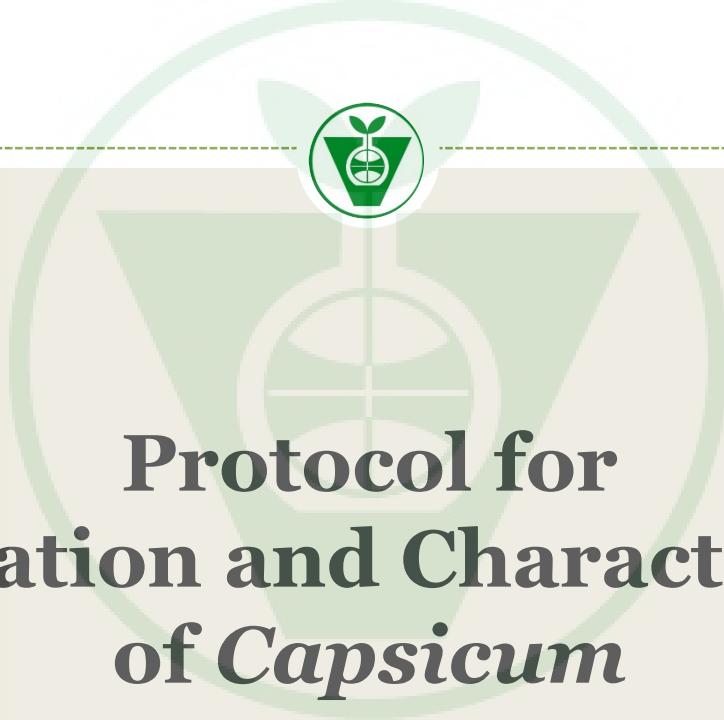




AVRDC
The World Vegetable Center



Protocol for Regeneration and Characterization of *Capsicum*

CONTENT

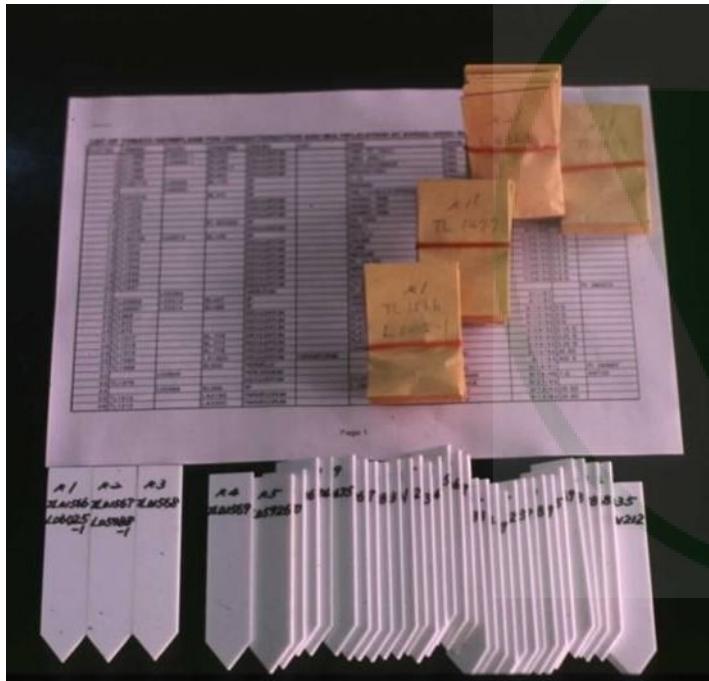


- Seed preparation
- Seed treatment
- Preparation for sowing
- Land preparation
- Morphological characterization
- Seeds extraction and packing

Regeneration and Characterization of *Capsicum*



- Seed preparation



Prepare:

- List of selected germplasm
- 30 seeds of each accession to be sowed
(select 10-20 normal seedlings to transplant)
- Labels for each accession used on the seed flats

CONTENT



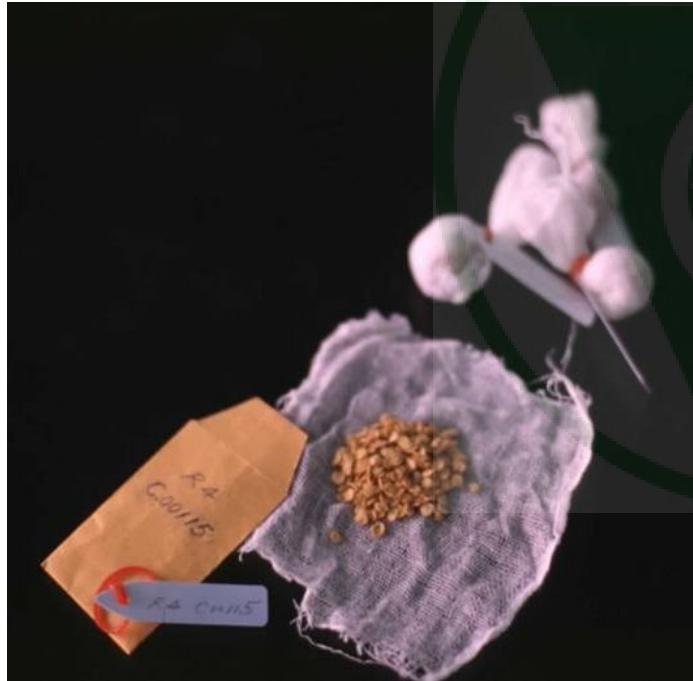
- Seed preparation
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Regeneration and Characterization of *Capsicum*



- Seed treatment

To prevent spread and build-up of seed-borne viruses



Step 1:

Seeds packed with a cloth sack or gauze bags and labeled to identify each other.

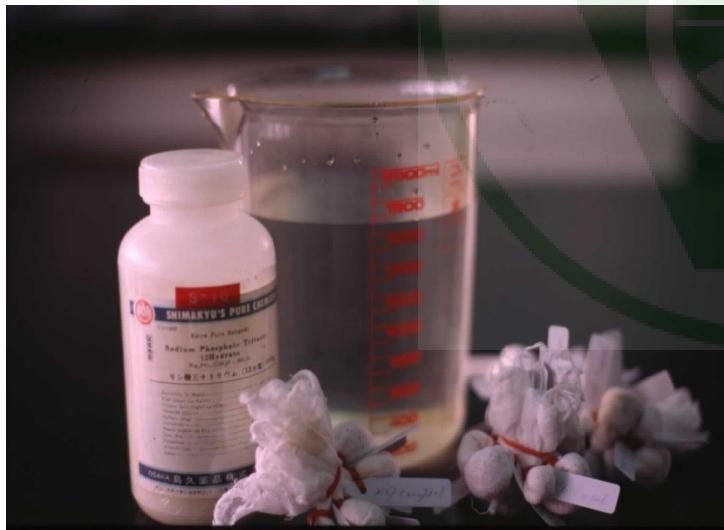
Regeneration and Characterization of *Capsicum*



- Seed treatment (cont)

Step 2:

Soak seeds in 10% solution of trisodium phosphate ($\text{Na}_3\text{PO}_4 \cdot 12\text{H}_2\text{O}$) for 2 hours.



Regeneration and Characterization of *Capsicum*



- Seed treatment (cont)



Step 3:

Rinse the seeds in running water for 45 minutes, stirring continuously.



Step 4:

Air-dry the seeds in room temperature.

CONTENT



- Seed preparation
- Seed treatment
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Regeneration and Characterization of *Capsicum*



- Preparation for sowing



Preparing the medium
(mixed peat moss and
vermiculite with 3 to 1)
for the seedling nursery.

Regeneration and Characterization of *Capsicum*



- Preparation for sowing (cont)



Filling seed flats with medium.

Regeneration and Characterization of *Capsicum*



- Preparation for sowing (cont)



Sowing seeds

Regeneration and Characterization of *Capsicum*



- Preparation for sowing (cont)



Seedlings in the nursery

CONTENT



- Seed preparation
- Seed treatment
- Preparation for sowing
- Land preparation**
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Regeneration and Characterization of *Capsicum*



- Land preparation Construction of field net cages

- A. Digging holes in the prepared field.
- B. Setting up skeleton of net cages.



Regeneration and Characterization of *Capsicum*



- Land preparation (cont)

Covering the ridges with black plastic mulches.



Regeneration and Characterization of *Capsicum*



- Land preparation (cont)

Sewing nylon nets to fit the cages.



Regeneration and Characterization of *Capsicum*



- Land preparation (cont)



Fixing the gates
on the skeleton of
cages.

Regeneration and Characterization of *Capsicum*



- Land preparation (cont)



A. Covering with nylon net.



B. Fixing nylon net with soil.

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- Land preparation (cont)

Complete construction of field net cages.



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- Land preparation (cont)

Make holes on the mulch to prepare for transplanting of seedlings.



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- Land preparation (cont)



Transporting seedlings from seedling nursery to field.

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- Land preparation (cont)

Transplanting



Regeneration and Characterization of *Capsicum*



- Land preparation (cont)

Watering of transplanted seedlings.



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- Land preparation (cont)



Staking

Regeneration and Characterization of *Capsicum*



- Land preparation (cont)

Spraying pesticide to control diseases and pest regularly.



Regeneration and Characterization of *Capsicum*



- Land preparation (cont)



Harvesting pepper fruits by priming.
Putting fruits in nylon net bags. (for fruit characterization and seed extraction)

CONTENT



- Seed preparation
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Regeneration and Characterization of *Capsicum*



- Morphological characterization

Characterization in the field using standard descriptors. Contents included:
a. seedling data; b. vegetative data; c. inflorescence data; d. fruit data; e. seed data.

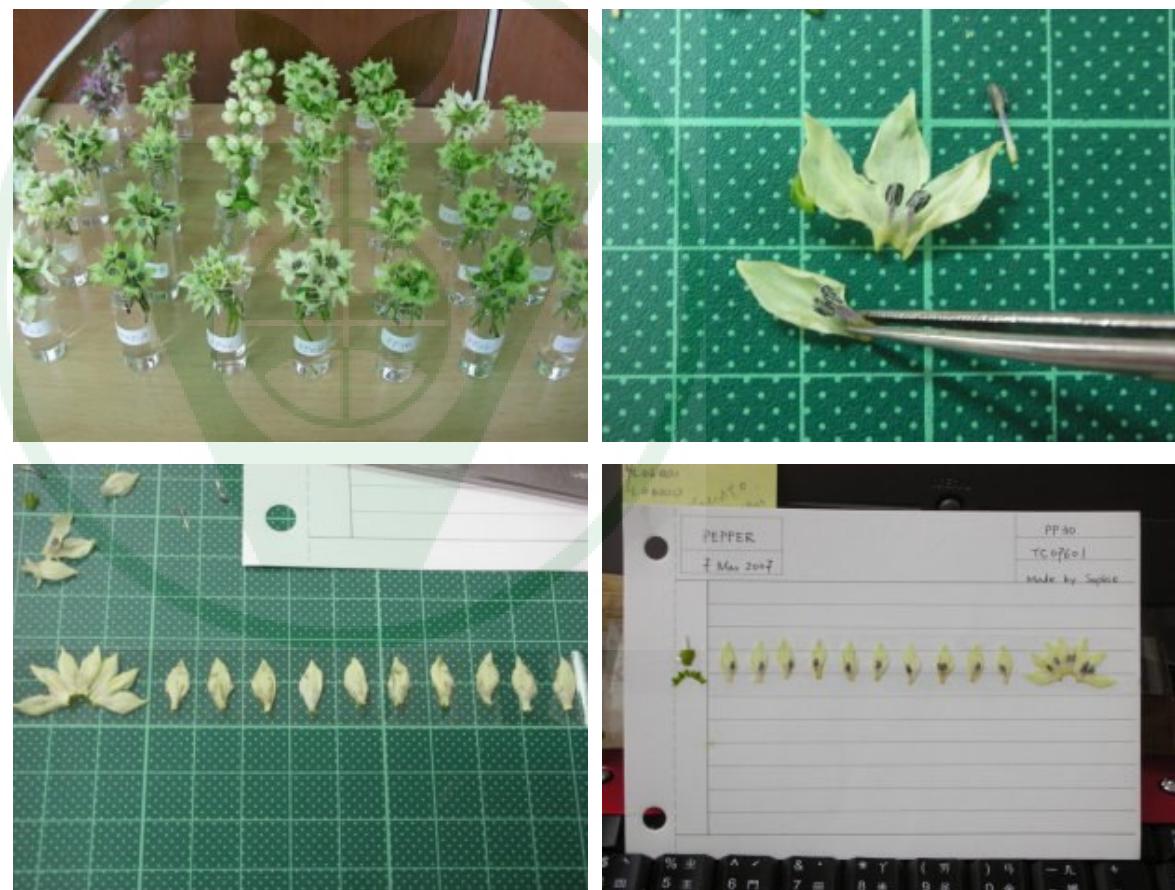


Regeneration and Characterization of *Capsicum*



- Morphological characterization (cont)

Preparing flower specimen for characterization and filing.



Regeneration and Characterization of *Capsicum*



- Morphological characterization (cont)



Harvesting materials for photo documentation.



CONTENT



- Seed preparation
- Seed treatment
- Preparation for sowing
- Land preparation
- Morphological characterization
- Seeds extraction and packing

Regeneration and Characterization of *Capsicum*



- Seeds extraction and packing

Pure pepper seeds were extracted.



Regeneration and Characterization of *Capsicum*



- Seeds extraction and packing (cont)

Dry the seeds to 4-7% moisture content in the drying room.



Regeneration and Characterization of *Capsicum*



- Seeds Collection (cont)

Weight and pack the seeds with the aluminum foil bags labeled.



Regeneration and Characterization of *Capsicum*



- Seeds extraction and packing (cont)



Store the seeds in the cold storages for medium and long-term.

Medium-term (for active collection): stored for 20-50 years under 5 °C, 45% RH.

Long-term (for base collection): stored for 50-100 years under -15 °C.

- END-