canadian Plant Hardiness Zone Map. Trees hardy to Zone 4 and colder have a better chance of surviving on a balcony or roof in these cities. Go to http://sis.agr.gc.ca/cansis/nsdb/climate/hardiness/intro.html for more information about the zone map.

However, don't be frightened off by hardiness zone ratings; there are myriad factors that affect a plant's hardiness; winter temperature is only one. The care a plant receives the rest of the year, as well as the amount of snow cover and wind, and its orientation to the sun all have an impact on a plant's relative hardiness. It's always worth experimenting on a small scale, especially if you come across a well-priced tree or shrub.

Photo: Visions Age/Gap

[TIP]

The relative isolation of a balcony or rooftop garden means gaining access to the site and storing materials are key issues. How many bags of topsoil are you prepared to carry across your white broadloom? And then there's the dilemma of discarding depleted soil, along with the plants, at the end of the season. If you're composting, this won't be an issue for you. But compost bins take up valuable space. Don't forget to leave room for pruners, a hose, watering can, extra soil, fertilizer, etc. Some avid balcony gardeners with lots of plants use a wet/dry vacuum to clean up spills—soil and water—and to suck up plant debris during fall cleanups. At least a vacuum cleaner is smaller than a lawn mower, one accoutrement you won't need to store on your balcony.

More winter survival strategies

- When planting, keep the soil level low enough in the container to accommodate a two-inch (5-cm) layer of mulch in winter.
- Select slow-growing or dwarf trees and shrubs.
- Specimens that blossom in early spring may not do well far above ground. The colder temperatures may freeze the flower buds, and a lack of pollinating bees reduces yield on fruit trees.
- Pruning keeps trees within bounds, allows wind to pass through easily and reduces the weight of the container. Prune when trees are dormant or, in the case of flowering shrubs, after blooming.

  Treat the tree like a living sculpture, not a lollipop on a stick. Step back every once in a while to check your progress. Don't be afraid to prune, but know when to stop.
- Feeding trees annually is usually adequate, but if foliage begins to yellow or the tree produces smaller leaves, supplement with another application of fertilizer during the growing season.
- As the roots of permanent plants increase, they dry out more quickly (the ratio of roots to soil changes). Diligently monitor moisture levels, especially on hot, windy days.

Opposite page: junipers are usually winter hardy on balconies. Left: clipped boxwood sets off dainty pulmonaria, rosy ranunculus and lilac pansies.

Photo: Mark Bolton/Gap

Container cuisine

Growing a few containers of vegetables might not yield enough to feed a family of four, but it still allows you to savour the just-picked flavour of produce at its prime. There's nothing more local than the pots of vegetables and herbs just outside your kitchen door.

Growing tomatoes, lettuce, peppers and other favourites in containers also offers a few distinct advantages over tending crops in a traditional garden plot. The soil is usually a few degrees warmer in spring and fall, providing a longer growing season. If an unexpected late spring or early fall frost threatens, you can move a pot into shelter or throw an old sheet over it. A container's mobility also makes it possible to give plants the most sun possible by moving them to sunny spots as the light moves across your garden. And if you're growing crops that are susceptible to soil-borne diseases, growing them above ground helps.

Photo: Juliette Wade/Gap

PRETTY AND PRACTICAL

Many vegetables are ornamental, making them ideal for an edible container garden or good choices to mix among your potted flowers. The lavender blossoms on eggplant grow into glossy purple orbs. 'Bright Lights' Swiss chard, with its red, orange, white and green stalks and ruffled, glossy green leaves, is worth growing even if you never took a bite of it. Other vegetables can be dressed up with unusual containers—hot pepper plants growing in large olive oil tins or green beans climbing an elegant obelisk.

Plant hybridizers have expanded the range of vegetables that grow well in pots by developing more compact specimens that also have high yields. We have cabbages the size of softballs, bushy cucumber plants designed for containers and cherry tomatoes that thrive in hanging baskets. Browse through seed catalogues and study the plant descriptions, looking for varieties labelled compact, bush, balcony, etc. Or, if you're buying young plants at the garden centre, read the tags to find out the mature size of the plant or those that are suitable for containers.

You don't need to stick exclusively to dwarf varieties. Try growing an indeterminate (vining) tomato in a large pot, supporting it with tall, sturdy bamboo poles tied together at the top. Tie most of the stems to the supports, but let a few trail over the sides. Large containers with a tall support also suit full-size pole beans, which produce pretty flowers prior to fruiting.

CARE AND FEEDING

Vegetables have needs similar to other potted plants with a few exceptions. They require a richer soil—add compost, well-rotted manure or good garden loam to light potting or soilless mixes. Not all veggies love the heat: keep roots of peas, spinach, lettuce and radishes cool by using well-insulated containers, or grow during the cooler days of spring and late summer.

Maintain consistent moisture levels—vegetables need a stress-free life if they're going to get down to the business of producing a healthy crop—and feed them with an appropriate synthetic or organic fertilizer. Leafy vegetables require slightly more nitrogen; fruiting vegetables need more phosphorus; root vegetables like a bit more potassium. If in doubt, use a diluted, balanced fertilizer every two weeks.

You want vegetables to be as healthy and productive for as long as possible, so it's not wise to crowd them. Follow spacing guidelines on seed packets for plants like carrots, beets and onions; for larger plants such as peppers, beans and tomatoes, usually one plant per large pot is best. Radishes grow quickly and get by with very little soil. They, along with early-maturing leaf lettuces, are good candidates to plant with slower-growing peppers, eggplants and tomatoes.

Above, left to right: colourful 'Bright Lights' Swiss chard and nasturtiums; the flowers of eggplant.

Herb gardens

Many a committed and enthusiastic container gardener started with a pot or two of kitchen herbs. Herbs are some of the most forgiving container plants because a number are native to the lean soils and hot climates of the Mediterranean—in other words, they don't need a lot of coddling, water or supplemental feeding. Growing your favourites near the kitchen door or barbecue ensures they'll be close at hand and means you'll have a fresh, tasty, steady supply. Several herbs are tender perennials—bay, rosemary, scented geraniums, for example—that can spend winter indoors, so you can enjoy them year-round.

Many are highly ornamental with attractive foliage, which makes them good candidates for mixed containers of flowering plants. Consider using a trailing rosemary for the edge of a pot or hanging basket instead of ubiquitous English ivy, or use curly parsley, silvery sage or green-and-white apple mint with flowering annuals. The tall, feathery stems and interesting seedheads of dill make a pretty accent plant in a large container.

Although most herbs tolerate crowded growing conditions, they'll grow more lustily when given adequate soil around their roots that's quick to drain but holds some moisture. Don't try to give tarragon, rosemary or winter savory anything smaller than a 12-inch (30-cm)-deep pot—their roots need to stretch out. Herbs don't need to be fed as often as flowering plants, but they do like the occasional dose of a diluted, water-soluble balanced fertilizer. Basil needs more frequent feeding, because its big leaves are regularly snipped off for batches of pesto and tomato sauces.

Photos, left to right: *Garden Making*; Laura Berman

Leafy project

Leaf lettuces are easy to grow and the plants are pretty, too, with their ruffled or scalloped leaves, in colours ranging from plain green to green splotched with red to deep purple. Some are cut-and-come-again types (the catalogue description or seed pack will say). Cut the leaves near the base; new ones will grow to harvestable size a few weeks later. This can usually be done two or three times with one sowing.

Plant different varieties, choosing myriad colours, leaf shapes and flavours (peppery, buttery, nutty) in a large, shallow pot—eight inches (20 cm) deep and 18 inches (45 cm) round is ideal. Mix together to make a mesclun mix or plant in patterns or stripes. Lettuces prefer cool temperatures. Feed cut-and-come-again types with diluted fish emulsion or soluble fertilizer every two weeks.

Pot sizes for vegetables

Tomatoes, zucchini, melons, eggplant, potatoes: **5 gallons (19 L)**

Peas, beans, peppers: **3 gallons (11 L)**

Carrots (choose short or round varieties), cabbage: minimum **12 inches (30 cm) deep**

Beets, broccoli, cucumber, lettuce: minimum **8 inches (20 cm) deep**

Swiss chard, onions, radishes, spinach: minimum **6 inches (15 cm) deep**

STRAWBERRY YIELDS FOREVER

Although it's possible to grow blueberries and gooseberries in containers, strawberries are much simpler. They even have an eponymous pot: the strawberry jar. Made of terracotta or glazed earthenware, strawberry jars are taller than wide with evenly spaced openings, called "pockets," running up and down the sides, ideal for strawberries, which send out runners. The best-designed containers have pockets that jut out from the side—almost like little bowls. This style holds water near plant roots better than jars with slits or circles punched in the sides.

The method for planting a strawberry jar is similar to that of a hanging basket. Fill the container with a planting mix that contains soil and coarse sand (for drainage and stability) until it reaches the bottom of the first row of openings. Insert plants, roots first, through the holes and add more soil until the next row of holes. A few small stones or dampened milled sphagnum moss around the base of plants will keep them firmly in place.

Alpine strawberries don't grow runners as traditional strawberry plants do. Round bowl shapes show off these exceptionally perky plants, with their three-part, serrated leaves and white flowers that dangle overhead. Alpine strawberries are smaller but with an intense, concentrated flavour. They're well worth growing because the tiny berries aren't readily available in stores. Best of all, plants are productive all summer, not just in June, which is when most traditional strawberries bear. A pot growing in the centre of a patio table means you'll be eating cornflakes alfresco most mornings.

All strawberries grown in containers need to be overwintered in a protected area, such as a garage or shed.

Photo: Julia Boulton/Gap

SPECIAL GARDEN GUIDE

4

CONTAINER GARDENING

HOW TO

GARDENMAKING.COM

PAGES
75–94

Photo: Lee Avison/Gap

Step-by-step planting

Empty containers are sitting on the garage floor, an open bag of fresh potting soil next to them. Nearby are plastic trays full of plants that you spent hours selecting at the garden centre. Where do you begin?

This is the point where either a great container garden or one that's just ho hum is determined. Beautiful containers and gorgeous plants don't necessarily mean success—the outcome depends on the way you put these two ingredients together. Careful planting does take a bit more time than the slam-and-dunk method, but the results are well worth it.

Photo: Clive Nichols

1

PREPARE THE PLANTS
Water plants a few hours before transplanting, and allow excess water to drain away. An evenly moist root ball is easier to remove from its pot and less likely to crumble apart.

2

CHOOSE A CLOUDY, COOL DAY
Plants transferred from their cramped, temporary nursery pots into their permanent new homes will be stressed, and hot, bright sunshine just adds more stress. However, if your trays of annuals have been languishing on your garage floor for a week because you've been too busy to garden, and this Saturday is the only day you have free for the next week...then this is the day, even if it's hot and sunny. Sometimes, the ideal time is the time at hand.

3

TAKE YOUR PLACES, EVERYONE
If the containers will be portable after they're filled, do your planting where it's convenient and cleanup is easy. If you're planting a big, heavy iron or stone urn, first move into place, then plant on site. Your time will be better spent admiring your handiwork than waiting in the chiropractor's office with strained back muscles from moving a too-heavy pot full of damp soil and plants.

4

PREPARE NEW TERRACOTTA POTS
Submerge new terracotta pots in water for 15 to 20 minutes to saturate the clay. An old plastic garbage bin works well for large containers. When bubbles on the surface of the pot disappear, it's fully saturated.

Soaking prevents the pot from wicking moisture from the soil mix after planting. For small terracotta pots less than 10 inches (25 cm) in diameter or porous pots such as wicker or wire mesh, line them with clear or dark-coloured plastic (shopping bags are perfect). A plastic lining helps retain moisture in small pots—a boon during hot weather.

After filling the pot with soil, trim away the excess plastic at the top. To provide drainage, poke a skewer or plant stake up through the drainage hole in the terracotta pots and in several places along the bottom of wicker baskets to puncture the plastic and allow for drainage.

5

CLEAN OLD POTS
Remove built-up fertilizer salts with a wire brush, scrub brush or nylon pot scrubbing square. If you had trouble with disease in last year's container plantings, sterilize pots by washing them in a solution of one part household bleach to nine parts water. Rinse well. Using fresh soil each season cuts down on all but the most virulent plant pathogens. The patina of an old terracotta pot with patches of mould and moss add an air of permanence to a garden setting, so you may not want to scrub pots until they look like new.

6

ADD THE SOIL MIX
Make sure you have enough suitable soil mix on hand for the containers and plants you're using. It's frustrating to run out when you're up to your elbows in small pots of flowers and half-full containers. It's better to buy more soil mix than what you think you'll need (especially if you come across a sale) and store whatever is left over. Just seal up open bags and use the rest next year.

Empty the bag of commercially packaged mix—or the homemade version you made earlier—onto a work surface or into a wheelbarrow. Break up large clumps and remove big pieces of any partially decomposed wood. Add lukewarm water and mix it in thoroughly but just until the mix is evenly moist—not soggy and mucky. If adding time-released fertilizer or water-retaining

Say goodbye to gravel

There is a mistaken belief that placing a layer of gravel or a pot shard over the drainage hole at the bottom of a container improves drainage. Actually, it does quite the opposite.

When a pot shard sits over a drainage hole, it seals it off and impedes drainage. As for gravel, unless a piece of water-permeable landscape cloth is placed over the layer of gravel, soil filters down to fill the spaces between the large pieces of gravel, thereby negating any improvement in drainage. Two more reasons to forgo gravel: it takes up valuable space where roots could grow in soil and adds considerable weight to the container.

Instead, cut a square of plastic window screen netting larger than the diameter of the drainage hole and place it inside the bottom of the pot, over the opening. The piece of screen keeps the soil in the pot.

A roll of window screen, sold for repairs, is inexpensive and readily available at building-supply and hardware stores. When emptying pots in the fall, save the squares to reuse next year.

polymers, mix these in at this stage, too. Make sure you know the volume of the soil you're working with so you don't overdo either the fertilizer or the polymers.

Scoop the soil mix into the container and press down lightly to eliminate air pockets, especially in large containers. Don't pack it down *too* firmly—there's no need to stomp on it or take a block of wood and tamp it into a solid mass; severely compacted soil will starve the roots of oxygen.

How much soil mix you place in a container before planting depends on the size of the plants' root balls going into it. If only one large plant—a hosta or rose, for example—is destined for your container, fill the container with enough soil so that when the bottom of the root ball rests on the potting mix, its top is one inch (2.5 cm) below the rim of the container.

If a dozen young plants from cell packs are going into the container, fill until the soil is slightly more than one inch (2.5 cm) below the rim of the pot.

If your design includes plants with various-size root balls, plant the largest specimen first, add more soil, plant the next size up and so forth.

8

REMOVE PLANTS FROM POTS

Never pull a plant out of its pot by its stem. Stems, especially young ones, will bruise, and the plant's vascular system will have difficulty moving water and nutrients up to its shoots, leaves and flowers. For a cell pack, tip it on its side and squeeze near the bottom; the plant usually pops out.

For plants in larger plastic pots, position the stem between your index and ring fingers, with your palm covering the soil surface. Turn the pot upside down, gently cradling the top of the root ball in your hand. Rap the rim of the pot on the edge of a table once or twice, or whack the bottom of the pot with a trowel handle. This should jar the plant loose so you can slip it out of the pot intact. If the plant still refuses to budge, poke a pencil or plant stake into a drainage hole and try pushing it out.

Annuals are sometimes sold in small, fibreboard trays that aren't divided into sections, as plastic cell packs are. Usually there are four to six plants to a container and the roots have grown together. Peel away the fibreboard and cut the root balls apart with a sharp knife. Don't try to untangle the roots; this will damage them more than a clean cut.

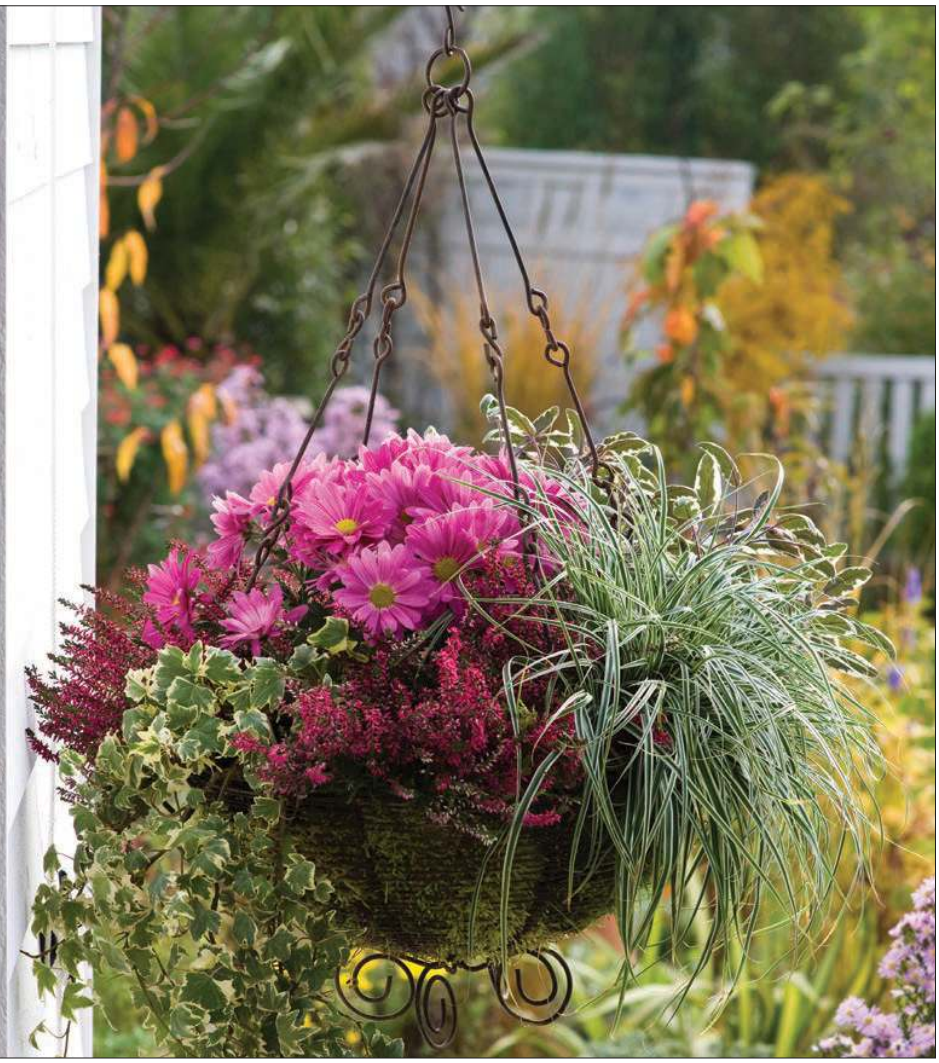
When you're removing a large plant from a one-gallon (4-L) plastic pot, lay the plant on its side. (If there are branches or foliage that could be damaged, loosely tie them together with twine.) Gently roll the pot back and forth, pressing on the sides to loosen the root ball. Slide the pot away and tip the plant upright. Cup your hands under the root ball and place it in its permanent container.

The aim is to disturb the roots as little as possible when transplanting. However, there are times when a plant benefits from a little tough love. If it's hopelessly potbound—usually the case in larger specimens that have remained in too-small grow pots for too long—you'll need to send a signal to the circling, tangled roots that will trigger them to spread out into the new soil they'll be placed in. If there are a few thick roots winding around the outside of the root ball, pull them loose, if possible, so that they can easily make their way into the fresh potting soil, or cut them away. If the root ball is a mat of criss-crossing roots, with barely any soil visible, make a few vertical slashes along the side, from top to bottom.

7

PLOT YOUR DESIGN

Gather the plants you intend to use. Arrange them, still in their pots or cell packs, on top of the soil in your partially filled container. Check the spacing and the arrangement, always keeping in mind from what angle the container will be viewed. If it will be against a wall, place taller plants at the back; if it will be viewed from all sides, make sure all aspects are planted evenly. Once you're pleased with your arrangement, move the plants back to the surface you're working from, trying to maintain the same arrangement.



How much soil?

When pot dimensions are listed, the measurement refers to the diameter at the top of a pot. Most standard-size pots are slightly taller than they are wide, and slightly wider at the top than the bottom.

Here's a rough guideline of how much potting mix you'll need for some common container sizes.

POT DIAMETER	AMOUNT OF SOIL
14 inches (35 cm)	10 quarts (10 L)
16 inches (40 cm)	13 quarts (12 L)
18 inches (45 cm)	19 quarts (18 L)
24 inches (60 cm)	13 gallons (49 L)
Half-barrel	15 gallons (56 L)

9

START BIG

Nestle the largest plant in your partially filled container. Add more soil, gently firming it so that there is good contact between the root ball and the soil. Make sure the plant's final position is at the same level it was originally growing at—don't place more soil over the top of the root ball or let the top portion of the root ball sit above the surrounding soil. Buried too deeply, the stem may rot and the plant will die. Planted too shallowly, and the top roots will be exposed and dry out.

Once the largest root balls are in place, move on to the next smaller size, and so forth. Monitor the level of the soil in the container—you want about a one-inch (2.5-cm) space between the top of the soil and the top of the container when you're finished planting to make watering easier.

As you plant, continue to gently firm the soil to eliminate any large air pockets and keep the plants from settling in at odd angles.

Photos, left to right: Friedrich Strauss/Gap; Richard Clark/istock

[TIPS]

BOOSTER SHOT
To get newly repotted plants off to a good start, add transplanter fertilizer to the water (see page 89 for more information on transplanter solutions). The transplanter solution triggers plants to make new roots. Without more roots, a plant won't grow bigger or more floriferous above ground. After the initial feeding with a transplanter fertilizer, irrigate with plain water; don't begin fertilizing until new growth begins.

A LITTLE TLC, PLEASE
If possible, keep newly planted containers in a sheltered, shady spot for a day or two before moving to their permanent location. Transplanting, no matter how carefully executed, is a traumatic process for plants.

MAY I SEE YOUR I.D., PLEASE?
When experimenting with new varieties and cultivars, slide the plastic plant labels below soil level, up against the inside surface of the container in which they're planted. That way, when you empty the container at the end of the season and want to make note of that gorgeous blue flower for next year, you'll know exactly what it is. Or, if you're not one to keep a garden journal, gather up the labels of those plants you liked, place them in a large envelope and take the envelope with you next season to refer to when you're shopping at the nursery.

10

JUST ADD WATER
When everything is planted, water with a watering wand set at a fine spray or with a watering can fitted with a round or oval sprinkling head with tiny holes to gently disperse the water. The plants and soil mix are already well moistened, so not a great deal of extra water is required at this point. Avoid using a garden hose, which delivers a strong stream of water that may push the soil away from the rootballs.

Recheck the level of the plants in the container and adjust, if necessary.

11

APPLY THE FINAL TOUCHES
Now is the time for a bit of grooming. Snip off damaged leaves and remove clumps of potting soil clinging to leaves or flowers. If annuals are leggy, pinch off their tops to force the plants to produce more flower buds and branches. This is difficult to do when it means losing a flower or two, but the result will be fuller, flower-laden plants if you do.

If you've planted vines you want to grow upright, place the support—stakes, trellis, obelisk—in the container at this point so you can begin tying or training the stems before they develop too much of a mind of their own.

If you've decided to mulch the surface with sphagnum moss, pea gravel or some other matter, lay it now.

[TIP]

There are two exceptions to the rule of making sure a plant's final position is at the same level it was originally growing at: tomato plants and clematis. Plant tomato seedlings so the bottom few leaves are below soil level; more roots will grow along this section of stem, making a more vigorous plant. Plant a clematis two to three inches (5 to 8 cm) deeper than it was originally growing. This prompts a few more stems to sprout.

Photos, left to right: Richard Bloom/Gap; Steve Cole/istock

Window boxes can be on view from two sides—be sure to plant generously. Here, coleus, yellow begonias, golden creeping Jenny and ivy weave together.

Getting the hang of it

Look for baskets with long, sturdy chains that fasten securely to the basket's rim. Often baskets are hung too high, meaning we miss much of the floral impact because it's above eye level. If necessary, you may want to rig up some kind of extension to make the chains longer or suspend the basket from a bracket attached to a wall, fence or arbour.

For a large-diameter basket hung from a wall or fence, make sure the bracket extends far enough from the surface so the basket hangs straight down without hitting the wall.

PLANTING A WINDOW BOX

Planting a window box is similar to planting a ground-level container or planter, but with a few adjustments.

1. Prepare the box
If you plan to plant a new wooden window box without a plastic, metal or fibreboard liner, coat the interior with a water-repellent finish and let it dry for a few days. Use a non-toxic coating if you intend to grow edible plants. When using a liner, check that it fits properly. If the liner's top edge rises above the box, trim it, if possible. If that's not practical, use trailing plants to disguise the exposed edge.

2. Position the box
Decide if you're going to plant the box before moving it to its final position or plant it in situ. If you're going to plant it at the window, place a plastic garbage bag or some other protective covering behind it while you plant to minimize the amount of soil and other debris that might lodge itself between window screens and windows.

3. Add the plants
Follow the steps outlined in planting a basic container. If the window box will be seen from indoors as well, plan so the rear of the container is pleasing to look at, too. If you can periodically turn the box from back to front to promote even growth, so much the better.

Most window box plantings are a combination of mounding and trailing plants. Don't position a trailing plant right up against the front edge of the box; as it grows, the plant's weight may dislodge the root ball. Instead, plant trailing plants a few inches back from the front edge and weave their stems through the base of the plants in front before letting their long stems spill over the edge.

If you're using plants that don't readily trail, such as pansies, sweet alyssum or dianthus, but you want them to lean over the edge, plant their root balls at an angle, so the plants tip forward slightly.

Photo: Yvonne Duivenvoorden

Love 'em tender

Plants that have led a sheltered life growing under artificial light indoors need to be gradually introduced, or acclimatized, to the fluctuating natural light, wind and temperatures found outdoors before being moved into their permanent containers. This process is called "hardening off," and takes about a week.

Plants from a nursery may need some tender care, too. Sometimes they go directly from greenhouse growers by truck to the garden centre and are sold in a day or two. Ask staff if the plants you choose need to be acclimatized.

On their first day outside, set plants in full shade or filtered shade for about an hour. Move them indoors at night or, if nighttime temperatures are warm, onto a covered porch or in the garage. The next day, leave the plants out for about three hours, and add an hour each subsequent day. If the plants are sun lovers, gradually move them into a sunnier location as the week progresses.

Monitor soil moisture carefully. Plants exposed to spring breezes and sun dry out amazingly quickly, especially young plants with small rootballs. Conversely, if the plants are subjected to a sudden spring shower, make sure excess water can drain away easily.

Don't fertilize plants while they're hardening off, but do remove spent blossoms, and gently separate vines if they get tangled up with one another. At the end of one week, plants are ready to go into their permanent locations.

DESIGNING A MOSS BASKET

Admittedly, planting the sides and top of a large, moss-lined wire basket can be time-consuming and a bit fiddly, but a large, multicoloured sphere of flowers suspended from a tree branch or pergola is truly breathtaking. In addition to the basket and liner—either milled sphagnum moss, coco fibre matting or other natural material—you'll need plenty of plants and a fair bit of patience.

MATERIALS

Baskets with 1½- to two-inch (3- to 5-cm) openings between the wires do a better job of keeping the moss, soil and plants in place.

Milled sphagnum moss is the most traditional liner, although preformed mats of coco fibre work well, too. In fact, any natural material that holds soil and allows you to make slits for plants to grow through will work. Try making a basket lined with evergreen boughs—juniper or cedar, for example—for a woodland setting.

Another option is a fibreboard basket fitted with a wire rim and hangers. Making planting holes in the sides of a stiff fibreboard basket is hard work, though; you'll have an easier time if you limit planting to the top surface, and let trailing plants spill over the edges to disguise the sides.

METHOD

The step-by-step instructions on the opposite page are for planting a milled sphagnum moss basket using a wire frame.

Line the moss shell partway up with a layer of plastic—a piece of dark-coloured or clear plastic garbage bag works well. Moss basket purists may scoff at this little cheat, but the plastic allows you to use a slightly thinner layer of moss in the bottom half of the basket and cuts down on the amount of watering needed.

Moss baskets are usually planted with rows of plants around the sides and across the top. These instructions use three rows, or layers: the bottom (which is two to three inches / 5 to 8 cm up from the base of the basket), the middle and top (surface). The bottom row uses the fewest number of plants because it has the smallest circumference. To plant the top and sides of a 14-inch (35-cm)-diameter basket, you'll need 20 plants, and at least 30 for an 18-inch (45-cm) one. (These numbers are based on using plants growing in cell packs.) That may seem like a lot of plants, but you want them to quickly weave together into one glorious ball of colour; you don't want to wait until September for the plants to fill in.

Photo: Friedrich Strauss/Gap

STEP BY STEP: PLANTING A MOSS-LINED BASKET

1

Moisten the soil mix and plants before starting. Soak the moss in warm water; wet moss is easier to shape. Don't tear the moss apart when you immerse it; submerge it in large chunks. Swish it around to get it uniformly wet.

2

Rest the bottom of the wire basket in an empty pail (a brick or two in the bottom of the pail prevents it from tipping) or in a heavy, empty pot. The idea is to stabilize the round-bottomed basket while you plant it, yet not have the sides obscured, which would make planting the bottom row difficult.

Take a chunk of wet moss, squeeze out the excess water and place it across the bottom of the basket, pressing it down firmly. Repeat with more chunks of damp moss, overlapping the pieces slightly, to form a one-inch (2.5-cm) layer of moss midway up the sides of the basket.

3

Cut a circle of plastic from a shopping or garbage bag to cover the moss. A bit of soil in the bottom keeps the plastic in place as you trim the edges even with the top of the moss. (There's no need to make holes in the plastic for drainage; you'll be making slits in the plastic for plants in the bottom row to slide through later.) Add moist soil mix until it's slightly below the top of the moss and plastic liner; firm slightly. Now you're ready to plant the outer bottom row.

4

Push apart a section of moss two to three inches (5 to 8 cm) up from the bottom of the basket, and cut a small slit in the plastic liner. Remove a plant from its container and slightly squeeze its rootball to make it easier to fit between the wires and the slits you've made in the moss and plastic liner. Insert the rootball far enough so it's completely in the soil and the base of the plant is in the layer of moss. Continue around the sides of the basket.

5

The outer middle row of plants goes in next. Extend a slightly thicker layer of moss around the diameter of the basket until it reaches the top edge. Insert the plants for the middle row through the moss, staggering them so they don't sit directly above a plant in the bottom row. The rootballs will be resting on top of the soil and the top of the plastic liner. Add more soil, covering the rootballs in the middle row, until the soil reaches one-half to one inch (1 to 2.5 cm) below the top edge of the moss. You need a rim of moss at the top to act as a reservoir when watering.

6

Now you're ready to plant the outer top row and the surface of the basket. Place a few trailers near the outer edge and a few upright plants in the centre. Fill the spaces between with more plants.

7

Finally, water the basket's top and sides very gently—use a watering can or watering wand set at a fine spray. Carefully check each plant: you may need to tuck in small bits of moist moss around the base of the plants if roots or soil is exposed. Trim off broken stems and pinch off spent blooms. Attach chains equidistantly around the top rim and hang the basket in a sheltered spot out of direct sunlight for a few days before moving it to its permanent location.

Photos: Geoff Kidd/Gap

Watering your container garden

Photo: Friedrich Strauss/Gap

The right soil and healthy plants get your container garden off to a lovely start, but without proper watering (and feeding) your plants will inevitably—and usually irretrievably—falter. They'll flower less, grow straggly and offer scant resistance to insect pests and diseases, which are ever-anxious to get a toe-hold in your garden. You've come this far—now here's how to keep everyone happy and healthy.

WATER WISELY

All plants need water to survive, but not all plants need the same amount of water at the same time. This complicates a gardener's life—how much easier it would be to mark the calendar, "Monday: water container plants."

Watering containers is a balancing act. The limited soil can dry out quickly, yet containers, by their very nature, are easy to overwater, which is just as problematic. Soggy soil drives out air and kills plant roots. A consistent level of moisture promotes healthy plants, which means less susceptibility to pests and diseases, more blooms or fruit, and increased tolerance to other stresses, such as extreme temperature fluctuations and wind.

Since watering can't be scheduled, it's up to gardeners to learn how to anticipate their plants' thirst. The size and material of the container, the density of the plants, the exposure to wind and sun, the temperature, the type of soil and the individual plant preferences—all affect how often and how much water is needed.

Plants in small containers require more frequent watering than those in more spacious quarters. A small container holds less soil, which, in turn, is less able to keep water in reserve for plant roots. Check small containers daily. On hot, sunny days, check them in the morning and late afternoon. Hanging baskets, especially those lined with sphagnum peat moss, may require a drink twice a day, too, because the soil is more exposed to the drying effects of wind.

Containers made of porous materials such as terracotta or fibreboard dry out more quickly than those made from plastic, glazed earthenware or metal. To reduce the watering demands of a porous container, place a slightly smaller plastic pot inside, or line the container with flexible plastic. Garbage or grocery bags work well; trim away excess plastic wrap around the rim of once the container is planted up. All plastic liners need to have drainage holes.

Peat-based, soilless mixes dry out more rapidly than mixes containing soil, such as topsoil or potting soil. They're also more difficult to re-wet once they dry out completely.

Small transplants and newly planted specimens are more dependent on regular watering, and less likely to recover from water stress than plants that have acclimatized to life in a container. Be vigilant of the youngsters.

When to water

Start by looking at the soil in the container: dry soil is lighter in colour than moist soil. If it appears dry, scruff the first inch (2.5 cm) or so: if the soil at this level is also dry, the plants need watering.

Check plants in the morning, when they're at their best. On very hot days, plants may flag in the afternoon because they're heat stressed, not because they need water. At these times, if the soil feels moist, wait until early evening to see if the plants perk up before reaching for the hose.

Don't be fooled into thinking a day of steady rain will let you off the hook. Rain doesn't reach under the eaves, pergola or porch, where containers are often situated. And closely spaced plants within a container means there's little exposed soil surface; rain will run right off the tight canopy of leaves and onto the ground—no significant amount will make its way into the container soil.

Avoid watering at night; moisture left on leaves is an invitation for plant fungi to spread their spores on the wet foliage.

[TIP]

When you're away

If you're going to be away for a few days, move as many containers as possible to the coolest, shadiest spot in your yard, and place them close together. This slows evaporation, and makes it handier for whomever comes in to water.

Troubled waters

Signs of overwatering or poor drainage

- wilted, limp leaves
- mouldy flowers or buds
- brown leaf tips
- young and old leaves drop off
- brown, mushy roots
- yellow lower leaves

Signs of underwatering

- wilted, limp leaves
- flowers that fade soon after blooming
- brown, dry edges on lower leaves
- older, lower leaves drop off

Mulch matters

Just as a layer of mulch on your beds and borders helps retain soil moisture, mulching containers accomplishes the same thing. Mulching small containers where lots of flowers and foliage cover the soil surface isn't necessary, but for large containers—especially those with single-stemmed plants like standard roses or rosemaries, or trees—a mulch is effective and attractive. Organic ones such as shredded bark, cocoa bean shells or finely shredded leaves work well; bark chips and nuggets are too bulky for containers. Pea gravel or polished pebbles are attractive choices, too. A stone mulch provides a clean, spare look and is also ideal for alpine plants and succulents that require good drainage around their crowns.

A drip irrigation system can be a time saver for a container gardener, especially when connected to a timer.

WAYS TO WATER

A watering can or water wand attached to a hose is best—most hose nozzles deliver flow too forcefully and quickly. If you prefer to use a nozzle, invest in one that's adjustable. A water wand is a lightweight metal or rigid plastic tube that connects to a garden hose at one end and has a spray head at the other; there's a pistol grip or shut-off valve near the hose end to regulate the flow of water. These wands are quick and effective, and the best choice for hard-to-reach hanging baskets or window boxes.

Other methods of delivering water to plants are drip irrigation systems, water-retaining crystals and self-watering containers. Drip irrigation systems involve linked pieces of spaghetti tubing with adjustable emitter heads that regulate the amount of water dispensed. Each pot is positioned below an emitter, and the system is hooked up to a water source and possibly a timer. The advantage is the ability to automate the watering; the downside is that it's difficult to hide the lengths of tubing and regulate the amount of water if the pots are different sizes.

Water-retaining polymers, sometimes called "watering gels," are small, translucent crystals that swell into soft bits of jelly as they absorb water, up to 400 times their weight. As the soil surrounding them begins to dry out, they gradually release the water they've absorbed, thereby reducing the need to water by as much as 70 per cent. Some mixes come with water-retaining granules, or you can buy small packages and add them to your own mix. Package instructions include the number of teaspoons (or millilitres) to use, depending on soil volume; usually about two teaspoons (10 mL) per gallon (4 L) of soil. They remain effective for several years and eventually break down into water, carbon dioxide and ammonia.

Self-watering containers have an inner pot for the plant and soil and an outer pot or reservoir that holds water in reserve. A wick or other device bridges the two parts and pulls water up to the root ball as needed.

Photo: Gap

HOW TO WATER

It's not a good idea to water from above if you can avoid it, which means overhead sprinklers aren't recommended to irrigate a cluster of pots; damp foliage invites fungal diseases. Sure, rain gets plants wet, but there's no need to add to this risk.

Place the watering can spout or spray head near the soil surface, and water slowly and thoroughly. "Thorough" is one of those gardening terms that's often tossed about, but rarely explained. It means applying enough water to saturate the entire mass of soil, right to the bottom of the pot. Any excess water should easily drain away; in other words, not sit in a saucer below the pot. If you have a pot with drainage holes nested inside one without drainage, you won't be able to see water draining out the bottom. In this case, be aware of how much water you're applying—briefly passing a watering can over the top of a 20-inch (50-cm) container won't saturate the soil. After watering, poke your finger into the soil again to see if it's wet below the first few inches.

If you water too sparingly, the soil will dry out again before moisture percolates down to all the roots. Shallow watering encourages plants to concentrate root growth in the top few inches, making them even more susceptible to stress from drought.

Don't water in the same spot every time or you may erode soil from a portion of the roots. Apply water gently for this reason, as well.

8 MORE WATER TIPS

- Plants prefer lukewarm water. A jolt of cold water straight from the tap on a hot day can damage leaves and roots. If practical, fill watering cans several hours before watering; this also allows the chlorine in tap water to dissipate.
- Rainwater is even better. Collect rainwater from downspouts in a rain barrel, or make one from an old whisky barrel. A cover keeps leaves and mosquito larvae out. Either dip your can in from the top or install a spigot at watering-can height.
- As plants grow larger, their roots take up more room in the container, causing soil to dry out more quickly. Those containers you usually watered once every two or three days at the beginning of the season may now need daily ministrations.
- Soil mixes that contain a lot of peat shrink when dry; they're also difficult to re-wet at this stage because the water runs down between the soil and the inside wall of the pot without saturating the mix. Place the container in a wide, deep saucer or in a pail filled with lukewarm water for about 30 minutes. When the soil surface darkens, the soil is saturated.
- Don't let pots sit in standing water for too long. If a plant saucer is still full an hour after watering the container, empty it.
- Plants usually require less water after a string of grey, overcast days. They also require less water when the days begin to shorten in fall.
- A container's shape affects evaporation. The same amount of soil in a wide, shallow pot dries out more quickly than in a taller pot with a narrow opening.
- Don't make the mistake of overwatering your plants to relieve your guilt for underwatering them. Not only will the plants need to manage the effects of drought, but they'll need to cope with the new stress of overwatering, too.

Eating right

Plants can survive without food longer than without water, just as we can. However, it doesn't take much time before container-grown plants begin looking for their next square meal, mainly because they quickly deplete whatever nutrients are in the small amount of soil in their containers.

Plants, whether in a garden or in nature, grow in soil made up of minerals and micro-organisms that provide the sustenance they need to survive and thrive. Their roots are able to range freely, consuming what they need, and nature's recyclers—micro-organisms, earthworms and other critters—are constantly digesting decaying plant material and producing fresh organic matter to keep plants well fed.

Nutrients in a soil mix are leached out by the frequent watering containers require. And some planting mixes contain no real soil at all. They consist of peat moss, vermiculite or perlite, and sometimes coarse sand, none of which contain nutrients. Their main job is to retain water, yet allow it to drain freely. Some packaged container mixes do come with fertilizer added, but it's usually not enough to get plants through an entire growing season.

So, it's up to you to keep your potted plants well fed if you want to enjoy a long, productive show of flowers, fruit and foliage. Fortunately, there are products on the market that provide a quick hit of nutrients or slow-release food on an as-needed basis. Unlike watering—which is sometimes a daily event—mealtime for plants can be every couple of weeks or as infrequent as two or three times a season for trees and shrubs in permanent planters.

BASIC FOOD GROUPS

First, here's a refresher course on the main nutrients plants require and how plants use them. When you know the contribution each nutrient makes, it's easier to figure out what a flagging plant may need. Technically, plants make their own food through photosynthesis, a process that draws on sunlight, water and carbon dioxide to produce carbohydrates. Nutrients come into play during this process—primarily

Photos, left to right: Brandon Blinkenberg/istock; Roger Yip

carbon, hydrogen and oxygen (which come from water and air). Plants also need nitrogen, phosphorus and potassium, which organic or synthetic fertilizers provide when the soil has an inadequate supply.

Organic fertilizers are made from natural sources—plants or animals. Synthetic ones are made from non-living sources—manufactured products. Generally, organic fertilizers are slower acting than synthetics and aren't water soluble. The exceptions are fish emulsion and liquid kelp (seaweed extract) products, which are diluted in water, and a good source of nutrients.

Fertilizer labels list the ratio of nitrogen, phosphorus and potassium by their chemical symbols: N, P and K. The order in which the elements are listed is always the same. If you have trouble remembering what the last two elements are—is it potassium then phosphorus or the reverse?—remember that they're in alphabetical order: phosphorus comes before potassium.

Nitrogen fosters green leaves and stems. Phosphorus promotes the development of roots, flowers and fruit, and potassium helps plants resist disease and environmental stresses, such as harsh winters, as well as encourages the production of fruit and flowers.

All plants need these nutrients, but in varying degrees. Container plants—in fact most plants, with the exception of turf—require a lesser amount, or an equal amount, of nitrogen. The numbers on a fertilizer label—5-10-5 or 20-20-20, for example—indicate the percentage by weight of each of the three nutrients. Therefore, a fertilizer labelled 5-10-5 contains five per cent nitrogen and potassium and 10 per cent phosphorus. A 20-20-20 formula contains twice as much of the big three as a 10-10-10 formula. These last two formulas are called "balanced fertilizers."

FEEDING OPTIONS

Fertilizers come in three forms: fast-acting powders and liquid concentrates that are mixed with water and applied at regular intervals throughout the season; and slow-release coated forms added to the soil at planting time, and are effective for three months or more (check the label).

Don't use the dry, powdered synthetic fertilizers designed to be dug into flowerbeds and vegetable plots in your container garden. These granular fertilizers dissolve quickly and deliver too heavy a dose in a contained space. In a garden setting, the surrounding soil acts as a buffer, but container mixes contain little or no soil. The coatings on slow-release products, which also go into the soil dry, slow the process considerably; water and/or temperature is the trigger. Slow, or timed-release, fertilizers are often used when planting a tree or shrub in a large container and can be scratched into the surface each year.

FERTILIZE WITH FINESSE

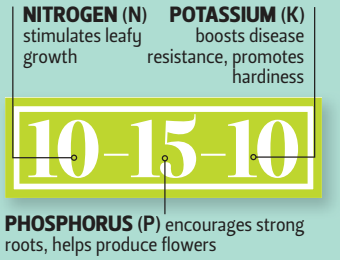
You don't need to be a nutritionist or scientist to use fertilizers, but the more you understand how they work, the healthier your potted garden will be.

- **Never apply** liquid fertilizers to parched plants; you risk burning the dry roots. Water plants thoroughly before feeding, and keep fertilizer off foliage and flowers.
- **Always follow** the instructions on fertilizer labels and measure accurately. Just as you can drown a plant with too much water, it's also possible to overfeed a plant. Synthetic fertilizers are especially potent—too much too often will prevent a plant from absorbing water, and may kill it. Signs of overfertilizing are leaf-tip burn and eventual plant collapse. You might also notice a whitish crust on the soil surface, which is a buildup of fertilizer salts. If you suspect an overdose, flood the soil with water to quickly dilute the buildup and then flood again to leach the salts out of the soil.
- **Experiment with** dosages and kinds of fertilizers to find a regime that works best with your schedule and plants. For example, try a water-soluble 10-10-10 or 15-30-15, diluted by half, every other week. Diluting by half is relatively simple: take two same-size watering cans, mix one container at full strength, following the measurements given on the package; stir the mixture and pour half of it into the second can. Then fill each of the watering cans to the top with plain water. Or, try weekly doses, and dilute by two-thirds or three-quarters.
- **If your plants** remain in containers outdoors year-round, don't fertilize them after early August; new growth late in the season won't have time to harden off before freeze-up.

Quick off the mark

Liquid transplant solutions get plants off to a fast start after they've been moved into their permanent locations. It's usually sold as a concentrate in one-quart (1-L) containers and applied at planting time. Usually mixed at a ratio of one tablespoon (15 mL) to one quart of water, the 5-15-5 fertilizer contains indole-butyric acid, a synthetic root stimulator. Plants won't put on new growth above ground until root growth begins, so it makes sense to give the roots a little boost at planting time. Don't start providing regular fertilizer until you notice new growth on your plants.

Decoding the label



Container care and concerns

Careful watering and fertilizing are key to keeping your potted garden hale and hearty, but there are a few other ways to also help plants stay healthy. First, meet the plants' cultural requirements. For example, if a particular variety is prone to powdery mildew or other fungal infections, make sure air circulation is adequate. When mixing a variety of plants in the same container, it helps if they have similar moisture requirements. Second, take a close look at your plants throughout the season—turn over leaves to check for aphids, investigate chewed flowers for earwigs, look for telltale slime trails of slugs near chewed leaves. When an infestation is caught early, you have a better chance of controlling it.

TENDING TO YOUR CONTAINERS

Deadheading: Removing spent blossoms or flower stalks on annuals keeps plants tidy and promotes more blooms. Be sure to nip off all flower parts, not just the petals. This stops the plants from producing seed, which triggers them to stop flowering.

Fortunately, not all plants require deadheading. In some cases, the spent blooms drop off on their own, or are small enough and in such abundance that deadheading is unnecessary or impractical. Annuals that usually don't require deadheading include wax (fibrous) begonias, browellia, impatiens, portulaca, bacopa, some trailing petunias, calibrachoa, lobelia and scaevola.

In the case of perennials, deadhead after flowering to keep them tidy. Depending on the perennial, deadheading may prompt a second flush of growth and a few more flowers.

Shearing: If plants such as petunias, sweet alyssum and pansies have grown lank and leggy by midsummer, shear them back by one-half to two-thirds to trigger more compact stems and more flowers, then fertilize.

Sometimes plants grow lanky because they're not getting enough light or they're receiving too much nitrogen. In these cases, move them to a brighter spot or use a fertilizer higher in phosphorus (the middle number).

Photos: Roger Yip

Pests and pestilence

Plants stressed from a lack of water or nutrients are more susceptible to diseases and pests than are healthy specimens. Usually, the most troublesome pests are aphids, slugs and earwigs; the most common fungus is powdery mildew.

APHIDS

These tiny green, black or brown pests cluster on buds, shoots and the undersides of leaves. They suck plant juices and produce a sticky honeydew substance that fosters the growth of moulds and attracts ants. (Incidentally, ants aren't a problem—they merely indicate the arrival of aphids.) Remove infested stems or dislodge the aphids with a strong spray of water from the hose or spray with insecticidal soap. Keep in mind that insecticidal soap works only when it comes in contact with a pest, which means a few applications to all sides of flowers, leaves and stems over a week or two may be required. Ladybugs are natural predators.

SLUGS

If you notice tiny, shiny trails of slime and chewed leaves, slugs are to blame. The soft-bodied molluscs are most active at night and when it's damp. Hand-pick them or use barriers such as strips of copper, pieces of screen or crushed eggshells to keep them from crawling into containers (they won't creep across rough surfaces). Ground beetles are natural predators.

EARWIGS

Dark brown and pincer-tailed, earwigs are wily creatures that devour decayed plant material and munch on leaves and petals. They do little permanent damage, even when present in large numbers, but they can definitely mar a plant's appearance. Your best defence is to trap and destroy them. Earwigs congregate in dark, damp spots: place short lengths of garden hose, small pots stuffed with straw or shredded newspaper, or sections of folded or rolled newspaper near areas where they gather. Empty or dispose of the traps each morning.

POWDERY MILDEW

Leaves, stems, flowers and buds with white or greyish patches are suffering from powdery mildew, caused by one of several hundred different fungi that are plant-specific. (This means the powdery mildew on verbena won't infect roses and the mildew on roses won't infect zinnias.) It thrives when plants are crowded and air circulation is poor. Choose mildew-resistant varieties, if possible. If you can't live without zinnias, verbena and other mildew-prone plants, don't crowd them, try to keep water off the leaves and clip off infected leaves and stems. If the entire plant is seriously infected, get rid of it.

Heat stress: If plants wilt when the soil is still moist, heat and humidity might be the culprits. Giving them more water than they're able to take up adds to their stress. Instead, move the containers into the shade or out of hot wind, if practical. When it's time to water, do so in the morning, after the plants have had a chance to recuperate during the lower nighttime temperatures. Wait until the heat spell passes before fertilizing. If your potted garden struggles every year when the temperature rises, choose larger containers made of better-insulating material, such as terracotta or wood.

Naturally, plants that don't mind scorching temperatures, such as portulaca, cosmos, marigolds and verbena, fare better during hot days than those that like it cool—sweetpeas and impatiens, for example.

Compacted soil: Even loose, quick-draining potting mixes compact over time because of the frequent watering that containers require. Hardy perennials, roses, shrubs and trees growing in the same pot from year to year will need repotting, usually every couple of years. When water begins to pool on the surface of the soil instead of percolating down to the roots, it's time to repot.

Discoloured soil: A greenish cast on the surface of the soil indicates poor drainage and high acidity. Consider repotting in fresh soil, or lightly scratch the surface to allow more air to circulate.

A whitish cast on the soil surface is a sign of fertilizer salt buildup; dry, brittle leaf edges also indicate too much fertilizer. Lightly scratch the surface of the soil and flush the container with water a few times to leach out the excess salts. If salt buildup is severe, consider repotting, using fresh potting soil.

Photos, top to bottom: Susan Wood, Gabriela Schaufelberger, Sergey Katsapin/istock

Cold storage

If you live where winters are long and cold, you may want to save some of your favourite container plants for next year's garden. Called "overwintering," the term means carrying over plants until next spring, either by growing them indoors, storing them in a dormant state indoors or leaving them outside in a sheltered location.

Annuals aren't usually overwintered. Their natural lifespan is brief, and they're exhausted after producing the bountiful flowers and fruit you coaxed out of them over the summer. In this stressed state, they're susceptible to all kinds of maladies—whiteflies, aphids and spider mites. However, some tender perennials, hardy perennials, woody plants and tender summer bulbs are worth protecting and preserving. How you accomplish this depends on the type of plant, its size, your available space and how ambitious you are.

Be realistic when it comes to choosing which plants to overwinter. Your windowsills will overflow if you don't exercise restraint. And if you have dozens of pots filled with dormant shrubs, roses and perennials in the garage, you may need to park in the driveway. Weigh the time and effort required to maintain a plant over winter against the cost of replacing it next season. Even experienced gardeners lose some plants. Sometimes the most practical solution is the compost pile.

HARDY AND BORDERLINE-HARDY HERBACEOUS PERENNIALS

These plants die back and go dormant in winter; their roots sleep until it's time for new growth next spring.

Examples: hostas, Shasta daisies, heucheras, astilbe, lady's mantle, daylilies
Goal: To keep plants dormant and provide a winter environment that's within their hardiness zone. A plant growing in the ground is more protected from severe cold (and alternate freezing and thawing) than one in a container; therefore, a plant that's hardy to your zone usually needs extra protection if left in its container.
Method: After a couple of killing frosts, water plants thoroughly and choose one of the following three options:

1. **Option 1:** Leave the planted container in its current location. If the container is large and able to withstand the elements, and if the plant is at least one zone hardier than your area (i.e., if you live in Zone 5, herbaceous perennials in containers need to be hardy to Zone 4 or lower), the likelihood of successfully overwintering the plant in its pot outdoors is high. A large container holds more soil, which helps insulate roots and keeps soil temperature consistent. However, when sun hits the sides of a container, especially a dark-coloured one, alternate freezing and thawing may trick the plant into thinking it's spring and trigger early growth, when it's merely a warm day in February.

2. **Option 2:** Move borderline-hardy plants or those in small containers to an unheated garage or shed to increase survival odds. Because the plant is dormant, light isn't required for photosynthesis, but do check every couple of months to make sure the soil isn't bone-dry. Don't overwater, however, as this could cause plants to rot or break dormancy.

   When growth resumes in late winter/early spring, reintroduce the plant to normal growing conditions outdoors by gradually exposing it to the elements for increasing periods of time.

3. **Option 3:** Find an area where you can sink the plant and its pot into the ground so the roots will be better insulated—a vegetable garden, for instance, often has unused space. Cover the plant with two to three inches (5 to 8 cm) of winter mulch, such as shredded bark or leaves. In spring, remove the mulch and lift out the container.

HARDY AND BORDERLINE-HARDY DECIDUOUS SHRUBS, SMALL TREES AND VINES

With these plants, stems, branches and trunks persist over winter, but the leaves drop off in fall.

Examples: rose standards, Japanese maples, clematis, dwarf lilacs
Goal: To keep plants dormant and within the range of winter temperatures they would tolerate if planted in the garden.
Method: For success, you need large containers and plants that are at least two zones hardier than recommended for your area. These woody plants have above-ground branches that hold next year's flower and leaf buds, making them more vulnerable to winter winds than herbaceous perennials are. For the best protection, store plants in an unheated garage, against the warmest wall. If practical, place them in a garbage bag loosely filled with dry leaves for even more insulation (leave the top open for air circulation). Keep in a dark part of the garage; light may trigger early growth. Every couple of months, check the soil to make sure it's not bone-dry, but don't overwater, as this could cause plants to rot or break dormancy.

When growth resumes in late winter/early spring, gradually reintroduce the plant to growing conditions outdoors.

[TIP]

To overwinter tender succulents like echeveria and agave, take cuttings and allow the cut end to dry (callus over) for two or three days. Insert cuttings in coarse sand or cactus soil mix, and grow in a sunny window or under grow lights.

Photo: Gap

HARDY BROADLEAF AND NEEDLE EVERGREENS

Examples: English holly, boxwood, English ivy, cedars, junipers, yews
Goal: To keep these plants within their hardiness zone and prevent desiccation from winter winds. Evergreens transpire (use water) during winter, and when temperatures remain below freezing for long periods, root balls freeze solid and water is unavailable to the plant.
Method: Move pots to an area outdoors where they're protected from strong winter sun and wind, and erect a burlap screen around them (don't let the burlap rest on the foliage). Keep the plants well watered until freeze-up and check frequently throughout the winter to make sure the soil is moist. It's crucial to thoroughly water prior to freezing temperatures, and again in March and April, when their root balls are most prone to thawing—and drying out.

TENDER WOODY PLANTS AND TROPICALS

Examples: bay tree, rosemary, phormiums, mandevilla, passion flower, jasmine
Goal: To encourage the slow growth of these plants (which don't require dormancy) so they can survive indoors until they can be put outside again once all danger of frost is past.
Method: A few weeks before fall frosts are expected, gradually introduce these plants to life indoors by moving them inside for a half-day, working up to a full day over a week or so. Don't wait until nighttime temperatures are only slightly above freezing—the plants may go into shock and drop leaves. Lightly prune, if desired. Place the plants in the sunniest location you have and water sparingly but regularly over the winter; high humidity helps, too. Don't fertilize until just before you reintroduce them to outdoor living.

[TIP]

When overwintering plants indoors, stop feeding them in late summer. A week or two before nights begin to turn cool, begin bringing the plants indoors at night to gradually acclimatize them to the lower light conditions and humidity levels. It's important to start this reverse hardening off process before plants get accustomed to cool fall nights; otherwise, they'll struggle with the change in temperature, as well as the different light and humidity levels. If desired, treat the plants with insecticidal soap to discourage pests from hitchhiking indoors. Cut back large plants, such as geraniums or coleus, by two-thirds to make them more manageable. Grow the plants in a cool room, if possible, where they'll receive plenty of sunlight. Water when the soil begins to dry out and don't start fertilizing until late winter.

TENDER TROPICALS THAT GROW FROM TUBERS, CORMS OR BULBS

Examples: cannas, caladiums, dahlias, tuberous begonias
Goal: To store the bulbs and tubers so they neither rot from too much moisture nor dry out, shrivel and die.
Method: When frost kills back the tops of the plants, trim the stems to four to six inches (10 to 15 cm) from the base and gently dig up the tubers. Let the tubers dry for a day or two, then store them in vermiculite or dry peat moss in a crate or cardboard box. Place the box in a cool, dark area that remains above freezing. Check gardening books or with plant societies for more detailed instructions for storing tubers, corms and bulbs.

If digging up bulbs seems like too much trouble, leave them in their containers, stop watering when their leaves begin to die back in late fall and move them into a cool basement or next to the warmest wall of a garage. Most will resume growing the next spring—start watering and fertilizing when you see new green tips sprouting from the soil.

Lily bulbs never go completely dormant. If possible, sink the container in the garden and mulch heavily over winter, or store the bulbs in their container in a sheltered spot, similar to the method above.

TENDER PERENNIALS, USUALLY GROWN AS ANNUALS IN COLD CLIMATES

Examples: lantana, impatiens, fibrous begonias
Goal: These plants don't require a period of dormancy; they need to continue to grow indoors in order to be used again next year. But first consider whether it's worth your time and effort to maintain them over winter. Most homes don't provide enough strong light to keep them thriving, and whitefly, spider mites and other pests can be problematic. These plants are generally easily acquired at a reasonable cost in the spring.
Method: Trim back individually potted plants and place them on a cool, bright windowsill or under grow lights. Alternatively, take cuttings of your favourites and start new plants indoors. By spring, they'll be large enough for containers.

Photos, left to right: Howard Rice/Age; Gary Smith/Gap

DEFINITIONS OF TERMS USED IN THE GUIDE

Annual A plant that completes its life cycle in one season—it germinates, grows, flowers, sets seed and dies.

Bonemeal Organic fertilizer made from ground, steamed bones left over from meat processing; good source of phosphorus.

Bulb A storage organ made up of fleshy scales (modified leaves) that store food for a plant. Tulips and lilies grow from bulbs.

Cell pack A lightweight plastic seedling container that consists of individual "cells" linked together.

Clay The finest of the three particles found in soil, which is a mix of clay, sand and silt.

Colour wheel The three primary and three secondary colours, usually shown in a circle, always appear in the following order: red, orange, yellow, green, blue and violet. Primary colours are red, yellow and blue. Secondary colours are orange, green and violet (combinations of the primary colours). Complementary colours lie opposite each other on the colour wheel. Contrasting colours share no common pigment, such as red and yellow, yellow and blue, blue and red.

Composition (reconstituted) stone A mix of concrete and crushed stone that resembles real stone. It can be cast into various shapes.

Compost When various organic materials decompose, compost is the end product.

Corm A swollen underground stem that stores food, much like a bulb, but without scales. Crocus and crocosmia grow from corms.

Deadheading Removing spent blooms to prolong flowering and to keep plants well groomed.

Dolomitic limestone Limestone mixed with magnesium.

Earthenware Coarse, porous, fired clay, often glazed to make it less porous.

Focal point The centre of interest in a design.

Forcing (bulbs) Inducing plants—in this case spring-flowering bulbs—to grow and bloom by manipulating their environment.

Garden soil, garden loam A mix of rock particles (clay, sand and silt), organic matter and other organisms. Soil with a balance of clay, sand and silt is called "loam," much coveted by gardeners.

Gypsum Powdered pellets containing calcium sulphate; improves aeration in soil.

Half-hardy annual A plant that tolerates a light frost or two, and grows well during the cool weather of spring and fall, often less so in the heat of midsummer.

Hardening off Acclimatizing plants to a new environment, i.e., helping plants adjust from life in a greenhouse to life in the garden.

Hardiness zones Numerical ratings that denote a plant's ability to survive in various climates. The Canadian and the USDA Plant Hardiness Zone Maps were derived using different criteria, but both use winter hardiness as one indicator of a plant's hardiness.

Hardy perennial A perennial plant that withstands the climate of a given area. Plants go dormant when winter arrives and put forth new growth the following spring; sometimes called "herbaceous perennials."

Hayrack A long wire basket with one flat side that hangs off a wall or fence. Likely the origin of the term is from the racks used to hold feed for farm animals. Sometimes called "manger."

Herbaceous perennial A non-woody plant that dies back (top growth dies and goes dormant) at the end of the growing season. The plant's roots survive winter and put forth new growth in spring.

Humus Desirable organic matter created by fungi and bacteria in soil.

K Symbol for potassium.

Leaf node The point on a stem where one or more leaves grow.

Limestone White powder or pellets made from limestone. When mixed with magnesium, called "dolomitic limestone." Used to neutralize or raise the pH (alkalinity) of soil.

Liner A lining in a container. A liner can serve three purposes: protect the outer container from water damage; provide space for excess water to drain in decorative pots with no drainage holes; or reduce the rate of evaporation in small, porous pots.

Liquid transplant solutions Concentrated liquid fertilizer high in phosphorus. Also contains indole-butyric acid, a synthetic root stimulator.

Manger See "hayrack."

N Symbol for nitrogen.

P Symbol for phosphorus.

Peat moss See "sphagnum peat moss."

Perennial grown as annual A perennial, usually native to tropical climates, but considered an annual in northern climates because that's the way it behaves. In cold climates, it's grown for one season, then discarded when frost kills it. Often labelled as an annual, but technically this is incorrect.

Perlite Small, lightweight, white pellets that look like Styrofoam. Formed from ground volcanic rock heated until it expands to about 20 times its original size. Improves drainage and helps retain water.

Pot feet Usually manufactured pieces that raise a large pot a few inches above the surface it sits on. Sold in sets of three; usually cast iron, terracotta, concrete or plastic, and are decorative as well as practical.

Pot saucer Sits below a pot to collect excess water that drains from the bottom of a pot.

Potting soil Packaged soil that often contains sphagnum peat moss, sand and vermiculite or perlite.

Powdery mildew A plant disease caused by fungi that results in a white, powdery coating on stems, leaves and flowers.

Rhizome An underground stem that grows horizontally, usually near the surface. Canna and calla lilies and iris grow from rhizomes.

Sand The largest of the three major rock particles found in soil (the other two being silt and clay). Coarse or sharp sand is composed of larger, irregularly shaped pieces than beach, sandbox or horticultural sand, which are all finer in texture.

Seed-starting mix See "soilless mix."

Self-watering containers Containers with an inner pot for the plant and an outer pot or reservoir that holds water in reserve. A wick or other device bridges the two parts and pulls water up to the root ball as required.

Silt One of the three major rock particles in soil; larger than clay particles and smaller than sand.

Soil-based mix A growing medium that contains soil.

Soilless mix A growing medium for potted plants that contains no soil.

Sphagnum moss The live moss that grows on top of a peat bog; absorbs up to 20 times its weight in water and clumps together. Often used for lining hanging baskets.

Sphagnum peat moss Derived from partially decomposed sphagnum moss and other plants in ancient bogs. It contains no nutrients, but holds five to 15 times its weight in water.

Staking Tying a plant to a pole or other support to keep it upright.

Standard A plant trained to a single, bare stem with leaves and flowers at the top. Sometimes the top is clipped into a sphere or other fanciful shape.

Strawberry jar A tall pot with evenly spaced openings, called "pockets," spaced along the sides. Usually made from terracotta or glazed earthenware.

Superphosphate Fertilizer containing 20 per cent phosphorus; made from rock phosphate treated with sulphuric and/or phosphoric acid.

Tender perennial A perennial that grows year-round in its warmer, native habitat, but doesn't survive below-freezing temperatures.

Topsoil The top few inches of soil in a garden.

Tuber An underground stem with buds or eyes, which are the points from which the plant's above-ground stem grows. Dahlias grow from tubers.

Vermiculite Greyish brown flakes or chips of mica treated with heat and pressure until they expand to many times their original size. Vermiculite aids water and fertilizer retention, and increases porosity in soilless and soil-based mixes.

Versailles boxes Wooden boxes created in the 17th century to house citrus trees and palms at Versailles in France. Now refers to any large, formal, square plant container.

Water-retaining crystals, polymers or gels Translucent granules that absorb many times their own weight of water and release it when the soil surrounding them begins to dry out.

Water wand A lightweight metal or rigid plastic tube that connects to a garden hose at one end and has a spray head at the other. A pistol grip or shut-off valve near the hose end regulates water flow.

Woody or shrubby perennials Plants with stems and branches that persist above ground throughout the year. Roses and rosemary, for example, are shrubby perennials.

THE TALE OF TERRACOTTA

The first terracotta containers were used by the ancient Greeks and Romans to hold water and food—not plants. Eventually the material showed up in floors, fountains, sculpture and, finally, containers for growing citrus trees and decorative plants.

In the 1800s, small potteries dotted the countryside in England, where skills were passed down from generation to generation. The demand for different shapes and sizes increased to meet the needs of a burgeoning nursery business and an avid population of gardeners, and good potteries were adept at turning out hundreds of pots a day. By the mid-1800s, the turning mould machine was invented, and manufacturers began making pots with thinner walls to save money on clay.

Hand-thrown terracotta pots are still made today by craftsmen in England, Italy and North America who take pride in their own designs and turn out small quantities for loyal customers. Their pots' organic shapes and soft, rolled rims have many admirers.

Photo: Jonathan Buckley/Gap