

## Seed Saving Guideline No. 17

# Spinach

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*Spinacia oleracea*  
Family: Chenopodiaceae

Spinach is unusual among vegetables in being **dioecious**; individual plants produce either all male or all female flowers. There are two types of seed – prickly and smooth. Prickly-seeded varieties have flatter leaves than those with smooth seeds, which produce more wrinkled foliage. Spinach is wind pollinated.



### Growing & Roguing

- Plant as you would for a food crop, but grow at least 25-30 plants. As spinach is dioecious you should aim to achieve a reasonable mix of male and female plants
- Space the plants widely to reduce the chances of bolting prematurely, but close enough to cage when they come into flower if you need to. It is best to grow them in a block.
- Make sure that they are well watered to reduce the chance of premature bolting.
- Rogue out the first bolters.
- Remove any that appear diseased.
- Rogue out any plants that do not form a rosette and that are noticeably different from the majority of the crop.
- It must be noted that once in flower these plants can reach up to 180cm in height.

### Pollination & Isolation

Spinach will not cross with any other garden crop but, being wind pollinated, can be difficult to keep pure if others in the vicinity are allowing their spinach to flower. Commercial seed growers isolate by as much as 15km. At home, the best plan is to grow only one variety each year, and even then to bag the flower because it is so easy for a neglected spinach plant in the neighbourhood to flower and cross pollinate with yours. Horticultural fleece will restrict the pollen quite well but can promote fungal diseases.



Seed set depends on day length, the plants tending to bolt to seed when the light part of the day reaches 12½–15 hours. Bolting may occur in less than 12½ hours of daylight if the plants have

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been subjected to fluctuating hot and cold temperatures. Crowding can also induce the plants to bolt. Getting the plants to flower is therefore very easy but it is important to save seed from those plants that are least inclined to bolt, otherwise there is a risk of selecting for easy bolting rather than leaf production.

Once the plants start to bolt they will need to be isolated. Cage several plants together with twice as many females as males (if possible), and at least four females to two males in each cage. Unfortunately it is very difficult to sex a spinach plant until the seed stalks have formed, which often results in less than ideal spacing for caging. Female plants have clusters of flowers nestling in the axils of the leaves, males have tassels of flowers that are much sparser. Cage by covering the plants with fleece or old, very tightly woven net curtains using bamboo canes for support, or by making a cage with a wooden frame which will last longer and can be moved around to other crops that may need isolating.

Occasional agitation of the cage and plants aids pollination. The caging needs to be left on until the fruits start to swell on the female plants.

### Harvesting

Ideally the seed should be allowed to dry on the plants in the ground. If prolonged wet weather threatens you can cut the stems when still green, as long as the seeds are fully formed. Harvest the seed as and when they are brown and dry by rubbing them off into a sack, leaving the others behind to develop further. This is time-consuming but it increases the yield of the seed. Prickly-seeded varieties can be very abrasive, so use gloves.

### Cleaning

Most seed will come away quite easily from the flower stalks. The dry seed is easily cleaned by winnowing and reverse screening, which retains the seed but lets small pieces of debris through. In commercial production the prickly-seeded varieties are abraded to remove the prickles, but this has no positive impact on germination and is not necessary for home saved seed.

### Storage

Spinach seed will store for five years, retaining 50% germination.

### 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.