



Characterization and Preservations of Some Wild Plant Species Using Molecular Biology and Biotechnology

By
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Abstract:

Syria is an important region for different plant genetic resources (wild and cultivated species) of the world, because of the diverse ecosystems climatic conditions. Syria is considered as a center of origin biodiversity for many crops, feeds and fruit trees (wheat, barley, lentil, chickpea, olive, almond, pear, plum, pistachio, etc).

The Syrian ecosystems have been subjected to numerous man-made and natural pressures causing known and unknown losses in biodiversity. Wind erosion degraded over 2000 thousand hectares; water erosion degraded 1058 thousand hectares. Desertification encroached on 480000 hectares and salting of irrigated land, mainly in the Euphrates basin, has spoiled over 125000 hectares and over 5000 25000 hectares were affected by fires in the last 2 decades.

There have been many attempts at the national and institutional levels to conserve biodiversity in Syria. We, at the atomic energy commission of Syria, through several departments have been working for the last 20 years on studying factors affecting biodiversity including industrial pollutants, and trying to study genetic diversity of many plant species as well as trying to preserve endangered plant species in vitro.

The use of molecular biology techniques has made possible to better characterize plant and construct relationship among and within different plant species.

We have been using different DNA and Protein marker techniques including, RAPD, AFLP, SSR, ISSR, IRAP, MERAP and a technique called Bar-coding for studying genetic biodiversity and searching for genetic loci responsible for agronomically important traits. Our efforts are focused on identification of plant species and subspecies, propagation and preservation of plant stocks, gene mapping of studied species, studying and analyzing genetic loci of studied traits and the use of marker assisted selection to select for plants with desired traits.

Plant species that have been studied include important crop species (Wheat, barley, cotton) fruit trees (Olive, date palm, pistachio, almonds) and wild plant and tree species (Orchids, daucus, Eryngium, caper, Crataegus, Pyrus, Arthrocnemum macrostachyum)

This presentation will focus on our efforts at the department of biotechnology to characterize and preserve important plant species in Syria.

Presentations' Abstracts