CURRENT STATUS AND PERSPECTIVES OF CONSERVATION OF HAZELNUT AND CORNELIAN CHERRY IN THE REPUBLIC OF MOLDOVA

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Under the conditions of global climate change, dramatic degradation of natural resources, growth of human population on the Earth, food shortage and maldistribution of food, the role of crop wild relatives (CWR) as one of stabilizing factors of civilization development significantly increases. CWR of natural flora have the wide spectrum of valuable traits and properties – resistance to draught and limiting temperatures, diseases and pests, increased content of bioactive substances and main nutrients. Gene pool of these species created during evolution is a treasurable source material for plant breeding. Along with cultivated species CWR form a part of plant genetic resources, the diversity of which determines national food security.

Laboratory of Plant Genetic Resources of the Institute of Genetics, Physiology and Plant Protection of Academy of Sciences of Moldova conducts complex studies on inventory, collection, investigation and conservation of genetic resources of crop plants and their wild relatives. Special attention is paid to investigation of natural populations of CWR, search for the germplasm possessing useful properties. Among CWR of fruit crops growing in forest ecosystems of Moldova, hazelnut (Corylus avellana L.) and cornelian cherry (Cornus mas L.) play a very important role. In situ conservation of hazelnut biodiversity represent a challenging issue of high priority in the context of current trend of reduction of areas of pure hazelwoods and decreased presence of this culture in many forest types. On the other hand, share of wild fruit tree-shrub cultures including cornelian cherry grows among the main species used for restoration of forests. For this purpose, for example, more than 2 million seedlings and young plants of Cornus mas from the material grown in forest tree nursery were planted in 2002-2008.

For the purpose of identification of current status of growth of abovementioned species populations, routing investigations were conducted aimed at their inventorying and GPS-positioning in forests of different soil-climatic zones of Moldova in more than 30 forest stations and protected natural areas. Cornelian cherry and hazelnut are found in the undergrowth in forest associations with common oak, durmast oak, hornbeam, Tilia, ash tree, smoke-tree, forming sometimes brushwood of various density. It was noted that land topography and vegetation conditions influence on the growth, functional state and fructification of populations of Corylus avellana and Cornus mas, their resistance to drought and other unfavorable environmental conditions. Plants growing in forest stations located in Edineț, Soroca, Nisporeni, Strășeni, Călarași and some other regions were in the best state among natural populations of hazelnut. Biometric measurements of plants were made and showed that cornelian cherry brush height varied within 2-7 m, and tree stem diameter was 3-20 cm. Diversity was noted with regard to seed shape and size and taste qualities. Hazelnut bushes were as high as 4-7 m, sometimes up to 10 m, and had 2-5 main stems 2-16 cm in diameter.

The issue of intraspecific diversity of said species in their natural habitats is a noteworthy point important for determination of degree of genetic erosion under the conditions of dramatic fragmentation and significant anthropogenic pressing on forestlands, characteristic for the Republic of Moldova. On the other hand, examination of mono-dominant and mixed artificial plantations of hazelnut and cornelian cherry in
different forest stations (Vadul lui Vodă, Susleni, Anenii Noi, Singerei, Chișcăreni, Bobeica, Căzănești and etc.) revealed their ineffective use (solely for fruit harvesting) in the absence of any management. However it should be noted that these sites are ideal “natural laboratories” where valuable genotypes can be searched for and selected, reproduced and introduced in the forestry. Selected forms could become valuable sources for traits important for breeding of new productive cultivars and hybrids resistant to environmental stresses.

Conducted studies allowed to identify current distribution and reliability of conservation of 2 species of fruit crop wild relatives in forest ecosystems in different soil-climatic zones of Moldova, and to determine the perspectives for implementation of methods of their further conservation and sustainable use.
Cornelian cherry comes across as a convenient plant, convenient in the matters of its growth condition. It does not require high on maintenance care to ensure good productivity. This easy growing plants prospers it in any soil of good or adequate fertility, ranging from acid to shallow chalk. Best results are noticed in plants that grow well in heavy clay soils. As a matter of preference this plant is an extremely positively phototropic plant, in presence of soil and adequate amount of sun light this plant is believed to strive the best. Having said that this plant also dwells in light s FRA 2020 report, Republic of Moldova. FAO has been monitoring the world's forests at 5 to 10 year intervals since 1946. The Global Forest Resources Assessments (FRA) are now produced every ve years in an attempt to provide a consistent approach to describing the world's forests and how they are changing. The FRA is a country-driven process and the assessments are based on reports prepared by officially nominated National Correspondents. STREET CHILDREN IN REPUBLIC OF MOLDOVA: CURRENT SITUATION AND FUTURE PERSPECTIVES Àf Àf TDsDDeDsD§DsÀfCOLESNICOVAÀf Assoc. prof., PhD, Head of the Social Research and Living Standard Department, National Institute for Economic Research, Chisinau, Republic of Moldova ctania@gmail.com ÀfMDeD;DsDeDVÀfCIOBANUÀf MSc, scientific researcher in the Social Research and Living Standard Department, National Institute for Economic Research, Chisinau, Republic of Moldova. ciobanu.mihail.s@gmail.com Àf AD-sDrDsDoD- A current pressing issue in Republic of Moldova, especially in the urban area is the phenomenon called â€œstreet chil