MINISTERUL EDUCATIEI NATIONALE
Academia de Ştiinţe Agricole şi Silvice „Gheorghe Ionescu Şişeşti”
INSTITUTUL NAŢIONAL DE CERCETARE-DEZVOLTARE
PENTRU BIOTEHNOLOGII ÎN HORTICULTURĂ ŞTEFĂNEŞTI ARGEŞ
ăneşti, Calea Bucureşti nr. 37, Cod 117715, Telefon: 0248/266838, Fax: 0248/266808
E-mail: incdbh.stefanesti_ro@yahoo.com

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NRDIBH STEAFANESTI-ARGES PRESENTATION

1. Authentication data

1.1. Denomination: National Research and Development Institute for Biotechnology in Horticulture Stefanesti-Arges (NRDIBH Stefanesti-Arges);
1.2. Juridical statute: juridical person of common low, public unit, coordinated by The Ministry of National Education as state authority for research and development. NRDIBH functions according to Government Ordinance no. 57/2002 regarding the scientific research and technological development, approved with amendments by Low no. 324/2003, with subsequent amendments functioning on economic management and financial autonomy calculates depreciation and leads accounting according to Low no. 82/1991, republished, with subsequent amendments and regulations and applicable accounting regulations. The institute is registered in The Trade Register with no. JO3/1232/24.06.2005, CUI RO2522213.
1.3 *Document of establishment:* GD 2113/24.11.2004, on the establishment, organization and functioning of NRDIBH Stefanesti-Arges through reorganization of Research and Production Station for Viticulture and Oenology Stefanesti-Arges.
1.4 Registering number within the Register of potential contractors: 101, page 20
1.5 General manager: eng. Constantin Tănăsescu, PhD;
1.6 Address: 37 Calea Bucuresti, 117715 - Stefanesti, Arges co.;
1.7 Communication: telephone - 0248/266.838; 0248/266.050; fax - 0248/266.808;
e-mail - office@incdbh-stefanesti.ro; incdbh.stefanesti_ro@yahoo.com; webpage: www.incdbh-stefanesti.ro

2. Speciality field

2.1. According to UNESCO classification: 2780829
31 Agricultural Sciences; 3107 Horticulture
33 Technological Sciences
2.2. According to CAEN classification :
- Class:
- 7211 Research - development in biotechnology – main activity
- 0121 Vine growing
- 1102 Wine making from grapes
- 4725 Retail sale of beverages in specialized stores
- 7022 Consultancy activities for business and management „
- 7120 Activities for testing and technical analysis
- 8532 Secondary, technical or professional education

3. Status of research and development unit

A short history. Established in 1959 as horti-viticultural unit subordinated to Horti-Viticultural Research Institute, after few years of complex research activity, Stefanesti station developed its activity mainly in viticulture and oenology, bringing a direct, essential contribution to consecration and raising of Stefanesti-Arges vineyard, among of famous vineyards of the country. In 1969, the wine factory was put into operation, with its laboratories equipped with high-performances equipments at that time.

Starting from 1980, the unit was called Research and Production Station for Viticulture and Oenology Stefanesti-Arges.

In 1987 were put into operation modern equipments for rapid multiplication and virus elimination of valuable grapevine biologic material and the creation of the complex of grapevine breeding and multiplication has been allowed.

Starting from 24.11.2004 the viticultural station transformed into National Research and Development Institute for Biotechnology in Horticulture Stefanesti-Arges through GD 2113/2004.

3.1 Organizational structure

Strategic management: Council of Administration

Management strategy: Steering Committee, Scientific Council;

Operative subsystem: General Director, Department Directors, Legal Office, Ethic Commission, Quality Management Committee, Inspector of Quality Control, Department of Audit and Financial Control, Public relations;

Effector system: Department of scientific research with 9 laboratories, Administrative Departments with 3 compartments and Commercial Department with 3 compartments.

3.2 Structure of employed personnel at NRDBI Stefanesti-Arges

Structure of employed personnel at NRDBI Stefanesti-Arges in 2012 was the following:

3.3.1 In The Research Department there are 4 working groups with 30 employees with the following structure:

a) researchers – 18 from which 17 certified researchers;

- 12 certified with PhD diploma and 3 PhD students;
- on scientific degrees: CS I - 4; CS II – 2; CS III – 9; CS – 2; Research Assistant 1;

b) auxiliary personnel - 12 from which 1 with high education (economist), 11 with secondary education in the specialties – vine grower, maintenance mechanic, electrician, stoker –installer, guard.

3.2.2 In The Technological Development Department – 36 employees from which:

a) with high education – 3;

b) auxiliary personnel – 5.

3.3 Current patrimony

The heritage of the institute based on financial statements on 31 December 2012 is in the total amount of 23.595 thousand lei, from which tangible and intangible assets 15.373 thousand lei and active current assets 8.222 thousand lei.

3.4 Mission of the institute, directions of research- development- innovation

3.4.1 *Mission of the institute* is acquisition of new knowledge, know-how accumulation, innovation in technologies, services and products in horticultural field. The institute aims to obtain, control and use of genetic resources of horticultural plants with high economic potential by applying the biotechnological methods.

3.4.2 Main objectives:

- Modernization of biotechnological methods for obtaining and controlling of genetic resources of horticultural plants;

- Innovative technologies applications for rapid recovery of production capacity of some genotypes belonging to high potential horticultural species.

3.4.3 *Main directions of research – developing – innovation*

Research – developing – innovation activity held in 9 laboratories is aimed at the following directions:

- development and improvement of biotechnologies of *in vitro* propagation of horticultural species of economic importance at both internal and international level;
- establishing of efficient methods for long- and medium term conservation of plant tissues;
- ecological methods of combating of pathogenic organisms in grapevine and plants obtained by biotechnological methods;
- interactions between biotic and abiotic environmental factors and physiological processes of plants;
- improving of horticultural species and selection of genotypes with high potential of quality and production assisted by molecular markers;
- obtaining of virus free genotypes by chemotherapy and electrotherapy;
- detection of grapevine viruses by molecular methods;
- the use of biotechnological methods for obtaining, selection or inducing of genetic variation in order to obtain valuable genotypes in horticultural plants;
- obtaining the horticultural propagation material of superior biological categories for achievement of contract research and biological material exchange with similar units in the country and abroad;
- enhancing the winery products quality through the improvement of primary oenological processes and aging of wines and distilled from wine.

3.5. The way to improve the research, the development and the innovation results and their recognition

The activity of RDI within the INCDBH Stefanesti-Arges is actually carried out by researchers and the auxiliary personnel of 4 specialised working groups within the Department of Scientific Research (Genetics and Plants Breeding, Applied Biotechnologies, Agro-technology and Plants Protection, Biochemistry and Physiology of horticultural plants).

The improvement of the scientific research and innovation results is carried out through publications, supply of services, transfer of modern technologies and new products to the Production and Commercial Departments.

3.5.1. Services:

- the creation of new genotypes and genetic selection in order to develop some particular horticultural species;
- the control of the phytosanitary state of the *Vitis vinifera* by biological and serological tests;
- the conservation of the breeder material in pre-multiplication nucleus;
- the pre-multiplication of the *vine initial propagation material*;
- the clearing of viruses and phytoplasma on the *Breeder Material* from the species *Vitis;*
- the physico – chemical analysis for: grapes, grape juice, wine, strong drinks, soil, plants;
- *Vitis vinifera* and ornamental species *in vitro* rapid multiplication;
-quality and quantity determinations for the plants genetically modified and for the their products;

The services are certified by SR EN ISO 9001/2001, SR EN ISO 17025/2005,

3.5.2. Technologies

- the establishment and the maintenance of the candidate material of *Vitis vinifera* in super intensive culture in protected spaces (pre-multiplication nucleus);
- the rapid multiplication by *in vitro* techniques *of* the *Vitis vinifera* and ornamental species;
- the *in vitro* rapid multiplication of the horticultural plants, by cuttings, or by grafting, products to nourishing pots;

- organic culture of the horticultural species in protected spaces;
- biological test of the *Vitis vinifera* by indexing on wood indicators;
-the production of DOC and DOCC wines;
The technologies have been authorised by DGAIA Arges at the completion of the R-D and ONDOV projects.
3.5.3. Products:
- new varieties and valuable clones of horticultural species;
- rooted and grafted horticultural plants in nourishing pots, from the superior biological categories;
- *in vitro* and acclimatized horticultural plants (*GI-G3 initial propagation material*);
- wines and old wine-distillates of superior quality;
- packed seeds of new varieties of tomatoes;
The products are ordered by the beneficiaries and/or official keepers and are officially certified by ISTIS, OSIM, ITCSMS and LCF Bucharest, DCFS Argeş.

4. The main accomplishments after the institute creation

4.1. Patents: 10 patents and two Registered patent applications.
4.2. Published scientific works and textbooks:
- total – 161, out of which textbooks – 14

4.3. Improved technologies: 16
4.4. The pre-multiplication nucleus and the National Collection of Germplasm made of 250 genotypes from the *G0 initial propagation material* category*;*
4.5. The pre-multiplication nucleus and the Tomatoes Germplasm Collection from the species and genotypes created by the institute and inbreeded lines made of 25 biotypes of the biological category the *Breeder Material*;
4.6. New or improved products:
- 9 new species out of which: two of *Vitis vinifera* and 7 of tomatoes;
- 16 *Vitis vinifera* fruitful clones;
- packed seeds of new species of vegetables;
- *in vitro* plants and small acclimatized plants of the valuable horticultural species;

4.7. Project won in national competitions: 42 projects and a Nucleus Programme.
Six projects and the Central Programme are in progress.
Amongst the most important projects, we mention:

1. The production of the vine propagating material of biological categories "Pre-basis" and "Basis", with the denomination "Made in Romania" AGRAL 105/2001 ended in 2005. It was the first project of large complexity within the AGRAL programme. It has contributed to the legislation alignment relative to the official certification of the vine propagation material and to the foundation of a *Vitis vinifera* propagation national branch in the context of the EU adhesion.
2. The implementation of the quality management system in the wine industry by the application of HACCP, through risk points supervising. CALIST 4412/ 2003. The project contributed to the quality system implementation within the institute activity.
3. Molecular markers used in the characterisation of autochthonous *Vitis vinifera* species, in order to conserve and protect the national genetic background. BIOTECH 4644/.2004. A test model has been created in the field of molecular genetics and vine germplasm background.
4. The development of capacities and technologies required for identifying the GMO risk for all those crops listed by the EU. MAKIS/ 2004. The project contributed to the foundation of a laboratory of National Reference for detection, identification and GMO quantification to plants, SR EN ISO 17025/2005 accredited.

5. The optimization of the processes of virus elimination processes in horticultural crops by *in vitro* chemotherapy and electrotherapy to achieve EU requirements on environment quality and food products PN 104/2012.

The project improves the technological applications designed to the horticultural plants recovery through the specified procedures.

General Manager,

DR. Eng. Constantin TĂNĂSESCU