

GREEN HARVEST SPROUTING, WHEATGRASS AND MICROGREEN GUIDE

Would you like fast, nutritious, fresh food from your kitchen bench? Reduce your food miles to food metres with a garden that isn't at the mercy of pests or the elements and doesn't need much space.

We are constantly told that 'fresh is best' but as gardeners know, 'homegrown is better'. That's especially true when it comes to those essential nutrients provided by green vegetables that our bodies need replenished every day. Sprouting and growing microgreens are easy ways to add these essential vitamins and enzymes to your diet.

Sprouting is 'bench top organic vegetable gardening'. Sprouts are not only a great addition to salads and sandwiches, they are incredibly nutritious added to fresh juices and smoothies.

Microgreens are an exciting, colourful, gourmet alternative to sprouts. They are halfway in size between sprouts and salad mix. Usually grown in trays, they differ from sprouts as they are grown in sunlight and harvested when there are baby leaves.

Advantages to growing your own include:

- ◆ It is simple and quick; only very basic equipment is needed
- ◆ There is a wide choice of taste sensations, colours and textures
- ◆ Commercially-grown sprouts and microgreens do not always use organic seed, so growing your own gives you that chance to increase your organic consumption
- ◆ Very little space is needed in the kitchen. You can grow some of your food without actually needing a garden
- ◆ It is very economical; sprouts and microgreen seeds can multiply by up to 15 times their weight



Alfalfa sprouts



Rocket microgreens

CHOOSING YOUR SEED

Alfalfa

Easily the most popular sprout, with a delicious nutty flavour. Highly nutritious, rich in vitamins and minerals such as calcium (five times more than milk), protein (35%) and fibre. It will only do well in cooler weather.

Amaranth

A microgreen with gorgeous magenta leaves to add a vibrant dash of colour to a salad or for use as a garnish. The flavour is sweet and tangy, similar to spinach.

Barleygrass

Too chewy as a sprout, instead grow it as barleygrass, an alternative to wheatgrass. Highly nutritious and rich in vitamins and minerals such as calcium, iron; chlorophyll, lecithin, pantothenic acid, protein (30%). Tastes best combined with other juice.

Basil Purple

An attractive microgreen with a great flavour. The leaves are mainly purple with 20% variegated or green. It is nutritious, rich in vitamins and minerals.

Beetroot

An easy-to-grow microgreen with very attractive, deep reddish-metallic purple leaves with a delicious, mild spinach-like flavour. Vigorous and easy-to-grow, it is nutritious with antioxidant properties and rich in vitamins.

Broccoli

Sprout with a distinctive hot, broccoli taste; it is also highly nutritious. Tender leaves are rich in vitamins, minerals, enzymes, protein (35%) and chlorophyll. It is believed to stimulate the immune system and have a tonic effect.

Buckwheat - hulled for sprouting

'Buckwheat groats' are a delicious, fast sprout; "groat" means "hulled seed". Despite its name it doesn't contain wheat; it's gluten-free. Rich in vitamins, minerals, amino acids, rutin and protein (15%). Highly nutritious but consumption of large quantities can cause skin sensitivity.



Chickpea

Sprout with a nutty flavour and crunchy texture, it can also be cooked, in casseroles or hommos, to bring out the flavour. High in protein (20%), vitamins and minerals calcium, magnesium, iron and potassium. Believed to help to regulate cholesterol and insulin. It also makes an interesting microgreen.

Cress

Traditional microgreen with finely curled leaves and a peppery flavour. Popular as a garnish and as an addition to salads and sandwiches. Good source of vitamin A, C and sulphur.

Dill

A microgreen with fine, feathery foliage and a great flavour. Goes well with eggs, cucumbers, cheese, salmon and cabbage. Slow germinating and slow growing – suits an experienced microgreens grower.

Fenugreek

Fenugreek is a very nutritious sprout, high in protein, vitamins A, D, E and group B; protein (30%) and minerals. Fenugreek sprouts stimulate the appetite and are recommended against anaemia and fatigue.

Kale

Kale is used for sprouts and microgreens; it has a mild cabbage-like flavour; the colourful leaves add vibrancy to salads. Rich in the antioxidants believed to help prevent macular degeneration and other conditions of the eye.

Lentil

Sprout with a sweet, crunchy, mild, nutty flavour; can be eaten fresh or lightly steamed. High in protein (25%), fibre and minerals. Believed to help regulate cholesterol and blood sugar levels.

Linseed / Flaxseed

Mildly spicy, very tender microgreen. Highly nutritious, rich in Omega-3 fatty acids. A good source of vitamins, minerals, antioxidants and amino acids. Linseed is highly mucilaginous so should only be grown in a tray or saucer.



Mung Bean

Crisp and juicy sprouts, rich in protein (20%), minerals and vitamins; believed to help regulate cholesterol. Sprout in the dark to produce long shoots. Eat lightly steamed.

Mustard

Use hot, spicy mustard for both sprouts and microgreens. High levels of antioxidants, protein (35%), vitamins, minerals. Believed to stimulate blood circulation and to be effective against fever and colds.

Oatgrass

Similar to wheatgrass; high in vitamins, calcium, chlorophyll, protein (15%), iron, lecithin, magnesium, pantothenic acid and potassium. Used for juicing.

Onion

Easy to digest, sweet onion flavour. Highly nutritious; full of vitamins; minerals such as calcium, potassium and sulphur; protein (20%); enzymes and chlorophyll.

Pea

Pea shoot microgreens are sweet and tender; sprouting increases their sugar content. Very nutritious; a good source of vitamins A, C and K; and minerals calcium, chlorophyll, iron, magnesium, phosphorus, potassium, amino acids and protein (20-25%).

Radish and Daikon

Spicy sprout or microgreen. Rich in vitamins; minerals calcium, iron, potassium, zinc; carotene; antioxidants; protein (35%). Believed to stimulate immune system.

Red Cabbage

Beautiful, red-purple sprout or microgreen; mild, sweet cabbage flavour; highly nutritious. Rich in vitamins A, B, C, E, K; minerals and chlorophyll. Believed to stimulate immune system.

Rocket

Mildly spicy, easy-to-grow microgreen. Slightly mucilaginous when germinated, so difficult to grow as a sprout unless mixed with other sprouting seeds. Highly nutritious; believed to stimulate immune system.

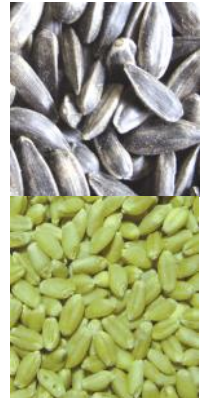


Sunflower

A truly delicious, crunchy microgreen. Very nutritious: high in choline, linoleic acid, lecithin, vitamins, minerals, and protein (20-25%).

Wheatgrass

Wheat grass is considered a highly nutritious and cleansing food source, rich in protein (up to 30%); carbohydrate; vitamins; minerals such as calcium, magnesium, potassium; antioxidants; chlorophyll and enzymes. Used for juicing.



HOW TO GROW SPROUTS

Sprouts can be grown most of the year but the same rules apply as for successful seed germination in the garden. Just like all other seed, each sprouting seed has a temperature range that is best for germination. Try to avoid very hot or cold periods. Between 20°C – 25°C temperature range works best for a wide range of seeds. This is based on a 24-hour period, not a day time temperature, so cold nights will put you at risk of a failed crop. Just like putting the heater on during cold nights the use of a **Heated Propagation Mat** can do wonders for your sprouts in winter.

- ◆ Wash the seeds well in fresh water before soaking. Float off any leaf or twig debris. Broccoli, other brassica and onion seeds need to be encouraged to sink.
- ◆ Soak the seeds for the correct time; do not over or under soak. Over-soaking can kill your sprouts. If the seeds and water they are soaking in go murky and scum forms on the surface, the seeds have soaked too long and are probably dead. Good aeration with a plentiful supply of oxygen gives life to the seed, so avoid soaking too much seed at a time and then overcrowding it in the sprouter.
- ◆ Never put the sprouting jar or bag flat to a surface where air cannot reach the seeds; all living things need to breathe. Poor drainage will cause the seed to rot.



HOW TO GROW SPROUTS cont.

- ◆ Try to rinse at least 3 times a day. During hotter weather, rinse more often. Thorough rinsing is important as the water provides the moisture needed to activate growth, it also flushes away waste products and re-oxygenates the seed, but be gentle.
- ◆ If you can't be at home on hot days, refrigerate the sprouts until you get back. Failing to rinse will cause the seeds to shrivel and die, as will hot, direct sunlight. If seeds start to dry out, soak briefly and then drain well.
- ◆ Only start sprouts if you are available to look after them for the next 3 - 5 days.
- ◆ To produce green, leafy sprouts, daylight is important but always avoid direct sunlight. A kitchen bench near a window with access to the sink is ideal.
- ◆ De-hulling refers to removing the seed hulls. This is important particularly for Brassica sprouts (cabbage, broccoli, radish, mustard etc.) as the hulls are quite large and hold a lot of water and removing them greatly improves the storage life. To de-hull place the sprouts in a big bowl. Fill with cold water; loosen the sprouts by pulling apart with your fingers or a fork. Hulls will rise to the surface. Skim the hulls off the surface of the water. Drain the sprouts well, a salad spinner helps.
- ◆ Once the sprouts are ready, store them in the fridge. They store best when well drained, even dry to touch, in a container that breathes. They will go slimy pretty quickly in a plastic bag. Rinsing every few days and draining well will prolong their storage life.
- ◆ Any seed or sprouts that are even slightly mouldy should be discarded.



Radish Red Sango

SPROUT TROUBLESHOOTING

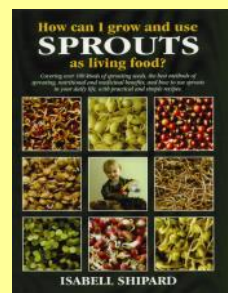
Sprouts are easy to grow but if you are having problems it might be because of:

Overcrowding: Too much seed in your sprouter means that some seeds suffocate. This can cause sliminess, ungerminated seeds and an 'off' smell. Start off with less seed and check the sprouter's capacity when sprouts are ready.

Oversoaking: Too long a soaking time can kill seed; it simply drowns.

Not enough rinsing: Sprouts need to be well-rinsed to prevent them drying out and to re-oxygenate them.

Wrong time of year: Sprouts started at very high or very low temperatures risk failure.



How Can I Grow and Use Sprouts as Living Food?

CONTAINERS FOR SPROUTING

Jars Sprouters

To make your own jar sprouter, choose a large glass jar with a wide, straight neck. Flywire or cheesecloth and a rubber band provide the lid. The covering needs to allow sufficient drainage and aeration, or mouldy sprouts will result. The **Green Harvest Jar Sprouter** works well as it comes with a built-in drainage stand. It is particularly important not to overcrowd the seeds in jar sprouters.



Dome Sprouters

The **Green Harvest multi-level Dome Sprouter** suits a wide range of seeds and makes it easy to produce a continuous supply of sprouts, as you can add additional levels every few days.



Sprouting Bags

The **Green Harvest Hemp Sprout Bag** is durable, naturally mould-resistant and will last for years. It is best for growing hulled grains and beans such as mung, lentils, peas, chickpeas, adzuki, soft wheat sprouts, rye, or barley. The bags hang up to save on bench space.

Nut Milk Bag

Make your own fresh, living and nutritious non-dairy milk using your favourite nuts and seeds in this specially designed bag. Simply soak nuts, blend and use the nut-milk bag to strain the liquid from the nuts, giving your nut-milk a smooth and creamy consistency. Use nut-milk in:

- ◆ smoothies, soups, chia pudding, raw ice-cream, anywhere else you would normally use milk
- ◆ full of life force as the soaking 'activates' the seed and substantially increases the enzymes and nutrients available to you
- ◆ cheaper than store bought nut milks



GROWING SPROUTS					
Seed Type	Soaking Time (hours)	Qty of Seed per 650ml Jar Sprouter	Best Temperature Range for Growing	Details	Days to Harvest
Alfalfa	3 - 6	1 heaped tsp yield 1 cup	16 - 22°C; avoid hot weather	expose to sunlight on 5 th day to make more nutritious	3 - 5
Broccoli	4 - 8	1 heaped tsp yield	10 - 25°C; avoid hot weather	need good aeration to avoid mould	3 - 6 de-hull
Buckwheat - hulled	20 - 30 minutes	1 cup yield 1½ - 2 cups	20 - 25°C; avoid very hot or cold weather	eat raw, use as porridge or in baking	1 - 2
Chickpea	8 - 12	½ cup yield 1½ cups	20 - 25°C; avoid very hot or cold weather	eat raw or lightly steamed	2 - 4
Fenugreek	8 - 10	1 tbsp yield 1½ cups	16 - 25°C; avoid very hot or cold weather	tolerates cooler temps than other sprouts	2 - 5
Kale	4 - 8	1 heaped tsp yield 1 cup	16 - 28°C avoid very hot or cold weather	avoid the seeds clumping together	3 - 6 de-hull
Lentil	8 - 12	½ cup yield 1 cup	18 - 22°C avoid very hot weather	eat raw or cooked	2 - 4

HINT: Only mix sprouting seeds together that have similar days to harvest. For example, alfalfa mixes well with broccoli, rocket, red cabbage and radish

Seed Type	Soaking Time (hours)	Qty of Seed per 650ml Jar Sprouter	Best Temperature Range for Growing	Details	Days to Harvest
Mung Bean	6 - 12 soak in warm water	½ cup yield 1 - 1½ cups	20 - 25°C; avoid very hot or cold weather	rinse when finished in a bowl so hard seeds fall to the bottom	4 - 5
Mustard	4 - 8	1 heaped tsp yield	10 - 24°C; avoid hot weather	avoid the seeds clumping	3 - 6 de-hull
Onion	8 - 12	2 tbsp yield 1 cup	10 - 21°C; avoid hot weather	store seed in freezer	10 – 15 very slow to
Radish	6 - 12	1 heaped tsp yield 1 cup	16 - 28°C; avoid very hot or cold weather	avoid seeds clumping	3 - 6 de-hull
Red Cabbage	6 - 12	1 heaped tsp yield 1 cup	16 - 28°C; avoid hot weather	avoid seeds clumping	5 - 6 de-hull



Everything you will need to get started!

Sprouting Kit includes:

2 x Jar Sprouters
 Broccoli Sprouting Seeds 25g
 Radish Sprouting Seeds 25g
 Fenugreek Sprouting Seeds 25g
 Sprouting Dial Chart

Available from Green Harvest

HOW TO GROW MICROGREENS

Microgreens differ from sprouts in that they are grown in sunlight. You can grow them indoors on a sunny window shelf or outdoors on a covered deck or in a shadehouse.

It is best to use a flat tray with good drainage. Containers can be recycled but should be well washed. For your soil mix choose between organic potting mix (look for an organic certification number on the bag), cocopeat, vermiculite or seed raising mix.

To begin, fill the tray with your selected soil mix 2 - 3 cm deep and moisten the mix. Soak the seed, if required, then sprinkle the seeds evenly on top of the mix and gently pat them down. If recommended on the seed packet, cover with more soil mix. Many seeds only need to be covered with paper towel. Or you can cover with another inverted tray to help keep the seeds moist until they sprout.

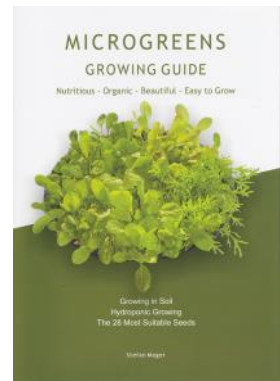
Water often using a fine spray. Adding diluted organic nutrients e.g. seaweed, to the sprayer will improve the nutrient levels in the microgreens.

How to Harvest Microgreens

Wait until the 2nd set of leaves appear. Cut just above ground level with scissors. Some types will regrow and can be cut several times. When a tray is finished, you can invert the soil mix, top it up with a bit of fresh soil mix and replant; add it to the compost; or offer it to the chooks.



Punnets of colourful, nutritious microgreens - kale, red cabbage and mustard



Available from Green Harvest

Safety Tip Use only organically certified or untreated seed to avoid seed that may have been fumigated or treated with a fungicide.

Want to try other tasty microgreens? Coriander, Chicory, Endive, Garlic Chives, Purslane, Lettuce - all leaf types, Orach, Parsley, Perilla, Salad Mix, Shungiku, Silverbeet, Spinach, Tatsoi are all suitable.

MICROGREEN TROUBLESHOOTING

Overcrowding: Too much seed will cause 'damping off', a fungal disease where the young plants collapse. It will also result in long, spindly stems.

Oversoaking: If the seeds and water they are soaking in go murky and scum forms on the surface, the seeds have soaked too long and are probably dead.

Wrong sowing time: It may be the wrong time of year for the seeds you are trying to grow. Some seeds will not germinate at very high or very low temperatures. Check the growing instructions on the seed packet.

Weak, skinny microgreens: The plants may need more sunlight or feeding. Move to a position in stronger light or try spraying with a dilute solution of *Natrakelp* or *Seaweed Plant Starter*.

CONTAINERS FOR MICROGREENS

Trays should be flat with drainage holes allowing leafy microgreens to grow straight up and receive maximum light. Choose either a *Green Harvest Seedling-Sprouting Tray* or a *Microgreen Tray*. These are ideal for raising barley, oat and wheatgrass for healthy juice shots. *Drip Trays* are useful to go under the trays on the kitchen benchtop to prevent spills.



Seedling Tray 35 x 29 cm



Microgreen Tray 33.5 x 14 cm



Microgreen Kit

- Seed Raising Block - will fill 8 trays
 - 2 x Microgreen Trays
 - Organic Salad Mix
 - 2 packets of Microgreens Seeds 25g
 - Drip Tray
 - Seaweed Plant Starter 500ml
- Available from Green Harvest***

GROWING MICROGREENS					
Seed Type	Soaking Time (hours)	Qty Used Per Seedling Tray 35 x 29cm	Best Time of Year	Depth of Soil Mix & Growing Details	Days to Harvest
Amaranth	do not soak	2.5g 1 scant tsp	above 22° C; avoid cold weather	soil 2cm deep, cover with paper towel	16 - 25
Purple Basil	do not soak	2.5g 1 scant tsp	best above 24°C	soil 1cm deep; cover with lid; place in low light until up	16 - 25
Beetroot	24	12.5g 2 heaped tbsp	16 - 25°C	soil 2cm deep, cover with thin layer of soil	16 - 25
Buckwheat - unhulled	8 - 12	12.5g 2 heaped tbsp	20 - 25°C; avoid winter	soil 2cm deep, cover with paper towel	5 - 6
Cress	do not soak	8g 2 tsp	16 - 25°C avoid hot weather	grow on 2-3 layers paper towel; cover with lid until up	5 - 14
Dill	do not soak	5g 1 tbsp	15 - 23°C	soil 1cm deep; cover with lid; place in low light until up	16 - 25 slow growing

Seed Type	Soaking Time (hours)	Qty Used Per Seedling Tray	Best Time of Year	Depth of Soil Mix & Growing Details	Days to Harvest
Kale	4 - 8	5g 2 tsp	16 - 28°C; avoid very hot or cold weather	soil 2cm deep, cover with paper towel	16 – 25
Linseed	do not soak	36g 4 scant tbsp	16 - 25°C; avoid hot weather	soil 2cm deep, cover with lid	6 - 8
Mustard	8	2.5g 1 tsp	16 - 25°C; avoid hot weather	soil 2cm deep, cover with paper towel	15 - 20
Pea Shoots	8 - 12 pre-sprout	1 - 1½ cups	15 - 25°C; avoid hot weather	soil 2cm deep, cover with paper towel	10 - 14
Radish	6 - 12 pre-sprout	5g 2 tsp	16 - 28°C; avoid hot weather	soil 3cm deep, cover with paper towel	12
Red Cabbage	4 - 8	5g 2 tsp	16 - 25°C; avoid hot weather	soil 2cm deep, cover with paper towel	3 - 6
Rocket	do not soak	3g 1 scant tsp	16 - 25°C; avoid hot weather	soil 2cm deep, cover with paper towel	16 - 25
Sunflower - unhulled	8 - 12 pre-sprout	1 - 1½ cups	20 - 25°C; avoid winter	soil 2cm deep, cover with paper towel	8 - 12 cut before 'true' leaves 7 - 10

HOW TO GROW WHEATGRASS

Wheatgrass and other grasses such as barley and oats are believed to have superior, health giving qualities and contain beneficial enzymes and antioxidants. If you like the idea of adding this 'green juice' to your diet, it is a simple matter to raise the grass yourself using organic seed.



Where To Grow:

Start the process inside, on the kitchen bench or in the laundry. Transfer to a sunny position once the grass is growing and is 2.5 - 5 cm high. As a general rule the best temperature range for growing is 20 – 25°C.

How To Grow:

The growing medium needs to be light and airy. Good choices are organic potting mix, cocopeat or worm castings. Use a seedling tray (35 x 29 cm) or a microgreen tray (33.5 x 14 cm). Between uses sterilise by washing in hot water. Fill the tray with 2 - 3 cm of soil mix and water thoroughly. Use your fingers and check the soil is wet all the way through.



Wheatgrass ready to cut

Soaking and Pre-Sprouting:

Wash and soak the seeds for the correct time; do not over or under soak. If the seeds and water they are soaking in go murky and scum forms on the surface, the seeds have soaked too long and are probably dead. Pre-sprouting the grain in a sprouter gives more reliable results. After soaking place seed in a sprouter until tiny roots appear. Rinse at least twice a day. This will take about 2 days. The Sprout Bag is perfect for this.



Growing Method:

Lay the pre-sprouted seeds as evenly as possible on top of the soil mix; pat down and water well. Cover by inverting another tray on top. Set the tray in a

Gluten intolerant? When sprouted you convert a grain to a green vegetable which contains no gluten.

low-light, room temperature location. Check daily, water if needed. In warmer weather you might need to water twice a day. The **Bottle Top Waterer** is perfect for this. Once the seedlings are growing, remove the cover when growth is 5cm tall and move into direct sunlight.

How To Harvest:

Harvest in 6 - 10 days or when 15 - 25cm tall, by cutting the grass at 2 - 3 cm above the soil and leaving the roots in the tray. Peak nutrition is reached by harvesting just prior to the 'jointing stage' which is when the plant switches from vegetative growth to reproductive growth, as the blade develops a second stem. Harvested wheatgrass can be stored for about a week but peak nutritional benefits are obtained from freshly cut grass. Trays will usually produce a 2nd and even 3rd crop - as long as you continue to water after you cut your first crop. The 2nd and (more so) the 3rd crop will not be as tender, nor usually as tall, but it is good to try growing at least a 2nd crop.

Juicing:

A special type of juicer is required to crush the blades of grass which are too chewy for most people. The 'green juice' mixes well with celery, parsley, alfalfa sprouts, spinach, kale, dandelion or the microgreens sunflower and buckwheat.



Hand Juicer

Juices barley, oat and wheatgrass!

**Available from
Green Harvest**

GROWING WHEATGRASS AND OTHER GRASSES			
Seed Type	Soaking Time (hours)	Qty Used Per Seedling Tray 35 x 29 cm	Best Growing Season Temperature Range
Barleygrass	wash then soak 8 - 12	1½ - 2 cups	16 - 25°C avoid hot weather
Oatgrass	wash then soak 1 - 4	1½ - 2 cups	16 - 25°C, avoid hot weather
Wheatgrass	wash then soak 6 - 12	1 - 1½ cups	20 - 25°C; avoid hot weather



OTHER IDEAS FOR USING SPROUTS AND MICROGREENS

Living Bread

Often referred to as Essene bread, this sweet, highly nutritious, energy dense food is made with sprouted grain e.g. wheat, spelt, rye, barley. It is blended to a puree, mixed with dried fruit, herbs, spices and seeds then dehydrated. If nuts and seeds are used these should be soaked for at least 8 hours, drained and blended with the grain. Ingredients such as grated carrots or dried fruit should be soaked overnight, drained, mixed well with the homogenised grain, formed into a flattened loaf and baked in a slow oven for 2 hours. For crackers, roll out thinly and dry in an electric food dehydrator, at 40 - 45°C. This ensures that enzymes and minerals are not destroyed by heat.



Sprouted Wheat Bread

Caged Birds and Poultry

Living growing foods like sprouts are excellent for most birds, including poultry. Even just swelling the seeds so they are beginning to show roots increases the nutritional values considerably.

To prepare: soak seed for 8 - 12 hours in 3 times the amount of water, drain and rinse 3 times the next day, drain for 8 - 12 hours and feed to birds.

Suitable seeds include: adzuki beans, mung beans, millet, buckwheat (in hull), green peas, lentils, chickpeas, fenugreek, alfalfa, red clover, mustard, radish, quinoa, amaranth and chia.

Green Harvest Clucker Tucker™ is a hardy mix of all-important greens to keep your chooks healthy. Includes barrel medic, bok choy, buckwheat, forage chicory, clover, cocksfoot, linseed, lucerne, millet, forage plantain, silverbeet, subclover and sunflower. Where space is limited, it can be grown in a seedling tray and then placed in the chook run or bird cage. In temperate areas sow March - May or August - October. In subtropical areas sow August - September or May - July. In tropical areas sow April - August. Use 1 - 2g per seedling tray.



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