BRESOV

PRACTICE ABSTRACT 3

Tomato: seed extraction and conservation

Harvest and clean the fruits, and slice them longitudinally. Crush the fruit sections into a mixture of pulp, seeds, and juice. Subsequently pour the mixture into a large container where it ferments for a period usually lasting three days. For acid extraction, apply an equal volume solution of hydrochloric acid (HCl) 3% obtained by diluting commercially available HCl (20%) in water at a ratio of 15 ml of commercial hydochloric acid in 1 litre of water, and leave the resulting mixture for 12–18 hours. For optimal detachment of seeds from the placenta, temperatures of 35–40°C over a period of 12 hours allows polygalacturonases enzymed naturally present in the pulp and juice to degrade pectines. Wash the seeds in a strainer under running water and dry them on filter paper or a paper towel at room temperature for one week, or alternatively in a ventilated oven at approx. 40°C for 24 hours.

Store the seeds in plastic or paper bags or vacuum packed in a chamber at 4°C and less than 30% of UR or in a no-frost fridge. Under these conditions, the seeds can be stored for up to 15 years.

Before sowing, disinfect the seeds by immersing them in a solution of 70% alcohol (ethanol) in a stirrer for 5 minutes (the quantity depends on the number of seeds - for fewer than 50, it is possible to use 10–15 ml ethanol). Then remove the ethanol by placing the seeds in a strainer under running water. Then immerse them in a solution obtained by diluting commercial bleach with water at a ration of 1:2. Finally, place the seeds into a stirrer once more and wash them under running water.

To enhance germination, you can use gibberellin by preparing a solution using a tablet of 5 grams of commercially available gibberellic acid in 1 litre of water.

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THE AUTHOR

Teodoro Cardi (director) and Pasquale Tripodi (researcher) are experts in biotechnology and breeding solanaceous vegetable crops at the CREA Research Centre for Vegetable and Ornamental Crops (Italy). Jaime Prohens is a professor at the Universitat Politècnica de València (Spain) whose research focuses on tomato and eggplant breeding.

Teodoro Cardi
teodoro.cardi@crea.gov.it

Pasquale Tripodi
pasquale.tripodi@crea.gov.it

Jaime Prohens
jprohens@btc.upv.es

THE PROJECT

BRESOV
SHAPING THE FUTURE OF ORGANIC BREEDING & FARMING

BRESOV aims to tackle the nutritional challenges of a growing world population and changing climatic conditions by enhancing productivity of different vegetable crops in an organic and sustainable farming infrastructure. BRESOV works on broccoli, snap bean and tomato as those staple vegetable crops have significant roles in meeting our global food and nutritional security goal, and under organic conditions can contribute to storing carbon and introducing nitrogen improving organic soil quality.

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