Seed processing

Specification of particular brand names below does not imply an endorsement by USDA that they are necessarily superior to other comparable products

Fruit harvested from the seed increase in the greenhouse are brought into the lab for processing. Fruit are counted, and if necessary, separated into sublots by degree of ripeness. They may be stored for four to six weeks until the fruit softens to allow easy separation from the pulp.

Seeds are extracted in a Waring® blender (standard blades) with about 100 ml of tap water. A manual switch wired into the receptacle allows three or four one-second pulses to partially break up the fruit without damaging the seeds

The pulp and seeds are poured from the blender into a round sieve (~2mm holes) over a plastic pail. Then tap water is sprayed from a standard food service sink nozzle to separate seeds from the pulp and force the seeds through. Remaining unwanted tissue and slime that passes the seive can be removed by repeated rinsing and decanting (seeds settle to the bottom).

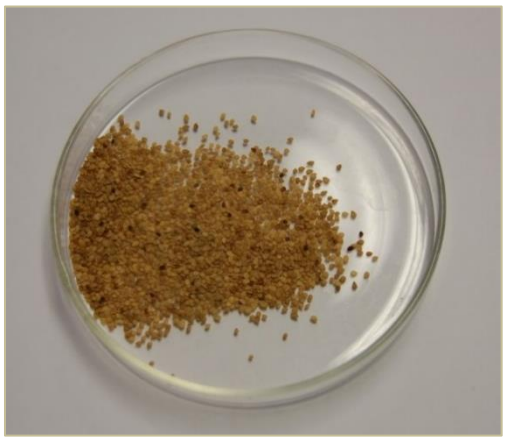
The seeds are then poured into a small kitchen strainer lined with cheesecloth for a final rinse. The corners of the cheesecloth are then folded up and twisted to trap the seeds into a ball in the center of the cheesecloth. The seeds are then gently rinsed and squeezed to express any remaining mucilage.

Seeds are then spread out onto pieces of cheesecloth and folded into a paper towel with seedlot identification. They are arranged on wire-bottomed racks to pre-dry at room temperate for about a week. In winter months with low ambient humidity, this accomplishes most of the drying needed.

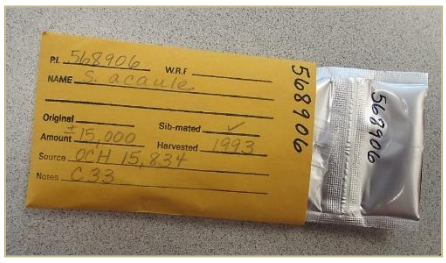
Then seeds are put into coin envelopes for final drying to 5% without added heat in a silica gel desiccator, e.g., SanpiaTech® DryKeeper.

After drying, any chaff or flat seeds present is removed with, e.g., an Oregon Seed Blower® by Hoffman Mfg.

500 seeds are counted and weighed so the proportion can be used to calculate an estimate of the total number of seeds in the seedlot. A few test samples may be taken, weighed, and completely dried for a week at 60C to confirm moisture content close to 5%, and then hermetically sealed into foil packets to protect them from moisture.



Packets are stored in plastic boxes in e.g., MasterBuilt® freezer at -20C. After 1-2 years when dormancy has dissipated and germination tests confirm high viability, they become the distribution lot from which cooperators are sent 50-seed samples, thus replacing the parent seedlot that needed multiplication because it had few or poor-germinating seeds.



Larger subsamples are submitted for long term storage on site and at the base collection at Ft. Collins, CO. All the data related to the origin and qualities of the seedlot are systematically computerized.