AVRDC - The World Vegetable Center

Fact Sheet

Saving Seeds of Onion

Production

Onion, *Allium cepa*, is one of the most widely cultivated vegetables in the world. Onion forms its bulb in the first year and produces seed in the second year. Temperatures around 20–22 °C favor vegetative growth while temperatures around 12 °C favor seed stalk formation. Onion flowering is sensitive to daylength—for most varieties grown in the tropics, short days are conducive to seed production. One bulb can produce 20 or more stalks and may be in bloom for over 30 days. Onion produces perfect flowers, most of which are cross-pollinated. Two methods of producing seed are used:

Seed-to-seed. Plant seeds in summer. Immature onions are more winter hardy than larger, full-grown bulbs. Mulch in late fall to ensure winter survival. Thin to 30-cm spacing in the spring.

Bulb-to-seed. Harvest in the fall and select the largest bulbs (which naturally produce more seed). Clip tops to 15 cm and cure for three to four weeks. After the bulbs are dried, store for at least 2 weeks at 4 °C in a dry, airy location (a refrigerator is ideal). Before replanting, slice off the top one-fourth of the bulb to promote sprouting. Space bulbs 30 cm apart and cover with 2 cm of soil.

Isolation

Isolate from other flowering varieties at least 1000 m apart. Cross-pollination is performed by insects. An alternative method of isolating superior plants is to place cages over them and introducing pollinators into the cages.

Insects pollinating onion flowers

Selection

In using the bulb-to-seed method, replant only disease-free bulbs that are true-to-type. Discard doubles or long, thick-necked bulbs.

For bulbs preparing to flower, remove any types of undesirable shape or color; do this before flowering begins. Save seeds from several plants to maintain crop vigor.

Harvesting

Clip umbels as soon as most flowers have dried and before seeds begin shattering. Some growers harvest when the seeds are exposed in 10% of the umbels.

Processing

Fully dried flowers will drop clean seeds naturally. For small amounts, rub remaining flowers to free seeds. For larger amounts, rub heads over screens. Winnow to remove remaining debris. Allow to dry in cool, dry location for up to 2–3 weeks. Frequently stir the seeds. Artificial drying is often used.

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

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