LEAFY VEGETABLES GENETIC RESOURCES ACTIVITIES IN TÜRKİYE

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Presentation plan:

- Introduction
- *Ex Sıtu* Conservatıon
- Collections of Leafy Vegetables In Türkiye
- Multiplication/Regeneration, Characterization
- Studies Conducted on Leafy Vegetables in Türkiye

INTRODUCTION:

- Plant genetic resources activities of Turkey started in 1964. The studies were implemented within the framework of National Plant Genetic Resources/Diversity Research Programme (NPGRRP) in 1976.

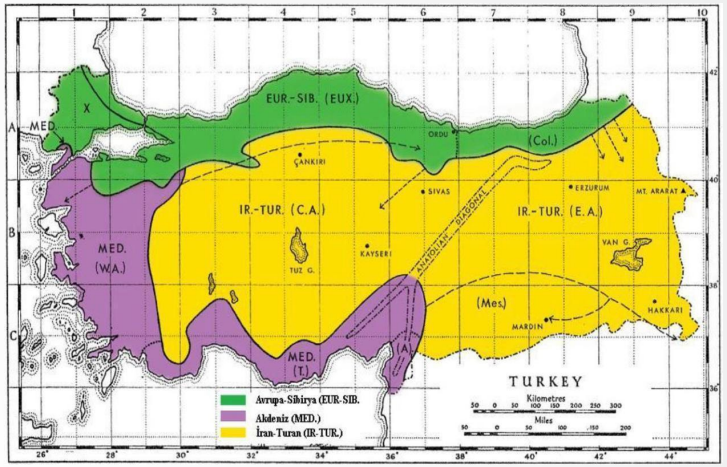
- Co-operation with various institutions are arranged by the principles of the National Code of Conduct on Collection, Conservation and Utilisation in 1992. All joint programs are conducted on project basis within agreements.

- Türkiye is also a member of several international programs working on plant genetic resources, such as FAO, ECP/GR, WANANET, IPGRI, The World Wheat Genetic Resources Networks, Beet Genetic Resources Network.

INTRODUCTION:



- Currently, Türkiye is represented in all four ECPGR Thematic Working Groups—Crop Wild Relatives, Cryopreservation, Documentation and Information, and On-farm Conservation and Management—and all 20 ECPGR Crop Working Groups, including the Leafy Vegetables Working Group, as well as in the ECPGR Genebank Managers Network (ECPGR, 2026).



- Türkiye is very rich in her flora with remarkably existing diversity. The reasons for this richness is being:

- ✓ Part of overlapping Vavilovian centres of plant diversity: Near Eastern and Mediterranean,
- ✓ A meeting place of three phytogeographical regions namely, the Euro-Siberian, Mediterranean, and Irano-Turanian region,
- ✓ A bridge between Southern Europe and South-West Asia, and has apparently served as a migration route,
- ✓ Centre of diversity for many genera and sections,
- ✓ A centre of origin for many cultivated plants and weeds in Europe,
- ✓ And finally, the species endemism is high in the country (Tan, 1998).

EX SITU CONSERVATION:



❑ National Seed Genebank
(*established in Izmir, 1964)*



❑ Türkiye Seed Genebank
(*established in Ankara, 2010)*

EX SITU CONSERVATION:

- Collections of seed material are preserved in cold stores of the genebanks at Aegean Agricultural Research Institute (National Seed Genebank) and Central Research Institute For Field Crops (Türkiye Seed Genebank) where the needs of long and medium term storage for base and active collections as well as short-term storage for working samples have been met thoroughly.





EX SITU CONSERVATION:

Conservation Facilities In Cold Stores of the Genebanks at Aegean Agricultural Research Institute and Central Research Institute For Field Crops

	Short-term storage	**Medium-term storage**	**Long-term storage**
Temperature (0 °C)	+4	0	-20
Moisture content (%)	6 - 8	6 - 8	6
Container type*	LAP	SCN/SGC/LAP	SCN/SGC/LAP
Viability monitoring	-	5-year intervals	10-year intervals

**LAP: aluminium laminated foil bags, SCN: sealed can containers, SGC: sealed glass containers*

COLLECTIONS OF LEAFY VEGETABLES IN TÜRKİYE

- Türkiye is a centre of origin and/or center of diversity for leafy vegetables. Therefore almost in all of the regions these are grown by farmers and genetic diversity of lettuce, spinach, rocket, garden cress, purslane and asparagus have existed.







COLLECTIONS OF LEAFY VEGETABLES IN TÜRKİYE

- Leafy Vegetables collected since 1964 have exceeded 1.012 accessions.
- Aegean Agricultural Research Institute has *The Vegetable Genetic Resources Research Project*. Systematic collections and surveys are conducted within the project.
- Also collection activities are likewise being carried out at Central Research Institute For Field Crops.
- Collection is still a priority in order to filling gaps of land races found in Türkiye, especially in the regions where collection has not been done.





The number of *ex situ* collections of leafy vegetables conserved in the two genebanks in Türkiye.

Botanical Name	English Name	National Seed Genebank, 1964-2026)	Türkiye Seed Genebank, 2010-2026)	Total Number of Accession
***Lactuca sativa* Mill.**	Lettuce	346	49	395
Lactuca spp.	Lettuce species	121	-	121
***Cichorium intybus* L.**	Chicory	-	1	1
***Spinacia oleracea* L.**	Spinach	227	24	251
***Eruca sativa* L.**	Rocket	48	11	59
***Lepidium sativum* L.**	Garden cress	150	12	162
***Portulaca oleracea* L.**	Purslane	16	2	18
***Asparagus officinalis* L.**	Asparagus	2	3	5
Total		910	102	1.012

MULTIPLICATION/REGENERATION, CHARACTERIZATION

- Stored accessions with low germination rate, or decreased amount of active collections and insufficient amount of collection material are subject to the regeneration programs.
- Twenty-five accessions of garden cress and ten rockets have been multiplication and characterization so far.
- The collection, multiplication and characterization studies of Leafy Vegetables are ongoing.







STUDIES CONDUCTED ON LEAFY VEGETABLES IN TURKIYE

Some of the studies currently being conducted on leafy vegetables at TAGEM are;

No	Project Name	Name of Institution
1	The Vegetable Genetic Resources Research Project	Aegean Agricultural Research Institute-Izmir
2	Lettuce and Salad (*Lactuca sativa* L.) Breeding Studies	Aegean Agricultural Research Institute-Izmir
3	Development of Lettuce Lines and/or Varieties with Improved Yield and Quality Traits via Mutation Breeding	Transitional Zone Agricultural Research Institute – Eskişehir.
4	Spinach (*Spinacia oleracea* L.) Breeding-II	Atatürk Horticultural Central Research Institute – Yalova.

STUDIES CONDUCTED ON LEAFY VEGETABLES IN TURKIYE

No	Project Name	Name of Institution
5	Development of New Lines and Varieties in Rocket (*Eruca sativa*) and Garden Cress (*Lepidium sativum*)	Transitional Zone Agricultural Research Institute – Eskişehir.
6	Selection of the Bayrampaşa Type Artichoke (*Cynara scolymus* L.) – II	Atatürk Horticultural Central Research Institute – Yalova.
7	Collection, Conservation, and Characterization of Turkish Asparagus Genotypes (*Asparagus* spp.) project	Transitional Zone Agricultural Research Institute – Eskişehir.

THANK YOU
FOR YOUR ATTENTION!

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