

Rice
Harvesting



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Ancestors of Grain

Food and Agriculture Organization of the United Nations (FAO) states that the assurance of a healthy life on a global scale depends on biodiversity. It is also especially important that natural areas that host wild ancestors of food continue to exist. In order to eat healthy and live healthy, healthy and natural areas must exist.

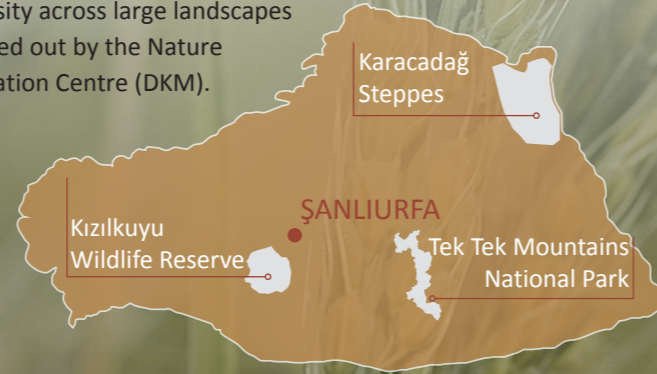
The grasslands, which include steppes, contain the most diverse group of plants in the world, namely herbaceous plants. The herbaceous plants have nearly 10,000 species and among them are the wild ancestors of grain such as wheat (*Triticum* spp.), barley (*Hordeum* spp.), and oats (*Avena* spp.), which are the main food sources. The steppes, homeland to edible plants, also undertake the function of insurance.

Thymus sp.
(Thyme)

Triticum sp. (Wheat) and
Hordeum sp. (Barley)

Conservation and Sustainable Management of Turkey's Steppe Ecosystems Project

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For the details

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General Directorate of Nature Conservation and National Parks
www.tarimorman.gov.tr/DKMP

General Directorate of Plant Production
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General Directorate of Forestry
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"Conservation and Sustainable Management of Turkey's Steppe Ecosystems Project"

GCP/TUR/061/GFF

WILD PLANT SPECIES INSURANCE FOR OUR FUTURE

Şanlıurfa Steppes

Şanlıurfa province is one of the first places to come to mind when steppes of Turkey are considered. With its vast plains, semi-arid climate, and plain topography, steppes make up most of the natural vegetation in Şanlıurfa.

The most notable species of the Şanlıurfa steppes are perennial xerophytic plants, such as milkvetch (*Astragalus* spp.), mullein (*Verbascum* spp.), *Phlomis*, knapweeds (*Centaurea* spp.), sainfoin (*Onobrychis* spp.), *Onosma*, *Echinops* and *Cirsium* species.

Astragalus plumosus
(Milkvetch)

Onobrychis megataphros
(Sainfoin)

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Plants Cultivated for the First Time

Many of the basic foods we eat today were first cultivated in a region called Fertile Crescent covering certain parts of the southeastern Turkey, Iraq, Syria, Lebanon, Israel, Palestine, Jordan, and Iran.



Map of Fertile Crescent



Cicer pinnatifidum

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However, these species, which are wild relatives of many plants, are threatened by the loss, degradation and fragmentation of habitats and the invasion of alien species. Conserving these species in their natural areas holds great importance for their survival. Conservation of these species is prioritized especially in the conservation actions to be taken in the Tek Tek Mountains National Park and Kızılkuyu Wildlife Reserve.



Kızılkuyu Wildlife Reserve

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There are two approaches to conserving plant genetic resources that are important for future generations: conservation in their habitats (*in situ*) and outside their habitats (*ex situ*). In Turkey, studies on conservation of plant genetic resources are carried out within the scope of the National Program on Conservation of Plant Genetic Resources/Diversity. *In situ* conservation work is carried out in our country's network of protected areas with various conservation status. As for the *ex situ* conservation efforts, species are preserved in artificially controlled environments, such as seed banks, gene banks and botanical gardens.

Aegilops sp.

There are two gene banks in our country where plant gene resources are preserved: Field Crops Central Research Institute and Aegean Agricultural Research Institute gene banks. In addition, many plant samples are kept in the agricultural gene banks at 17 research institutes affiliated to the Ministry of Agriculture and Forestry.



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Among them are wheat (*Triticum* spp.), barley (*Hordeum* spp.), lentil (*Lens* spp.), and chickpeas (*Cicer* spp.). This region is of great importance for human history. **Approximately 12,000 years ago, the first transition to a settled life and the first cultivation of wild plants, in other words first agricultural practices, were realized in this geographical setting, particularly because it contains largely productive water resources.**

As a result of field studies conducted within the scope of Conservation and Sustainable Management of Turkey's Steppe Ecosystems Project, three wild relatives of barley and two wild relatives of wheat were identified in Şanlıurfa Kızılkuyu Wildlife Reserve. In Tek Tek Mountains National Park, two wild relatives of barley and four of wheat were determined. In Karacadağ steppes, three wild relatives of barley and two wild relatives of wheat were recorded. Şanlıurfa steppes are also important for forage such as barley.



Wheat kernel

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The most important threats on wild species present outside the protected areas are grazing pressure and conversion of steppes into agricultural fields and gardens. Especially for wild plants that are members of legumes, stony habitats are very important. Collecting stones in these areas for conversion to agricultural fields has direct damaging effects on these species.



Tek Tek Mountains National Park

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Aegilops sp.

Agricultural practices in Şanlıurfa date back to ancient times. The ancestors of many types of grain, which are indispensable parts of our diet today, originated from Şanlıurfa steppes. **The wild ancestors of many types of grain, such as wheat, barley, rye, chickpeas, lentil, peas, common vetch, *Lathyrus* and sainfoin, which are still cultivated today, are found in Şanlıurfa steppes.**

The ancestor of barley, namely the wild barley is commonly found in the steppes of Tek Tek Mountains National Park and Kızılkuyu Wildlife Reserve. Wild relatives of legumes such as lentil, *Lathyrus*, peas and chickpeas are also present in the Şanlıurfa steppes.



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Tek Tek Mountains National Park

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Tek Tek Mountains National Park

Today, many wild plant species are used as sources of genes important for both traditional and modern cultivation practices. This wild genetic diversity is important for achieving new adaptive features such as resistance to diseases, droughts and salinity in culture types and acts as insurance for global food security. Continuing this type of scientific work, as well as the conservation and sustainable management of natural areas, is highly important to secure the future.