





# National Herbarium of Cultivated Plants: A Resource for Study of Crop Genepools



**Division of Plant Exploration and Germplasm Collection** 

ICAR-National Bureau of Plant Genetic Resources Pusa Campus, New Delhi 110 012, INDIA





# National Herbarium of Cultivated Plants (code 'NHCP')

- Located: at ICAR-National Bureau of Plant Genetic Resources, New Delhi; occupies a place among 25 major Indian herbaria.
- Taxa represented: mainly of cultivated and wild/ weedy relatives, potentially important taxa, native or introduced species for use in breeding.
- Additional material: seed and carpological samples as complementary collections

# Holdings

- Herbarium specimens: 23,522
- Seed samples: 3092; Economic products: 712 (representing 266 families, 1,516 genera and 4,128 species)



### NHCP

- Established in 1985 and located in a wing of the ICAR-NBPGR, Old Campus, New Delhi.
- Specimens housed in specially constructed herbarium cabinets (space savers) with storage capacity upto 50,000 specimens.

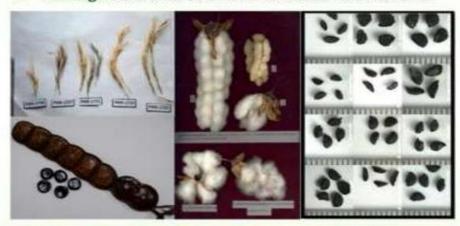






## Significant Features

- Uniqueness: differs in mandate from other herbaria across the country:
  - emphasis on representation of variability in crops (as cultivars, primitive landraces, wild forms, etc.)
  - wild relatives of crop plants (CWR) from different agroecological habitats
- Rare cultivars: as herbarium/seed variability/diversity
- Services provided: reference collections for identification, taxonomic study, resource for teaching on plant taxonomy, ethnobotany/economic botany
- Information resource: scientific/technical input on identification, validation and diversity distribution in India
- Teaching: with Post Graduate School, Indian Agricultural Research Institute, New Delhi
- · Trainings: taxonomic know-how on taxa of PGR relevance





## Significant Holdings

 ~ 350 crop plants of India: Triticum, Oryza, Abelmoschus, Sorghum, Avena, Coix, Echinochloa, Colocasia, Corchorus, Cucumis, Brassica, Momordica and Vigna



550 crop wild relatives (species number in parenthesis) under genera: Oryza (21), Sorghum (6), Vigna (25), Cajanus/Atylosia (10), Allium (29), Abelmoschus (15), Solanum (30), Cucumis (11), Trichosanthes (9), Piper (21), Curcuma (24), Rosa (19) and Prunus (16)

### **Active Linkages**

- ♦ Forest Research Institute, Dehra Dun
- Botanical Survey of India (all regional circles)
- ◆ CSIR-NISCOM (Wealth of India) Herbarium, New Delhi
- University of Delhi, Delhi

#### **New Records**

- New taxon: Abelmoschus tuberculatus, Herpetospermum operculatum
- New taxa added: species under Vigna, Abelmoschus, Cucumis
- New recorded uses/ information: Solena amplexecaulis, Abelmoschus manihot var. tetraphyllus



## Virtual Herbarium

- Over 3,500 species of crop genepools (~7,000 images) are maintained as Virtual Herbarium.
- Herbarium digital resource along with data configured in web-based software in collaboration with AKMU (for exotic taxa; crop wild relatives)
- Web Linkage: http://www.nbpgr.ernet.in:8080/nhcp/

Images linked to database for quick access on a family-wise and genus-wise basis and unique identity numbers assigned to herbarium specimens (HS numbers)





#### **Basic Studies**

- Taxonomy of crop plants of Indian region
- Representation of difficult groups
- · Representation of crop cultivars, diversity/variability in PGR
- Herbarium preservation using eco-friendly methods



#### **Facilities**

- Herbarium laboratory: processing, drying, poisoning
- Net-house: grow out of material for authentication/ validation, additions through seed material/vegetative propagules
- GIS lab: geo-referencing of collected specimens
- Herbarium library: only selected books/ literature
- Outdoor study: field study in herbal garden, Aravali Biodiversity Parks, etc.
- Strengthening: The NHCP accepts unique and unrepresented genetic resources (as herbarium specimens, seed and economic products) for build-up.
- Encourages: depositing vouchers for future reference and resource for studies on PGR.
- Guidelines: available for use and consultation of NHCP (htpp://www.nbpgr.ernet.in).

## Regional Stations/Institutes contributing

- NBPGR Regional Station Akola, Maharashtra
- NBPGR Regional Station, Bhowali, Uttarakhand
- NBPGR Base Centre, Cuttack, Odisha
- NBPGR Regional Station, Hyderabad, Andhra Pradesh
- NBPGR Regional Station, Jodhpur, Rajasthan
- NBPGR Base Centre, Ranchi, Jharkhand
- NBPGR Regional Station Umiam, Shillong, Meghalaya
- NBPGR Regional Station, Shimla, Himachal Pradesh
- NBPGR Regional Station, Srinagar, Jammu and Kashmir
- NBPGR Regional Station, Thrissur, Kerala





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