

# HUME CITY COUNCIL GROWING PLANTS FROM SEEDS

## Why grow from seed?

Propagating your own plants from seed means you will be able to access far more varieties than you can buy as seedlings. You'll also save money – the cost of a packet of several hundred seeds can be the same as a single punnet of seedlings from a nursery! When you know how to grow from seed you can then save seeds from your own plants to reduce costs even further. With practice you'll be able to grow stronger, healthier seedlings than you can buy from a nursery and even breed plants that are perfectly suited to your tastes and conditions.

## Which plants are grown from seed?

Most common annual vegetables and plants are grown from seed. However some plants that live for many seasons are more easily propagated using other methods like division, cuttings or grafting.

## How long will it take?

As a very rough guide, seeds raised in punnets will usually be ready to plant out in about 6 weeks, and most annual vegetables either sown in punnets or directly in beds will take about 3 months to grow from seed to an edible size.

## Sowing in punnets

A punnet is a small container designed to raise seeds before they are planted into their final growing position. Sowing in punnets makes it easier to keep seeds moist and protected from pests. Small containers tend to warm up earlier in Spring than the ground, and they allow other plants to grow for longer in beds. Standard nursery punnets are only 5cm tall, but roots on even a small seed can grow to 10cm in a week given the opportunity so I prefer to use deep 8.5cm punnets for most vegetables to allow better root development.

## What seed raising mix should I use?

Punnets are filled with seed raising mix that provides a moist but aerated environment for the seeds. Commercial seed raising mix has a light, sandy structure that provides ideal aeration and texture for seeds to germinate, but it also contains few nutrients and dries out quickly. This means that as soon as plants set their first true leaves they need to be either transplanted or provided with a liquid fertiliser. In hot weather the punnets may need watering many times each day which isn't practical for home gardeners. It's also an extra cost that is avoidable. For these reasons I prefer to make my own seed raising mix using this recipe:

### 3 parts garden soil : 1 part compost or worm castings

If your soil or compost contain lots of chunky pieces larger than a 5c coin or critters like slugs or worms, sieving the soil or compost will help to provide a better growing medium for plants. If your soil is very clayey, adding sand will help to improve the drainage of the mix. You can substitute commercial seed raising mix for garden soil in the recipe if necessary.





1. Fill punnet with seed raising mix



2. Press down gently



3. Poke holes no deeper than twice width of seed



4. Sow seeds and label



5. Cover with soil and water



6. Thin out weakest seedlings

## Where should I put my punnets?

Seeds don't require light to germinate so they can be kept somewhere indoors until they sprout. After this stage they require bright light for strong growth, so move them to a sunny windowsill or outdoors. Be sure to keep your seedlings somewhere you will see them regularly and remember to water them!

## When are my seedlings ready to plant?

The first leaves that appear on your seedlings are usually not leaves at all! These are the cotyledons or 'seed leaves' that were inside the seed and contain nutrients to get the plant started. They have a different shape to the rest of the leaves. When the second set of 'true leaves' appears and the seedling reaches about 8-10cm tall it is ready to plant into the bed. If there are multiple plants in the punnet, plant out slightly earlier to avoid major damage to roots when separating seedlings.



*Tomato seedling ready to plant in bed*

## Sowing directly in beds

Seeds sown directly in beds will benefit from greater root depth and no transplant shock, however they are more vulnerable to pests and drying out. Pests can demolish small seedlings overnight, so try to deal with them a few weeks before planting out, either with handpicking, beer traps and cloches (slugs and snails), oil traps (earwigs) or cages and netting (birds and possums). On very hot days (>35 degrees) some afternoon shade over the seed bed will help.

Prepare your seed bed by raking it until the surface is smooth and level with an even crumbly structure. Small seeds may run out of energy before they reach the surface if planted too deeply, so plant seeds at a depth no greater than twice their width. Plant extra seeds to allow for casualties and thin them out later to the right spacing.

## Watering

Seeds must be kept moist while germinating or they may die. Some seeds require more moisture than others, but in general water once per day in cool weather or twice daily in hot weather. On very hot days (>35 degrees) seedlings are best moved indoors or at least into the shade. Use a spray bottle or bottle top waterer to avoid blasting little seeds out of the soil or punnet. Water until a few drips come out of the bottom of punnets, or until the top 10cm of the bed is evenly moist like a damp sponge. Occasional watering with weak seaweed extract or worm tea will stimulate growth.



*Use a gentle spray to water seeds*

## Troubleshooting

Problem	Solution
<b>Seed doesn't germinate or germinates poorly</b>	Ensure seed is fresh and stored at cool, stable temperature. Ensure seeds remain moist while germinating. Ensure temperature and time of year is correct for germinating. Check any special requirements of the seed eg. heat treatment.
<b>Seedlings are damaged by pests</b>	Check area around punnets for pests during day and at night when many are most active. Move seed raising to area with fewer pests. Can be a sign that seedlings are not healthy – water with a weak seaweed extract or worm juice, or other organic liquid fertiliser.
<b>Seedlings have long stems and leaning over</b>	Indicates that seedlings require more light. Move seedlings to a more sunny position.
<b>Oldest leaves on seedlings are turning yellow</b>	Indicates that seedlings are running out of nutrients, particularly nitrogen. Water with a weak seaweed extract or worm juice, or other organic liquid fertiliser. Use more compost in future seed raising mixes.

## A quick guide to common vegetables

Vegetable	When to sow seed	Punnets or direct?	Notes
<b>Silverbeet</b>	Spring to Autumn	Punnets or direct	
<b>Carrots</b>	Spring to Autumn	Direct	Seeds must be kept moist and at an even temperature. Lay an old blanket over the seeds until they germinate.
<b>Beetroot</b>	Spring to Autumn	Direct or Punnets	If sown in punnets, must be planted out very gently before second set of true leaves
<b>Tomatoes</b>	Late Winter to Spring	Punnets	If started in late winter the seeds must be kept in a warm microclimate (eg. greenhouse)
<b>Lettuce</b>	All year except mid Summer	Punnets	Prefers part shade over Summer
<b>Rocket</b>	All year except mid Summer	Direct	Prefers part shade over Summer
<b>Beans</b>	Spring to Summer	Direct	Be careful not to overwater seeds or they may rot in ground
<b>Cucumber</b>	Spring to Summer	Punnets or direct	
<b>Zucchini</b>	Spring to Summer	Punnets or direct	
<b>Pumpkin</b>	Spring	Punnets or direct	
<b>Corn</b>	Spring to Summer	Direct	Plant in a block to ensure good pollination
<b>Broccoli</b>	Spring to Autumn	Punnets	Best sown in Autumn when many pests are going into dormancy
<b>Cauliflower</b>	Spring to Autumn	Punnets	Best sown in Autumn when many pests are going into dormancy
<b>Cabbage</b>	Spring to Autumn	Punnets	Best sown in Autumn when many pests are going into dormancy
<b>Kale</b>	Spring to Autumn	Punnets	Best sown in Autumn when many pests are going into dormancy
<b>Fennel</b>	Summer to Autumn	Direct or Punnets	
<b>Radish</b>	All year	Direct	
<b>Peas</b>	Autumn to Spring	Direct	
<b>Leeks</b>	Spring to Autumn	Punnets	Take a very long time to reach edible size



### MORE INFO

Written by [kat.lavers@gmail.com](mailto:kat.lavers@gmail.com), last updated 21st October 2015 for Hume City Council's Live Green program.

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