

An aerial photograph of a landscape at sunset. In the foreground, there are rolling green hills with some trees. A large body of water, likely a lake or reservoir, occupies the middle ground, reflecting the golden light of the setting sun. The background shows a dense forest of trees with some autumnal colors. The sky is a mix of blue and orange.

# BELARUS

# БЕЛҮКОЎ

*Research and development of potato genetic resources for increased fertility and food security*





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## SETTING THE SCENE

Located in the European deciduous broad-leaved zone, over 60% of Belarusian landscape is covered by diverse ecosystems, comprising of wetlands, forests, kame moraine and lakes. These are some of the rarest landscapes in Europe. The Belarus Polesie, located in the southern part of the country, is one of Europe's most important inland water regions and has been given priority for conservation and sustainable use. The wetlands, which were extensively drained in the 20th century, have increased in recent years due to rewetting. The population of Belarus is about 9 million people. Two million of them live in Minsk, the capital of Belarus, 3.5 million live in towns and the remainder live in villages.



The Republic of Belarus has a significant endowment of plant and animal genetic resources. The most valuable genetic materials can be found in the national parks, wildlife reserves and in botanical gardens as living organisms and in addition, they are also stored as cell culture and DNA collections in genetic banks. The Republic of Belarus recognizes the value of biodiversity as an essential condition for the stability of the biosphere.



National traditions used by Belarusian people since centuries ago provide effective practices that ensure the sustainable use of biosphere resources. These include field cropping, livestock farming and gardening. During the past 24 years the political and administrative system in the Republic of Belarus enforced the legislative basis for protection and restoration of national traditions, including traditional knowledge relevant to the utilization of plant and animal genetic resources for food production, local industry restoration, and improvement of the national art and craftsmanship. Today, national traditions used in farming, breeding of pigs, cows, goats and horses, and the use of local medicinal plants for people's health care are promoted by a State Programme on traditional agricultural farmsteads and country estates in Belarus. Research and development of plant genetic resources is a priority for the country in order to ensure food security and sustainable agriculture.



## Biodiscovery case

Belarus has not yet developed a fully functional national legal mechanism to ensure access to and benefit sharing of genetic resources. However, the country, through the Institute of Genetic and Cytology (ICG) of Belarus has invested in research and development of three Belarusian potato lines (SvSvl, SvSv2, and IGC10/1.21) which were transferred to the Potato GeneBank of the US Department of Agriculture in 1997. The transfer was made in accordance to basic principles of the Nagoya Protocol and this was the first pragmatic step to guide the development of a national system of access to genetic resources and benefit-sharing. The transfer was authorized by the Ministry of Natural Resources and Environmental Protection of the Republic. One of these potato lines has been improved to increase fertility and the other two will act as “messengers” to facilitate interspecies hybridization of wild and cultivated potato species. The importance of these two lines as a breeding tool for the creation of new commercial potato varieties can be a significant step forward since currently hybridization between wild and cultivated potatoes remains a challenge for plant breeders. This tool can unlock a great potential for food security.

Initially, a non-commercial research agreement was established between the parties based on Mutually Agreed Terms (MAT) for the joint use of the concerned genetic resources and the sharing of benefits arising from their use, such as scientific collaboration and joint publication of research results, in line with the requirements of the Nagoya Protocol. Under the agreement, the USA Potato Genebank may be allowed to provide breeding lines to third parties for further research, development and commercialization. However, in such cases, a specific clause has been introduced into the agreement to deal with the possibility that a change of intent might occur from non-commercial to commercial use. The USA Potato GeneBank will also share genetic materials with Belarus and this has been envisaged as a modality for benefit sharing. Additional forms of benefit sharing include co-authoring scientific publications and filing joint intellectual property applications for products resulting from the research on the potato genetic resources from Belarus. A contract clause is also included in the aforementioned Agreement to that effect. The IGC has also proposed other forms of non-monetary benefits, such as direct involvement in the research and development carried out by third parties.







## EYEWITNESS STATEMENT



*“Finding additional research partners is an important goal of the collaboration with the USA Potato Genebank. The USA Potato Genebank will facilitate the dissemination of information on the most genetically valuable specimens stored in the Genebank, which is an enabling condition for attracting new partners for joint research. The Laboratory of Potato Genetics at the Institute of Genetics and Cytology has achieved outstanding results in the field of potato genetics and breeding.*”



*Specialists at the USA Potato Genebank have invited the Institute to deposit the most genetically valuable specimens within their Genebank in order to facilitate their accessibility for scientists and other interested entities in the USA and in other countries. Potato is a strategic staple food that contributes to ensuring food security almost in every country across the globe.”*

**DR ELENA MAKEYEVA**, Associate Professor and Head,  
NCC-ABS, IGC





## In fine focus: SDGs implemented by the biodiscovery case

In Belarus, the UNDP-GEF Global ABS Project is supporting implementation of the SDG 15, aimed at ensuring life on land through the conservation and sustainable use of biodiversity, including access to genetic resources and benefit sharing. The Project supports a policy-making process to develop a national ABS framework; the establishment of a systematic inventory of DNA of genetic resources; the further development of the database of the Republican DNA Bank, which provides access to genetic information on animal, plant and microorganisms; and a study on access to genetic resources and innovation by the different industry sectors (SDG 9). The integration of effective DNA technology for the rapid screening of wildlife species diversity through the use of modern

DNA-barcoding techniques will make a significant contribution to the development of long-term measures for the conservation of biological diversity.

The country is also assessing traditional knowledge associated with genetic resources as a national heritage with innovative potential (SDG 9), with a view to further the collection and dissemination of information about traditional knowledge holders and the legal protection of such knowledge under a gender perspective (SDG 5). Ongoing awareness-raising activities with stakeholders emphasize the importance of traditional knowledge associated with genetic resources and of communities and civil society's involvement on ABS issues.







## Legal and political enabling environment for ABS and the Nagoya Protocol

Belarus has a vibrant research community with advanced research infrastructure. The country has been a Party to the Nagoya Protocol since its entry into force in October 2014 and has established a formal institutional structure for its implementation. Most investments in genetic resources have been by the government and are channeled to support research institutions that undertake work on genetic resources.

However, despite some legal provisions in nature resource protection legislation, at present, there is no uniform procedure for implementing ABS and there was no mechanism for monitoring the use of genetic resources and associated traditional knowledge.

The UNDP-GEF Global ABS Project is currently supporting the Government in establishing an effective legal framework to fully implement and operationalize the ABS obligations under the Nagoya Protocol.

As a result, the first internationally recognized certificate of compliance for Belarus was issued by the Clearing House of the Nagoya Protocol in January 2018.

Under the leadership of the Ministry of Natural Resources and Environmental Protection and the National Coordination Centre on Access to Genetic Resources and Benefit Sharing (NCC-ABS), the Project is assisting the country in modernizing its ABS legislation. It is helping in the determination of liability measures for cases of non-compliance with the Nagoya Protocol and in the establishment of effective access measures related to the granting of PIC and the establishment of MAT for the transfer of genetic resources.







## MESSAGE FROM AN SDG ADVOCATE

*“The Republic of Belarus considers this international instrument [the Nagoya Protocol] not only as a successive step in fulfilling its obligations under the Convention on Biological Diversity, but also as an opportunity to develop the genetic resources’ market in the country and the promotion of Belarus’ interests internationally. This also gives an opportunity to use new technologies and developments, to revitalize the sharing of experiences in this area.*

*By stimulating the use of genetic resources and strengthening the opportunities for the fair and equitable sharing of benefits arising from their utilization, the Nagoya Protocol provides incentives to conserve genetic resources as a valuable source of biological diversity, to sustainably use its components and to further enhance the contribution of biodiversity to the country’s sustainable development and human*



*well-being, which will catalyze implementation of not only SDG 15 but many more SDGs to support economic growth and the livelihoods of local communities.”*

**MR ALEKSANDR NIKOLAEVICH KORBUT,**  
Deputy Minister of Natural Resources and Environmental  
Protection of the Republic of Belarus

