

SEE- Award (name “*Herman Potočnik – Noordung Award*” proposed by MHEST) for
**Research Infrastructure Donations within the Framework of RTDI Collaboration
 with West Balkan Countries**

Research Infrastructure needs
- Application form for Scientific & Research Institutions from West Balkan Countries

Section A – General information
A.1 Contact details
Name of applicant /(institution) Biotechnical Institute
Legal status / Type of organisation: Public institution/ University of Montenegro
Address (Street name, ZIP code, town): Kralja Nikole b.b. 81 000 Podgorica
Telephone no.: +382 81 268 431 Fax no.: +382 81 268 432 e-mail: mirkok@cg.ac.yu or anato@cg.ac.yu web address/url:
represented by (name of person <u>legally responsible</u>) Director of Biotechnical Institute Natalija Perovic, PhD
Name of the contact person Mirko Knezevic or Ana Topalovic
Address (if different from address stated above)
Telephone no.: Fax no.: e-mail: web address/url:
A.2 Applicant (Institution) profile (half page A4) Biotechnical Institute is the oldest research institution in Montenegro. Its unit, Centre for Subtropical cultures in Bar, was founded in 1937. Immediately after World War II, Agency for Agricultural Research in Titograd (former name of Podgorica) and Agency for Cattle-breeding in Nikšić were founded and the experimental station in Bar was transformed into the Agency for Southern Cultures and Wine-growing. Afterwards, in 1950 Diagnostic-veterinary station was formed in Titograd, and in 1952 Station for Fruit Growing was formed in Bijelo Polje. All these units became parts of the Agricultural Institute, which is the Biotechnical Institute today. Biotechnical Institute covers the fields of agriculture, veterinary medicine and forestry, and it is organized within ten scientific-research centres throughout Montenegro:
In <u>Podgorica</u>
<ol style="list-style-type: none"> 1. Centre for Soil and Melioration 2. Centre for Farming, Vegetable Growing and Forage Crops 3. Centre for Vineyard Growing, Wine Making and Orchard Growing 4. Centre for Plant Protection 5. Centre for Animal Husbandry 6. Centre for Veterinary and Fresh Water Fishing

7. Centre for Agro-economy and Rural Development
8. Centre for Forestry

9. Centre for Sub Tropical Cultures in Bar
10. Centre for Continental Fruit Growing in Bijelo Polje.

Apart from the above Centres, there are 3 specialized services within the Biotechnical Institute:

- Cattle Selection Service
- Dairy Laboratory
- Advisory Service in Plant Production

Section B – Description of the research infrastructure requirements/needs

B.1 Please list your research infrastructure requirements – the most urgent equipment you would need.

1. Inductively Coupled Plasma Mass-Spectrometry (ICP-MS)
2. Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)
3. Atomic Absorption Spectrophotometer (FAAS and GFAAS) with lamps for elements: Fe, Mn, B, Ba, Sr, Si, Al, Ni, Pb, Cr, Cu, Zn, Cd, V, Mo, Co, As, Hg, Se, Bi, Ag, Sb, Sn, Cs, Pt, Au, Li, U and K, P, Ca, Mg, Na.
4. Advanced Microwave Digestion System
5. Spectro-photometer UV/Vis
6. Flame Photometer
7. Digestion and Distillation Unit for Kjeldahl Analysis
8. pH/mV/Conductivity/TDS/Resistivity/Dissolved Oxygen Meter
9. Muffle Furnace
10. Dryers (high capacity - 250 L)
11. Centrifuge (with temperature control)
12. Rotation Shaker (high load – about 15 kg)
13. Calcimeter (for routine analysis of total carbonates in soil)
14. Soil auger set with two-stroke engine
15. Pipette apparatus
16. Tension infiltrometer
17. Ksat constant head permeameter
18. Solvent Extraction System
19. Drying and sterilization oven
20. Crude Fibre Determination System
21. Homogenizer hand model
22. Fluorometer
23. Research stereo microscope
24. Digital camera for microscope
25. Horizontal laminar flow benches
26. Seed Germinator
27. Heating/Cooling Incubator
28. Research binocular microscope
29. Instrument for determination of antibiotics and other residua in milk and milk products
30. Instrument for determination of specific groups of microorganisms in milk and milk products
31. Mistflowers
32. Electrophoresis equipment
33. Research (interference) microscope
34. Sterilizers
35. Autoclave
36. Binocular optical microscope
37. Incubators

B.2 Describe the relevance of the requested research infrastructure for the work of your institution and the potential impact of receiving the items listed above (B.1).

A main impact of the requested research infrastructure for the work of Biotechnical Institute is strengthening of researches in field of agriculture, generally. Especially the strongest impact will be on the investigations in field of soil science, agro chemistry and environmental protection. As known, the modern researches in above-mentioned fields can not be imagined without understanding of the chemism macro/microelements i.e. nutrients in soil, as well as their role in plant-soil system. Beside that, due to importance of Biotechnical Institute in Montenegrin agriculture the following impacts of requested research infrastructure are:

- Provision of equipment for controls development of an integrated food safety system and laboratory capacity.
- Development of capacities to implement EU food safety phyto-sanitary standards and implementing international agreements in the field of public health
- Phyto-sanitary and food safety legislation have to be fully aligned to EU acquis;
- Increased capacity of phyto-sanitary controls as well as increased awareness about rights and obligations on the side of producers and consumers is needed.

B.3 Please indicate the potential users of the requested equipment.

The potential users of the requested equipment would be Centres within Biotechnical Institute (see A.2)

B.4 Please describe the training needs of your institution related to the requested equipment

For some of above-mentioned equipment Biotechnical Institute has needs for training. Especially, in case of ICPAES or ICPMS due to fact that any laboratory in Montenegro has no this instrumentation, and there are no professional staff who could perform training on ICPs.

In addition it would be necessary that requested equipment has proper documentation related to performances, maintenance, handling.

B.5 Please indicate if there is assistance needed with regard to the transportation and maintenance related to the requested equipment

Certainly, the assistance regard to the transportation and maintenance of requested equipment is highly needed.

B.6 Additional Comments

Please fill in and return the form by email to the contact person in your country

Place, date: **Podgorica, 12-October 2007**

Signature and Stamp of applicant

