

**Seed extraction:** The tomato seeds are also called wet seeds as supposed to dry seeds like lettuce. The tomatoes are cut crossways in half and the gelatinous seeds are scooped out with a spoon into a container. 50% water can be added to make the mixture more liquid. The pulp mixture then needs to sit and ferment in a warm place for between 2 – 4 days depending on temperatures. The object of this is to dissolve the gelatinous sack surrounding the seeds and the natural fermentation does that by developing a mould on top which needs to be stirred in twice a day. This frees the good seeds to fall to the bottom.



Tomato seed drying.

**Seed extraction 2:** Once the fermentation is complete the pulp which floats on top is gently poured off. The process is repeated several times adding water each time to dilute the pulp mixture until all pulp has been poured off. The seeds then need to be dried rapidly. They are put on drying trays or racks in a warm and ventilated space and

need to be stirred regularly and rubbed to prevent the seeds from sticking together. The rapid drying is necessary to prevent unwanted germination. Once the seeds are sufficiently dried they need to be stored in paper bags or envelopes and **labelled** clearly.

Tomato seeds will store well up to 4 years and there is on average 300 – 400 seeds to the gram. Seed yield vary but can be between 30 – 60 gram pr sq meter of more modern varieties.

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](http://www.seedcooperative.org.uk)

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## Growing tomato for seed



**Using open pollinated varieties**



### **Tomato: Lycopersicon, lycopersicon**

The tomato plant's wild relatives have their origin in South America from Chile along the Andes up to Ecuador. However the domestication of the tomato was centred around Mexico from early times by the Aztecs. The tomato was brought to Europe in the 1500 hundreds but was only grown as an ornamental plant avoiding it as a food crop. However once it

gained acceptance for culinary purposes it became more popular and today it is one of the more important food crops grown in diverse climates throughout the world.

**Flower biology:** Tomato varieties are perfect flower plants which carry stigmas and pollen in the same flower. The flowers are predominately yellow regardless of the colours of its fruits .

**Pollination:** Tomatoes are self pollinated and wont readily cross with other cultivated varieties. However having said that, older varieties of heirlooms and varieties in their native environment will outcross more readily because the stigma protrudes out beyond the anther cone making them more susceptible to taking up pollen from other varieties.

Tomato is an annual plant flowering and producing seeds in the same year.

**Isolation distance.** Since the tomato is a self pollinated crop only relative short isolation distances are needed. Depending on cultivars the isolation distances vary from 15 meter down to a couple of meters between modern varieties and between 23 and 45 m between heirloom cultivars. The distance between two greenhouses is also sufficient separation between two tomato varieties.

**Minimum number of plants.** Maintaining genetic diversity is relatively straight forward harvesting fruits from two to three plants of the more modern varieties. The more plants the better

For heirloom varieties harvesting from as many plants as is possible should ensure biodiversity of

a given cultivar. However some home growers claim to only save seed from a couple plants and find no immediate changes to their varieties. Best practice should always be to save seed of as many plants as possible.

**Crop characteristics:** There are two types which we cultivate. The determined or bush type tomatoes and the in-determined which are the vines which need staking or string to support them. The characteristics vary a lot in tomatoes between beef and plum types to very small cherry type tomatoes and it is important to maintain the true to type traits associated with each variety which you are growing for seed. Further traits such as early flowering, leaf size, shape and dark or light leaf colour, how many leaf nodes between trusses, the colour and shape of the tomato and the flavour all need to be considered

#### **Agronomy.**

Good seed depend on good crop production and good crop production depends on suitable soil, soil moisture and soil preparation. Tomatoes like a rich and free draining soil. Usually a crop is sown in trays then pricked into pots before being transplanted into a green house or outside. Sow early in the season to get a good head start. The plants require support and regular watering. A feed of comfrey tea helps with the tomatoes potassium requirement.

**Positive selection;** Already at seedling and first true leaf stage is it possible to select for the earliest sturdiest and most vigorous looking seedlings. Then select again at point of final

trans plant into the greenhouse for the same traits.

**Flowering:** The tomato flowers require airflow and visitation of insects to help trip the flowers to pollinate. A gentle tapping of plants mid to late morning also helps to release the pollen. Seed set for most varieties depend on warmth and ability of pollen to shed. The ideal temperatures need to be in the region of above 16 degrees C and below 32 degrees C for the pollen grains to fertilise with the ovary. Too varying day and night temperatures may affect ability of the pollen to travel to the seed bud or ovary to set seed, which can result in poor seed set. The period from fertilisation to ripe fruit is between 40 – 60 days.

**Fruit harvest:** Harvest only the fruits which show true to type characteristics, harvesting from the healthiest and best producing plants. Allow the tomatoes to fully ripen, even over ripen, but not to rot.



Tomato seed extraction 2