

# Seed Saving Seed Collection: **Cultivation & Seed Saving Notes**



**U**ntil relatively recently seed saving was an integral part of every gardener's growing calendar. Rediscover this forgotten skill and open up the fascinating world of seed with our Seed Saving Seed Collection.

We've put this collection together to accompany our Seed Saving & Sowing workshops at Sawston Village College and we hope some of you will join us there. These notes and the accompanying Quick Guide to Seed Saving provide an introduction to getting started with seed saving though, and you can find more information on our website and further resources at [www.seedsavers.org](http://www.seedsavers.org). You can also grow along with us online by following us on Facebook or Instagram, where we'd love to see how you get on too. Happy seed saving from Ross & Sarah at The Garden Gate!

## **The Seeds**

The varieties in this collection are all open pollinated heirloom varieties suitable for seed saving and have been carefully selected by us to demonstrate different aspects of pollination and seed saving technique.

## **The Equipment**

Included with the seeds are some essential seed saving supplies to get you started: **labels and pen** (when seed saving it's especially important to keep track of which varieties have been sown and where), **red wool** (for marking which plants or fruits you've selected for seed saving), **pollination bags** (for preventing unwanted cross pollination) and **seed packets** (for storing all your saved seed!).

## **A Note on Compost**

Our sowing instructions call for a 'good quality peat-free compost', but what exactly does that mean? We look at soil and compost in depth on our courses but the key points are that a seed sowing compost should have a fine crumb structure that ensures good contact with the seeds and holds enough moisture to keep seeds and seedlings moist, while excess water is able to drain away after watering. If you are fortunate enough to have a suitably weed-free homemade compost, leaf mould or loam available then this can be used to make an excellent sowing mix that fits this description. When buying and using bagged compost, because the materials that go into peat-free compost are so variable, we find the best results are achieved by blending different types together. Our standard mix is 2 parts of a fibrous multipurpose compost such as New Horizon, 2 parts of a more granular, wood-based multipurpose such as SylvaGrow and 1 part of a loam-based seed sowing compost. We also recommend sieving your compost, which helps to blend them, break up lumps and create a nice open crumb structure, as well as remove any large pieces of wood or stones.

### **Other seed collections from The Garden Gate:**

Spring Sowing Seed Collection  
Autumn Sowing Seed Collection  
Prize-Winning Onions Seed Collection

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## Lettuce – May Queen (Botanical name: *Lactuca sativa*)



Pollination Type: Self Pollinating

Varietal Characteristics: A butterhead type introduced sometime before 1906, May Queen is an early-maturing variety with pale green leaves, often showing pink or rose blushing near their hearts.

There are many examples of self-pollinating species that we could have included in the collection but we have chosen lettuce because we rarely see it flowering, usually considering it a failure if 'bolts', meaning to flower and run to seed early. Lettuce can need a fairly long and warm growing season to flower and set seed successfully so we've chosen May Queen as it is an early-maturing variety that will produce seed more reliably. To be doubly sure of a good seed crop, grow the plants under cover in a greenhouse or polytunnel.

### Cultivation

1. From early February fill seed trays or 2.5cm cell module trays with a good quality peat-free compost
2. Sow seed thinly in seed trays or 2 seeds per module. Cover lightly with more compost, firm down and water. For early sowing a propagator or heat mat can help with germination, but lettuce seed germinates poorly at temperatures above 20C so aim for a temperature of around 16C
3. Keep the trays moist but not wet and as soon as the seeds have germinated remove from heat. Grow on in an unheated greenhouse, polytunnel or coldframe
4. Seedlings sown in seed trays should be pricked out singly into modules once the first set of true leaves have developed. Seedlings sown in modules should be thinned to one plant per cell at the same time
5. When the roots have fully developed but not yet become congested, transplant plants into a well-prepared bed, either outdoors or under cover. Plants should be spaced 30cm apart each way. To assess whether the plants are ready for transplanting pop a couple of modules out and have a look, at the correct stage there will be healthy, bright white roots visible on all sides of the module and they won't have started to brown or circle round themselves

### Pollination

Lettuce is self-pollinating and doesn't require any special measures to manage pollination. When saving seed from more than one variety it is good practice to space them well apart to avoid any accidental mix up during harvest.

### Inspection

Inspect your plants regularly while they are growing and select healthy plants that display the correct characteristics for the variety. An important point to note for lettuces is that you don't want to save seed from plants that bolt (flower) very early, choose plants that are slow to flower so that the lettuces you grow from the seed will stand well and not bolt too soon. You can mark plants selected for seed saving with the red wool if necessary. Lettuce seed can be saved from individual plants but to maintain a genetically diverse and healthy seed stock aim to save seed from 5 to 10 plants each year.

### Harvesting

Allow the plants to flower and produce seed heads. Once the light grey, fluffy structures (pappuses) emerge from the seed heads the seeds inside are ripe. The pappuses help the seed to disperse in the wind so the seed should be harvested promptly when they appear. Lettuce flowers ripen individually over a period of time so either pick individual flowers as they ripen or shake the whole flower stalk into a bag every day to collect seeds as they mature (this method is good for efficiently collecting a large amount of seed).

### Cleaning

Remove any chaff (plant debris) from the seeds by gently rubbing the seeds between your hands or on a sieve then winnow or gently blow away the chaff until only clean seed remains.

### Drying

Spread the cleaned seed out on a tray or sheet of newspaper in a well-ventilated, dry area out of direct sunlight. Do not use direct heat like a radiator, low oven or hairdryer to dry the seed. Allow them to dry for around a week until completely dry and brittle when snapped.

### Storing

Place the cleaned and dried seeds in a paper envelope, small jar, or airtight container. Label the container with the variety and harvest date, then store in a cool, dry place out of direct sunlight. If stored correctly, lettuce seed should remain viable for up to 6 years.

## Tomato – Carter’s Golden Sunrise (Botanical name: *Solanum lycopersicum*)



Pollination Type: Self Pollinating

Varietal Characteristics: Golden Sunrise produces an excellent crop of tasty, medium sized, round fruit in a beautiful shade of sunshine yellow. Early to mid-harvest date. Leaf shape is regular (not potato leafed). An indeterminate variety, meaning it will keep growing up until the tip is pinched out, provide a suitable support and remove sideshoots regularly to focus the plant’s energy on fruit production rather than foliage.

Another self-pollinating species, we’ve included a tomato in the collection because they are an easy and popular plant to save seeds from and because it demonstrates wet seed extraction and cleaning methods, in contrast to the dry methods used for the lettuce.

### Cultivation

1. From mid-March to mid-April fill module trays or small pots (8 to 10cm) with a good quality peat-free compost
2. Sow seed singly, about 2cm deep. Firm down, water and place in a heated propagator or on a warm windowsill to germinate, which should take around a week at 20 - 24C
3. Keep the trays moist but not wet and as soon as the seeds have germinated remove from the propagator and make sure they get plenty of light to avoid legginess. Tomatoes are not hardy and must be grown on in a warm place
4. Pot on into successively larger modules and finally into 9cm pots as the roots develop. To assess whether the plants are ready for potting on pop a couple of modules out and have a look, at the correct stage there will be healthy, bright white roots visible on all sides of the module and they won't have started to brown or circle round themselves. If the plants are becoming leggy plant them deeply when potting on and new roots will form from the buried stem
5. Tomatoes can be planted outside once all risk of frost has passed, usually late May or early June. Planting in a greenhouse or polytunnel can usually happen a few weeks earlier though as long as you are prepared to fleece them during any late cold snaps. Tomatoes require a fertile soil and the beds should have been well prepared with plenty of compost or well-rotted manure prior to planting. Space plants 45cm apart and plant them deeply so that the first set of true leaves are just above the soil level. This will encourage the development of new roots from the buried stem

### Pollination

Except for some very old or unusual varieties most cultivated tomatoes are now self-pollinating, including Carter’s Golden Sunrise, which doesn’t require any special measures to manage pollination. When saving seed from more than one variety it is good practice to space them well apart to avoid any accidental mix up during harvest.

### Inspection

Inspect your plants regularly while they are growing and select healthy plants that display the correct characteristics for the variety. An important point to note for tomatoes is that they are susceptible to many diseases and seed should only be saved from healthy plants. Virus diseases are particularly problematic for seed saving so ensure you are able to recognise they symptoms. You can mark plants selected for seed saving with the red wool if necessary. Tomato seed can be saved from individual plants but to maintain a genetically diverse and healthy seed stock aim to save seed from 5 to 10 plants each year.

### Harvesting & Extraction

Harvest fully ripe tomatoes from your selected plants. Cut the tomatoes in half and scoop out the seeds along with the surrounding gel into a bowl. Add a little water to the bowl and let the seeds and gel sit at room temperature for 2-3 days. The mixture will start to ferment and a white mould will form on the surface. This fermentation helps to break down the gel around the seeds, which can inhibit germination.

### Cleaning

After fermentation, add plenty of water and the good seeds will sink to the bottom while the mould and any unviable seeds will float to the top. Gently pour this off then transfer the good seeds to a sieve and rinse them thoroughly with water to remove any remaining gel.

### Drying

Spread the cleaned seed out on a tray or sheet of newspaper in a well-ventilated, dry area out of direct sunlight. Do not use direct heat like a radiator, low oven or hairdryer to dry the seed. Allow them to dry for around a week until completely dry and brittle when snapped.

### Storing

Place the cleaned and dried seeds in a paper envelope, small jar, or airtight container. Label the container with the variety and harvest date, then store in a cool, dry place out of direct sunlight. If stored correctly, tomato seed should remain viable for 5 to 10 years.

## Winter Squash – Uchiki Kuri (Botanical name: *Cucurbita maxima*)



Pollination Type: Cross Pollinating. Insect Pollinated

Varietal Characteristics: A reliable and consistent cropper, the plants have a trailing habit and produce 3 to 5 squat, pear-shaped squashes per plant. The fruit has a firm yellow/orange flesh that is excellent for roasting, mashing and soups. Each attractive, bright orange/red squash weighs around a kilo. Stores well over winter.

Uchiki kuri is our go-to winter squash. We have grown many varieties over the years and find they can be rather hit and miss, partly because they are notoriously susceptible to cross pollination - proper isolation is essential with this one.

### Cultivation

1. From late April to early June fill small pots measuring 8 to 10cm with a good quality peat-free compost
2. Sow seed singly about 2cm deep. Firm down, water and place in a heated propagator or on a warm windowsill to germinate, which should take around a week at 20 - 24C
3. Keep moist but not wet and as soon as the seeds have germinated remove from the propagator and make sure they get plenty of light to avoid legginess. Squash are not hardy and must be grown on in a warm place, ideally around 16C, either a greenhouse, polytunnel or on a bright windowsill indoors
4. Once all danger of frost has passed, usually the last week of May / first week of June, plant out into a well-prepared bed. Squash are heavy feeders and the bed should have been improved with well-rotted manure or compost
5. Keep the plants watered and protected from strong winds while they establish their roots

### Pollination

Winter squash are insect pollinated and cross pollination will readily occur between varieties as well as between other closely related species such as *Cucurbita moschata* (butternut squash) and *C. pepo* (summer squash, pumpkins, courgette, marrow). The plants are monoecious, meaning they have separate male and female flowers on the same plant. Plants must be isolated from unwanted sources of pollen, which can be achieved using one of these methods:

1. Isolate by distance. If you are sure that there are no other squashes or closely related species growing within 200m of your crop the chances of cross pollination are low and you need take no further action. This method is unlikely to be practical on allotments or if there are neighbouring vegetable gardens
2. Isolate individual flowers using the pollination bags included in this collection. Identify a female flower, which has a small, embryonic squash at the base of the flower, and the night before the flower opens tie a pollination bag around it so that no insects can access the flower to pollinate it. Flowers can also be tied shut or secured with a clothes peg to prevent them opening. In the morning, cut a male flower from another Uchiki kuri plant that has recently opened and is producing a lot of fresh pollen. Remove the pollination bag and the petals from the female flower and use the male flower to transfer pollen to the female stigma. Replace the pollination bag and secure it again so that no insects can access the female flower. Mark the fruit you have hand pollinated with the red wool and remove the pollination bag once the fruit begins to develop

### Inspection

Inspect your plants regularly while they are growing and select healthy plants that display the correct characteristics for the variety. Squash seed can be saved from individual plants but to maintain a genetically diverse and healthy seed stock aim to save seed from 5 to 10 plants each year.

### Harvesting & Extraction

Seeds should be ripe and ready to harvest when the fruit is ready for eating. For best results cure the squash for a couple of weeks under cover after harvesting. Once cured, slice the squash open and scoop out the seeds and pulp into a bowl with a spoon. Enjoy the flesh roasted, mashed or made into a delicious soup!

### Cleaning

Add water to the bowl and separate the seeds from the pulp by gently rubbing them with your fingers. Pour the seeds into a sieve and rinse off any remaining pulp.

### Drying

Spread the cleaned seed out on a tray or sheet of newspaper in a well-ventilated, dry area out of direct sunlight. Do not use direct heat like a radiator, low oven or hairdryer to dry the seed. Allow them to dry for around a week until completely dry and brittle when snapped.

### Storing

Place the cleaned and dried seeds in a paper envelope, small jar, or airtight container. Label the container with the variety and harvest date, then store in a cool, dry place out of direct sunlight. If stored correctly, tomato seed should remain viable for up to 6 years.

## Sweetcorn – Golden Bantam (Botanical name: *Zea mays*)



Pollination Type: Cross Pollinating. Wind Pollinated

Varietal Characteristics: An early maturing variety dating to before 1898. Tall plants with robust stalks bearing ears of golden-yellow sweetcorn. The kernels are larger than many modern varieties and have an excellent flavour.

Sweetcorn is an excellent example of a wind pollinated species – pollen is released from the male flowers at the top of the plants (the tassels) and carried by the wind to the female flowers lower down the plants, where it is caught by the hair-like stigmas (the silks). Following pollination, the female flowers develop into the cob. Because pollen can be carried large distances by the wind, proper isolation is essential to avoid unwanted cross pollination.

### Cultivation

1. From late April to early June fill small pots measuring 8 to 10cm or deep root modules with a good quality peat-free compost
2. Sow seed singly about 2cm deep. Firm down, water and place in a heated propagator or on a warm windowsill to germinate, which should take around a week at 20 - 24C
3. Keep moist but not wet and as soon as the seeds have germinated remove from the propagator and make sure they get plenty of light. Sweetcorn are not hardy and must be grown on in a warm place, ideally around 16C, either a greenhouse, polytunnel or on a bright windowsill indoors
4. Once all danger of frost has passed, usually the last week of May / first week of June, plant out into a well-prepared bed. Alternatively, if you have a very tall greenhouse or polytunnel you can plant them under cover from early May, where they will be protected from unwanted cross pollination

### Inspection

Inspect your plants regularly while they are growing and select healthy plants that display the correct characteristics for the variety to save seed from. Because sweetcorn is an outcrossing species, to maintain a genetically diverse and healthy seed stock at least 50 plants should be grown each year and seed saved from half of them. Because of this, long term maintenance of a variety is unlikely to be practical for most home seed savers, especially if the pollination bag isolation method is needed. A practical approach could instead be to save seed from around 10 plants and every other year refresh your seed stock with bought in seed.

### Pollination

Sweetcorn is cross pollinated by the wind, which means we need to manage pollination so that our plants are not pollinated by another variety. Pollination can be managed by isolating our plants using one of these methods:

1. Isolate by distance: If we are sure there is no other sweetcorn growing within 800m of our plants then we don't need to take any further steps as the likelihood of cross pollination is low. This method is unlikely to be practical on allotments or if there are neighbouring vegetable gardens
2. Isolate by growing under cover. If you have a tall polytunnel or greenhouse, growing the plants under cover will effectively isolate them from nearby sources of pollen, as long as the doors, windows, vents etc remain closed or are covered with a very fine mesh. To ensure proper pollination, shake your plants daily during the flowering period. Be aware that the characteristics displayed by the plants may be different to when grown outdoors
3. Isolate individual flowers using the pollination bags included in this collection. Observe the developing cobs and before they open to reveal the silks secure a pollination bag over them so that they cannot be pollinated. Once the silks have emerged, cut a flowering tassel from another Golden Bantam plant. Remove the pollination bag and use the tassel to transfer pollen to the silks. It can help to cut back some of the leafy sheath surrounding the developing cob so that the silks are fully exposed. Secure the pollination bag back over the female flower and mark the cob you have hand pollinated with the red wool. Once the silks have turned brown remove the pollination bag and allow the cob to fully ripen

### Harvesting

Sweetcorn saved for seed needs to be fully mature, much more ripe than when harvested for eating. Look for ears that have dried out and turned golden or brown on the stalk, the kernels should be hard, dry and starting to wrinkle.

### Drying

Strip the kernels from the cobs and spread them out on a tray or sheet of newspaper in a well-ventilated, dry area out of direct sunlight. Do not use direct heat like a radiator, low oven or hairdryer to dry the seed. Allow them to dry for around a week until completely dry and hard. They should not dent when pressed with a thumbnail.

### Storing

Place the cleaned and dried seeds in a paper envelope, small jar, or airtight container. Label the container with the variety and harvest date, then store in a cool, dry place out of direct sunlight. If stored correctly, sweetcorn seed should remain viable for 2 to 3 years.