

Seed Saving Guideline No. 9

Broad Beans

Vicia faba

Family: *Leguminosae*

Broad beans range in height from 60cm to 2m. There are no clear botanical distinctions between field beans and those grown in gardens.

Broad bean flowers are perfect and self-pollinating, though cross-pollination occurs readily due to insect activity. The flowers open early in the morning and do not shut. The anthers shed pollen the night before the flower opens, but this does not reach the stigma until the flower is tripped, usually by insects.

Growing & Roguing

- Broad beans being grown for seed should be grown as you would for an edible crop. However, you should start sowing early to ensure that the growing season is as long as possible to allow the pods to mature and dry.
- As broad beans are outbreeders (that is, they cross-pollinate), you should grow as many plants as possible, 24 as a minimum. This allows for roguing out and selecting, and helps maintain the diversity of the variety.
- Some plants may produce noticeably different foliage or pods from the majority; these should be removed. Any plants that produce flowers of a different colour should be immediately removed. However, if the flowers have opened, they could already have cross-pollinated.
- Seed that is the result of crossing will usually reveal itself in the next generation as a visible increase in the variability of the plants. As with other peas and beans, go back two generations for pure seed if crossing is eventually seen to have occurred.

Pollination & Isolation

Broad bean flowers are attractive to bees and a good deal of cross-pollination can occur between broad bean varieties, and any field beans growing nearby. **We strongly recommend that you grow only one variety each year.**

Commercial seed producers grow broad beans a minimum of 1000m apart, but for home seed saving this is not practical. 'Living barriers' in gardens help reduce the risk of cross-pollination, e.g. tall crops of a different species. It also helps if you grow large numbers of plants in blocks rather than rows – the plants in the centre of the block would produce the purist seed.

Isolation cages can be used, but bagging is practically impossible. Broad beans can self-pollinate if no insects are introduced, but with less successful results.

Harvesting

Allow the pods to dry on the plants if possible, but be aware that they may rot. As they ripen the pods blacken and lose their sponginess; they are ready to clean when the pods have become black and crispy. Whole plants can be brought in to dry in a warm, airy place if necessary.

Cleaning

Broad beans can be difficult to thresh so hand shelling is best, especially if you only have small quantities to deal with. If the seeds are not quite dry when podded, spread them out to dry further.

Winnowing is best done outside in a stiff breeze. Pour the seed steadily from one container to another, allowing the wind to blow the chaff away. Do this over a tarpaulin, in case a sudden gust wafts away the seed. Repeat until all the chaff has gone and only seeds remain.

You may notice small holes in your harvested beans. These are caused by bean weevil, or bean seed beetle, larvae. These can devastate your crop of beans as they eat the endosperm away when they hatch. If they begin to feed on the seed embryo the bean will not germinate. Adults often emerge in storage and can complete several generations before planting time. Remove all trace of any beetles you may find. All stages can be destroyed by a 7-day minimum stay in a domestic freezer, without damaging the seeds. Ensure that the beans dry out fully afterwards before storing them. Hand podding allows any infested seeds to be identified and discarded. As long as the embryo is not attacked and the seeds no longer contain any beetles, they will still germinate so, despite looking unsightly, can be kept for home use.



Storage

Broad bean seeds should last in storage for at least 3 years.

Returning Seed to HSL

It is vital that seed returned to HSL is not cross-pollinated. So not send seed to us that you suspect might have crossed.

Remove any beans with obvious weevil damage, retaining any that have not sustained embryo damage for your own use. If you have frozen the seed please note this on the packet.

Seed must be completely dry and fully cleaned. Seed that retains moisture can go mouldy in transit and will have to be discarded. It can take a few days for seed to get to us in the post so pack seed in breathable material, e.g. a paper envelope or cotton bag, and place it in a padded envelope or stout box to protect the delicate seed from impact damage.