

# **BASIC SEEDSAVING FOR BEGINNERS**

## **Broad beans**

Broad beans will cross with other varieties that are growing nearby. If you want to keep your variety pure, you need to isolate them in some way. Theoretically you should aim for at least half a mile between varieties. In practice, in a built up area, fences, trees and houses will all reduce insect flight. This means you should have minimal crossing even with beans much closer than half a mile so long as none of your immediate neighbours are growing different varieties of bean.

In an open situation you can physically isolate plants. Broad bean pollen is transferred by insects working the flowers, but the plants will also self pollinate, so if you can exclude insects at flowering time, using a bag or some type of covering, your seed crop will be pure.

The simplest method of all, if you are growing a relatively large number of beans and you are not concerned about achieving 100% purity (eg just for your own use), is to mark and save seed from several plants in the middle of a block of beans. Insects are relatively unlikely to come from a neighbouring patch straight to the middle of your patch, tending to work the outside flowers first. So by the time they reach your seed beans, the amount of 'foreign' pollen remaining should be small. Always keep seed of strong, healthy plants and get rid of any that are not typical of the variety ideally before they flower.

Let your seed beans mature and dry on the bush. The pods will turn dark brown, dry & wrinkled. Then pick and shell them out. Check that they are really dry by biting on them. If your teeth leave a dent, dry them further in a warm (not hot) place with a good flow of air. Broad bean seeds should keep for several years, so there is no need to grow plants for seed every year.

## **French and runner beans**

It is important to grow some bean plants specifically for seed, rather than simply collecting the left-over pods at the end of the season. The plants should be good strong specimens, and any that are less healthy looking or not true to type for the variety should not be used for seed production.

French beans are self-pollinating, mostly before the flowers open. Despite this, they can be crossed by insects with other varieties nearby. The extent of crossing varies by area. If you are just saving seed for your own use, grow your seed crop of french beans at least 6 feet away from any other variety (12 feet if possible), and you are unlikely to have a significant problem with crossing in the UK.

Runner bean flowers need to be 'tripped' by wind or insects before the beans set, and are much more likely to cross with other varieties grown nearby than french beans. Ideally, to be sure that no crossing takes place, seed crops of runner bean should be at least 1/2 a mile away from any other varieties of runner bean. Bear in mind, though, that buildings, trees, and other barriers will limit insect flight patterns, and if you are gardening in a town or built up area, you are likely to have relatively little problems with crossing unless your immediate neighbours are also growing runner beans. If you are growing on an open site try to persuade your neighbours to grow the same type of runner.

To collect the seeds, allow the pods to mature fully on the plant until they start to yellow and dry out. In wet weather, collect the pods individually as they get to this stage. Then spread out somewhere out of the rain with a good airflow until the pods are fully dry and brittle. Once they are dry, shell out the beans and dry further out of the pods. The beans should be dry enough that they break when you bite on them, rather than leaving a dent. Store in an airtight container. If they are well dried, and stored in a cool dark place, the beans will last around 3 years.

If you have problems with weevils eating your seeds, put the sealed container in the freezer for a week immediately after drying the beans; this will kill any insect eggs before they hatch. When you take them out, let the container come up to room temperature before opening it, otherwise the beans will absorb moisture from the air.

## **Peas**

Peas are almost entirely self pollinating, only very occasionally crossing with other plants. Set aside a section of row that is entirely for seed production. To avoid physical mixing up of the seeds, separate different varieties of pea with another crop. Check the row from time to time as the peas grow, and pull up any plants that are weak or not true to type.

Let the peas mature until the pods are brown and the seeds start to rattle. If the weather is very bad, pull up the whole plants and bring inside (for example hung upside down from the shed roof) once the pods start to wither, to ripen and dry further. Once the pods are really dry, shell the peas out. Dry the shelled peas further in a warm (but not hot) place, label with the variety and date, and store.

## **Eggplants**

Aubergine (eggplant) flowers are mainly self pollinated, but can be crossed by insects. So if you are planning to save seed, you should only grow one variety. Aim for 6 to 8 plants each year to maintain a variety long term. For 100% isolation you need 50 feet between your seed plants and any other aubergines. If you are growing them in a greenhouse/polytunnel you should be able to get away with a somewhat smaller distance.

To get ripe seeds let the fruits mature well past eating stage. Purple/black cvs turn a muddy purple-brown colour, green/white cvs turn yellowish. Mark 1 or 2 early good fruits on each plant to leave for seed, and then pick and eat later fruits.

To remove the seed, cut into quarters lengthwise, avoiding the core, and pull apart. The hard brown seeds should be obvious. Put the quarters into a bowl of tepid water, and rub the seeds out with your fingers. You may need to pull them apart to get all of the seeds. Add more water, stir thoroughly, & wait a few minutes. Good seeds will sink to the bottom, leaving debris and poor quality seeds on the surface. Pour the debris off gently through a sieve, then refill with water and repeat a couple more times.

Eventually you will be left with good seeds in plain water. Empty into a clean sieve, shake to remove as much water as possible (you can dab the bottom of the sieve with a paper towel to eliminate most of the water), and then tip on to a plate and spread out well. Put to dry somewhere warm but not hot, and mix occasionally to make sure that they dry evenly and don't stick together. Aubergine seeds will keep up to 7 years if dried thoroughly & stored in a cool dark place.

Another method for removing seed; Leave the fruit on the vine until it becomes very soft and soggy (this can take quite a long time), slit open and scoop out the seeds and wash & dry as in above directions

## **Sweet peppers and chillies**

Sweet peppers and chillies are both members of the same species, *Capsicum annuum* (some less common chillies come from other *Capsicum* species).

Pepper flowers are self pollinating, and will set fruit without any insect activity. However, they will also cross readily, and sweet peppers will happily cross with chillies. You need to isolate your plants by around 150 feet (50 metres) from any other peppers or chillies growing nearby. Even if you are only growing one variety be careful about other varieties growing in adjacent gardens.

If you want to grow several varieties, or if your near neighbours are also growing peppers, you could consider making an isolation cage to cover 3 or 4 plants. This is easy to do, and costs very little, especially if you can get hold of some old net curtain material. You can put a cage over plants grown in pots, growbags or directly in the ground.

To save the seed, take peppers on your isolated plants which have ripened fully to their final colour (usually yellow or red). Cut the peppers open carefully, and rub the seeds gently off of the 'core' onto a plate. Wear rubber gloves to deseed chillies, as the chilli oil sticks to your fingers and is very hard to wash off. Dry the seeds in a warm but not hot place until they snap rather than bending.

### **Making an isolation cage**

To make a simple isolation cage ideal for peppers or eggplants use cheap nylon flyscreen 5 times as long as it is wide, four canes or thin stakes, and some string and garden wire. Alternatively, you can use old net curtains, or other netting small enough to exclude insects. A piece of screen 3ft. by 15ft will give a cage large enough to cover 3 or 4 plants.

Cut a square piece of screen 3ft x 3ft to make the top of the cage, and then fold the remaining strip of flyscreen round and sew its ends together. The resulting band will be the sides of the cage. Then sew the top to the sides, making a cube of flyscreen with the bottom missing.

To put up the cage over your plants, hammer the four canes into the ground in a square a little smaller than the cage top, so that they stick up a little less than the height of the cage. Twist a short piece of wire tightly round the top of each cane, and then run string in a square around the tops of the canes, supported by the wires to stop it slipping. Run a second piece of string around the stakes lower down to stop the sides of the cage blowing in against the plants. Then slip the cage over your plants, and weigh it down with earth or rocks.

## **Tomatoes**

Most modern varieties of tomato are self pollinating, and will not cross. The anthers on tomato flowers (which make the pollen) are fused together to make a tight cone that insects cannot enter. Usually the stigma (the receptive surface for receiving pollen) is very short, and so is located deep inside this cone of anthers. No insects can get to it and the only pollen that can fertilise it comes from the surrounding cone of anthers.

In a few varieties however, the stigma is much longer, sticking out beyond the cone of anthers. In this case, insects can get to it, and there is the chance of cross-pollination. Varieties with longer stigmas include potato leaved tomatoes (like brandywines and the tiny currant tomatoes). To avoid crossing only grow one variety with exposed stigmas. The double flowers which are sometimes formed first by many beefsteak tomatoes also often have exposed stigmas, but later single flowers will be normal.

To collect the seed, allow your tomatoes to ripen fully. Then collect a few of each variety that you want to save seed from. Slice them in half across the middle of the fruit, and squeeze the seeds and juice into a jar. You then need to ferment this mixture for a few days - this removes the jelly-like coating on each seed, and

also kills off many diseases that can be carried on the seeds. To do this put the jar of seeds and juice in a reasonably warm place for 3 - days, It should develop a coating of mould, and start to smell really nasty!

After 3 days, add plenty of water to the jar, and stir well. The good seeds should sink to the bottom of the jar. Gently pour off the top layer of mould and any seeds that float. You can repeat this several times until there is no more pulp in the jar and the seeds look nice and clean. Then empty the good seeds into a sieve and wash them thoroughly under running water. Shake off as much water as possible and dab the bottom of the sieve to remove most of the water. Then tip the sieve out onto a china or glass plate (the seeds tend to stick to anything else). Dry somewhere warm but not too hot, and out of direct sunlight. Once they are completely dry, rub them off the plate and store in a cool dry place, where they should keep well for at least 4 years if stored properly

### • Lettuce

Lettuce flowers are self pollinating, and very rarely cross. If you plan to save seed from more than one variety of lettuce, separate them by around 12 foot or plant a tall crop in between the rows.

Select two or three good lettuces from your row, and mark them for seed. It is very important not to save seed from any plants that bolt early, as you want to select for lettuces that stand well. Heading lettuces may need a little help for the flowering stalk to emerge; slitting the heads partially open with a knife works well.

Once the lettuces have flowered, the seeds will ripen gradually, starting in about a month. Harvest seed daily to get the maximum yield, shaking into a bag. Or wait until a reasonable number of seeds are ready and then cut the whole plant. Put it head first into a bucket, shaking and rubbing to remove the seeds. If you leave the whole cut plant upside down in the bucket somewhere dry, slightly immature seeds will continue to ripen over the next few days.

Most of what you have collected in the bucket will be white ‘feathers’ and chaff. To sort the seed, shake it gently in a kitchen sieve. Some seeds will fall through the sieve, with the rest collecting in the bottom. The feathers and chaff will rise to the top, and you can pick them off or winnow them. There’s no need to get the seed completely clean; a little chaff stored and planted along with the seeds won’t cause any harm.

If the seed feels a little damp, dry it further on a plate before labelling and storing.

Lettuce seed should keep for around 3 years, provided it is kept cool and dry.

### **Pumpkins, and squashes**

Beware that pumpkins, and squashes, will cross readily with each other. The best (usually only) way to save pure seed on a home scale is to hand pollinate one or more fruits. This is very easy & will avoid disappointments. The explanation given here is for pumpkins, but applies equally to squashes.

Pumpkin plants have two different types of flower, male and female. The female flowers are the ones that will grow into pumpkins. They can be identified by the small immature fruit which should be obvious beneath the flower. Male flowers just have a straight stem. You need to transfer pollen from a male flower into a female flower, making sure that no pollen gets introduced from plants of a different variety.

One evening, when the plants are just beginning to produce flowers, find some male and female flowers that are going to open the next day. Buds that are just ready to open are much fatter than the others, and they have turned from green to yellow.

You need to stop these flowers opening, so that insects can't get into them. The easiest way to do this is to gently slip a thin rubber band over the end of the petals, to hold them shut or tape them shut with some masking tape.

The next morning pick a male flower that you have taped, take off its rubberband or tape and tear off the petals. Gently take the rubber band or tape off of one of your female flowers. Using the male flower like a brush, rub the pollen on to each section of the stigma in the centre of the female flower.

Then carefully close the female flower shut again with tape or a band so that no insects can get in with more, 'foreign', pollen. Tie a piece of material or making bright colored string loosely around the stem of the female flower, so that at harvest time, you know which pumpkins you have hand pollinated.

Now leave the pumpkins to develop and ripen. After you have harvested them, keep them in a cool dry place for another month or so to ripen further indoors.

Then cut the pumpkin in half, and scoop out the seeds, leaving the rest of the fruit for cooking as normal. Wash the seed in a colander, rubbing it between your hands to get rid of the fibres, and then shake off as much water as possible.

Spread the seed out on a plate to dry. It needs to dry as quickly as possible, but without getting too hot, for example on a sunny windowsill. To test whether the seeds are dry enough, try bending one in half. If it is dry, it will snap rather than bending.

### **Melons & cucumbers**

All varieties of melon will cross. Ideally, you need around a quarter of a mile between different varieties. If your melons are in a greenhouse or tunnel, you can probably get away with a somewhat smaller distance, particularly if there are hedges, houses or other tall barriers in between your melons and the neighbouring crop.

To harvest melon seed, pick the melons when they are ripe and ready for eating and keep indoors for a further day or two for the seed to mature further. Then open the fruit, scoop the seed out, and wash in a sieve under running water. Spread out on a china plate to dry thoroughly.

Cucumbers won't cross with melons, but will cross with any other cucumbers or gherkins nearby. Again, you need around a quarter mile isolation to make sure that your plants won't cross.

It is possible to hand pollinate both melons and cucumber flowers. Grow plants under a tunnel or in a screen house to exclude insects, and then hand pollinate the flowers on those plants with a paintbrush. Make sure that you exchange pollen between different plants to keep the diversity of your variety.

Conversly only grow one variety at a time if you don't have neighbors also growing cucumbers or melons.

Cucumbers need to be ripened well beyond the edible stage. They will become much fatter, and green varieties will turn a dark yellow brownish colour, white varieties a paler yellow. Keep for a week or so after picking to let the seeds mature fully. Then cut open, scoop out the seeds and surrounding pulp into a jar, add a little water and stir well. Leave the jar on a sunny windowsill for 2-3 days for the seeds to ferment.

On the third day, fill the jar fully with water, and stir well again. The good seeds should sink to the bottom of the jar, leaving pulp, debris and empty seeds floating on top. Gently pour off the water and debris, refill the jar, and repeat. After a couple of rinses, you should be left with good seeds at the bottom of a jar in clean water. Drain off the water, and spread out on a plate to dry well.

Both melon and cucumber seeds will last for several years if dried well and stored somewhere cool.

### **Some common herbs**

Basil, coriander and dill are annuals, (parsley is a biennial, flowering in its second year of growth).

Basil flowers are insect pollinated, and different varieties flowering within around 150' of one another may cross. On a garden scale, if you want to grow several types of basil, just keep picking the flower stalks off of all the varieties apart from the one that you want to grow for seed. Once several flower spikes have set and the flowers have started to wither, mark those spikes for saving seed from, and you can then allow the other varieties to flower. The seeds are ready to collect when the spikes turn brown and dry out. Don't worry about the seeds dropping out – they are well attached, and actually need quite a lot of rubbing to free from the dead flower heads. Also any green seed bracts will mature once picked as long as the lower part of the stalk has begun to turn brown.

With both coriander & dill, to get the best seed for sowing in future years, pull up and discard the earliest plants to bolt, and only save seed from those plants that produce plenty of leaf and flower late. It is best to plan to save seed from early summer sowings, to allow plenty of time for the seed to mature and dry on the plant. Harvest as soon as the seed is brown and dry, as it does tend to drop from the seed heads. Rub the heads together in your hands over a bucket to free the seed.

Dill seed usually comes cleanly away from the seed heads.

Coriander seed tends to contain more chaff, but you can winnow it by pouring gently from one bucket to another in a light breeze if you want to clean it for kitchen use.