

Research directions:

Environment and biodiversity
Agriculture, food and nutrition
Biomedicine / Health

4 research laboratories

phytochemistry
in vitro tissue culture
molecular genetics
bio-geochemistry



International and national projects

(2016-present)

Capitalization of the natural potential of several medicinal and aromatic species in the Artemisia genus with economic and ecological value in Moldova, SCOPES 2013-2016: Joint Research Projects

Molecular authentication of complex herbal food supplements for safety and efficacy (PhytoAuthent) EEA Financial Mechanism 2009 - 2014

Assessing and Monitoring the Impacts of Genetically modified plants on Agro-ecosystems (AMIGA), FP7 KBBE

Advanced and Emergent technologies to obtain vegetal extracts used in innovator food supplements (TEVIS), PN III: P2-PED

Development of a functional model for sustainable capitalization of genetic and phytochemical diversity of Arnica montana L. wild populations in the Northern area of the Romanian Eastern Carpathians (ARMOREC), PCCA

Bioactive compounds obtained by biological and pharmacognostic evaluation of indigenous plant species from the Danube Delta area, usable in new food supplements, for sustainable development of local agriculture (BIODIVERS), Core Programme

Superior use of plant resources with bioactive compounds through integrated processes for a sustainable bio-economy (BIODIVERS 2), Core Programme

Increasing the research capacity and the institutional performance of NIRDBS (PERFORM)

Research services

- ✓ analysis of essential oils from MAP (GC-MS) according to Ph. Eur. and EMEA;
- ✓ analysis of polyphenol-, anthocyanoside-, flavonoid-type antioxidants aso;
- ✓ elaboration of formulas of food supplements such as tea, tinctures, tablets;
- ✓ phytochemical analysis of food supplements elaborated by SMEs;
- ✓ new technologies for experimental cultures;
- ✓ phytobiological testing of plant extracts / phytopreparations;
- ✓ chemical analysis of plant origin residues;
- ✓ chemical characterization of soils and natural water
- ✓ induction of somaclonal variability in MAP species
- ✓ (morpho-)phytochemical characterization and multiplication of genotypes / ecotypes with high biosynthetic potential
- ✓ DNS sequencing;
- ✓ DNA barcoding si metabarcoding;
- ✓ molecular fingerprinting;
- ✓ detection, identification and quantification of GMO in plants samples;
- ✓ Evaluation and monitoring of the environmental impact induced by GMOs on natural and agro-ecosystems



Plant and Experimental Biology

- ✓ Development of bioproducts based on formulas used in phytotherapy, cosmetics, food;
- ✓ Phytochemical analysis of active principles;
- ✓ Morpho-phytochemical and genetic research;
- ✓ Conventional crops of medicinal and aromatic plants;
- ✓ ecotoxicology of *human-related-activities* impact on ecosystems;
- ✓ assessing the influence of abiotic factors on biota in protected areas;
- ✓ assessing the biogeochemical circuits in aquatic and terrestrial ecosystems;
- ✓ technologies for waste recovery;
- ✓ Bio-hydro-geochemical dynamics and evaluation of biochemical circuits of aquatic and terrestrial ecosystems;

Molecular Biology

- ✓ Evaluation and monitoring of the environmental impact induced by GMOs on natural and agro-ecosystems (*E.R.A. of GMOs*);
- ✓ GMO detection, identification and quantification in plant, food and feed matrices (*GMO analysis*);
- ✓ Molecular characterization of transgenic events and genome stability under stress conditions (*GMO molecular characterization*);
- ✓ Characterization and inventory of genetic resources using molecular markers (*molecular fingerprinting*);
- ✓ DNA barcoding of botanicals and nutraceuticals;
- ✓ Plant transgenesis (model and crop species);
- ✓ Plant epigenetics.

Partners BRC "Stejarul" Piatra Neamt



National Institute of Research and Development
for Biological Sciences Bucharest / "Stejarul"
Biological Research Centre Piatra Neamț
<http://www.ccb-stejarul.ro>

Str. Alex. cel Bun 6, 610004, Piatra-Neamt,
Phone: 004.0233.210.809, 004.0233.210.806

National Institute of Research
and Development for
Biological Sciences Bucharest



"Stejarul"
Biological Research Centre
Piatra Neamț

"Stejarul" Biological Research Centre Piatra Neamț was founded in 1957 as branch of the Faculty of Biology and Geography, "Al. I. Cuza" University of Iași, Romania. Since 1997 is a branch of the National Institute of Research and Development for Biological Sciences Bucharest.

"Stejarul" Biological Research Centre has more than 60 years of experience in fundamental and applied research in the field of medicinal and aromatic plants.

The scientific research and the fields of activity are focused on the study of the MAP in multiple aspects in order to elaborate phytotherapeutic products (classified as food supplements) along with different SME.



ROMANIA, 2020