

# FROM SEED TO SEED

Educational films on seed production



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Broad beans are from the Fabaceae family and the *Vicia faba* species. They are annual plants grown for their seeds that can be of different colours and sizes. They are also grown for their young shoots. There are different types of broad beans, the ones for human consumption and beans for animal forage.

### Pollination

The flowers of broad beans are hermaphrodite and self-fertilising, meaning that the male and female organs are on the same flower and are compatible. They are therefore autogamous. There is however a risk of cross-pollination between different varieties by insects. The frequency of crosses varies from 5 to 60% depending on varieties, the environment and whether there are natural barriers. To avoid cross-pollination, grow different varieties 1km apart. This distance can be reduced to a few hundred meters if there's a natural barrier, such as a hedge. To ensure the purity of a variety, you can cover the plants for seed production with a net. It is important to put it in place before flowering begins.

## ▶ Life cycle

Broad beans grown for seeds are cultivated in the same way as those for food. This plant does not like high temperatures as this stops pollination and reduces production. Sow broad beans either at the end of autumn in fair climates or at the end of winter, when the earth is ready. To ensure good genetic diversity, it is necessary to grow at least 10 broad bean plants for seeds.

Choose the plants according to the criteria specific to the variety, such as the size of the plant, the colour of the flower, the number of pods, the number of seeds per pod, their size, colour and taste. While the plants are developing, choose the most beautiful, healthy and productive plants for seed production.

The length of the harvest period is also a selection criteria. You should reserve a part of the crop for seed production and not harvest any beans before full maturity. Avoid picking the first pods for consumption and keeping the last ones for seeds as seeds from the first pods will keep the early characteristics of the variety.

If the weather is wet, harvest the seeds before they are fully mature and leave them to dry in a dry and well-ventilated area. Most of the time, the plants can be left standing to dry until the pods become black. The best seeds are in the first pods to be formed, at the base of the plant. To make sure that the seeds are dry, bite one gently. If this leaves no mark, then they are fully dry.

## ▶ Extracting - sorting - storing

You can either extract pod by pod or drive over them with a vehicle. In this case, make sure to place the harvest on soft ground so as to not damage the seeds.

To sort the beans, remove those that are of a different type. They are a sign of cross-pollination. Also remove damaged or badly formed beans and those infested with weavils.

Broad bean seeds are often inhabited by weavils (*bruchus rufinamus*), small insects that lay their eggs under the skin of seeds. An easy way to get rid of them is to leave the seeds in the freezer for a few days.

It is important to put a label with the name of the variety and species, as well as the year, inside the package, as writing on the outside often rubs off. Broad bean seeds have a germination capacity of 5 to 10 years. This can be extended by storing them at a low temperature.