FROM SEED TO SEED

Educational films on seed production

CELERY

Celery belongs to the Apiaceae family and to the Apium graveolens species. It is a biennial plant cultivated for its leaves, roots and stalks. Three subspecies are grown: stalk celery dulce, celeriac or root celery rapaceum, and leaf celery secalinum. The wild variety of celery is called smallage.

Pollination

The inflorescence of the celery is an umbel composed of small flowers that are usually hermaphrodite. The stamen, the male sexual organ, matures before the pistil, the female sexual organ. Self-fertilization does not therefore occur within the same flower. Yet since the flowers do not bloom at the same time, self-fertilization is possible within the same umbel or between two umbels on the same plant. Fertilization also occurs between the umbels of different plants. Insects are the main agents of cross-pollination. Flowering celery gives off a very strong scent and produces an abundance of nectar that attracts many insects. All kinds of celery can cross with each other. They can also cross with wild celery found in coastal areas. On rare occasions they can cross with parsley.
To avoid cross-pollination, two different varieties of celery should be grown about one kilometer apart. This distance can be reduced to 500 meters if a natural barrier such as a hedge exists between the varieties. The varieties can also be isolated by alternately opening and closing insect nets or by placing small hives with insects inside a closed insect

net (for this technique, see the module on isolation techniques in ?The ABC of seed production?).

Life cycle

All celery varieties are biennial. In the first year of cultivation, celery for seed is grown in the same way as celery for consumption. They will produce seeds in the second year.
There are different methods for storing celery for seed production over the winter. In mild climates you can leave them where they are in the garden. Nevertheless, they should be protected with a frost blanket or straw. The straw should be removed in spring.
In cold climates you should uproot the celery plants before the severe winter frosts. Cut back the leaves to a few centimeters from the collar. The less water the roots contain, the longer they can be stored.
All types of celery should be selected in accordance with the characteristics specific to the variety. For root celery: colour, shape, taste. For stalk celery : the size of the stalks and their colour. For leaf celery : the abundance of the leaves and their taste.
Then they are placed, without their touching each other, in a sandbox protected from frost. Over the course of the winter, the roots should be checked carefully and any rotten ones should be removed.
The roots are then replanted at the beginning of spring, once the risk of hard frosts has passed. It would seem that planting celery plants for seed close to each other reduces the number of tertiary umbels, whose seeds are of poor quality. About fifteen plants are necessary to ensure good genetic diversity. Care should be taken that the roots do not dry out once they are replanted.
Celery produces several umbels that do not all bloom at the same time. The first, the primary umbel, is found at the top of the main stem. Those that develop from the main stem are called secondary umbels. The tertiary umbels form on the stems that branch off the secondary stems. It is preferable to harvest the primary umbels. The secondary umbels should be harvested only if necessary.
Celery seeds are mature when they turn brown. Seeds should be harvested when most of the primary umbels start to turn brown. When they are mature, the seeds fall to the ground. If the weather is windy or rainy, harvest them before they are completely mature. In any case, they should continue to be dried in a dry and well ventilated place.

Extracting - sorting - storing

You should wear gloves to extract the seeds from the umbels by hand.To sort the seeds you should use sieves that retain the chaff. The seeds should then be winnowed by blowing on them so that any remaining chaff is removed.

Always include a label with the name of the variety, the species and the year in the bag as writing on the bag can be rubbed off. Storing the seeds in the freezer for several days kills certain parasite larvae.
Celery seeds can germinate for up to eight years. Sometimes this can be extended to ten years or even longer. This can be further prolonged by storage in a freezer. One gram contains around 2000 seeds. Germination of celery seeds can be erratic. It appears that they remain dormant for a certain period.

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This text is the voice-over of an educational film about seed production, hosted and downloadable on www.diyseeds.org