

Elite seeds* are seeds from positively selected plants and should be used for elite seed or standard seed production.

Seed to seed method: In the situation where the crop will be over wintering in the ground it is necessary to rogue out the smaller, inferior not true to type and diseased plants. Then in the following April / May do the same again.

This will leave the best plants to go to seed. This form of selection is called negative selection and the method used is called **rouging**. Rouging should take place before flowering.

Seed produced from the seed to seed method is called **standard seed** and is what is generally sold in seed packets.

The seed yield pr square meter is approx. 60 – 80 grams and there are approximately 50 - 70 seeds to the gram.



For more in detail information see also: The Organic Seed Grower by John Navazio. ISBN 978-1-933392-77-6

****Seed cooperative**

www.seedcooperative.org.uk

To support the seed cooperative become a share owning member. Minimum shares are 100 at £ 1 pr share.

We are looking for certified organic growers to join our seed grower's network. To grow for the seed cooperative please contact us at, info@seedcooperative.org.uk



www.open-pollinated-seeds.org.uk

Growing chard for seed



Using open pollinated varieties.

Swiss chard: Beta Vulgaris. The chard was probably originally cultivated for its broad leaves and later its wide stems and was popular already in old roman times. The crop which has its origin around the Mediterranean coastlines was brought northward into Europe where it has been cultivated ever since.

Flower biology, Chard's are perfect flower plants which carry stigmas and pollen in the same flower.

Pollination and seed formation: Chard is cross and wind pollinated but will also be pollinated by insects and will cross with any of the other cultivated Beta Vulgaris crops like beetroots, sugar beets, and fodder beets. They produce multigerm clusters of up to 5 seeds pr cluster.

Chard are biennial flowering in their second year.

Isolation distance: Because of the distances the pollen can travel, ideally a distance of 1600 meters should be observed between different chards varieties and double this space between different types of beta vulgaris species like the sugar beet and the beetroot.

Minimum number of plants. There is some debate about the number of plants required to maintain genetic diversity. But a minimum of 20 for home grown situations and 50 for professional seed growing is to be recommended, however always the more the better.

Crop characteristics: Swiss Chard is known for its big leaves and usually its wide stems or petioles so it is important to maintain those characteristics. There are varieties which have smaller and lighter coloured leaves and narrower stems.

Agronomy. (Year 1) Good seed depend on good crop production and good crop production depends on suitable soil and soil preparation. Ensure in year one that the crop grows to display a proper crop. Ideally your crop should supply you with good leaves as you would expect it to do.

Positive selection: To obtain the best seed production results it is advisable to sow later in the season around early to mid July using **elite*** seed. This will give a good standing crop before winter and minimise plants bolting. For positive selection one should select out the best producing plants and transplant them into a

prepared site making sure the roots are well surrounded by soil and then water well after planting if required.

Storage, in cold conditions the plants can also be lifted then trimmed to 2 – 3 inch above crown or growing point and stored in the greenhouse covering them with straw or sacks, making sure the roots remain moist throughout.

label clearly your seed plants, and let others working with you know those plants have been selected for seed. Discard any damaged or rotting plants during storage.

Year 2: During the following March / April plant out the stored chard plants in bed form, 45 cm apart in rows and 60 cm between rows with 90 cm between beds.

Crop support: The seed crop can grow up to 6ft high. In May when the plants have taken and started to bolt erect support with 6ft stakes or strong canes at each end of the bed and at 6 - 8 ft intervals in the row. Then tie several rows of string along the outside of the crop to keep stems in and supported to avoid the crop from trailing on the ground.

Flowering and Seed harvest: During June the crop will continue to flower, and the first seed harvest can start in August depending on location, with manual harvesting taking place over several weeks as the crop doesn't mature at the same time. An indication of seed maturity can be seen by seeds turning brown starting from the bottom of the stem and working upwards. The seeds are also bigger at the base of stems and smaller at the top.

Use secateurs to cut off seed stems and harvest into paper sacks or builder bags. Lay seed stems to dry on drying frames or on plastic sheeting in a warm, dry and airy place. Keep harvesting all seed stems as they mature. The entire chard seed crop can be harvested in one go once about 60% of the seed crop has matured. The harvested crop is then left to dry further indoors.

Threshing: Once seed stems have dried the seeds need to be separated from the stem material. This can be done manually and quite successfully by wearing gloves stripping the seeds from the stems.

Cleaning: Once the seeds have been threshed they need to be cleaned. Using a small fan can help to winnow the seeds by pouring the seeds from one container into another with the fan blowing away the residual leafy and stem material. Then sieve the seeds carefully using meshed sieves to separate out small seeds and bits of soil and rubbish. For larger scale and bulk seed cleaning SHS** can help to facilitate bulk cleaning and grading.

Storage: Once seeds have been cleaned and graded they should be stored in paper bags and labelled well.

Seeds are mostly dry matter of up to around 85 % and it is therefore important that the seed storage is dry and cool to keep the seed from drawing in moisture. Chard seeds can be kept up to 10 years if stored well. It is advisable however after 5 - 6 years to run an annual germination tests counting 100 seeds with each seed representing 1% to ascertain seed viability.