

Once the plants begin to bear fruit, examine each one for trueness to type. Instead of focusing on each individual fruit, you should look instead at the overall performance of each plant. Does each plant have typical fruit color, shape, size, and internal fruit characteristics? If a significant number of fruits on a plant fail to meet overall performance requirements, the plant should be pulled, otherwise it is too late for roguing plants once the fruit has been picked.

Selecting fruit on the plants:

In selecting fruit for seed, choose fruit which are true-to-type including typical color, shape, size, and internal fruit characteristics. In other words, do not use off-type, misshapen, or diseased fruit. Fruits which are bruised, or fruits which have small cracks are useable for seed, but plants which have a lot of cracked fruit should be rogued before fruit is harvested, otherwise you may end up selecting for cracking. It is okay to harvest both early and late fruit, but don't attempt to harvest fruit from plants which are obviously in stress or decline. During seed processing, keep an eye out for fruit which has undesirable internal qualities.

WHEN TO HARVEST SEED

Tomatoes should be harvested at the "dead-ripe" stage, but they should not be left on the vine so long that there is evidence of decay. They should have developed full color, and the fruit wall will have softened enough to have a slight "give." During very hot weather, I recommend harvesting tomatoes about two days before they are dead ripe so that they can continue to ripen off the vine in the shade. If your growing season is shortened prematurely by frost you can harvest the fruit and allow it to ripen off the plant. Interestingly, seed harvested from immature fruit at the "breaker stage" (when it shows the first blush of color) will often germinate well, but such seeds will not retain their viability as well as seed harvested from fully mature fruit. If you do harvest seed from slightly immature fruit, it should be labeled as such.

In the southeastern U.S. daytime temperatures can climb into the high 90's. Once fruits are harvested they should be kept in the shade because the effect of direct sunlight on the fruits for long hours could potentially raise internal fruit temperatures high enough to damage the seed. When tomatoes are grown for seed in the Deep South it may be useful to partly shade the plants from intense afternoon sun. This can be done by growing them near a line of trees that have a large canopy with few branches on the lower trunks.

Fruits ripening on the vine at temperatures above 90°F (32°C) may produce lower germination seed. This problem most likely occurs in varieties that do not have good foliage cover. Normally, this is not a severe problem and doesn't require corrective action, but may explain lower germination of seed extracted during periods of hot weather.

METHODS OF SEED EXTRACTION

There are basically three methods of seed extraction: (1) juice and seed extraction, (2) acid extraction which is not recommended, and (3) extraction by fermentation, which is the preferred method. Fermentation is the preferred method because it is a natural process that is least harmful to the seed and can destroy bacterial canker and other seed-borne diseases. Fermentation should be a controlled process. Though not difficult to do, it can be done incorrectly, in which case the ferment produces a bad smell and an overgrowth of white fungus which can stain and damage the seed. Details of the proper procedure are described in the section below.

FERMENTATIVE EXTRACTION

The preferred method for producing commercial-grade seed

The best quality seed is obtained by fermentative extraction. The process basically consists of breaking or mashing up the fruit into pulp, seeds, and juice, and then pouring the mixture ("mash")