

Seed Saving Guideline No. 10

Onions & Leeks

Leek - *Allium porrum*

Onion - *Allium cepa*

Family: *Alliaceae*

Onions and leeks share many characteristics. The main difference is that onion leaves are hollow tubes, while leek leaves are flat straps with a keel up the middle. Both are biennial, but the onion leaves die back to leave the dormant bulb while leeks are evergreen and winter hardy.

This guideline deals only with those onions and leeks that reproduce mainly by flowering and setting seeds. Other sorts (garlic, elephant garlic, shallots, potato onions, rocambole etc) may flower occasionally but are usually propagated vegetatively. These are dealt with in Seed Saving Guideline No.15 Multiplier Onions and Shallots.

Allium flowers are perfect but cannot usually fertilise themselves. This is because they are **protandrous**; the male anthers open first and shed their pollen before the female stigma of that flower is receptive. Individual flowers in ball-like heads open over a period of about four weeks, peaking in the second week.

Growing & Roguing

- Leeks and onions are biennials, so in the first year follow your normal practice for crop production. Grow at least 30 plants to ensure at least 20 can be grown, after selection, in the second year.
 - Onion flower stalks can reach around 150cm in height, leeks up to 180cm, so remember to have sufficient space and position stakes to support them later.
 - In the second year plant the best of your onions in the spring and they will soon put out fresh leaves and a flower stalk.
 - Leeks are best left in their planting position to overwinter.
 - Be ruthless about roguing out any plant whose foliage is not up to scratch, or which flower in the first year.
 - Susceptibility to disease, e.g. leek rust, can vary within a variety, so select the most resistant plants to save seed from.
 - Only chose those onion bulbs that are characteristic of the variety.
 - Avoid saving seed from 'bull-necked' (wide and rounded) or 'bottle-necked' (tapering up the stem) onions.
 - You can slice across an onion, about a third of the way down, to check the evenness of the rings and the colouration, without any harm to the shoot inside. This allows you to check that it is true to type.
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Pollination & Isolation

Bees and flies are the main pollinators, although *Alliums* attract many other insects. Onions and leeks will not cross with one another, although varieties within species cross readily. The easiest way to maintain varietal purity is to grow just one variety of each species for seed each year, allowing insects to do the work. They should be isolated from other varieties by at least 1500m. You can grow others to eat, but be vigilant about removing flowers, especially from potato onions and shallots (for onions) and elephant garlic (for leeks).

If you do want to grow two or more varieties for seed you must either isolate by 1500m or use one of the caging techniques. Unless you use alternate caging you will have to hand pollinate daily. Between 9.00am and noon remove the cage from each variety and use a soft brush to transfer pollen between the flowers. Go round the flowers two or three times to ensure a good mix, and either clean the brush in alcohol between varieties or use a different brush for each variety. You may need an assistant to keep insects away while you are busy pollinating.

Harvesting

Allium flowers need to be watched carefully as the seeds mature because the ripe seed pods shatter easily, splitting and releasing the seeds. As soon as you can see the black seeds within the drying flowers you should cut the whole head and place it in a paper bag to finish drying. Please note: Leek seed tends to take a lot longer to ripen than onion seed.

Cleaning

Most of the ripe seeds will fall from the dry flower head quite easily, encouraged by gently shaking. The rest can be removed by rubbing the flowers between your palms, or across a sieve that allows the seed to pass through. The best way to clean seed is by sieving and winnowing in a light breeze.



Clean onion seed by rubbing flowers across a sieve

Storage

Handle onion bulbs carefully, to avoid bruising, and cure them in the sun for a couple of weeks before storing. Onions store best at low temperatures and low humidity (0-7°C/32-45°F, <40% R.H.) or high temperatures and high humidity (25-35°C/77-95°F, 60-70% R.H.). Room temperature (16-21°C/60-70°F) is the worst possible for storing onions. Storage gives another chance to reject defective bulbs, such as any that do not last for long, before replanting in spring.

Ripe onion and leek seed will store in a cool, dark place for at least two 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.

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.