

National reserve gene pool of rare species the natural flora of Belarus - new *ex situ* conservation concepts

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Aim of the study: To create scientifically and practical standards for collecting rare species. Provide a system for the restoration of critical *in situ* populations through *ex situ* methods. The aim of *ex-situ* is to create a reserve stock of protected species. And this should not be an end in itself, *ex-situ* conservation is: the source of plant material for reintroduction into a disturbed environment; for the reconstruction of critical populations; for scientific and educational work; for a breeding works.

Material and Methods: The objects are natural populations of rare and endangered species, model cenopopulations in the *ex situ* conditions and also germplasm (seeds, tissue and pollen) of these plants. To study the habitat, many methodical blocks from the areas of investigate of the ontogeny, morphology, phytocenology and phytoindication are used. For the preservation and reproduction of rare species, cryopreservation methods, short-term controlled storage, conservation in living field collections and tissue culture are used.

Results: The gene pool of the Collection of rare plants in the Central Botanical Garden has been evaluated from the point of view of the uniqueness and originality of the material. The collection contains a gene pool from populations that no longer exist in nature now. Critical species populations are identified that need urgent conservation measures. Methods for estimating the ecological conditions of phytocenoses for translocation activities (reintroduction, repatriation and re-stocking) have been tested. The germplasm repository is founded and being tested. Standards and storage protocols have been prepared, taking into account local features and integrating into international accounting systems. The recovery templates are designed taking into account the specifics of the species and the threats to them.

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