

## Runner Beans

### *Phaseolus coccineus*

Family: *Leguminosae*

Most runner beans are tall, climbing plants, but there are dwarf varieties and some, called half runners, that are bushy with one or two long shoots. They need a long growing season.

- Black runners have intense red flowers and black seeds.
- Scarlet runners have red flowers and purple or mauve seeds with black blotches.
- White runners have white flowers and white seed.

The flowers are perfect and self-pollinating, but have to be tripped (e.g. by bees) to set seed.

### Growing and Roguing

- Runner beans, unlike French beans, are hypogeal: the cotyledons stay underground as the stem and true leaves emerge. They also twist the 'other' way from most other beans, climbing clockwise when viewed from above. Take this into account if you have to help young plants on to their supports.
- As runner beans are outbreeders it is important to grow as many plants as possible to maintain the health and diversity of the variety; a minimum of 20 to 30 if possible. Runner beans also need constant selection to keep them true to type.
- Grow runner beans for seed saving up strings or canes as for a normal crop, but before flowering starts, remove any that look unhealthy or that have leaves very different to the rest. As soon as the flowers open remove any plants where the flower colour is not true to type.

**Practical tip:** cut off any growth above the top of the canes and those pods that form too late for seed saving. This should help the plant put its energy into seed saving.

### Pollination and Isolation

Runner beans are pollinated by bees. They will cross with other runner beans quite readily though they cannot cross with other types of beans. We recommend a minimum isolation distance of 800m between runner bean varieties to be certain of maintaining varietal purity. If other runner beans are being grown within 800m of your plot, or if you wish to save seed from two or more types of runner bean on your own plot, isolate varieties either with a fleece bag around each truss or with a large insect proof cage around several plants. It may be easier to cage a tepee rather than a row. Alternate day caging is another useful method.

If insects are completely excluded from the flowers you must hand pollinate each newly opened flower with a thin paintbrush. Do this each day, simply pressing down on the lower keel of each newly opened blossom to mimic a bee landing. Then use the paintbrush to transfer the pollen from



Runner bean truss in an isolation bag

anther to stigma. You should use pollen from another plant of the same variety rather than from the same flower or plant. If you are growing more than one variety, remember to wash and dry the paintbrush between varieties or use a different brush for each variety.

## Harvesting

Runner beans are very tender and may be killed by early frosts before seeds are mature. Fortunately they are also perennial, forming a (poisonous) underground tuber. These tubers flower sooner than plants grown from seed, so if your growing season is short dig up the tubers and store them over winter, planting them out once the danger of frost has passed.

Overwintering roots can also be a useful tool for maintaining varieties. The roots will give plants that are true to type even if there have been off-types, or plants of different varieties flowering nearby the preceding year. You can therefore select the typical best plants one year, and save the roots to grow on for seed in isolated conditions the following year.

Leave the pods to mature and dry on the plant for as long as possible into the autumn, ideally until the pods become so dry they are crispy. If this is not possible, uproot the plants and hang them upside down somewhere warm until the pods are completely dry.

The characteristics of the seed – size, shape, colour and markings – should be more or less uniform and the same generation to generation. A change indicates that crossing has taken place, but the lack of any visible sign of variation is no proof of purity because the seed colour and markings are inherited from the mother. Crossed seed will usually reveal itself in the next generation as a visible increase in the variability of the plants. Always keep the seed from different years separate. If you discover evidence of crossing discard the harvest from that year and the year before. Seed from two generations ago should be pure.

## Cleaning

Cleaning refers to the removal of chaff and debris, leaving only seed. Cleaned seed keeps better.

It is best (if not dealing with large quantities) to pod beans by hand; reject any with atypical markings. Larger quantities can be threshed by putting the pods into a pillowcase or sack or inside a plastic dustbin and shaking vigorously. Seeds threshed this way will need additional cleaning by winnowing.

Winnowing is best done outside in a stiff breeze. Pour the beans steadily from one container to another, allowing the wind to blow the chaff away. Repeat until the chaff is gone and you are left with only seed. Do this over a tarpaulin, in case a sudden gust upsets the container and spills the seed.

## Storage

Runner bean seeds should last in storage for at least three years.

## Returning Seed to HSL

It is important that seed returned to HSL is not cross-pollinated. Do not send us seed 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. 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, before sending it in the post.

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