

Research and conservation of wild yams (*Dioscorea* sp.)

Wild yam species are an essential component of India's biodiversity, are under significant threat due to habitat loss, over-exploitation, and the decline of traditional knowledge.

Recognizing the urgent need to conserve these plants, the Palni Hills Conservation Council (PHCC) has initiated a conservation program. By securing and cultivating 10 distinct species of *Dioscorea* from various regions of India, the PHCC aims to safeguard their genetic diversity and ensure their long-term survival.



These yam tubers have been procured from central India and now planted in a specialized zone within the Arboretum established in the Genguvarpatty Centre of the PHCC. Other zones will specialize in other aspects of plant diversity (medicinal plants, native tree species, etc.,) as well a section for plants that are foraged by butterflies.



This nursery serves as a sanctuary for these plants, providing a carefully controlled environment that supports their growth while ensuring optimal care and management. Equipped with advanced horticultural facilities, the nursery is managed by a team of skilled experts dedicated to the preservation of these species.

These experts document the development of the plants, beginning with the first sprouts emerging from the soil, to ensure a thorough understanding of their growth cycles and conservation needs.

Wild yam species in the Arboretum

The following species of *Dioscorea* are currently conserved in the arboretum:

SL.No	Durwa name	Scientific/ Botanical Name
1	Kondkurda	<i>Dioscorea</i> sp
2	Chewandi	<i>Dioscorea</i> cf <i>anguina</i>
3	Baisdeti (Chattisgarh)	<i>Dioscorea</i> <i>alata</i>
4	Baisdeti(Tamilnadu)	<i>Dioscorea</i> <i>alata</i>
5	Pulpur	<i>Dioscorea</i> <i>bulbifera</i>
6	Chitongi	<i>Dioscorea</i> <i>glabra</i>
7	Dadda	<i>Dioscorea</i> <i>pentaphylla</i>

8	Kidinji/Targoria	<i>Dioscorea oppositifolia</i>
9	Burkikurda	<i>Dioscorea</i> sp.
10	Pithaikurda	<i>Dioscorea wallichii</i>



Aims of the yam collection

Yams are a major wild food source for many communities in India. Though some species are cultivated, most of them are wild. There are an estimated 630 species of *Dioscorea* in the world and India may host about 50 species or more, many of which are edible. However, due to a multitude of reasons (forest loss and modern diets among them) knowledge about yams is fast declining. In fact, the youth in most communities that traditionally consumed yams have difficulty identifying even the common species. Along with this, many species of *Dioscorea* contain toxins that require processing to be neutralized; this knowledge too is declining and is a cause for the overall neglect of this source of food. Other goals to set up a research and conservation base include:

Ex-Situ Conservation

The nursery offers a secure and controlled environment for cultivating *Dioscorea* species, protecting them from habitat destruction and over-harvesting threats.





Research and Development

As a hub for scientific research, the nursery enables botanists and conservationists to study these species. The knowledge gained will guide the development of effective conservation strategies and sustainable practices.

Genetic Diversity Preservation

Conserving multiple species of *Dioscorea* ensures the preservation of genetic diversity, which is vital for resilience against environmental changes, pests, and diseases.

Community Engagement and Awareness

The nursery intends to promote community involvement by providing educational opportunities. Local communities can learn about the ecological and economic importance of yam species as a food source, and perhaps cultivate them in their backyards.

Future Directions

PHCC plans to enhance its conservation initiatives through the following measures:

- **Collaboration:** Partnering with Botanical Institutions and Universities to advance research on *Dioscorea*.
- **Seed Banks:** Establishing Seed Banks to ensure long-term genetic preservation of Wild Yam species.

- **Sustainable Practices:** Promoting Sustainable harvesting techniques among local communities to prevent over-exploitation.
- **Cultural Knowledge:** Documenting traditional knowledge about yam species to emphasize their ecological, medicinal and cultural significance.

The conservation of wild and cultivated yam species is crucial for preserving biodiversity and maintaining ecological balance. PHCC's efforts serve as a model for biodiversity conservation, combining scientific innovation with community engagement. Through these initiatives, PHCC aims to secure a sustainable future for yam species and inspire broader conservation efforts.

Madhu Ramnath/Palni Hills Conservation Council

January 2025