

Crop genetic resources conservation in Switzerland



Harvesting of trials at the Federal Research Station for Plant Production (RAC), Nyon (photo: G. Kleijer).

Switzerland is a country with a number of different regions, each with its own climatic conditions and topography. This is reflected in the great diversity of local varieties of cereals, fruit trees (particularly cherry), vegetable and forage crops. Each village, and many individual farmers cultivate local varieties which have been maintained for several decades.

This extensive diversity includes important ecotypes of forage species. Around 1.4 million hectares are used for grassland and pastures, and farmers are now being subsidized to use sustainable farming methods instead of intensive practices to ensure the conservation of forage crops. Until the 1940s, landraces of cereals (barley, rye, and wheat) were also cultivated. Today, only a few sites still exist in the Canton Valais where landraces, adapted to the alpine climate of the region are still grown, although there is now new interest in recultivating these.

Conservation of PGR in Switzerland is carried out by both public and private organizations. Some of the public organizations such as the Federal Research Stations have been working actively on this topic for more than 40 years. Private organizations initiated their activities 20 years ago. This decentralized approach requires a coordinating body to oversee the activities. In 1991, supported by the Federal Office of Agriculture, the Swiss Commission for the Conservation of Cultivated Plants (CPC) was created with representatives of private and public organizations. One of the first tasks of the CPC was to undertake an inventory of all organizations and institutes involved in describing species and the number of accessions conserved. These data were updated in 1996, revealing that 14 private and 13 public organizations are maintaining more than 19 000 accessions of 240 species.

Ex situ conservation is the main method of maintaining these collections through seed genebanks and field collections. Collecting activities and the establishment of genebanks have been initiated mainly in response to breeding programmes. Local varieties of cereals were first collected in 1900 by the Federal Research Station for

Plant Production (RAC), Nyon.

Old and local varieties of fruit trees are maintained in orchards, arboreta and field collections. Conservation of fruit trees is undertaken mainly by private organizations, the Swiss Association for the Protection of Fruit Heritage (Fructus) and 'Pro Specie Rara'. Exhibitions demonstrating the rich genetic diversity of fruit trees are held regularly, targeted at both the general public and at the governmental level, aiming at raising awareness of the importance of these collections. Another initiative by the private organization "Association for the safeguard of the 'Baroche' area" is promoting *in situ* conservation of the trees of Canton Jura. Farmers are encouraged to conserve old varieties in their orchards and to sell the fruit. 'Pro Specie Rara' is undertaking on-farm conservation by encouraging individuals to conserve landraces (particularly vegetables and cereals) in their gardens.

Of the 100 wild species of aromatic and medicinal plants found in Switzerland, 25 are included on the national red list of endangered species. RAC has initiated a breeding programme to study medicinal and aromatic species and to introduce them into mountainous regions where production of other crops is difficult. Accessions of these species are maintained in field collections or as seeds.

The future focus of the Swiss national PGR activities will be to promote *in situ* and on-farm conservation through specific projects. The CPC also aims to develop a detailed inventory of all accessions under long-term storage in Switzerland to provide a reference list. This will enable the identification of duplicates, rare varieties and genebanks under threat and will facilitate the characterization and evaluation of the collected material.

Ms B. Schierscher
Swiss Commission for the
Conservation
of Cultivated Plants (CPC)
&
Dr G. Kleijer
Federal Research Station
for Plant Production (RAC)
Nyon, Switzerland