Home Grown Greens

Growing Guide

A nature guide by

BCRE®

Container Gardening

Foreword

Gardening, even on a small surface, such as a balcony or a terrace, offers many benefits to city dwellers who indulge in it: physical activity outdoors, mental well-being, connection to nature and to the rhythm of the seasons, but above all furniture of fresh, healthy, seasonal vegetables with unexpected flavours.

The purpose of this booklet is to offer guidance on how to start and maintain a small container garden. A simple vegetable garden is a incredible tool when dealing with populations subject to malnutrition and poor access to fresh produce, but also to encourage respectful gardening practices towards the environment.

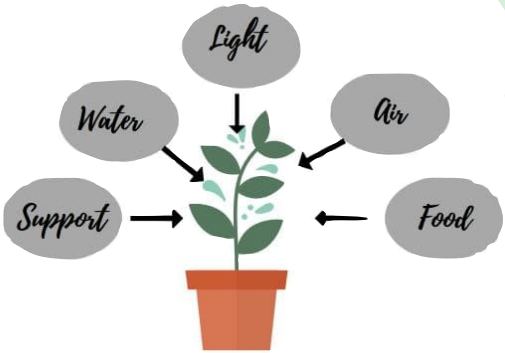
This booklet is intended for use in conjunction with the Home Grown Greens Plant Cards.

About the Authors

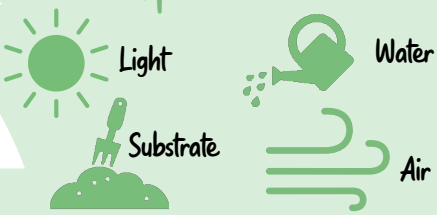
This booklet is designed by PAAZAB-BCRE (Biodiversity, Conservation & Research for Endangered Species). It is intended to be used for education purposes by the general public and professionals alike.

A
BORN IN AFRICA
Initiative

Plant needs



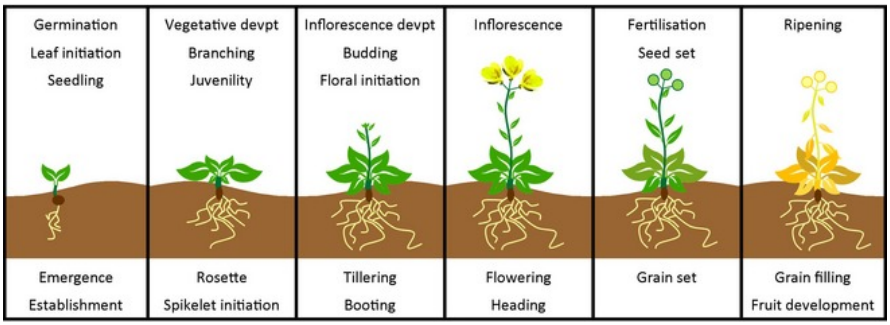
A plant needs :



These elements allow the plant to photosynthesise, that is, to convert the carbon dioxide in the air and the water it draws through its roots into sugars. For this, it needs the energy of the sun, but also the minerals it finds in the ground (or in a substrate).

As part of their development, plants go through several stages successively :

1. Seed
2. Germination
3. Flowering
4. Fruiting



Depending on the stage / part we consume, it will be called :

- Root vegetable (eg carrot)
- Leaf vegetable (eg: salad)
- Flower vegetable (eg: cauliflower)
- Seed vegetable or fruit vegetable (eg: eggplant)

Where to place your plants ?

Before installing your vegetable garden, think carefully about the location it will occupy : will there be enough sun, is there not too much wind, is access easy...? Often, space is limited and the urban gardener has little latitude to set up his vegetable garden. Terrace, balcony or roof, how to make the right choice?

Sunshine

Vegetable plants all need sunlight, but in different amounts. Therefore, knowing where the sun shines during the day is essential.

1. Sunny : more than 6 hours of sun per day
2. Part shade : from 3 to 6 hours of sun per day
3. Shade: from 3 to 6 hours of sun per day

Temperature

Growing food in the city has more than one advantage ! Thanks to the buildings and roads that absorb the sun's rays, it is often a little warmer there than in rural areas. You can start your crops earlier in the spring and finish them later in the fall.

Wind

It can do damage ! Be careful if your balcony or terrace is located at altitude or in a windy neck ! Be sure to install a permeable windbreak to slow down the flow of the wind and to support the most fragile plants.

Water

It is essential for plants. If your vegetable container is under a roof, you will have to water very regularly !

Careful with the weight!

Before you start, check the load capacity of the space intended to accommodate your potted vegetable garden. Some annex flat roofs are particularly tempting, but by no means were designed to accommodate heavy loads. However, a vegetable garden filled and full of water can quickly become very heavy !

Where to place your plants ?

How heavy is my container ?

A 20 liter geotextile bag filled with substrate will weigh 6 to 8 kg dry. When saturated with water, it can weigh 15 to 20 kg !

A 120 cm x 40 cm wooden cultivation tank, 30 cm high, needs about 140 liters of substrate, or about 50 kg. And can weigh up to 100 kg when full of water.

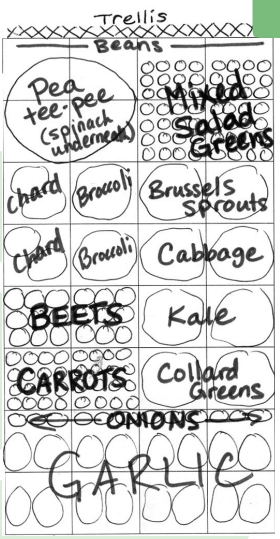
Remember !

You are responsible for your containers. Make sure that they are not a source of nuisance for your neighbours in the event of the irrigation water falling or overflowing :

- Install them preferably on the inside edge of your balcony
- Provide water collection cups
- Hang up or ballast pots that can be overturned by the wind.

Find the right spot

You don't know where to place your pots ? Make a plan or a photo report of your space to find out the duration of the shade or sunshine in the different areas of your garden !



Choose your container

Several solutions are available to you: buy it or do it yourself. Below is a summary of the possible containers :

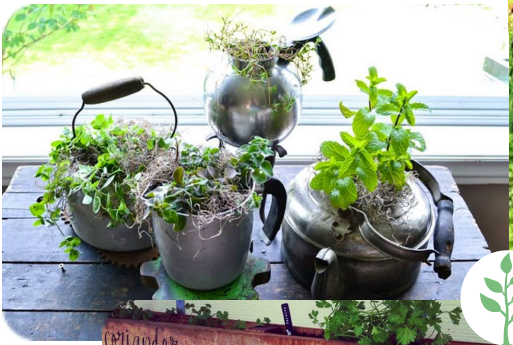
Container	Benefits	Drawbacks	Cost
Terracotta pot	• good humidity regulation in summer • variable size	• need to water a lot • not frost resistant • heavy and fragile	++
Plastic pot	• good humidity regulation in summer • variable size • light weight	• non-renewable • fragile (UV) • beware of root rot if too much water	+
Plastic pot with water reserve	• water autonomy and good humidity conservation in summer • variable size	• non-renewable • fragile (UV) • heavy	++
Wooden planter	• variable size • thermal comfort • durable	• beware of rotting wood • heavy	++
Metal planter	• longevity • aesthetic	• beware of root rot if too much water • beware of heat in summer: use thermal insulation	+++
Geotextile bag	• variable size • lightweight • good ventilation • good root development	• often non-renewable • lifespan 5 to 10 years	++
Stone planter	• longevity • aesthetic	• heavy • beware of root rot if too much water	+++

Container	Benefits	Drawbacks	Cost
Re-using of other containers	• variable size • aesthetic • creative	• variable quality • beware of possible contamination	-
Hanging Basket	• verticality • various materials • suitable for hanging plants	• not always safe • difficult watering	++

Good to know

Clean re-usable containers to prevent disease transmission with hot water and a teaspoon of baking soda for plastics, and with water and soda for clay pots.

Container ideas



Substrate

A good substrate is essential to provide lasting nourishment to your plants, to allow good aeration and drainage which are beneficial to the roots. When installing, pay attention to the quality of your mix !

Soil or Potting Soil

You can collect or buy garden soil, or buy bags of potting soil from the garden center. Make sure that they are "suitable for organic farming" and if possible made from coconut plant fibers or leaf waste, and not from peat. Peat mining is not sustainable.

A Good Mix

2/3 soil or potting soil
+ 1/3 compost

OR

60-80% soil or potting soil
+ 20-30% compost
+ 10% sand / clay

Compost

This fertilising material resulting from the degradation of organic matter (green and kitchen waste) by micro and macro-organisms will provide life in your substrate and especially food for plants. You can use your own compost, ask for it from your contacts (for example via collective composts) or buy it from a specialized garden center (in this case, it is generally sterilised, which takes away part of its interest : the life that it brings in your pots).

A little extra care

A draining material, such as river sand or vermiculite, can be added to the mix for better substrate structure. You can add up to 10% of the volume of the soil / compost mixture.

Don't forget the draining holes !

Make sure that your container has holes at the bottom to ensure a good water drainage. Numerous plants do not fare well when having to remain in soaking wet soil for more than a few hours.

Planting

Ready to start planting ? Follow these 5 simple steps !

1. Check that the bottom of the pot is drilled and install it directly in the desired location. If you would like to provide support under the planter or the pot, now is the time to set it up.

2. Fill your container with the substrate you have chosen. Remember to mix it well.

3. If you plant seedlings instead of seeds, soak the plants before removing them from their pots and moisten the substrate.

4. Now is the time to plant ! Start with the large plants followed by the smaller ones and cover with substrate. Leave 3 to 5 cm of margin from the edge of the pot to allow mulching.

5. For sowing from seed, refer to the instructions of the seed company or if there are none, install them at a depth corresponding to 3 or 4 times the thickness of the seed.

Seedlings ? Seeds

Choose plants and seeds of organic quality, recognisable thanks to the organic logo. These varieties are cultivable without pesticides and generally more rustic.

Some plants must be grown from seeds ; this is the case for several root vegetables (radishes, carrots, ...). Others can be grown from plants or seeds. Whether you put the seeds directly in the vegetable planter or do your plants yourself indoors, be sure to respect the following rules :

- the sowing depth
- the distance between seeds
- the sowing period

Read the plant cards for a dedicated growing guide of each species !

Choosing your tools

No need to break the bank to equip yourself. Here is a list of the essentials. Everything fits in a bucket ... except for the watering can.

- Shovel or transplanter
- Hoe (or an old fork)
- A small rake
- Watering can and spray bottle
- Bucket
- Shears
- Chisel and knife
- Labels
- Plant ligatures and bamboo stakes
- Small sprayer
- A Pair of gloves
- A small brush

Garden Maintenance

Gardening is like playing an instrument : it is better to take care of a garden a little each day than to devote half a day to it one day per week. Regularly observing your plants will prevent diseases and pests in the vegetable garden and give your plants what they need, when they need it. As it is an "artificial" culture, it is more sensitive to water stress (lack of water) and insufficient fertilisation.

Once to several times a day

- Water regularly, especially in times of drought and hot weather. Prefer watering at the end of the day. To find out if your plants have enough water, insert your finger into the substrate : it should come out wet. For medium pots, it is advisable to water twice a week in spring and autumn and once a day in summer. To limit water loss, you can install mulch at the foot of your plants : clay balls, dead leaves, mowing dry grass, flax or hemp straw...
- Take care of the health of your plantations and weed.

Don't forget to harvest!

Harvesting can be done daily when plants are ready.

Once to twice a month

- Sow and plant.
- Adjust fertilisation : for greedy plants (mainly plants that make flowers to make fruit), it may be useful to add organic fertilisers (plant manure, vermicompost juice, etc.) diluted (1 to 10) once a week every 10 days.

Once a year

- At the end of the fall, remove the plants and empty the water (if you have a pot with water reserve). Then prepare the substrate to spend the winter by covering it with cardboard or dead leaves.
- In spring, prepare for the new season. Replace 1/5 of the substrate with ripe compost and mix. In order to avoid disease and maximise harvests, plant a different vegetable from the previous year.

Contacts & Resources

For detailed information about each plant and how to care for them, we have compiled « plant cards ». They are available on our website here :

https://bcre.africa/resources

Scan me !

Each plant card contains :

- A detailed planting guide (substrate, size of pots, light & water requirements...)
- Growing times and calendar
- Common diseases and pests and how to treat them
- Tips and tricks

And they are free to download !

Make every day your Earth Day