



## Topics

1. *Containers Gardening Basics*
2. *No Space Gardening - Growing edibles in containers indoors*
3. *Balcony Gardening - Growing edibles in containers outdoors*
4. *Small Backyard Gardening - Herbs in the garden, Fruit trees for small gardens and containers*
5. *Vertical Gardening*

## 1. Containers Gardening Basics

### Container Requirements

The main requirements are:

- Containers provide good drainage
- A suitable growing medium

### The Container Growing Medium

- A fast draining, porous medium is important to provide air space for roots.
- The medium must have enough water-holding ability to provide the water needs of the plant.
- Heavy, poorly-drained clay soils cause plants to fail!

### Container Planting Tips

- The level of the medium should be at least 1-4" (2.5-10cm) below top edge of container to make watering easier and more efficient.
- The top of the root system should be level with the surface of the medium.
- Choose a container with space for the roots to grow into! As plant grows, it may become root-bound and need replanting to remain healthy.



## **Container Watering**

- Water is critical for plants in containers.
- Thorough watering prevents salt build-up from fertilizer.

## **Container Care - Problems**

- Very dry potting medium can shrink away from the sides of container and water runs down the sides without wetting the medium! It may even become water repellent!
- If this happens, water frequently or sit pot in a bucket of water so that the medium is re-saturated.

## **Container Feeding & Fertilizing**

- Add fertilizer frequently to containers as watering can leach out fertilizer.
- Light and frequent fertilizing is preferable to single, heavy applications.
- Use a slow release or controlled-release fertilizer to provide season-long nutrition.



## 2. No Space Gardening - *Growing edibles indoors in containers*

### Which Edibles Grow Indoors?

- Culinary herbs – quite a few! – examples are: chives, parsley, coriander.
- The easiest vegetables to grow that also do not need much space are: leaf lettuce, spinach and radish.
- Vegetables also suitable for indoor gardening: cherry tomatoes, small fruited chillies & capsicums, beans and miniature eggplants.

### Tips for Growing Edibles Indoors

- Use dwarf fruiting vegetables varieties, they take less time and space to grow.
- Location - north or west facing window receiving at least 6 hours (preferably 8-10) of sunlight a day. Not too close to glass, it burns plants!
- Available light can be increased with reflective materials around the plants, e.g., aluminium foil, white-painted surfaces, marble chips.

### Still Not Enough Light?

- Using 'Grow Lights' – not energy efficient...
- Grow sprouts instead! Sprouted seeds have high food value!
- Almost any seeds can be sprouted: alfalfa, barley, corn, lentils, mung beans, peas, soybeans, radish, rye, sunflowers, etc.
- Use only special seeds for sprouting available from health food or grocery stores (to avoid using seeds treated with pesticide)!

### Pot Selection for Indoors Edibles

- Choose pots of the right size with adequate drainage. Herbs and salad greens don't need much root space as cherry tomatoes for example.
- Terracotta pots dry out faster than glazed ceramic, wooden, metal or plastic ones.

### Growing Medium for Indoors

- Use a good quality potting mix
- Soil is not suitable due to the clay content: it holds too much moisture when wet, resulting in too little air around the roots
- it pulls away from the sides of the pot when dry, so water runs around the sides and out the bottom!



## Care of Indoor Edibles

- Remember watering! Small pots dry out faster than big ones. Do not allow the soil to become too dry. Irregular watering can cause vegetables to have a bitter taste.
- Feed plants with a good organic fertilizer.
- A little bit of compost can boost growth.
- Seaweed extract (e.g. Seasol™) adds minerals which keep plants healthy.

## Growing Herbs Indoors

- Herbs can be grown in containers and window boxes indoors.
- Even though they will never be as productive as herbs grown outdoors, they will still grow.

## Requirements for Indoor Herbs

- As with herbs grown anywhere, they need plenty of sunlight and good, well-draining soil.
- Place container near north or west facing window that receives a minimum of three hours of sunlight each day.
- Don't put containers right up against the glass, as direct sunlight and no air movement can easily burn plants!

## Herbs to Grow Indoors

Some herbs can be grown indoors:

- Basil
- Chives
- Corn salad
- Catmint
- Hyssop
- Lemon balm
- Lime balm
- Parsley
- Rosemary
- Sage
- Savory
- Tarragon\*\*
- Garlic (for leaves)
- Mint (various)

*\*\* Tarragon needs to be put outside in winter to allow it go dormant, otherwise the herb will weaken. It will die down when dormant, and regrow when the weather warms up in spring.*



### 3. Balcony Gardening - Growing edibles in containers outdoors

#### Growing Food on a Balcony

For best use of space and containers:

- Grow vegetables that take up little space, such as carrots, radishes and lettuce
- Grow crops that bear fruits over a period of time, such as tomatoes and peppers.
- Dwarf or miniature varieties often mature and bear fruit early, but most do not produce as well overall as standard varieties.

#### Light Requirements

- The amount of sunlight the garden receives will determine what you can grow.
- Generally, root crops and leaf crops can tolerate partial shade, but fruiting vegetables need at least 5 hours of full, direct sun each day, preferably 8 to 10 hours.
- Increased available light with reflective materials around the plants, e.g., mirrors, white-painted surfaces.

#### Container Vegetable Planting Guide

Vegetable	Full Sun / Part Shade	Min. Pot Size	Inches b/w plants in pot	Days from seed to harvest	Comments
Beans, Bush	FS	7.5L	2 - 3	45 - 60	Several plantings, 2-week intervals
Beets	FS/PS	2L	2 - 3	50 - 60	Thin plants when 6 - 8" tall
Carrots	FS/PS	1L	2 - 3	65 - 80	Several plantings, 2-week intervals
Cabbage	FS/PS	20L	12 - 18	65 - 120	Requires fertile soil
Chard, Swiss	FS/PS	2L	4 - 6	30 - 40	Harvest leaves
Cucumbers	FS	20L	14 - 18	70 - 80	Requires hot weather, Support vining types
Eggplant	FS	20L	1 / pot	75 - 100	Requires fertile soil
Kale	FS/PS	20L	10 - 15	55 - 65	Harvest leaves



Vegetable	Full Sun / Part Shade	Min. Pot Size	Inches b/w plants in pot	Days from seed to harvest	Comments
Lettuce, Leaf	PS	2L	4 - 5	35 - 40	Several plantings, 2-week intervals
Mustard Greens	PS	2L	4 - 5	35 - 40	Several plantings, 2-week intervals
Onions, Green	FS/PS	2L	2 - 3	70 - 100	Needs lots of moisture
Peppers, Bell	FS	7.5L	1 / pot	110 - 120	Requires hot weather
Squash, Summer	FS	20L	1 / pot	50 - 60	Plant only bush type
Tomatoes	FS	20L	1 / pot	55 - 100	Stake & prune or cage
Tomatoes, Cherry	FS	4L	1 / pot	55 - 100	Helps to stake & prune
Turnips	FS/PS	12L	2 - 3	30 - 60	Harvest leaves & roots



## **Growing Herbs in Containers**

- A garden isn't needed to grow herbs outdoors
- Most herbs can be grown in containers in a small courtyard, balcony or windowsill.

## **Handy Hints for Growing Herbs in Containers**

1. Containers are great as small 'kitchen gardens' - a garden bed or container outside your kitchen where you can grow your most often used culinary or kitchen herbs.
2. Containers allow you to move your plants around to change their growing conditions when necessary. You can change the amount of sun, rain and warmth by moving the container to a different place.
3. Any container can be used to grow herbs – as long as it has drain holes at the bottom to prevent water pooling and rotting the roots.
4. A large container (e.g. half wine-barrel) can hold a variety of herbs growing together. Small herbs such as mint and chives can be grown in a small pot, but larger herbs will need a much bigger container. As a rough guide, a 20cm wide pot can hold one culinary herb, a large 40cm wide pot can accommodate three to four culinary herbs.
5. Use a high-grade premium potting mix in containers, feed once a year at the very least, and every few weeks if you're harvesting them often. Repot your herbs every one or two years - giving them fresh potting mix and fertiliser will keep them growing strongly.



## 4. Small Backyard Gardening

In this topic we will look at growing:

- Herbs in the garden
- Fruit trees for small gardens and containers

### Herb Gardening

- Herbs can be grown in any size garden from the smallest balcony to the biggest garden in all locations, dry & wet areas, shade & sun

#### Herbs – Annuals & Biennials

- Annuals – only live for one year, produce seed, and then die down (e.g. basil, chervil, coriander, dill, summer savory).
- Biennials –only live for two years, produce seed during the 2nd year and then die down (e.g. parsley, leeks, rocket, caraway, angelica).

#### Herbs - Perennial

- Live more than 2 years, and may produce seed. If the foliage does not die down in winter, it is an evergreen perennial, (e.g. marjoram, rosemary and thyme)
- If the foliage does die down in winter, but roots remain alive and it comes back up in spring, it is a deciduous perennial, (e.g. chives, fennel and winter savory)
- Most fragrant herbs, especially very aromatic ones with woody stems need good sunlight to properly develop their essential oils.
- Planted in part shade, they may look more lush and vibrant, but will not develop their full taste and aroma compared to plants grown in full sun.

#### Sunlight Requirement of Herbs

Most herbs need minimum of 6 hours (preferably 8 hours) of full unobstructed, direct sun each day.

Without enough light:

- it takes longer to start growing in spring (as the soil doesn't warm up as fast)
- less light in autumn reduces their growing period and the time in which you can harvest them
- they tend to get rather thin and lanky and become more susceptible to diseases.





## Herbs for Shady Spots

Some herbs can grow in part shade – indirect sunlight or dappled shade, such as when sunlight is filtered through trees or other partial shade so it is not as intense as direct sunlight.

If your garden doesn't get full sun, you can grow these herbs in part shade:

- Angelica
- Bergamot
- Catnip
- Chamomile
- Chervil
- Chives
- Coriander
- Comfrey
- Dill
- Fennel
- Feverfew
- Horseradish
- Lemon balm
- Lovage
- Mint
- Mustard
- Pennyroyal
- Salad Burnett
- Sweet Woodruff
- Tansy
- Tarragon
- Valerian
- Violets
- Watercress
- Wormwood

## Soil and Water

- Herbs aren't too far removed from wild plants, and grow in most soils.
- Herbs grow best in any good garden soil.

## Herb Soil and Water Requirements

- Soil with fairly neutral pH around 6.5-7.0 (herbs don't need very acidic or alkaline soils).
- Soil which is well draining, with enough organic matter to retain moisture and provide nutrients, but not get waterlogged. (very few common herbs grow in wet soil)
- Raised beds, elevated 'herb spirals' and agricultural drainage pipe laid under the soil can alleviate poor drainage.
- Soil with moderate fertility. (*Most herbs only require a slow release of nutrients from the soil, they aren't hungry for fertiliser like vegetables!* )
- Too much fertiliser produces excessive soft green growth with little flavour
- Just add organic matter to the soil such as compost or animal manure for a slow release feed.



## Herbs for Damp Spots

If your garden soil is damp in certain areas, and you can still grow herbs there, it's just a matter of picking herbs that can tolerate damp soil.

### *Herbs That Tolerate Damp Soil*

Some herbs can tolerate ground that is constantly damp:

- Angelica
- Bergamot
- Borage
- Calamus\*
- Cardamom
- Coltsfoot
- Comfrey
- Chervil
- Dill
- Elderberry
- Elecampane
- Ginger
- Gotu Kola
- Horseradish
- Lemon Balm
- Lovage
- Lemon verbena
- Mint
- Marsh mallow
- Sorrel
- Valerian
- Vietnamese Mint\*
- Watercress\*

*Note – most won't tolerate sitting in very wet, muddy, waterlogged soil though!*

*\*These can grow well in standing water.*

## Herbs for Difficult Locations – Hot and dry, direct sun

If you have garden beds that receive full sun and very little water, these herbs can tolerate such conditions:

- Aloe vera
- Catmint
- Hyssop
- Lavender
- Oregano
- Rosemary
- Sage
- Thyme
- Winter savory



## Fruit Tree Container Gardening

- Container styles and materials are unlimited
- Plastic, wood, terracotta, concrete and metal.
- Tubs, barrels

### What Fruit Grows in Containers?

- *Dwarf fruit trees* – naturally small genetic dwarf or grafted on dwarf rootstock.
- *Hardy trees* – Figs and olives (smaller varieties), pomegranates, loquats, feijoas.
- *Subtropicals* – tamarillo, guavas, bananas, papaya, babaco, jaboticaba

### What Berries Grows in Containers?

- *Shrubs* – Blueberries, currants, gooseberries.
- *Berries* – Raspberries, less vigorous blackberry varieties and hybrids, strawberries
- *Climbers* – Passion Fruit

### Keeping Fruit Trees to a Manageable Size

- Backyard Orchard Culture Planting techniques
- Pruning techniques – vase, central leader, espalier, cordon

### Backyard Orchard Culture

- A system of high density planting of fruit trees
- Full size trees pruned to maintain size
- Multiple trees planted close together
- Extends harvest, more varieties in same space

## 5. Vertical Gardening

- Vines & climbers
- Cover fences and walls
- Arches
- Trellises
- Orient North-South for freestanding supports.
- Orient East-West (North facing) against walls.

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