



AVRDC - The World Vegetable Center

Fact Sheet

Saving Seeds of the Beet Family

(Beet, Spinach and Swiss chard)

Production

The beet family (Chenopodeae) includes beet and Swiss chard (*Beta vulgaris*) as well as spinach (*Spinacia oleracea*). Plants are grown as an annual for edible leaves and as a biennial for seeds. The crop prefers cool weather but is widely adaptable. Seed production can be done in cooler regions of the tropics and subtropics. Two methods are used:

Seed to seed. Sow seeds in late summer. Mulch in late fall to ensure winter survival. The following spring, select the finest young plants and transplant using 45-cm spacing. The optimum transplant diameter is 2.5 cm. The tops may be trimmed, but not the root.

Root-to-seed. Harvest first-year roots in fall. Select desirable roots and trim tops 2–5 cm above root. Store at 4 °C in a humid location. Replant in early spring at 45-cm spacing with tops just showing above soil.

In either method, only transplant the most desirable plants. Stalks may become tall (over 1 m) and are susceptible to lodging; support with staking if needed.

Isolation

The flowers are perfect and borne in groups of 2–3 in axes of leaves. Flowers produce pollen that is

carried long distances by wind; thus, it is highly cross-pollinated. Isolate different varieties 500–1000 m apart. Beet and Swiss chard will cross-pollinate so isolate these as well. *Chenopodium album* (lambs-quarters) should be removed from the area to prevent cross-pollination.

Selection

Rogue out off-types taking into consideration the shape and color of leaves and roots. Plants that bolt and go to seed early should be removed. Save seed from at least six plants to prevent inbreeding.

Harvesting

Seed does not ripen uniformly on the plant and sheds easily when mature. Cut stalks when most flowering clusters have turned brown and stalks have turned yellow and dried—the first seeds are shed at this time.

Processing

Store stalks in a cool dry location for 2–3 weeks to encourage further seed ripening. Do not heap stalks on top of one another since this causes seeds to ferment. Handle stalks as little as possible since seeds shed easily. Small quantities of seed can be stripped by hand as seed matures. Large numbers of stalks can be put into a bag and beat with a stick. Chaff is winnowed away.



Seed stalk of beet

Storage

Dried seeds can be safely stored for at least three years. Place seeds in jars, manila envelopes, cloth or mesh bags, plastic containers, or foil envelopes. The best containers are air-tight, such as a sealed glass jar, metal can, or foil envelope. Protect seed from sunlight.

Store seeds in a cool (below 15 °C is ideal), dry location. Place the seeds in a refrigerator for long-term storage. For short-term storage, keep the seeds in a cool, shady and dry place.

References

- Kelly, A.F. and R.A.T. George. 1998. Encyclopaedia of seed production of world crops. New York: John Wiley & Sons.
- Rashid, M.A. and D.P. Singh. 2000. A manual of seed production in Bangladesh. AVRDC-USAID-Bangladesh Project. Joydebpur, Gazipur, Bangladesh.