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# FROM SEED TO SEED

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Educational films on seed production



## ONION

The common onion belongs to the Amaryllidaceae family, which used to be called Alliaceae. It is part of the *Allium cepa* species. It is a biennial plant that produces a bulb in the first year. During the second year, it flowers and then produces seeds

Some varieties are early, others late, certain can be stored for a long period, others for less. Depending on the variety, onions can be very different in shape, colour and taste.

### ▶ Pollination

The flower heads of onions are made up of small hermaphrodite flowers that are individually self-sterile. They need insects to fertilise each other. This means that onions are allogamous

There is therefore the risk that insects cause cross pollination between varieties. To avoid crossing between varieties, do not plant two varieties of onion less than 1km apart. You can reduce this distance to 200m if there is a natural barrier, such as a hedge

It is also possible to use mosquito nets to isolate each variety. You can cover one variety with a permanent net and put a bumble bee hive inside. Or you can cover two varieties with different nets: open one while the other is closed on one day, and alternate the next day. These methods are described in greater detail in the module on ?mechanical isolation techniques? in the ABC of Seed production.

## ▶ Life cycle

Onions for seed production are cultivated in the same way as those for storing in the winter. They will produce seeds only in the second year of growth. To produce seed-bearing plants, it is better to sow seeds, rather than planting onion sets or bulblets as these tend to bloom too early in the season

Each onion that produces flowers in the first year must be removed as the seeds taken from these plants will often also produce flowers too soon. The common onion needs high temperatures and long days to form a bulb in its first year. Onions must be harvested when the bulb is well formed

To make sure you can replant 15 to 20 bulbs in spring, keep between 20 and 30 the previous autumn, as there are often losses during winter. Select the bulbs according to the variety's specific criteria, such as shape, colour and size. They must also be healthy and have a beautiful unbroken skin. Get rid of bulbs that are not homogenous, and those that are divided

Let the bulbs dry for 10 to 12 days in a warm and well-ventilated area. Be careful not to bruise the bulbs as this could cause them to rot in winter. To store the bulbs in winter, it is crucial to put them in a cold and ventilated place. Throughout the winter, regularly check and remove bulbs that are damaged. Each variety has its own dormancy period, some are longer than others but all end when the temperature reaches 12°C

At the beginning of the following spring, plant the bulbs 20cm apart and don't bury them too deep. One to three stalks will develop and can grow to 1m or more. It is important to stake them to prevent them from falling. Over a period of four weeks each individual flower within the onion flower head will blossom. The period lasting from the beginning of blossoming to full seed maturity is long

The seeds are ready when the seed pods have dried and reveal black seeds. To harvest the seeds, cut the flower heads with the top of the stem. Place them in a woven bag and let them dry in a warm and ventilated place. In cold and wet regions, you can harvest them early to avoid losing the seeds since rain or wind can make them fall. In this case, uproot the whole plants before the seeds are ready and let them mature in a dry place.

## ▶ Extracting - sorting - storing

First of all, rub the flower heads between your hands and then crush them using a rolling pin. To sort the seeds, use a fine sieve to retain the seeds but not the dust. Finish by winnowing the seeds to remove the light debris. You can place them in the wind, blow on top of them or use a small ventilator. Then pour the seeds in cold water and stir. The fertilised seeds are heavier, so they will sink. Remove the empty ones and the debris that float. Dry the good seeds on a plate. Once they are dry, they will run like sand. Always put a label with the name of the variety and species as well as the year of harvesting inside the package, as writing on the outside may rub off. Leave the seeds in the freezer for a few days to kill any parasite larvae

Onion seeds have a germination capacity of two years. This can sometimes stretch to four to five years. As these seeds quickly lose their germination capacity, to lengthen this period keep them in the freezer.

*Longo mai*

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