

ReelTM

GARDENING

THE PLANTING REVOLUTION



THE REEL EASY GUIDE TO GROWING

A SIMPLE GUIDE TO GARDEN CARE AND MAINTENANCE



GREEN
BEANS



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WHAT IS REEL GARDENING?

Reel Gardening is a South African Social Enterprise striving to get more people growing. **Reel Gardening makes starting a vegetable garden as simple, quick and fun as possible, enabling anyone to experience the simple joy of growing fresh, nutritious food for themselves and their families.**

Reel Gardening manufactures a patented, biodegradable seed tape that removes all confusion from the planting process. The unique product design enables anyone, from the expert gardener to young children, to start their own gardens.

All of our products, from the 1m² and 2m² Gardens in a Box, our Kids Get Growing Boxes, School and Community Gardens, and Grow Pods to our guides, workbooks and App, are designed to support you on your journey to starting a garden.

— Just Add —
WATER, SOIL & SUN

**PLANT TAPE
VERTICALLY AND
COVER WITH SOIL
UP TO COLOURED STRIP**

Reel
GARDENING
www.reelgardening.co.za

**CORRECTLY
SPACED**

**ROOTS
GROW
THROUGH
PAPER**



HOW TO PLANT YOUR SEED TAPE:

1. Plant strip with colour visible above soil.

2. Water every day.

3. Watch your garden grow!



**SAVES
WATER**

**CORRECT
DEPTH**

**SEED
& NUTRIENTS
INSIDE**

BENEFITS OF REEL GARDENING SEED TAPE:

- Contains top quality natural seed and fertiliser
- Saves up to 80% in water consumption
- Holds seed in place at correct depth and distance apart
- Birds cannot eat seeds out of soil
- Paper biodegrades to produce nutrients in soil
- Product is handmade, creating local employment and empowerment
- It is fun and children enjoy getting involved
- Garden in a box premixed according to companion planting and season
- Save time, 5 minutes to plant
- Seed tape indicates exactly where seeds will sprout, enabling easy weeding

OUR REEL GARDENS

GARDEN IN A BOX

These complete Garden in a Box solutions contain **everything you need to start a small home garden**. The larger boxes will plant 2m² while the smaller windowsill gardens will plant either 1m² or a few pots.

EACH GARDEN IN A BOX CONTAINS 5 DIFFERENT VEGETABLES AND/OR HERBS AND THE COMPANION PLANTING FLOWERS NECESSARY TO KEEP THE PESTS AWAY AND BRING POLLINATORS TO THE GARDEN.



The smaller sachet gardens are perfect for people with little space or a few pots on a balcony. They are also **wonderful for children**. Each box contains three different vegetables or flowers.

REEL GARDENING HAS A NUMBER OF GARDENS FOR YOU TO CHOOSE FROM, INCLUDING KIDS BOXES, HERB, SALAD AND EVEN SOUP GARDENS. NO MATTER THE SPACE YOU HAVE AVAILABLE, WE HAVE THE PERFECT GARDEN IN A BOX FOR YOU.



GROW POD

This 1m in diameter, 30cm high grow bag is made from a UV-Treated, breathable, plastic material. **It can be placed on any surface and filled with soil** from your garden, or a combination of purchased potting soil and compost. Each Grow Pod **comes complete with a weed guard** cover to prevent weeds from growing as well as water from evaporating out of the soil. It also includes **5 vegetable or herb varieties** of our patented seed tape.

This product is included in our Learn and Grow Kits along with a CAPS/ECD curriculum aligned workbook. This kit is the ideal outdoor educational tool for schools or at home.



Just add
soil, water & sun

**IF YOU DON'T HAVE A LOT OF
PLANTING SPACE OR HAVE POOR
QUALITY SOIL, THE REEL GARDENING
GROW POD IS THE SOLUTION FOR YOU!**



1M IN
DIAMETER



30CM DEEP



A VARIETY OF
VEGETABLES
AND/OR HERBS



WEED GUARD
TO PREVENT
WEED GROWTH
AND WATER
EVAPORATION



REEL EASY
GUIDE TO
GROWING

PLANTING IN ANY SPACE

If you are looking for a simple solution to urban gardening that is easy to use and makes any space look incredible, then our planting kits are your perfect match.

These African inspired kits are designed to be simple and fun and enable anyone to grow their own herbs or vegetables anywhere.

PLANTING POT



The Planting Pot is handmade from traditional South African ShweShwe Fabric in Johannesburg.

It is designed to be placed on any surface that is in full sunlight, either inside or outside.

The pot contains an internal drip tray and is designed as an aeration pot creating healthier plants. It come with everything you need to get growing all you need to do is place the pot in a sunny spot and water each day.

Available in 6 Colours

IF YOU DON'T HAVE PLANTING SPACE, LIVE IN AN APARTMENT, WANT TO DECORATE YOUR PATIO, OR INDOOR AREAS, THEN OUR PLANTING BAGS AND/OR PLANTING POTS ARE THE IDEAL FIT FOR ANY SPACE!



Planting Pot contains:

100mm x 110mm

1x Planting Pot

2x Fertiliser Sticks

2x Seed Tape Sachets

2x Soil Disks

1x Drip Tray



PLANTING BAGS

Our Planting Bags come as a set with two matching bags. These bags can be placed over a balcony railing or ledge, hung or placed on a wall. The Planting Bag is handmade from traditional South African ShweShwe Fabric in Johannesburg. The fabric on the back of the bag is water proof and will keep your wall dry. The bag is designed as an aeration pot, creating healthier plants. Ideal for vertical growing in any space, all you need is soil, water and sun. There are various veggie, herb or flower mixes to choose from and they come in a variety of colours.



This kit contains:

2x Planting Bags

4x Fertiliser Sticks



6x Seed Tape Sachets



1x Water Spout



2x Zip Ties



340mm x 380mm

water spout
attaches
to most
standard size
bottles

Available in 6 Colours
(including standard Black)

LARGE SCHOOL OR COMMUNITY GARDENS

The **200m² Garden in a Box** is a unique, patented, modular solution for **community and school gardening projects**. The 200m² Garden in a Box is made up of four 50m² Gardens. Each 50m² Box is **assembled according to province and month of planting**. One 50m² Box will be planted once a month for four consecutive months. This staggered planting approach allows for a **sustainable harvest from the garden**.

The layout of the garden is illustrated using an **easy to follow, colour-coded format**, which simplifies complex planting knowledge, such as **companion planting, for maximum success** in the garden.

Each 50m² seed box will supplement up to **25 meals per day** with the daily recommended serving of vegetables. Any additional produce can be sold to create income that can be directed back into the garden, creating sustainability.





EACH 200M² GARDEN IN A BOX CONSISTS OF:

- TAPE MEASURE AND STRING TO AID WITH GARDEN LAYOUT
- 4 X 50M² GARDEN IN A BOX
- 4 X PLANTING BED DIAGRAMS
- REEL EASY GUIDE TO GROWING

WHAT TOOLS DO YOU NEED?

The only tools you really need to get planting are your green fingers. But a few extras do make the job easier. Ask if anyone in your community can lend you these garden tools if you don't have your own.



SPADE

You will need a spade to dig out your paths, create your planting beds or fill your Grow Pod with soil.



RAKE

You will need a rake to remove large stones or clumps of old roots and flatten your beds.



FORK

You will need a fork to loosen the hard ground and put air into the soil.



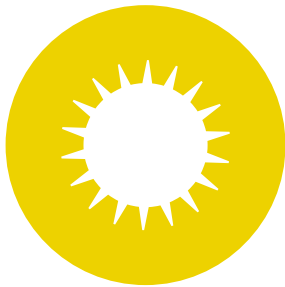
HAND SPADE

You will need a hand spade to dig the furrows and plant your seed tape.

CHOOSING YOUR LOCATION

When choosing the location of your new Reel Garden, consider the following factors:

ANY REEL GARDEN



FULL SUNLIGHT

All plants require 6 hours of direct sunlight a day. Look around your garden in the morning and the afternoon to make sure your chosen spot receives sufficient sunlight.



CLOSE TO WATER

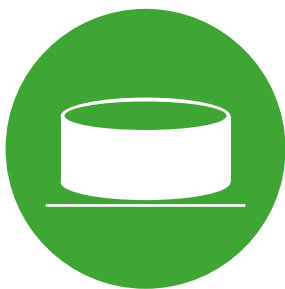
You will need to water your garden everyday. Make sure it is close to a tap if possible. You will need to use a watering can or hosepipe to water your garden.



PROTECTED

Animals such as chickens and goats will eat your vegetables. Make sure that your garden is not near any free roaming animals or in a playground to prevent it from getting damaged.

GROW POD



FLAT SURFACE

Place the Grow Pod on a flat, level surface. If the Grow Pod is at an angle the plants will struggle to grow evenly. Level the ground and remove thick weeds and grass before filling your Grow Pod with soil.



PERMANENCY

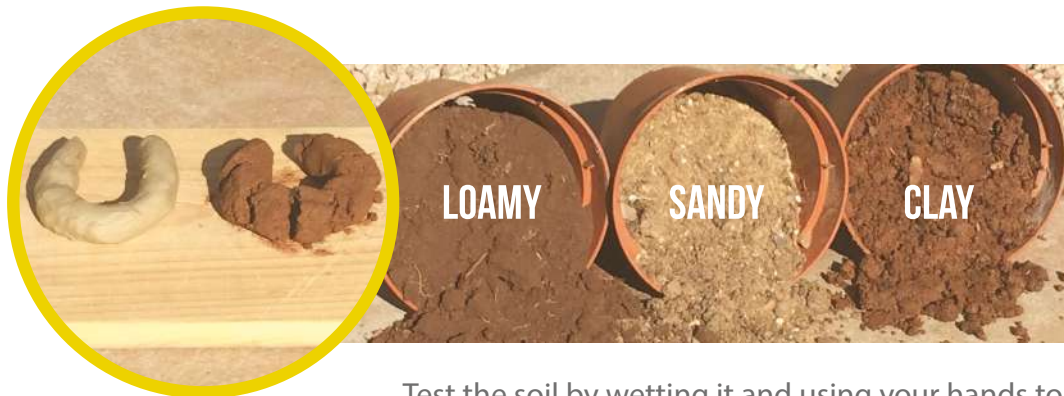
Fill your Grow Pod with soil in the location in which it will permanently sit. Once the Grow Pod is filled with soil it will weigh over 100kg and cannot be easily moved.



PROXIMITY TO LEARNERS

If you are using your Grow Pod as a teaching tool, it should be placed somewhere that the learners pass by often. If the Grow Pod is nearby, learners and teachers are more likely to incorporate it into their classroom activities. Place the Grow Pod in a central location to ensure maximum use.

CHECKING THE SOIL



BEFORE PLANTING IN THE GROUND OR CHOOSING SOIL TO FILL YOUR GROW POD WITH, YOU NEED TO CHECK THAT THE SOIL ISN'T TOO SANDY OR TOO CLAY

Test the soil by wetting it and using your hands to mould it into a sausage shape. Now bend the sausage into a U-shape.

If it holds its shape and bends without breaking, the soil is too clay. If it doesn't hold its shape at all, it is too sandy. If it holds its shape but breaks when bent, it is just right.

To fix clay soil you can add sandy soil and compost.

To fix sandy soil you can add compost.

PREPARING FOR PLANTING

Once you have chosen a suitable location for your garden, follow these Preparation Steps:

PLANTING IN THE GROUND

- STEP 1:** Clear the area of all stones, weeds, grass and building material.
- STEP 2:** If necessary, use a pick to break the hard soil throughout your planting area.
- STEP 3:** Use a fork to break up the hard clumps of soil. Loosen and aerate the soil by turning it with a fork. Your soil should be loose and airy enough that the whole fork head (30 cm) can slide easily into the ground. This gives the plant roots enough space to develop properly.
- STEP 4:** Rake out the big stones, clumps of roots and grass.

STEP 5:

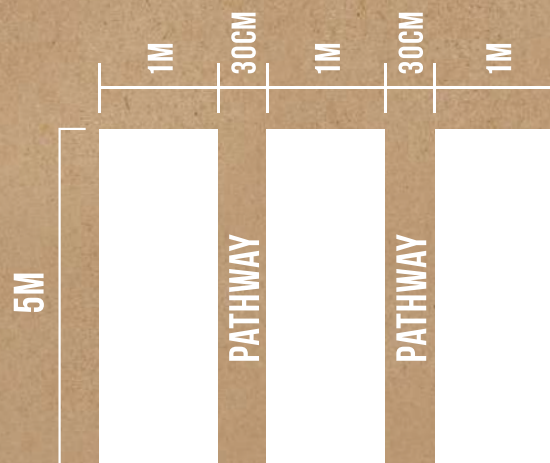
Sprinkle a 4cm thick layer of compost on top of the soil.

STEP 6:

Add an organic fertiliser to the soil. If using the Reel Gardening Soil Food, use one 500g bag of Soil Food per 2m² bed.

STEP 7:

Use a fork to mix the compost and fertiliser into the top 15 cm of the soil.



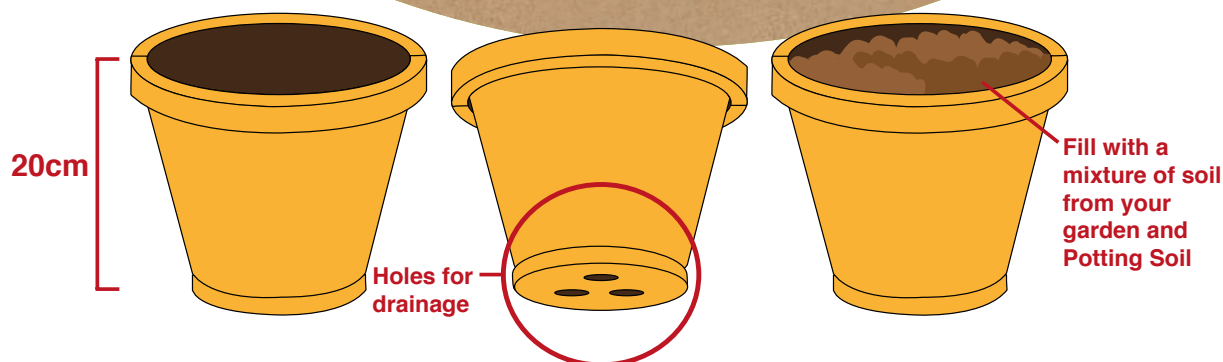
STEP 8:

Create your planting beds. Reel Gardening suggests that when planting directly in the soil, you create raised beds. This means that you will dig a path, at least the width of your spade head (30cm), around your bed and place all of the soil from the path on top of the bed. This makes your beds taller and makes the best use of the nutritious topsoil. Water will also be directed into these paths during heavy rains, preventing your plants from washing away.

If you are planting a 2m² Garden in a Box, you will need to prepare an area that is 1m wide by 2m long, with a 30-50cm path dug around all sides of the bed.

If you are planting a 50m² Garden in a Box, you will need to prepare seven beds of 1m wide by 5m long, with a 30-50cm pathway dug between them.

PLANTING IN POTS



STEP 1:

Select the correct pot. When planting vegetables in pots you must always ensure that the pot is at least 20cm deep, herbs can grow in shallower pots. Your plants' roots will grow almost as big at the bottom as the rest of the plant above the soil. If the roots don't have enough space to develop, the plant will be stunted.

Checking for good drainage is important when selecting the correct pot. The pot should have some small holes at the bottom. These holes allow excess water to pass through the pot. If the pot does not have good drainage, the water will gather at the bottom of the pot and drown the plant.

STEP 2:

Fill your pots with soil. You can either use 100% Potting Soil, or a mixture between the soil in your garden and Potting Soil. The soil from your garden is too dense to be used in a pot by itself. Adding Potting Soil will lighten and aerate the dense garden soil and allow the plants' roots to penetrate the soil easily as the plant grows.

If you have access to compost, you can add some to your soil mix to give it an extra nutrient boost.

PLANTING IN A GROW POD

STEP 1:

Unfold the grey material bag. Place this bag with the flat circular piece of material directly on the ground, the sides opened up and the round opening at the top.

STEP 2:

Select your soil for filling the Grow Pod. You can either use soil directly from the ground, or you can buy Potting Soil from a local garden centre.

If you are using soil directly from the ground, ensure that this soil has been loosened and raked free from big stones, roots and weeds. It should feel smooth and silky to the touch. You will need three to four full, standard sized wheelbarrows to fill the Grow Pod.

If you are purchasing the soil, you will need three 60DM bags of potting soil or six to eight 30DM bags to fill one Grow Pod.

If you have access to compost, you can replace one third of the required soil with compost. Mix the compost thoroughly through the soil in the Grow Pod.

STEP 3:

Fill the grey planting bag with soil until 5cm below the top of the bag.

STEP 4:

Add one bag of Reel Gardening Soil Food to the soil in the Grow Pod. Mix the Soil Food thoroughly into the soil with a garden fork, ensuring that it is completely combined.

STEP 5:

Shake the sides of the grey bag until the Grow Pod makes a perfect circle. Flatten the surface of the soil.



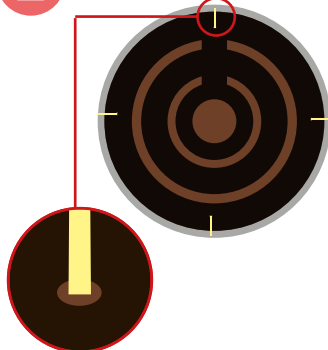
HOW TO PLANT YOUR GROW POD

1



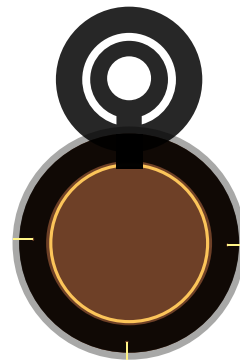
Unroll the black weed guard. Place weed guard rings flat on top of the soil. The spaces between the black material will show you where to plant.

2



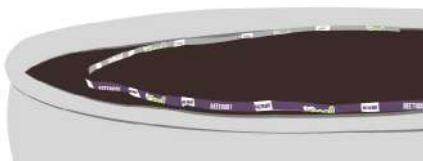
Insert wooden pegs into the small holes around the outer ring to hold the ring in place.

3



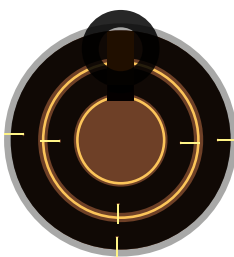
Fold back the middle and second ring of material, leaving the outer ring in place. Dig a furrow against the material and plant the seed tape in a circle.

4



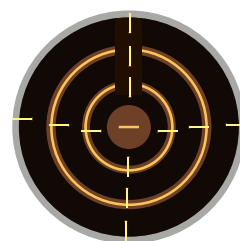
Plant seed tape so that the white area is buried and the coloured strip is visible above the soil. The plants will grow out of the buried paper.

5



Replace the second ring of weed guard on top of the soil, keeping the middle ring folded back. Insert wooden pegs into the second ring to keep weed guard in place. Dig a furrow against the material and plant the seed tape in a circle.

6



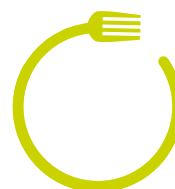
Replace middle ring of weed guard on top of the soil, insert wooden pegs to keep it in place, and plant seed sachet in the centre of the circle.

7



Water daily.

8



One Grow Pod feeds one person per month. If you want to eat from your garden sustainably you need to plant a new grow pod every month, until your first Pod has been harvested and is available to replant.



COMPANION PLANTING



The concept of 'Companion Planting' refers to the idea that some plants have beneficial effects when planted together and some plants have negative effects when planted together. Here are some examples of companion vegetables and how they benefit your garden when planted together:

- **BEANS** and **PEAS** put nitrogen back into the soil that green leafy vegetables like **SPINACH** need.
- Sprawling vegetables like **BUTTERNUT** and **GEM SQUASH** create a living mulch that covers and protects the soil.
- Tall, sturdy plants like **SWEETCORN** provide a trellising structure for climbing plants like **BEANS** and **PEAS**.

Some vegetables have negative effects when planted near one another.
Here are some examples of vegetable pairings you want to avoid:

- Avoid planting **BEANS** and **PEAS** with **ONION**. Whilst it is generally beneficial that **BEANS** and **PEAS** put nitrogen back into the soil, **ONIONS** don't like a lot of nitrogen.
- Avoid planting too many heavy feeders near one another. **TOMATO**, **CABBAGE**, **GEM SQUASH** and **SWEETCORN** all take a lot of nutrients out of the soil. If you plant too many of these vegetables near one another, they will deplete the soil.
- Avoid planting too many leafy vegetables together. This will create a cosy home for leaf-eating pests. Split them up to make your garden slightly less enticing.

A FLOURISHING VEGETABLE GARDEN REQUIRES A CAREFULLY SELECTED COMBINATION OF VEGGIES, FLOWERS AND HERBS; COMPANION PLANTING.

COMPANION PLANTING WARDS OFF UNWANTED PESTS, ATTRACTS BENEFICIAL BUGS AND POLLINATORS, AND HELPS KEEP YOUR GARDEN HEALTHY NATURALLY. EACH REEL GARDENING GARDEN IN A BOX IS PACKED ACCORDING TO WHICH PLANTS GROW WELL TOGETHER.

COMPANION PLANTING FOR PEST CONTROL

Some companion herbs and flowers chase away pests that will harm your plants, while some bring beneficial insects such as bees and butterflies into your garden.

To ensure that your garden has the greatest chance of success, Reel Gardening includes some of these companion planting flowers in all of our Gardens in a Box as well as companion herbs in our large school and community gardens.

NASTURTIUMS



- Attract beneficial insects such as bees into your garden.
- The best trap crop to lure pests such as aphids and white fly away from your vegetables.
- Contain high levels of vitamin C, so eat the peppery leaves and flowers (raw, in salads or in soups) when you have a cold.
- Plant with all vegetables, especially tomato, cabbage, and broccoli.

MARIGOLDS



- An excellent insect repellent that kills nematodes (microscopic parasitic worms) and deters many pests such as white fly and sap-sucking insects. Soak in boiling water and leave to cool to make a tea to spray on plants for aphids, ants, slugs and harmful fungi.
- The bright flowers bring beneficial insects to the garden.
- Plant with all vegetables, especially tomato and cabbage.

SUNFLOWERS



- The bright flower attracts beneficial insects into the garden.
- Provides a trellis for climbing vegetables such as beans or peas and shelter for shade-loving plants.
- Dying heads and stalks are very good for your compost heap.
- Plant with all vegetables, especially sweetcorn and squash but not potatoes.

GARLIC CHIVES



- The white flowers attract beneficial insects to the garden.
- Their smell keeps many harmful insects away from your garden, especially the carrot worm. They also prevent mildew.
- Plant with carrots, tomato and squash to improve flavour but not with peas.

BASIL



- The scent repels sap sucking insects, flies, hornworm and mosquitoes. It also helps prevent mildew.
- Grow basil with tomatoes to improve their flavour as well as peppers and lettuce.

PARSLEY



- Flowers attract many beneficial insects to the garden.
- Parsley is high in potassium, magnesium, calcium and iron so add it to your food!
- Plant with tomato, carrots, sweetcorn, and onions but not with mint.

CORIANDER



- Flowers attract both the beneficial pollinators and the predators that will eat the harmful pests in your garden.
- The strong smell repels sap-sucking insects such as aphids and beetles.
- Plant with cabbage, tomato, beans, chillies, lettuce and summer squashes.

LAVENDER



- Flowers almost all year round, bringing beneficial insects such as bees and butterflies to your garden.
- Strong smelling leaves keep harmful insects such as aphids and white fly away. Plant a border of lavender around a vegetable garden to deter rats.
- Can act as a medicine for humans including as an antiseptic and anti-inflammatory.

KEY:

	BUTTERNUT		BASIL		CHILLI		CABBAGE
	GREEN BEANS		CORIANDER		PUMPKIN		CARROT
	GEM SQUASH		BROCCOLI		TOMATO		PEAS
	PARSLEY		ROCKET		BEETROOT		SPINACH
	LETTUCE		ONION		SWEETCORN		GREEN PEPPERS

VEGETABLE GROWTH CHART

It is difficult to predict exactly when your plants are going to sprout or when they will be ready for harvest. Every seed is a living thing, and therefore its behavior is influenced by a number of natural factors. However, we can estimate when you should start to see your plants popping out of the seed tape and when they will be ready to harvest.

Check this table to manage your expectations of the performance of your garden:

	SPROUTING	TRELLISING	FLOWERING	HARVESTING
	7 - 18 days	30 - 40 days	50 - 60 days	75 - 90 days
	10 - 21 days		40 - 50 days	70 - 80 days
	7 - 10 days	30 - 40 days	45 - 55 days	85 - 100 days
	7 - 10 days	30 - 40 days	45 - 55 days	85 - 100 days
	7 - 10 days	30 - 40 days	45 - 55 days	60 - 75 days
	9 - 13 days	35 - 45 days	70 - 80 days	100 - 120 days
		TRANSPLANTING	HARVESTING	FLOWERING
	6 - 12 days	20 - 30 days	40 - 60 days	65 - 75 days
	6 - 12 days		50 - 70 days	75 - 85 days
	6 - 12 days	20 - 30 days	90 - 110 days	115 - 125 days
	5 - 10 days		70 - 90 days	
	6 - 11 days	20 - 30 days	110 - 175 days	120 - 200 days
	5 - 10 days	20 - 30 days	75 - 100 days	110 - 120 days
		THINNING		
	7 - 21 days	20 - 30 days	90 - 120 days	130 - 150 days
	10 - 14 days		70 - 90 days	35 - 45 days
	8 - 12 days		35 - 50 days	60 - 70 days
	10 - 16 days		70 - 80 days	90 - 100 days
	7 - 12 days		30 - 50 days	60 - 70 days
	10 - 16 days		45 - 60 days	65 - 75 days

CROP ROTATION

Some plants take a lot of nutrients out of the soil, some don't take much at all and others actually give nutrients back.

In order to ensure that the soil stays healthy, we need to make sure that we don't plant heavy feeders straight after each other every season. Plant givers or light feeders after heavy feeders to give the soil a break. This is called CROP ROTATION.

HEAVY FEEDERS

TOMATOES
CABBAGE
BEETROOT
SUNFLOWERS
GEM SQUASH
BUTTERNUT
SWEETCORN

MEDIUM FEEDERS

BASIL
CARROTS
CHIVES
ONIONS
PARSLEY
SPINACH

LIGHT FEEDERS

LETTUCE
SPINACH
NASTURTIUM
MARIGOLD

GIVERS

BEANS
PEAS
COVER CROP

WATERING

You should water your garden **EVERY DAY** for the first month and every second day thereafter, even during weekends and holidays! Either water early in the morning or late in the afternoon to prevent the water from evaporating out of the soil before your plants can use it.

As a general rule, your garden has received enough water once the soil is moist at least 10cm deep. Dig with your hands to make sure that the water has reached far enough down.

YOU'LL KNOW THAT YOUR GARDEN NEEDS WATER IF THE SECTION OF REEL GARDENING SEED TAPE STICKING UP OUT OF THE SOIL IS VERY DRY. THIS EXPOSED PAPER SHOULD BE MOIST AT ALL TIMES.



SAVING WATER

Reel Gardening is passionate about saving water in your vegetable garden. Here are a few things you can try to save water as you care for your garden:

- 1) **Use Reel Gardening Seed Tape:** Simply by planting with the Reel Gardening Seed Tape, you are saving water in your garden. The Seed Tape has been proven to save 80% water in the germination phase, compared with traditional planting methods. If water is scarce, focus on watering only on the paper tape sticking up out of the soil rather than the spaces between the Seed Tape.
- 2) **Using Mulch or Weed Guard:** If you are planting directly in the soil, you can use a layer of mulch on top of your garden beds to prevent water from evaporating out of the soil too quickly. This saves water by ensuring that your beds stay moist for longer and you don't have to water as often. For more on mulching see page 27.
- 3) **Add More Organic Matter to the Soil:** Adding compost to your soil will increase the water holding capacity of the soil. Compost will act like a sponge and absorb a lot of water. This water, rather than draining past your plants' roots, is now more readily available to them, for a longer time. This means that you will need to water less often.
- 4) **Use Grey Water:** Recycling water by making use of grey water to irrigate your vegetable garden can help save a lot of water.



If you are using a Reel Gardening Grow Pod, ensure that you make use of the supplied Weed Guard. Not only does the Weed Guard show you where to plant, it also acts as a mulch and prevents water from evaporating out of the soil.



WHAT IS GREY WATER?

Grey water is household wastewater that has been collected from baths, showers, laundry and kitchen sinks. It is NOT toilet water or any water that has come into contact with harsh chemicals such as bleach, chlorine or fabric softener.

GREY WATER SYSTEMS:

Installing a Grey Water Harvesting System in your home can be as simple as using a bucket to carry the wastewater outside to the garden, or as complicated as installing a tank and pump to pipe Grey Water directly from the source into the garden. You can create a Grey Water system that suits your needs and your budget.

GUIDELINES FOR USING GREY WATER:

- 1) Kitchen sink or dishwasher water is suitable if it contains soap, detergents or food scraps which can be easily removed before watering the garden. You should always remove food scraps before using the Grey Water to prevent them from rotting in the garden and attracting rats. However, you should not use kitchen water that contains grease, blood or oils.
- 2) You may not use wastewater that has traces of fabric softener in the garden. Fabric softeners are toxic for many plants. However, detergents, soaps, lint, dirt, toothpaste, mouth wash and shaving cream are acceptable.
- 3) Don't store Grey Water. Use gathered Grey Water to irrigate your vegetable garden immediately. Storing Grey Water for long periods of time can lead to bad odours.
- 4) Water directly onto the soil. Do not pour the Grey Water over the parts of the plant visible above the soil.
- 5) Using environmentally friendly and biodegradable soaps, detergents and other cleaning products will improve the quality of the Grey Water and benefit your vegetable garden.

BUGS AND PESTS

NOT ALL BUGS ARE BAD

Some insects are actually good for your garden and should be encouraged to make it their home. Some of these insects are pollinators that help the plant produce fruits and some are carnivores that eat the pests that harm your garden. Before killing an insect you need to decide whether it is helping or harming your garden. Ask yourself:



GOOD INSECTS

Before killing any insect you find in your garden, do some investigating to make sure it isn't a beneficial bug. Beneficial insects include predators that eat harmful insects, pollinators that move pollen around and parasites that kill larger pests. These insects will help your garden:

BEES & BUTTERFLIES



- Important pollinators in any garden.
- Pollinators move pollen from one plant to another and from male to female parts of the same plant as they collect their food.
- This fertilises the plant so that it can produce seeds and fruit.
- Bees and butterflies eat both the pollen and the nectar of the flower.
- To invite more bees and butterflies into your garden, plant bright, beautiful flowers for them to eat from.
- Bees like purple, blue, white and yellow flowers and butterflies like red and orange ones.



LADYBUGS

- Predators that can eat an enormous amount of harmful insects such as aphids, red spider mites and the larvae of leaf-eating insects.
- One adult ladybug can eat as many as 50 aphids a day!



EARTHWORMS

- Very important for maintaining healthy soil, keeping it aerated and building soil fertility through their digestion of organic matter.
- Invite earthworms to your garden by keeping the soil moist and adding lots of organic matter for them to eat.





DRAGONFLIES

- Can fly very fast and have great eye-sight. This makes them excellent hunters in the garden.
- Dragonflies eat many sap-sucking insects such as aphids and whiteflies and small leaf-eating insects.



PRAYING MANTISES

- Ruthless killers that eat many beetles, bugs and caterpillars that can kill your plants.
- They sometimes eat the good bugs too. Watch any praying mantises that make your garden their home to ensure that they aren't eating too many beneficial insects. If so, move them.



SPIDERS

- Eat small pests that harm your garden by trapping them in their webs.
- Many people are scared of spiders but most of them are not harmful to humans. Don't kill the spiders! Either use a container to catch them and move them, or leave them to move out of your garden on their own.



WASPS

- Come in two varieties that each protect your garden in their own way. Small parasitic wasps lay their eggs inside pests. The newly hatched baby wasps will kill the pest as they grow. Larger predatory wasps need protein in their diet and therefore eat slugs, stink-bugs and caterpillars.

HOME-MADE PESTICIDE

This natural, home-made pesticide will repel small infestations of aphids, caterpillars and most small sap-sucking insects.

METHOD:



Finely chop chillies and garlic



Mix all ingredients together in a large bowl

3 Let mixture soak for 3 days



4 Strain mixture, removing all solids



5 Pour liquid into a spray bottle



6 Spray affected plants

(Re-apply after rain or watering)

INGREDIENTS:

3 GARLIC BULBS

7 CUPS WATER

12 SMALL OR 6 LARGE HOT CHILLI PEPPERS



1 TEASPOON DISHWASHING LIQUID

1 TABLESPOON VEGETABLE OIL



PEST DETERRENTS

GOOD GARDENERS TAKE STEPS TO STOP PESTS FROM ENTERING THEIR GARDENS IN THE FIRST PLACE. THERE ARE MANY ORGANIC GARDENING TIPS AND TRICKS THAT CAN HELP PREVENT A PEST PROBLEM.

COMPANION PLANTING

When certain herbs and flowers are planted with your vegetables, they can keep pests away from your garden. This is called Companion Planting. Nasturtiums, Marigolds, Lavender and Basil all help to prevent pests from coming into your vegetable garden.

SALT + PEPPER

Sprinkle salt and pepper around your garden to deter snails and slugs.

EGGSHELLS OR SAWDUST

Crushed eggshells or sawdust can be placed around the base of plants that are being eaten by snails and slugs. The texture of the sawdust and eggshells prevents the snails and slugs from moving over them.

THIS WON'T WORK WITH EGG SHELLS FROM BOILED EGGS.



LAVENDER

Plant a border of lavender around your vegetable garden. The smell will repel rats and mice and the flowers will attract bees and butterflies to the garden.

COMMON PESTS

Sometimes, no matter what preventative steps you may have taken, you still end up with a pest problem. Here are some tips and tricks for dealing with specific garden pests:



APHIDS

Very small pear-shaped insects. Can be green, pink, grey or black. Cluster on plants and suck the sap. Young shoots, buds and leaves are vulnerable.

AFFECTS:



CONTROL:

- Use a strong hose to spray off with water before applying Home-Made Pesticide.
- Encourage predatory insects like ladybugs.
- Plant nasturtiums as a trap crop.
- Ants protect aphids. Control ants to control aphids by sprinkling coffee grounds at the base of the affected plant.



CUTWORMS

Fat, white/grey/light brown coloured worm. Curls up when unearthed. Chews straight through roots and stems of plants during the night, especially young seedlings. Noticeable by healthy plants falling over at the soil level.

AFFECTS:



CONTROL:

- In the day cutworms stay just below the surface of the soil. Dig around the base of plants in the affected area to unearth cutworms and kill them.
- Protect seedlings by placing toilet rolls or aluminium foil as collars around the base of plants. Also push a thick twig 5- 8cm deep next to the plant stem to prevent cutting.



WHITEFLY

Very small insects that gather in groups on the underside of leaves. Sucks sap, kills leaves and spreads disease.

AFFECTS:



CONTROL:

- Spray with soapy water.
- Plant nasturtiums to deter from other plants.
- Use home-made pest control formula.
- Encourage spiders and ladybugs into your garden.



SNAILS & SLUGS

Come out mostly at night and on cloudy days. Need a moist environment to survive. Look for leaf damage and a silvery trail. Affects all seedlings but especially leafy vegetables.

AFFECTS:



CONTROL:

- Eliminate dark, moist places where snails are likely to hide (underneath logs).
- Plant trap plants like nasturtiums.
- Lay crushed eggshells around the base of plants.
- Set a beer trap. Snails and slugs love beer. Pour a little beer into a container (e.g. yogurt) and bury it in the ground so that the opening is level with the soil. The snails and slugs will be drawn to the beer and will fall in and drown.



CATERPILLARS

Caterpillars are well camouflaged so you will usually only know you have a problem by the large holes in your leaves. Also look for dark droppings on leaves and around the plant. If there are only a few caterpillars leave them to become pollinating butterflies.

AFFECTS ALL PLANTS (ESPECIALLY):



CONTROL:

- Pick the caterpillars off one by one and kill them to stop them laying eggs and reproducing.
- Place aluminium foil flat on the soil around the base of affected plant. It will reflect the sky and confuse the caterpillars, causing them to move.
- Plant flowers to attract predator insects.



MEXICAN BEAN BEETLE

These beetles can easily be confused with a ladybug. Look closely and you will see that the Mexican Bean Beetle is more orange in colour, with an orange head and legs and smaller black spots. The ladybug has a black head and legs with larger spots. A ladybug will never eat the leaves of your vegetable but the Mexican Bean Beetle will skeletonise leaves by feeding from the underside of the leaf. Mexican Bean Beetles are recognisable by this characteristic lace-like leaf damage.

AFFECTS:



CONTROL:

- Remove and burn severely affected plants.
- Create an organic pesticide: Fill a 5l bucket with water. Add 1 tablespoon of paraffin or cooking oil. Collect as many of the beetles as you can find and place them in the mixture. Repeat every day, using the same bucket. Let the mixture stand for 1 week. Dilute 3:1 with water and spray onto affected plants.



ANTS

Sometimes ants can benefit the garden by eating pests and aerating the soil. But large colonies will eat your seeds and young shoots and even nurture pests such as aphids.

AFFECTS ALL PLANTS

CONTROL:

- Can be repelled by planting plants with strong smells such as garlic or mint.
- Spray the area with pest control formula.
- If the problem is severe, locate the ant nest and pour 2 litres of boiling water directly into the hole to kill the queen. Repeat for 3-4 days.



RATS

Rats are devastating to the vegetable garden, and will eat any plants they can.

CONTROL:

- You cannot control rats by killing them, as more will come. You need to establish what is attracting the rats to the area and remove it. Rats could be attracted to rubbish dumps, sewage, and incorrectly disposed waste.
- Plant lavender all around your garden. The rats don't like the smell.
- Encourage owls with owl boxes.



MILLIPEDES

Usually millipedes are not a problem in the garden as they eat decomposing matter and help aerate the soil. However, when there are large numbers of them, they will start to eat young shoots and roots. They stay just below the surface of the soil and roll into a coil when disturbed.

AFFECTS:  

CONTROL:

- In case of an infestation, physically remove and kill when tilling the soil.
- Create a millipede trap: Stab holes big enough for millipedes to crawl through into a cold drink can half way up. Place carrot and potato skins in the can. Bury the can so that the holes are just below the surface. Millipedes will climb in but won't be able to get out. Once a week remove can and dispose. Replace if necessary.



BIRDS

Birds will destroy your seedlings and ripening fruit. They can be devastating for your garden. Birds are very clever so you will need to try many methods to get rid of them.

AFFECTS ALL YOUNG SEEDLINGS, LEAFY VEGETABLES AND RIPENING FRUIT

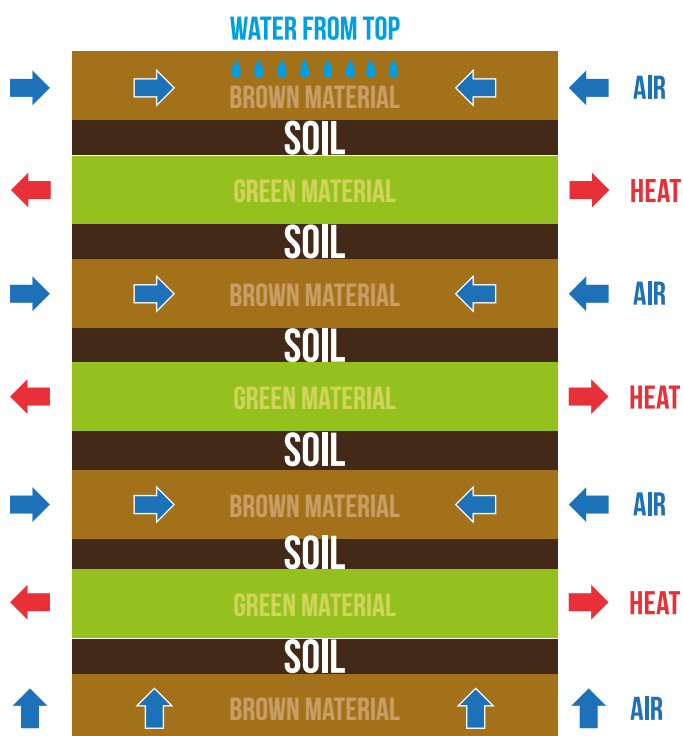
CONTROL:

- Erect a scarecrow with lots of moving parts.
- Hang old CDs all around the garden to catch the light and scare off the birds.
- Mount plastic packets on sticks. They will make a noise in the breeze and chase away birds.
- Cover plants with a net thin enough to let sunlight through.

COMPOST

Compost is decomposed organic matter that looks and feels like crumbly black soil. It is great for adding nutrients to your soil, retaining moisture, providing food for earthworms, reducing erosion and maintaining soil temperature. Compost can be made by building your own compost heap.

BUILDING A COMPOST HEAP



- 1 Find an unused corner of the garden to start your compost heap. Your heap should be at least 75cm wide and 75cm high to generate enough heat.
- 2 You can use a fence, logs, bricks or any material you have to build walls for the compost heap so that it can grow tall and stay neat. However, you can also build the compost heap as a mound without any walls.
- 3 Put down a layer of brown material. This creates air pockets at the base of the compost heap to support micro-organism activity.
- 4 Sprinkle a thin layer of soil or compost.
- 5 Put down a layer of green material.
- 6 Sprinkle another thin layer of soil or compost.
- 7 Repeat this process of layering green and brown material with soil. If you do not have enough material to reach 75cm high at the time of starting the compost heap, you can go as far as you can and then add green and brown material to the heap as you have it available. Always follow with a thin layer of soil.

A COMPOST HEAP CAN EITHER BE BUILT INSIDE A STRUCTURE OR SIMPLY AS A MOUND ON TOP OF THE SOIL. HOWEVER, IT SHOULDN'T BE MADE INSIDE A HOLE IN THE GROUND, THIS IS BECAUSE THE ORGANIC MATTER IN THE HOLE WON'T GET ENOUGH AIR TO ASSIST DECOMPOSITION.



- 8** Use a large garden fork to turn and mix your compost heap every week.
- 9** Water your compost heap every week. But make sure that it isn't too wet. It should remain lightly damp to the touch. If too wet, add more brown materials to the heap.
- 10** Over time the heap should become hot to the touch. If it isn't heating up, add more green material.
- 11** Be patient. Depending on the size of your compost heap, compost can take between 4 weeks and 1 year to decompose fully.
- 12** The heap should not smell. If it does, you need to turn it more often.
- 13** If you find earthworms in your garden, add them to your compost heap to speed up the process.

THE COMPOST IS READY WHEN IT SMELLS LIKE SOIL AND IT LOOKS CRUMBLY AND DARK BROWN LIKE SOIL.

WHAT IS COMPOST MADE OF



WATER



AIR

BROWN GREEN MATERIAL

GARDEN PLANTS + WEEDS



EGG SHELLS



VEGETABLE CUTTINGS FROM COOKING



DEAD FLOWERS



USED TEA BAGS



GRASS CUTTINGS



BRANCHES AND TWIGS



SAWDUST



WOOD CHIPS



EGG CARTONS



FEATHERS

STRAW + HAY



CUT UP CARDBOARD + PAPER



DO NOT INCLUDE

MEAT



PLASTIC



DAIRY PRODUCTS



DISEASED PLANTS



DOG OR CAT POOP

CANS



NAPPIES



GLASS



MULCHING

Mulch is any material that is layered on top of garden beds. It is usually, but not exclusively, organic matter. The Weed Guard on top of your Grow Pod acts as a synthetic mulch. There is no need to apply additional mulch to your Grow Pod if you have used your Weed Guard correctly. If you've planted with Reel Gardening Seed Tape, you can mulch your garden as soon as you have finished planting. However, if not, mulch should only be applied when seedlings are at least 5cm tall.

HOW TO MULCH:

STEP 1 Spread a 4-8cm thick layer of your chosen mulch over the soil around the base of your plants, or in between the rows of Reel Gardening Seed Tape.

STEP 2 If mulching freshly planted Reel Gardening Seed Tape, leave a gap of at least 2cm between the Seed Tape and the mulch. If the mulch moves and covers the seed tape, your seeds will be suffocated and will not germinate. If you are mulching young seedlings, leave a circle of 4cm clear around the stems of the plants. If the mulch sits against the stems of tender young plants, it can cause the stems to rot.

STEP 3 Each month assess the mulch and apply another layer if it has been depleted. If using fresh grass cuttings, keep the mulch under 4cm thick as the grass can become too dense and slimy, preventing water and air from reaching the roots. For a thicker mulch, add dried leaves to the fresh grass first.

STEP 4 Organic mulch can be turned into the soil at the end of the season to add organic matter to the soil.



WHY SHOULD WE MULCH?

- KEEPS WEEDS FROM GROWING BY SMOTHERING THEM.
- KEEPS MOISTURE IN THE SOIL.
- KEEPS THE TEMPRETURE IN THE BED EVEN, PROTECTING THE ROOTS FROM THE HEAT OR COLD.
- PROTECTS THE SOIL FROM EROSION AND FROM CRUSTING OVER.
- ADDS NUTRIENTS TO THE SOIL.
- DETERS PESTS.



WHAT TO USE AS MULCH



HOME-MADE FERTILISER

Nothing in the garden goes to waste! Waste products can be turned into mulch, compost or home-made fertiliser.

Fertilisers add essential nutrients to the garden that help your plants grow big and strong and resist pests.

HOME-MADE FERTILISER IS A GREAT WAY TO ADD NUTRIENTS TO THE SOIL. BUT BE CAREFUL NOT TO OVER FERTILISE AS THIS CAN HARM YOUR PLANTS. APPLY FERTILISER NO MORE THAN ONCE EVERY TWO WEEKS, UNLESS YOU HAVE IDENTIFIED A REAL PROBLEM.

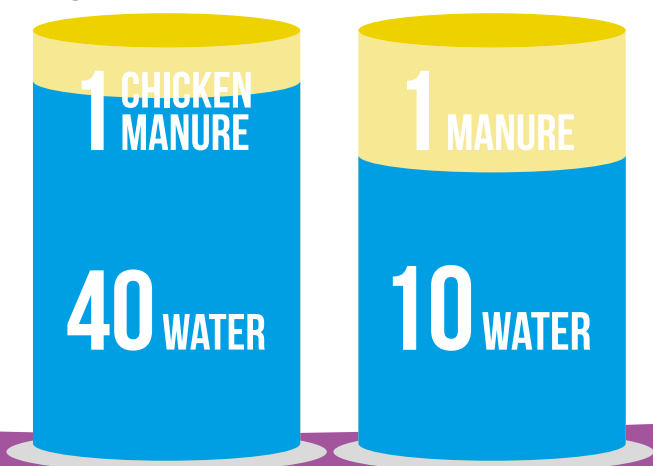
FERTILISER RECIPES:

REMEMBER: IT IS BETTER TO ADD A WEAK FERTILISER TO YOUR GARDEN MORE OFTEN THAN TO ADD A RICH ONE SPARSELY. SO DILUTE YOUR FERTILISER BEFORE USE TO PREVENT BURNING YOUR PLANTS. FOR A STRONGER FERTILISER, LEAVE TO SOAK FOR 3-5 WEEKS. DILUTE 1 PART FERTILISER TO 10 PARTS WATER BEFORE USE.

LIQUID MANURE

Animal manure can be soaked in water to make nutritious home-made fertiliser. Manure from cattle, goats, sheep, cows, horses and chickens will work. Chicken manure is very strong and needs to be diluted more than other types of manure.

- Fill a bucket with the correct parts of water and manure
- Cover the bucket
- Leave in a shady spot for up to 1 month
- Dilute 1 part fertilizer to 2 parts water before applying to the garden



WEEDS AND GRASS



- Fill a bucket or container with cut grass and weeds, at least half way up.
- Cover the weeds and grass with water.
- Let the mixture sit for 3-7 days.
- Remove the weeds and grass and add them to your compost heap.
- Use the liquid to water your plants, especially spinach.
- Repeat every few weeks.

COMPOST TEA



If your plants look like they need an extra boost, you can use your compost to make a nutritious fertiliser.

- Place a few spadefuls of compost in a hessian sack or other porous material.
- Tie the ends of the material closed with strong string or rope.
- Tie the other end of the string to a strong stake.
- Suspend the bag of compost inside a drum or container, with the stake across the opening of the container.
- Fill the container with water so that the bag is covered. This will resemble a teabag in a mug of water.
- Soak the compost in the water for 3 days to a week.
- Water your garden with the mixture.

EPSOM SALTS

This household item is a great way to fertilise fruiting plants such as tomatoes, chillies and green peppers.

- Add one tablespoon of Epsom Salts to 4 litres of warm water.
- Wait for the mixture to cool down.
- Water your plants with the mixture.

TRELLISING

Trellising is a way to provide support for your climbing plants with the help of a structure.

WHAT VEGETABLES SHOULD BE TRELLISED

SOME VEGETABLES NEED A SUPPORTIVE STRUCTURE AS THEIR STEMS ARE TOO WEAK TO SUPPORT THE WEIGHT OF THEIR FRUIT, SUCH AS 

SOME VEGETABLES ARE VINE PLANTS THAT ARE MEANT TO CLIMB, SUCH AS  

SOME VEGETABLES ARE NATURAL SPRAWLERS AND WHILST THEY CAN SPREAD ALONG THE GROUND JUST FINE, THEY CAN ALSO BE TRELLISED TO CREATE MORE SPACE IN A SMALLER GARDEN. THESE ARE  

WHY WE SHOULD TRELLIS

1. LIFTS FRUIT OFF THE GROUND TO PREVENT ROTTING AND ENCOURAGE EVEN RIPENING
2. ALLOWS FOR ADEQUATE AIRFLOW TO PREVENT DISEASE
3. THINNING THE PLANT OUT ALLOWS FOR EASIER MONITORING AND CONTROLLING OF PESTS
4. MAXIMISES USABLE SPACE BY ALLOWING FOR VERTICAL GROWING
5. IMPROVES FRUIT PRODUCTION

HOW TO TRELLIS:

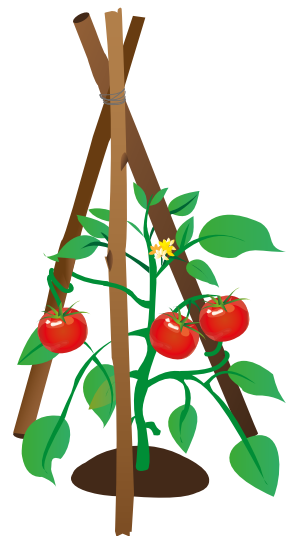
1. Wait until the tomato plant is about 20cm tall and the beans and peas are about 15cm tall before starting to trellis.
2. Place the tripod or ladder over the plant you want to trellis.
3. Gently work each of the sticks into the soil at least 5cm deep. Be careful not to harm the roots of the plant. If you are using a ladder trellis, place the sticks far enough apart so that the string in between the sticks is taut.
4. Tie some of the stems to the trellis with string, being careful not to damage the plant. Do not use wire to tie the plant to the trellis. The wire will get too hot in the sun and burn the stems.
5. Do not tie the stem to the stick too tightly. Leave a gap of about 1 cm to give the stem room to expand as the plant grows.
6. As the plant grows, continue to trellis it.

BUILDING A TRELLIS

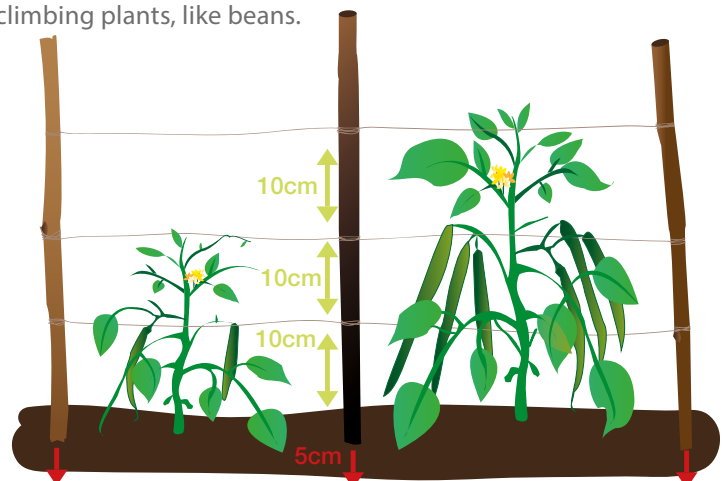
Trellises can be made using strong sticks, bamboo, plastic piping or any other sturdy material you can find. You need strong materials to build a sturdy trellis for your heavier plants. You don't want your trellis to collapse before you've had a chance to harvest.

TWO OF THE EASIEST TRELLISES TO BUILD ARE THE TRIPOD TRELLIS AND A LADDER TRELLIS:

TRIPOD TRELLIS: To build a Tripod Trellis you will need 3 strong, straight sticks of at least 60cm. Hold the sticks together at the top and spread the three legs equal distance apart, to create a tripod shape. Tie the sticks closely together at the top using thin wire or string, so that once you remove your hand, the tripod retains its shape. The tripod trellis works best for large bushy plants, like tomatoes and peas.



LADDER TRELLIS: To build a ladder trellis you will need at least 3 strong, straight sticks as well as some string. Place the sticks between 15 and 30 cm apart. Use the string to tie the sticks together, maintaining the distance between the sticks. Tie the string in between the sticks 15cm from the bottom, another 10cm above that and another 10cm above that. The string will resemble the rungs of a ladder. The ladder trellis works best for climbing plants, like beans.



TRANSPLANTING

Although the Reel Gardening Seed Tape holds your seeds at the correct distance apart, there are still instances when you will need to spread out plants that are growing too close together.

Beetroot and spinach seeds are actually clusters of seeds and will produce many seedlings from a single seed site. And sometimes, more than one seed per seed site germinates and results in too many plants growing in the same place. In these instances you will need to create more room for your seedlings by transplanting some of the plants to another area of the garden.

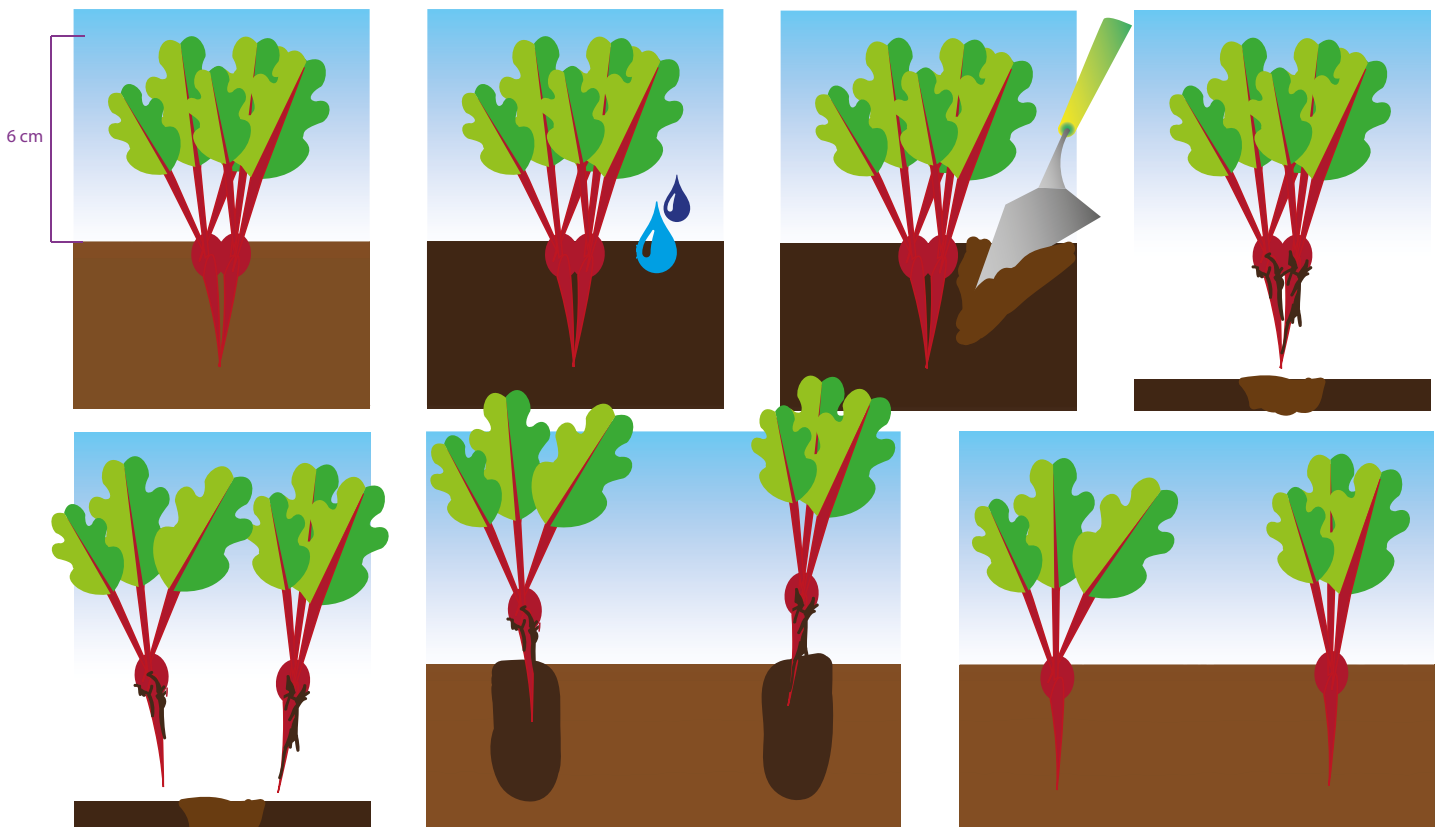


THINNING OUT SEEDLINGS PRODUCES HEALTHIER PLANTS BY:

HOW TO TRANSPLANT:

GIVING PLANTS THE ROOM THEY NEED TO GROW
REDUCING THE COMPETITION FOR WATER AND NUTRIENTS BETWEEN PLANTS
ALLOWING FOR GOOD AIR CIRCULATION, REDUCING RISK OF DISEASE

- Wait until seedlings are about 6cm tall. Any smaller and they won't be strong enough to survive the transplant.
- Wet the soil and dig down to loosen the earth. Be careful not to damage the roots when gently pulling the plants apart.
- Replant the removed plants in another location.
- **YOU CANNOT TRANSPLANT CARROTS.** Weaker, smaller plants should be removed during the thinning out process and added to the compost heap.



HARVESTING

Root vegetables, leafy vegetables and fruit producing vegetables all show different signs when they are ready for harvesting.

HERE ARE SOME SIGNS THAT YOUR HARD WORK HAS PAID OFF AND YOUR VEGETABLES ARE READY TO EAT:



SPINACH

When your spinach has reached a size you are happy with, cut off the 3 biggest outer leaves with a sharp knife or scissors. Leave the rest of the plant to grow. Harvesting like this will prevent the plant from going to seed and will allow you to harvest from a single plant for up to 18 months.



CABBAGE

When your cabbage heads are a good size, squeeze them. They are ready to harvest when they feel firm all the way through the head. Use a sharp knife to cut them off under the head, close to the ground. If you leave the roots in the ground another cabbage will grow next season.



LETTUCE

Reel Gardening's lettuce variety will grow as individual leaves, similar to spinach, rather than as a ball, similar to cabbage. To harvest the leafy lettuce, wait until the lettuce leaves have reached a size you are happy with. Cut off the biggest outer leaves, at the base of the plant, with a sharp knife or scissors and leave the centre bud to continue to grow and produce new leaves.



CARROTS

Push your fingers into the ground next to your carrot and move it around the circumference to determine the size. Try not expose the carrot to the air and sunlight before you're ready to harvest. When the carrot is the right size move it around and loosen the soil before pulling it out. If you don't loosen the soil enough, the carrot might break when removing it.



BETROOT

When the shoulders of the beetroot start to pop out of the soil, it is ready for harvesting. Check the size of the beetroot by pushing your finger into the ground and moving it around the circumference of the root. If it is still too small, cover the top of the beetroot with more soil and leave it to grow for longer. Bear in mind that smaller beetroots are more flavourful and larger beetroots can become fibrous and soft. Loosen the soil around the beetroot before removing.



ONION

The leaves of the onion will start to turn yellow and fall over. This signals that the onion has stopped growing. Harvest by moving the onion around to loosen the soil and pull it out. If unexpected wet weather settles in, remove the onions before the leaves have flopped to prevent rotting in the soil.



BEANS

Beans can be harvested green and eaten fresh or they can be left to dry on the plant and used as dry beans. Green, fresh beans are ready for harvesting when they are between 8 and 14 cm long and as thick as a pencil. Harvest the bean by gently pinching it off the plant where the top of the bean meets the vine with your finger nails. Be careful not to tug too hard as the plant is fragile. The more you harvest of the green beans, the more the plant will produce, so harvest fresh for a bigger crop.



GREEN PEPPER

Green Peppers will turn yellow or red if you leave them on the plant. Harvest when they have reached the shade you want. For green peppers, simply wait until the fruit has reached the desired size.

Harvest by cutting the stem 1cm from the pepper with scissors or a knife. The more you pick, the more will grow.



TOMATO

The best tasting tomatoes are those that have been left to ripen on the plant. When they turn completely red, they are ready to eat. However, watch out for pest damage as soon as the green tomatoes start to change colour. If pests become a problem, harvest the tomatoes just as they begin to change from green to red. Place them in a paper bag and keep them somewhere warm. They will ripen in the bag. To speed up the process you can add a ripe banana to the bag.



SQUASH

Gem squash, butternut and pumpkin are ready to harvest when the skin is too hard to pierce with your fingernail. Cut the fruit from the vine with a sharp knife leaving 5cm of the stalk attached to the squash. With the stalk still attached leave in a cold dark room for a week for the skin to harden if you intend to store it for a few weeks.



PEAS

Once the pea pods start to swell and become firm and fat, they are ready for harvesting. You can open up one of the pods to make sure that the peas are a size you are happy with. However, you should harvest a few immature pea pods to stimulate growth. Using a sharp knife or scissors, cut the thin stem that attaches the pea to the plant, leaving the top of the pod intact. Harvest twice a week to stimulate growth.



SWEETCORN

Sweetcorn is ready for harvesting when the tassels at the top of the pod start to turn brown. The pods should swell. Check the yellow kernels by pulling aside the leafy casing to reveal the top of the sweetcorn and squeezing your nail into a couple of the kernels. They should be full of a milky liquid. When the kernels are ripe, harvest by holding the whole cob firmly in your hand, including the outer leaves, and pulling downwards until it breaks off the plant. Remove the out leaves and eat soon after harvesting to retain sweetness.

SEED SAVING

Knowing how to save seeds is the first step towards establishing a sustainable garden. Reel Gardening contains completely natural, open pollinated seed. This means that, unlike genetically modified seeds, you can save the seeds from the vegetables you grow with Reel Gardening Seed Tape, store them, replant them and produce another flourishing garden.

WHERE DO SEEDS COME FROM

VEGETABLES PRODUCE SEED FROM EITHER THEIR **FRUIT** OR THEIR **FLOWERS**

FRUITS

CHILLI



GEM SQUASH

TOMATO



PEAS

PEPPER



BEANS



BUTTERNUT



FLOWERS

CARROT



LETTUCE



BEETROOT

SPINACH



ONION

CABBAGE



HOW TO SAVE SEEDS

In both cases, you need to select the best-looking vegetable to extract seed from because it carries good, strong genes and characteristics that you want to reproduce in your next crop.

FROM FRUITS

1. Choose the healthiest, strongest and most delicious looking vegetable from each variety in your garden.
2. Harvest the vegetable and, while uncooked, cut it in half.
3. Using a spoon or a knife, remove the seeds from inside the vegetable.
4. If necessary, run the seeds under a softly flowing tap to wash away the surrounding pulp.
5. Place the seeds on a paper towel or piece of newspaper and keep in a cool place to dry.
Do not expose to direct sunlight.
You will know that the seeds are ready for storage when they can slide across a dry plate without sticking to the surface or to each other.



FROM FLOWERS

1. Select the strongest, healthiest plant and DO NOT harvest from it. For example, do not pick any of the spinach or lettuce leaves and do not remove the root vegetables from the soil.
2. By not harvesting from the plant you will have encouraged it to go to flower. A long stem will grow from the centre of the plant and produce flowers.
3. Leave the flowers to dry out and turn brown.
4. Cut off the dried flowers and place them in a bowl.
5. Use your hands to gently break up the dead flowers into the bowl. Small seeds will start to fall out.
6. Remove the pieces of dead flower and you will be left with dried seeds.



SEED STORAGE

ALWAYS STORE SEEDS IN A COOL DRY PLACE, SUCH AS A STORAGE CUPBOARD.

DO NOT EXPOSE THE SEEDS TO SUNLIGHT WHILE STORING.

STORE SEEDS IN PAPER ENVELOPES. NEVER STORE SEEDS IN PLASTIC. THE PLASTIC PACKETS OR CONTAINERS DO NOT BREATHE AND WILL CAUSE THE SEEDS TO SWEAT, AND THEN ROT IN THE MOISTURE.

PLACE A SINGLE UNIT OF REEL GARDENING SEED TAPE INTO THE ENVELOPE WITH THE SAVED SEED, TO INDICATE WHAT THE SEEDS ARE AND TO ACT AS A GUIDE WHEN REPLANTING.



REPLANTING



All the seeds you've planted, whether in the Grow Pod, some pots or straight in the ground, will be ready to eat within 4 months.

Once you have harvested everything from your garden, **remove all the old plants.**

Replenish the soil with Reel Gardening Organic Soil Food. When selecting which vegetables to plant next, refer to Crop Rotation on page 19.












You can either purchase a **new Garden in a Box** from Reel Gardening to replant with,

Or you can use the **seeds you have saved.**

If you intend on replanting with saved seeds, use the saved unit of **Reel Gardening Seed Tape** to show you how far apart and how deep in the soil your seeds should be placed.



NUTRITION

TOMATO 	<p>Tomatoes are the fruit of the plant. They contain high levels of Antioxidants and are a good source of Vitamin C and E.</p>	<p>Antioxidants keep your body in a healthy balance while Vitamin C boosts your immune system. Consumption of tomatoes has been linked to many health benefits including cancer prevention, heart disease and skin health.</p>
BEETROOT 	<p>Both the leaves and the roots of the beetroot plant are edible. The roots are high in Vitamin C and the leaves are high in Vitamin A.</p>	<p>Vitamin C boosts your immune system to stop you from getting sick. Vitamin A is good for your eyes and keeps your heart, lungs and kidneys working properly. Eating beetroot can lower your blood pressure and improve your body's use of oxygen, leading to better exercise performance.</p>
GREEN PEPPER 	<p>Green Peppers are the fruit of the plant. If you leave Green Peppers on the plant, they will become Red Peppers. The more red the fruit becomes, the more Vitamin C it has.</p>	<p>Vitamin C protects you from colds and flu, as well as chronic diseases such as cancer and heart disease. One medium pepper has almost double the Recommended Daily Allowance for Vitamin C, making it one of the healthiest vegetables.</p>
BEANS 	<p>Beans are the seeds of the plant. We eat both the beans and the green pods they grow in. Beans are high in Vitamin A, B, C and K and provide you with Calcium, Potassium and Iron.</p>	<p>Vitamin A is good for your eyes, Vitamin B keeps your heart strong, Vitamin C protects you from diseases and Vitamin K is important for blood clotting and strengthens your bones. Beans contain a wide variety of vitamins and minerals, are high in protein and fibre and low in calories, making them one of the healthiest foods you can eat.</p>
LETTUCE 	<p>Lettuce forms the leaves of the plant. It is high in Vitamin B, Iron and Potassium and is a good source of Vitamin A, C and K.</p>	<p>Vitamin B gives you energy and helps with the production of red blood cells, while Potassium helps with digestive health and proper muscle function, which keeps your heart strong. Eating lettuce can have anti-aging effects because it stops your body from producing excess free radicals.</p>
PEAS 	<p>Peas are the seeds of the plant that grow in pods. While they are high in starch they are also a good source of Vitamin A, C and K as well as Iron.</p>	<p>Iron helps carry oxygen through your blood to all parts of your body and Vitamin K strengthens your bones. Including peas in your diet can help control your blood sugar and maintains a healthy digestive system.</p>
SPINACH 	<p>Spinach is a leafy green vegetable. It provides the body with Vitamin A and C and is high in Iron and Potassium.</p>	<p>Vitamin C promotes skin health and immune function and iron helps your red blood cells transport oxygen around the body. Eating spinach can help reverse the damage to your eyes caused by sunlight, and may help fight aging and reduce the risk of cancer and diabetes.</p>
SQUASH 	<p>Butternuts, gem squashes and pumpkins are considered squash vegetables. Squash is a good source of Vitamin A, C, E and Potassium as well as Calcium and Magnesium.</p>	<p>Calcium and Magnesium strengthen your bones. One cup of squash contains 350% of the Daily Recommended Allowance of Vitamin A, making it very important for maintaining good eyesight.</p>
CARROTS 	<p>Carrots are the roots of the plant. They are a good source of Vitamin A, C, K, B and Potassium as well as Calcium.</p>	<p>Potassium is an essential mineral that helps control your blood pressure. You can improve night-blindness by eating carrots.</p>
CABBAGE 	<p>Cabbage is a leafy vegetable that belongs to the same family as broccoli and cauliflower. It is a good source of many nutrients including Vitamin B, C and K and gives your body Calcium, Iron and Magnesium.</p>	<p>Cabbage contains powerful antioxidants that can help reduce inflammation. Vitamin K is essential for blood clotting.</p>
SWEETCORN 	<p>Sweetcorn is made up of the seeds of the plant that grow together on a cob. It contains high levels of fibre, Vitamin B and Potassium.</p>	<p>Sweetcorn has been linked to maintaining eye health. Sweetcorn is a special, low-starch variety of corn that contains less calories than field corn.</p>

COMMON PROBLEMS

PROBLEM 1: MY SEEDS DIDN'T GERMINATE

POSSIBLE REASON:	SOLUTION
A. NOT ENOUGH TIME HAS PASSED	Remember that organic, natural, open-pollinated seeds take longer to germinate than the more readily available genetically modified seeds that you may be used to planting with. Give your seeds 10-14 days to germinate before worrying. Once seeds have germinated they will grow faster and stronger than GMO seeds.
B. TEMPERATURES ARE TOO COLD	Seeds need to be kept relatively warm to germinate. As a rule of thumb, when the temperatures start to dip below 15 degrees Celsius it is time to stop planting. If you planted too late in autumn or experienced an unexpected cold snap after planting, the seeds will remain dormant and not germinate. You will need to wait for warmer weather to replant.
C. TOO DRY	If the seeds have not received enough water, they will not germinate. Be sure to water your newly planted garden everyday. If you have been watering regularly but your Reel Gardening Seed Tape has remained dry to the touch, it is possible that your soil is too sandy and the water is leeching past your seeds before they have a chance to absorb it. Check your soil. If it is too sandy, add compost before replanting.
D. TOO WET	If the soil around your seeds remains too wet, your seeds will rot. This can be caused by over-watering or by clay soil. The clay soil retains too much water and can cause your seeds to sit in a pool of water. Check your soil. If you have clay soil, add sandy soil and compost before replanting.
E. SEEDS ARE NOT VIABLE	Infertile seeds can be caused by expiry or by improper storage. Be sure to plant your seeds promptly and store them in a cool, dark room prior to planting.

PROBLEM 2: YOUNG SEEDLINGS WILT AND DIE

POSSIBLE REASON:	SOLUTION
A. DRY SOIL	New plants need regular water to grow big and strong. Make sure that you are watering your garden evenly and regularly. During summer water early in the morning or in the evening to prevent the water from evaporating before the plants have a chance to absorb it. If it is very hot, water twice a day.
B. ROTTING ROOTS AND STEMS	Avoid over watering. Add compost to your soil to assist with nutrient contents and proper water drainage.



C. OVER-FERTILISATION

It is possible to over-fertilise your plants. Make sure to dilute fertiliser before use and always apply directly to the soil and avoid direct contact with the plants. Unless you have identified a serious nutrient deficiency, don't fertilise more than every second week.

D. PESTS AND DISEASES

Check the surrounding areas and soil for pests and apply pest control measures. Check your plants for brown or yellowing spots. If you discover signs of disease, remove the affected plants and burn them. DO NOT add them to your compost heap.



PROBLEM 3: PLANTS ARE WEAK AND SPINDLY

POSSIBLE REASON:	SOLUTION
A. NOT ENOUGH SUNLIGHT	Your plants need 6 to 8 hours of sunlight each day. If necessary remove the cause of shade or move the plants to a sunnier area.
B. TOO MUCH WATER	Improve drainage by adding compost.
C. PLANTS ARE CROWDED	Have you planted your Reel Gardening Seed Strips at least 1 hands length apart? Have you thinned out your seedlings? Remember to transplant out spinach, beetroot, onions and tomatoes and thin out carrots with multiple germinations at one seed site to prevent over-crowding plants. See page 30 for how to transplant.
D. TOO MUCH NITROGEN	This can be caused by over fertilising. Too much nitrogen results in excess foliage production. This means that your plants will have lots of leaves but an undeveloped root system, causing them to be large but weak. Too much nitrogen may also make the soil too acidic for some plants, causing them to be weak and spindly. Reduce the nitrogen levels in the soil by planting vegetables that absorb a lot of nitrogen whilst they grow, such as cabbage, butternut and sweetcorn. Using an organic mulch over the entire garden will also help to draw nitrogen out of the soil.

PROBLEM 4: PLANTS GROW VERY SLOWLY AND ARE LIGHT GREEN OR SLIGHTLY YELLOW



POSSIBLE REASON:	SOLUTION
A. INSUFFICIENT LIGHT	Thin out plants and ensure garden is receiving enough sunlight.
B. TOO COLD	If you experience a drop in temperatures after your plants have germinated, they may start to grow very slowly. You can leave them to grow at their own pace or carefully protect them from the cold by covering them with aerated plastic sheeting or shade netting.
C. TOO MUCH WATER, POOR DRAINAGE	Reduce watering. Improve drainage by adding organic matter to planting beds. Growing in raised beds helps with water drainage.

D. SOIL NUTRIENT DEFICIENCY

Test the soil for a nutrient deficiency and add specific trace elements where necessary. If you don't have access to a soil test, add an even, organic, 'complete' fertiliser to the soil. Be careful to follow application instructions to avoid fertiliser burn.

E. ACIDIC SOIL

A pH level below 7 indicates that your soil is acidic. Acidic soils are harmful for most plants as they reduce essential nutrient availability and microbial activity. A drop in pH can result in a large increase in soluble aluminium which retards root growth, further restricting access to water and nutrients. This means that plants can show deficiency symptoms despite adequate fertiliser application. To correct the pH apply agricultural lime at about 700grams per 10m² of soil. Make sure to mix it into the top layer of soil very well. Don't apply lime and manure or compost at the same time. They will mix together and produce ammonia gas which is bad for you and your plants! If you don't have access to agricultural lime you can use wood ash, bone meal, crushed marble or crushed oyster shells. Be careful not to raise the pH too much as alkaline soil is also bad for your plants.

F. COMPACTED SOIL, NOT ENOUGH DRAINAGE

Compacted soil makes it hard for water and air to move easily through the soil and for plants to develop good strong roots. Compaction happens when the air pockets between the components of the soil collapse. This can happen from walking over the soil too much or if the soil doesn't contain enough organic matter. To improve the soil, loosen the ground around plants, making sure not to damage the roots. Add compost and any earthworms you find in the garden. Earthworms eat their way through compacted soil, leaving behind burrows and droppings that help to aerate and fertilise the ground.

G. PESTS OR DISEASE

Search the plants and surrounding areas for pests. Apply pest control methods. If disease is discovered, remove affected plants and burn them.

PROBLEM 5: STEMS AND LEAVES HAVE DARK SPOTS

POSSIBLE REASON:

SOLUTION

A. FERTILISER OR CHEMICAL BURN

This occurs when fertiliser is placed or wind blown directly onto the plant or too much fertiliser is added to the soil. Make sure to apply the fertiliser directly to the soil. If you have applied too much fertiliser, flush it out through watering.



PROBLEM 6: LEAVES ARE CURLED, PUCKERED OR DISTORTED

POSSIBLE REASON:

SOLUTION

A. MOISTURE IMBALANCE

Keep soil evenly moist; avoid over-watering. Mulch to conserve soil moisture.



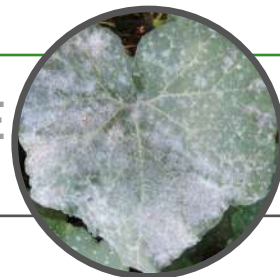
B. APHIDS

Aphids are sap sucking insects that will remove the moisture from leaves, causing them to wilt. Control aphids by spraying them off with a hose and apply home-made pesticide. Aphids also spread viruses that may cause leaves to pucker and curl. Control aphids and remove and burn diseased plants.

C. WEED-KILLER DAMAGE

It is best to control weeds by hand but if you must apply a weed killer, make sure that the wind is not blowing to control application and do not use in the middle of the day.

PROBLEM 7: POWDERY WHITE COATING ON SURFACE OF LEAVES, STEMS AND FLOWERS



POSSIBLE REASON:

SOLUTION

A. POWDERY MILDEW

Powdery Mildew is a fungal disease that occurs due to dampness and humidity in the air, crowded plants and poor air circulation. If left untreated the mildew will weaken the plant and eventually cause leaves to fall off. Mildew spreads between plants very easily. To treat it you will need to spray with a home-made Milk Spray. Mix 1 cup cows milk, 5 cups of water and a squeeze of dishwashing liquid. Spray infected plants twice a week after watering.

PROBLEM 8: BLOSSOM ENDS OF TOMATOES, BUTTERNUT AND PEPPERS ROT



POSSIBLE REASON:

SOLUTION

A. DRY WEATHER FOLLOWING A WET SPELL OR UNEVEN IRRIGATION

Mulch to even out soil moisture. Water evenly.

See page 27 for how to mulch.

B. CALCIUM DEFICIENCY

Add agricultural lime to the soil. See problem 4E.

C. ROOT DAMAGE DURING PLANT CULTIVATION

When caring for your plants and digging in the soil, be careful not to damage the roots. Injured roots disrupt water and nutrient uptake by the plant.

PROBLEM 9: PLANTS DO NOT PRODUCE FRUIT


POSSIBLE REASON:

SOLUTION

A. TOO MUCH NITROGEN

Too much nitrogen in the soil will cause the plants to produce lots of leaves but no fruit. Avoid using nitrogen rich fertilisers and do not plant any nitrogen fixing plants close to your fruiting plants.





The Reel Easy Guide to Growing is a simple guide to garden care and maintenance that enables anybody, with any level of garden knowledge to start and maintain a successful vegetable garden.

Reel Gardening has collected an abundance of practical gardening tips and tricks over the past four years, from our own home gardens to large scale urban and rural community projects. We are very excited to have incorporated all of this knowledge into a beautiful guide.

This guide is accessible, simple, fun and very easy to use. All chapters of the guide, from pest control to home-made fertiliser, prioritise organic gardening practices. This guide also illustrates how to make use of what can already be found in the garden or the kitchen, to care for your garden without it needing to become an expensive exercise.

Reel Gardening is a South African Social Enterprise striving to get more people growing. Reel Gardening makes starting a vegetable garden as simple, quick, and fun as possible, enabling anyone to experience the simple joy of growing fresh, nutritious food for themselves and their families.

**For any questions or advice please contact Reel Gardening
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