

Seed saving

Humans have saved seeds for countless generations, for enjoyment, necessity, satisfaction and for top results in the garden. If you save seeds from your best performing plants, you know you'll be optimising results next season as you'll have plants that thrived in your own microclimate. It also saves money and food miles on your dinner table plus you will most likely have more success with your own saved seeds than those you buy from commercially bought packets simply because they are fresh and will therefore have a higher germination rate.

Letting vegetables go to seeds means your garden bed may look messy for a while, but it provides important food for pollinators as well as creating seed. You really only need one plant for seed collection, so most of your crop can be removed to begin soil preparation for the next season's crops. You could also consider starting seedlings in pots whilst you wait for old plants to finish seeding if they are in the way.

- Save seed from your best plants.
- When choosing leafy and root vegetables, select the one that is the *last* to go to seed so you avoid selecting for bolting plants.
- When selecting root vegetables, also scrape a little soil away and ensure it has a thick root. For fruiting vegetables, select seeds from the best *fruiting* plants.
- Choose disease free, healthy plants – especially important for capsicum and tomatoes as diseases can be carried in their seeds.

Many vegetables are insect pollinated, but others use wind or self pollination. It's important to get to know which are which so you can avoid hybridisation before seed collection. Some vegetables are prone to hybridising (crossing with a similar species), if you wish to avoid this, plant only one variety of each vegetable, make sure they flower at different times, or cover the flowers in insect excluding bags and hand pollinate with a paintbrush and collect seed when the fruits ripen.

More tips

Don't Bother Saving Seeds of Hybrid Varieties

Seeds denoted on the package as "F1" are hybrids, meaning two varieties have been bred with one another (cross-pollinated, that is) to produce a third variety with a combination of traits from each "parent." If you were to save seed from this hybrid offspring and plant it, each seed would grow into a plant with a random combination of the traits found in the gene pool of the original parents, which rarely produces something you'd want to eat. The only way to reproduce the hybrid "true-to-type," as plant breeders say, is to cross the two original parents. That's a big part of why most seed savers stick with old-fashioned heirloom varieties, which by definition are not hybrids.

Save Seeds from the Best Plants

To save seed is to participate in the process of natural selection. If you save seed only from the biggest tomato of the bunch and replant them year after year, you'll eventually end up with seeds that produce plants on which all the tomatoes are bigger. The same holds true for almost any other trait. Want tomatoes that ripen earlier? Save seed from the first fruits to ripen each year. Want disease resistant plants? Then definitely don't save seed from those that are disease-infested. This is essentially what professional plant breeders do. You don't need to get too scientific about it, but as a rule of thumb, only save seed from your healthiest, most robust, tastiest plants.

Seed Saving Can Be Tedious

Bean seeds are big and easy to remove from their pods. But this is the exception rather than the rule. Carrot seeds, for example, are no bigger than a baby flea and easily disappear into the nearest crack or cranny as you try to knock them loose from their seed heads. Plants hold their seeds in an array of husks, pods, capsules, and other coverings, which are often not easily removed. This process varies depending on the species in question, but typically involves threshing (separating the seed from the plant) and winnowing (separating the seed from its hull). If you're collecting only a very small quantity of seed, you'll probably perform these tedious tasks by hand, but specialised tools are available for processing larger quantities.

Seed Saving Can Be Stinky

Seed that develops in a wet, fleshy fruit (tomatoes, melons, and cucumbers, for example), as opposed to a dry seed head or pod (the case with most greens, herbs and legumes), often requires extra steps to extract. Such seed is typically encased in a gooey substance, from which it is not easily removed. The best way to remove the goo, is to put it in a jar or bucket with a bit of water and let the concoction rot for a bit. The fermentation process dissolves the goo and improves the germination rate of the seed. You then strain the seeds from the stinky liquid and dry them.

Seeds of Some Crops Are Easier to Save Than Others

Seeds are the products of pollination, the botanical version of sex. Some crops are self-pollinators, which means individual plants are fertilised by their own pollen. These crops, including beans, peas, tomatoes, peppers, and cauliflower, are among the easiest to save because you don't need special botanical knowledge to ensure that the seeds grow out true-to-type.

Plant Sex Makes Things Complicated

It's with cross-pollinating crops – those that need pollen from a neighbouring plant in order to set seed – where things get complicated. This group includes cucumbers, corn, squash, pumpkins, and melons. If you have more than one variety of the same cross-pollinating vegetable (a butternut squash and acorn squash, let's say) growing in close proximity, pollen from one will inevitably end up in the flowers of the other, resulting in seeds that are a mutant hybrid of both varieties. Seed savers employ various strategies to prevent this, ranging from growing different varieties on opposite ends of their property (pollen only travels so far on the wind or via insects) to placing plastic bags over some flowers to exclude unwanted pollen (you must then use a paintbrush to pollinate them with pollen from the same variety). Another option? Simply grow only one variety at a time of these particular crops.

Seeds Aren't Viable Until Fully Ripe

Just like picking the perfect tomato, you have to wait until seed is fully ripe before you harvest it – if picked from the plant too soon, the seed will not germinate. As explained above, optimal seed maturity is usually later than optimal crop maturity. Bean and pea seeds are not ready until the pod is brown, dry, and beginning to split open. This is true of any seed that grows in a pod, which includes most greens. Corn seed should be allowed to dry on the cob in the field. Some vegetables, including cucumbers and eggplant, should not be picked for seed until they are overripe and beginning to shrivel up and rot.

Well-Dried Seed Is Viable Seed

In order to preserve seed for future plantings, it must be thoroughly dry. Drying out is essentially the final stage of ripening, and ensures that the seed does not become mouldy while you're waiting to plant it next year. Wet seed, once it has been extracted from its fermented goo, must be spread out to dry on screens in a warm location, ideally with a light breeze from a fan to hasten the

process. Most other types of seed may be dried while still on the plant, but if the weather turns wet and cool before that can occur, you'll need to bring them indoors to finish the process. To determine if seed is sufficiently dry, push a fingernail into it – if it gives, it's not yet ready.

Proper Storage Is Important

Dried seed should be placed in paper envelopes or seed packets labelled with the name of the variety and the date it was harvested. To ensure longevity, keep the seed packets in mason jars in a cool dark place. Any seed stored this way should remain viable for at least a few years, though some crops may keep for a decade or more.

Adapted slightly from <https://modernfarmer.com/2018/07/seed-saving-101-10-things-to-know-if-you-want-to-start-saving-seeds/>

Specific vegetable saving processes

Tomatoes

Fermenting tomato seeds before storage improves germination and removes several seed borne diseases.

- Simply scoop out seeds and place in a jar with a cup of water.
- Screw on the lid, shake and leave on your kitchen counter or window sill (somewhere you will see it every day!).
- Shake daily for a few days until scummy, then decant the scum and water – viable seeds sink.
- Drain the seeds in a sieve, then dry completely on paper towel for at least a week.

Capsicum Seeds

- Let your peppers fully ripen on the plant. Once they are ripe and starting to wrinkle, remove the peppers from the plant.
- Open the peppers and remove the seeds.
- Spread the seeds out on paper towels to dry.
- Once the seeds are completely dry, place them in an envelope and store them in a cool, dry spot for the winter.

Saving Seeds from Peas and Beans

- Let the pods stay on the plant and ripen until they start to turn brown and are dry (this could take up to a month past when you would pick the pods for eating – you'll hear the seed rattling inside).
- Remove the pods from the plant and lay them out on a tray to dry, inside the house.
- Let them dry for at least two weeks, then shell the pods.
- Alternatively, you can shell the pods when you are ready to plant the seeds next spring.

SEED SAVING TIPS



Let pods age on the vine until brown. You can also store the entire plant upside down in a warm area until pods dry out. Cross-pollination could affect the purity of the bean seeds in the future. Pole beans are more likely to cross.



Collect seeds when fruit dies and when the fruit separates easily. Remove the membrane of the seed by rinsing and gently rubbing with fingers.



Harvest seed when cucumbers are fully ripe and yellow.



Collect seeds when plant begins to shrivel. Dry out seeds. Peppers from the same species could cross.



Most sunflowers are hybrids. Save heirloom seeds if you want flower to stay true. Hang flower heads upside down by a short length of stalk in a cool, dry place. Once dry, remove the seeds and keep dry until planting.



Let seed pods dry on the plant. Bag the plant to capture the seeds because they will progressively fall off from the bottom to top. Do not save seeds from plants that bolt too soon because the seeds may produce future plants that go to seed prematurely.



Remove seeds 3 weeks after harvesting. Varieties within the same species could cross. Rinse off membranes and dry well.



Save seeds when fruit is full color and firm, but still tender to the touch. Remove the protective cover covering the seed. Cross-pollination may occur with wild or currant tomatoes, but most popular types will not cross.



Harvest seed when squash has a hard skin and is too ripe to eat.



Collect seeds when plant dies. Peas do not cross-pollinate.



Remove fibers and membranes by rinsing. When dropped into a glass of water, viable seeds will sink to the bottom. Seeds that float may not germinate well.

Seed Saving Tips

Grow your favorite plants again, save money, trade seed and preserve plant diversity.

Beans	Let the pods age on the vine until they turn brown. You can also store the entire plant (with roots) upside down in a warm area until pods dry out. Cross-pollination could affect the purity of your bean seeds in the future. Pole beans are more likely to cross.
Cantaloupe	Best time to collect seed is when the stem dies and the fruit separates easily. Remove the membranes from the seed by rinsing and gently rubbing with your fingers.
Cucumber	Harvest seed when cucumbers are fully ripe and yellowed (too ripe for eating).
Lettuce	Let seed pods dry on the plant. Bag the plant to capture the seeds because they progressively fall off from bottom to top. Do not save seed from plants that bolt too soon. The seed you save may produce plants that go to seed prematurely.
Peas	Wait until the plant dies and collect the seeds. Peas do not cross-pollinate.
Peppers	Best time to collect seed is when peppers are full color and beginning to shrivel. Brush off the seeds from the inside stem and let dry. Peppers of the same species could cross. Grow one hot type and one sweet type to prevent cross-pollination.
Pumpkin	Remove seeds three weeks after harvesting the pumpkin. Varieties within the same species can cross. Rinse off membranes and dry well.
Squash (Summer)	Harvest seed when the squash has a hard skin and is too ripe to eat. Hold the seeds under water and rinse off the membrane. Avoid cross-pollination-do not plant these species together: Cucurbita Pepo, Cucurbita Moschata, Cucurbita Maxima and Cucurbita Mixta.
Sunflower	Most sunflowers are hybrids. Save heirloom seeds if you want the flower to stay true. Hang flower heads upside down by a short length of stalk in a cool, dry spot. Once dry, remove the seeds and keep dry until planting.
Tomato	Save seed when fruit is full color and firm, but still tender to the touch. Remove the protective gel covering the seed. Cross-pollination may occur with wild or currant tomatoes but most popular types will not cross. Ensure space between plants.
Watermelon	Remove fibers and membranes by rinsing. When dropped in a glass of water, viable seeds will sink to the bottom. Seeds that float may not germinate well.

The table to the left lists several popular annual vegetables and fruits with easy-to-save seeds and a lower potential for cross-pollination in the home garden. They flower and mature seed in the same year. General advice is given to maintain as much seed purity as possible when plants are more prone to cross.

Please seek out other references to enhance your knowledge of seed saving.

Seed Saving Basics

- ~Save seeds from **heirloom** or **open pollinated (OP)** plants only if you want them to stay true. Hybrid seed will not produce the same plant again.
- ~Choose the healthiest plants and the largest seeds.
- ~Air dry seeds on a fine screen or paper away from direct sunlight and as quickly as possible to reduce contamination.
- ~Label seed (drying and storage).
- ~Use containers that limit moisture.
- ~Drying may not be necessary if planting soon after collection.

shelf life of seeds



1 year	2 years	3 years	4 years	5 years
parsnip	parsley	pea	brussels sprouts	cabbage
leek	corn	carrot	mustard	broccoli
onion	okra	asparagus	pumpkins	other brassicas
chive	wheat	bean	other squash	celery
	oats	basil	tomato	cucumber
	rye	dill	beet	eggplant
	sesame	fennel	pepper	kale
		flax	clover	endive
		quinoa		rutabaga
				spinach
				lettuce
				radish
				melons

Length of storage life also depends on humidity, temperature and other storage factors.

For best results, store seeds in a cool, dry location.

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FOOD THAT MAGICALLY REGROWS ITSELF...

Growing anything from a seed is impressive but also difficult, unless you're blessed with a green thumb.

Sure, it saves on money but there has to be an easier way... and there is! You can actually grow food from kitchen scraps. There is something very MacGyver about that, no? It's true! You can upcycle everything from celery scraps to onion butts with a great chance of success. *Use organic fruits and vegetables for the best results.*

Green onions, lemongrass, leeks, fennel, & spring onions

-  1 Place root ends in water but don't fully submerge them. Change the water daily.
-  2 In 3-5 days, growth begins. Harvest the greens when full, then repeat the process.
-  3 Harvest lemongrass once it becomes a foot tall. Simply cut off what you need without uprooting the plant. FOR LEMONGRASS ONLY

Celery, cabbage, romaine lettuce, & bok choy

-  1 Submerge the roots, leaving the tops above the water line.
-  2 Spray with water a couple times a week, replacing the water every few days. Leaves will sprout in about a week.
-  3 Plant the cutting with only the leaves above soil. Harvest when fully grown, about 5 months.




Ginger

-  1 Soak the chunk of ginger overnight.
-  2 Submerge in moist soil. Keep watering until shoots appear.
-  3 Ready to harvest in a year. Simply remove entire plant, use what you need and repeat.

Onion

-  1 Plant root end and lightly cover it in soil. Keep soil moist.
-  2 Carefully separate the new onions, leaving the roots attached, and plant them.
-  3 Occasionally cut the leaves down to promote full growth. It can take up to 5 months for plants to mature enough for harvest.



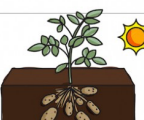
Garlic

-  1 The larger the clove, the larger the resulting bulb.
-  2 Sit the plant in a sunny window, keeping the soil moist.
-  3 The bulbs will be ready for harvest in early summer when the bottom 1/2 of the leaves have yellowed.

Mushroom

-  1 Use a mixture of compost and soil.
-  2 Plant the mushroom stalk in the soil with only the surface of it exposed.
-  3 If the cutting takes, new growth happens quickly. Harvest and repeat.

Potatoes & Sweet Potatoes

-  1 Cut into 2 pieces, each having a "eye" on it. Set pieces out at room temp for a few days, until fully dry.
-  2 12" APART
Add more soil as the plant grows until it is about 6" tall.
-  3 Store sweet potatoes in a warm, dry place for 2 weeks before using. This is what makes them sweet.

Pineapple

-  1 Slice off the green leafy top and remove all fruit. Carefully remove the bottom layers until you see root buds.
-  2 Place in water for two weeks to form roots.
-  3 Growth happens in the first few months but it will be 2-3 years before harvest.

