

Collection of vegetable crops, medicinal plants and their wild relatives in Ukraine

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Route of exploration mission traced from data recorded by GPS unit.
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During 2006, a collecting mission to collect vegetable crops, medicinal plants and their wild relatives in the Ukraine was organized by the Plant Genetic Resources Laboratory of the Research Institute of Vegetable Crops, Skierniewice, Poland, in collaboration with the National Centre for PGR of Ukraine (NCPGRU), Kharkiv. The mission was funded by Bioersivity International and by the Polish Ministry of Agriculture and Rural Development.

The expedition was carried out in two parts. The first part was conducted in western Ukraine from 24 September to 5 October 2006 (four participants from Poland and three from Ukraine). The mission started in L'viv and covered Lvivska, Rivnienska, Ternopil's'ka, Chmelnycka, Cherniwec'ka, Iwano-Frankivs'ka and Zakarpat'ska provinces, covering a total of 3600 km.

The second part was conducted in southern Ukraine from 24 November to 7 December 2006 (three participants from Poland and two from Ukraine). The mission started in Vinnytsa and covered Vinnyts'ka, Cherkas'ka, Mykolayivs'ka, Odes'ka and Kirovograds'ka provinces, covering a total of 4000 km.

The route of both missions covered regions located in forest-steppe, steppe and mountain geographic zones, rich in diversity of cultivated crops, wild relatives of crop plants and wild medicinal plants.

The aim of the mission was to collect and preserve the diversity of vegetable crops, medicinal plants and related wild species endangered by extinction.

Achievement of independence in 1991 caused changes in the structure of Ukrainian agriculture. State and collective farms were divided among the farm workers. Most of the privatized land was leased to newly created private agricultural associations. It is

therefore necessary to preserve the diversity where traditional varieties are being replaced by modern cultivars.

Germplasm was collected in home gardens, farms, local markets, scientific institutions, botanical gardens, natural and ruderal habitats, field margins, etc. Seeds, bulbs or other propagules were gathered. During seed sampling, attention was paid to keeping a good representation of population diversity. Geographical coordinates, the elevation of each collection site and the mission route were recorded by Global Positioning System (GPS) unit. Data from the GPS were downloaded to MySQL database during the mission. Other relevant information about collection sites and passport data of accessions were entered into the database. Farmers were interviewed to obtain information about collected accessions (local names, origin, usage of the material, etc.).

A total of 1309 accessions (583 in the first mission and 561 in the second) were collected of 160 species. Germplasm was collected at 190 sites (92 in first mission and 98 in the second). Most of the accessions (78,6%) were obtained from people living in villages, 9,6% were bought in markets, 5,6% were collected in the wild, 3,6% came from experimental stations and 2,7% were found in ruderal habitats. The collected material was shared between the Polish and Ukrainian partners. None of the germplasm collected existed in either of the countries' collections. Both collections have been enriched with valuable landraces, old cultivars and medicinal plants traditionally cultivated for a very long time. The material is stored in both genebanks and is freely available to the ECPGR Vegetable Network, all qualified scientists/organizations and domestic and foreign users.

Strong expansion of western seed companies and the move from traditional, small-scale production to large-scale



Steppe near Yarovoye, Odes'ka oblast.
Photo: M. Kotliński, Warsaw University, Poland

production will, in all probability, cause the extinction of valuable landraces. The great diversity of crop plants observed in the Ukraine is endangered and requires urgent protection. This can only be accomplished through further collecting missions, which should be organized as soon as possible.



Vegetable landraces on local market in Kamieniec Podil's'kij, Chmelnycka oblast'.
Photo: M. Kotliński, Warsaw University, Poland

Number of collected accessions

Crop name	Acc. no.
Common bean	202
Onion	74
Tomato	70
Common garlic	63
Runner bean	51
Dill	47
Pumpkin	45
Pepper	45
Parsley	44
Corn	41
Red beet	36
Cucumber	33
Watermelon	32
Musk melon	29
Carrot	27
Shallot	23
Winter squash	17
Peas	16
Lettuce	16
Caraway	14
Broad bean	13
Lettuce	12
Radish	11
Soyabean	10
Fodder beet	10
White cabbage	9
Coriander	8
Parsnip	7
Other 134 species	304