

FROM SEED TO SEED

Educational films on seed production



CARDOON

The cardoon is a member of the Asteraceae family and the *Cynara cardunculus* species that is grown for its fleshy stems. The *Cynara* genus also includes the artichoke from the *scolymus* sub-species, grown for its floral bud. It is grown for seed in a similar manner to the cardoon.

▶ Pollination

Like the artichoke, the cardoon has individual florets combined into a bluish purple capitulum. They are hermaphrodite but self-sterile. Each floret is pollinated by a second floret that can be situated on the same capitulum or another one. The cardoon and the artichoke are thus allogamous. They need to be pollinated by insects.

There is a risk of crossing between the cardoon and the artichoke as well as between different varieties grown in the same garden.

To avoid cross-pollination, two varieties should be grown 1 kilometer apart. This distance can be reduced to 500 meters if there is a natural barrier such as a hedge between them.

The varieties can also be isolated by alternately opening and closing mosquito net cages or by placing small hives with insects inside a permanent net cage (for this technique, see the module on isolation techniques in 'The ABC of seed production?').

► Life cycle

In the first year of the cycle, cardoon plants grown for seed are cultivated in the same way as those for consumption. They produce seed in the second year. Cardoon seeds are sown in a sheltered pot in mid-February in cold climates and in the ground at the end of April/beginning of May in mild climates.

To maintain good genetic diversity, you should select at least a dozen plants for seed production, chosen for the desired criteria of the variety.

Select the cardoon stalks that are the most vigorous and resistant to cold and to rot, with beautiful leaves and fleshy but not stringy ribs, with or without spines. Artichokes are selected for the number of floral buds they develop, for their taste and regular growth.

Cardoon plants that flower in the first year are removed.

In autumn, their leaves are harvested for consumption. In regions with very harsh winters, the roots are dug up before the frost and stored in a place protected from frost. In regions with a milder climate, the roots of cardoons and artichokes can remain in the ground during winter.

In spring, the plants for seed production that have overwintered in the cellar are replanted. At the end of the summer, the plants for seed will flower. The seeds will be collected in autumn. To harvest the seed, the capitula are cut when small white and feathery plumes appear at their tips. The capitula can finish maturing in a dry, well-ventilated place.

► Extracting - sorting - storing

Once the capitula are dry, the plumes are removed by hand. Wear gloves to protect yourself from the spines. The capitula are then rubbed together to remove the seeds. They can also be beaten in a bag with a wooden or plastic mallet on soil that is not too hard. When sorting, remove large debris by hand and then blow gently on the seeds to remove any remaining chaff to obtain perfectly clean seed.

Finally, pour the seeds into a plastic bag. Put a label inside with the name of the variety, the species, and the year of production. Storing the seeds in the freezer for several days kills parasite larvae.

Cardoon seeds are able to germinate for 7 years on average. This period of time can be lengthened if the seeds are stored in a freezer.

One gram of seed contains around 25 individual seeds.