PROJECT PROPOSAL
of
Research Institute of Crop Production in Prague

“The 9th International Symposium on Buckwheat”
Prague, August 18 – 22, 2004

Proposed by:
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1. Introduction

The 9th International Symposium on Buckwheat (ISB) will be held in Prague, Czech Republic in August 18 - 22, 2004. The international event is organised by Research Institute of Crops Production in Prague on the academic ground of Czech University of Agriculture (CUA).

The 9th ISB is under auspices of International Buckwheat Research Association (IBRA) and will be honoured with patronage of the Czech Ministry of Agriculture, Pro-Bio – Association of Ecological Farmers and International Plant Genetic Resources Institute (IPGRI). Among other sponsors and supporters are: FAO, Pro-Bio Ltd, University of Ljubljana (Slovenia), CUA, University of South Bohemia – Faculty of Agriculture and Kepka – Frozen Convenience Food.

It has already been very well known that buckwheat is highly nutritious crop with significant influence on health and human diet. Buckwheat has multilateral use in food industry but also in feedstuff and pharmaceutical industry or cosmetics. The symposium will offer a chance to present research done up to now, share experience in buckwheat production, gain and extend knowledge in the field. Not only agriculturalists but also food specialists will acquire new ideas and motivation.

Buckwheat enjoys a permanent increase of attractiveness as a research subject since this crop is relatively unexplored. The crop still hides big medicinal potential and opportunities to extract valuable biogenic natural compounds. Nevertheless a great deal of research has already been done on buckwheat medicinal possibilities and its use in numerous healthy diets in order to cure civilisation diseases or provide harmless food that does not cause any major allergies, such as celiac disease or other.

Low-input crops, such as buckwheat significantly diversify agriculture in Europe and provide food and raw material for different industries, support competitiveness and sustainable agriculture in many regions.

This symposium is aimed at research workers, growers, processors and students in the fields of buckwheat research, production, processing and nutrition throughout the World. There should also be broad interest in this symposium by doctors, diet specialists and others who focus on buckwheat potential. Organisation management will be expecting approximately 250-300 participants mostly from Europe but also big number from Asia and some from North America and Australia.

Main topics will concern buckwheat research in different fields in order to cover all areas in buckwheat production, outlooks and currently related fields to buckwheat, such as biodiversity and organic agriculture.

We also want to attract more young researchers and those reputable scientists who usually don’t attend such buckwheat symposia or conferences for various reasons, mostly financial. Many scientists have been doing a great deal of research on buckwheat, so we want to welcome those promising scientists from different research institutes, stations and universities in the World.
2. **Scientific quality of the project proposal**

Buckwheat is an old crop, in many countries traditional that had been used as staple food, medicinal herb or feed for many centuries until the development and industrialisation of agriculture buried this crop and left all its qualities, advantages and potential behind in race towards the highest volume production.

The imminent renaissance of buckwheat started when consumers announced their need of healthy, nutritive food and global world commenced to support diversification as a solution for the future sustainability.

The international symposia on buckwheat (ISB) have been under auspices of International Buckwheat Research Association (IBRA). The first ISB was organised in Slovenia in 1980 and since that time ISB has been organised regularly every three years in different countries of the World. The following symposia were held in Japan (1983), Poland (1986), Russia (1989), China (1992), Japan (1995), Canada (1998) and Korea (2001). All the countries belong among leaders in buckwheat research and production and no doubt the Czech Republic is one of them since this country was delegated to host the 9th International Symposium on Buckwheat in 2004.

The Czech Republic has been traditional grower of buckwheat for many centuries. In the past some areas of the republic cultivated this crop as a staple food for people and its growing was very popular there. It was the most favourite food in the 16th and 17th century. Then buckwheat cultivation decreased due to expansion of potato popularity and bakery products based on high yielding cereals. The most significant drop of interest in buckwheat came in the last century and the crop was cultivated mostly in marginal regions. Such regions become a source of original buckwheat genotypes, production methods and already forgotten technologies of processing that survived for many generations.

Production of Buckwheat in the Czech Republic develops very fast which proves increasing interest in growing such crop during the last few decades. Buckwheat belongs among main crops in the Czech organic farming. Area of organically farmed buckwheat grows rapidly every year. Agriculture of the Czech Republic has developed successfully all stages throughout buckwheat various production processes, such as methodology of cultivation, harvesting, processing and marketing. The overall success is based on multilateral intensive research that has been carried out in notable symbiosis among research, farmers and processors. Czech buckwheat community is permanently in touch with other countries working on the crop and always has interesting and progressive scientific knowledge and news to share with the world buckwheat society. It participates on most events concerned buckwheat research and has been member of the International Buckwheat Research Association since 1998.

Buckwheat research and usage of modern methods of production are world widely well established and developing fast. Although in European region buckwheat is an underutilised crop it has many advantages for both the grower and the consumer. The crop is not a cereal but the seeds are usually classified among cereal grains because of their similar usage. The grain is generally used as human food and as animal or poultry feed, with
dehulled groats being cooked as porridge and the flour used in the preparation of pancakes, biscuits, noodles, cereals, etc. The protein of buckwheat is of excellent quality and high in the essential amino acid lysine, unlike common cereals. This, together with the plant’s ability to do well on poorer soils, probably accounts for its widespread usage. It is also a multipurpose crop. The small leaves and shoots are used as leafy vegetables, the flowers and green leaves are used for rutin extraction for use in medicine. The crop produces honey of a very good quality. The main European producers are Russia, Ukraine, Austria, Belarus, France, Poland, Czech Republic, Slovenia and Denmark. Other world producers of buckwheat are China, Japan, Korea, Canada, Argentina and USA. The major research tasks remain collecting, characterization, evaluation and utilization of buckwheat germplasm, and development followed by publication of descriptors for buckwheat that have been helpful tools. A great deal of information and distribution of the various species of buckwheat has appeared over the last decades. The major influence in this area has occurred in Japan and also a great deal of effort has been done by buckwheat researches in China. Many organizations and businesses in “buckwheat countries” recognize the importance of combining research and development to allow it to adapt quickly to changes in the food industry and are actively involved in new variety development, crop production research, and seed quality research, processing research, new product research, nutraceutical research or functional food research.

There are also various projects and programmes aimed at buckwheat. The Research institute of Crop Production (RICP) in Prague is the main organisation in the Czech Republic that is engaged in research and utilisation of neglected crops such as buckwheat. The project "Diversity of the neglected cereals and pseudocereals and their use in sustainable agriculture and healthy nutrition" (QD0057) is a project granted by the Czech Ministry of Agriculture and buckwheat is a significant part of the research plan. This activity is initiated by work of the European Cooperative Programme for Plant Genetic Resources (ECP/GR), which gave the impulse to establish Minor Crops Network Coordinating Group and the Czech Republic has become a European coordinator for minor cereals and pseudocereals where buckwheat is one of two primary crops. RICP also participates in research and development programme KONTAKT with Slovenia. This Czech-Slovenian bilateral project on “Genetic Resources of Minor Crops for Sustainable Agriculture and Healthy Foods” deals with buckwheat as one of major minor crops.

Buckwheat as representative of the minor crops supports agrobiodiversity and widens the range of possibilities for farmers, food producers and consumers. Buckwheat is a valued low-input crop very suitable for organic farming. Organic agriculture systems offer the most comprehensive response to the sustainability problems facing agriculture and food production system. Organic production has the potential to sustainably produce sufficient food of a high quality that buckwheat is able to provide. The Czech Republic with its production of organic buckwheat belongs among the biggest producers in Europe. Thus promotion of buckwheat helps promote organic agriculture based on conserving biodiversity and producing safe and varied food.
The International Symposium on Buckwheat 2004 in Prague will provide an excellent form for international exchange of research information on buckwheat among participants and support their formal and informal discussions on different topics in the field. It will be composed of oral presentations, posters, workshops, business meeting and tours in fields, processing plants and research stations. This international event will be expecting at least 250 participants and we want to attract more young researchers and those promising and reputable scientists who usually don’t attend such buckwheat symposia or conferences because of their weak financial situation and/or for higher prices of the developed world. Through the ISB 2004 we also want to achieve more public education in the area of diversification and organic farming that is the biggest supporter of buckwheat crop in the Czech Republic.

3. Quality of the host

The mission of Research Institute of Crop Production (RICP) consists in partly basic, but primarily strategic and applied research in the field of crop production. During more than 50 years of its existence, RICP has been the leading research institution in the field of crop production on territory of the Czech Republic. Its basic purpose is development of scientific knowledge in crop production, and related scientific disciplines with aim to ensure development of sustainable agriculture. Nowadays RICP staff is 344 employees and within the number some 150 are qualified research workers (doctoral or masters degree).

Long-term strategic research areas at RICP include namely conservation and utilization of natural resources (gene pool, biodiversity, soil, water), quality improvement, resistance and health conditions of plants, evaluation and utilization of biological potential of agro-ecosystem, management of plant nutrients, integrated pest management, sustainable agriculture and landscape management, improvement of food quality and safety, evaluation of benefits and risks of genetically modified organisms.

Since the beginning the institute was involved in study and maintenance of plant genetic resources, genetics itself, physiology, and quality of products, breeding methods and seed sciences. Last decade can be described by rapid development in international collaboration, especially in the field of plant genetic resources, biodiversity, molecular genetics, genetics of resistance and other. Besides bilateral contacts with partner institutes participation on international programmes and projects (ECP/GR, COST, The Fifth Framework Programme of the EU) is also being developed as well as cooperation with international organizations (FAO, IPGRI).

RICP is well experienced in organizing national and international scientific conferences and symposia. This symposium will be held in campus of Czech University of Agriculture (CUA) in Prague with modern Congress Centre, accommodation possibilities and various catering services. CUA campus also offers essential scientific environment to the symposium.
Brief curriculum vitae of the scientist in charge of the proposed project:

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Personal details

Date of birth  March 20, 1964
Place of birth  Hrabíčov (Slovak Republic)
Sex  Female
Marital status  Single
Nationality  Slovak
Citizenship  Czech Republic and Slovak Republic

Experience

1988 – present
Curator of selected underutilised crops
Research Institute of Crop production, Prague – Ruzyně, Czech Republic

Education

1988 – 1992  Research Institute of Crop Production, Prague (Czech Republic)
Department of Gene Bank
Ph.D., Plant Genetic Resources

1982 – 1987  Slovak University of Agriculture, Nitra (Slovak Republic)
MSc., Genetics and Plant Breeding

Works in progress

“Diversity of underutilized cereals and pseudocereals and its use in sustainable agriculture and healthy food production” – scientific coordinator of the project

“Genetic resources of minor crops for sustainable agriculture and healthy food” – Czech – Slovenian Intergovernmental S&T Cooperation Programme

“National Programme on Plant Genetic Resources Conservation and Utilisation” – curator
Memberships

- Coordinator of minor cereals, Minor Crops Network Coordinating Group, European Coordinating Programme on Plant Genetic Resources (ECP/GR)
- Member, International Buckwheat Research Association (IBRA)
- Member, Board for Plant Genetic Resources of Czech Republic (RGZ/CR)
- Member, Scientific Board of Research Institute of Crop Production
- Member, Board of Foundation for Plant Germplasm Conservation (Slovakia)
- Advisor, Czech Association of Advisors and Controllers in Organic Agriculture (Czech Ministry of Agriculture)

Teaching experience

**Autumn term 2001** – Minor Crops for Healthy Nutrition – University of South Bohemia, České Budějovice (CZE)
**2000** – Minor Crops (externally), Slovak University of Agriculture, Nitra (SVK)

The Most Relevant Publications on Buckwheat

- **Michalova A.**: Variability of selected characteristics in sets of buckwheat, millet and amaranth; selection of perspective genotypes and comparison of their nutritive value. Research Reports, Ljubljana, Vol. 71, 1998, pp. 115-125
- **Michalová, A.**: Buckwheat in the Czech Republic and in Europe. Advances in Buckwheat Research. Proceedings of the VIII ISB, Chunchon, Korea, 2001
4. Organizational Management

Organisational management of the ISB 2004 is divided into 2 main committees – scientific and organisational committee.

Scientific committee will be in charge of preparation a suitable conference programme. The programme is planned to be running in at least two parallel sections. This committee will have to decide on selection of papers from the pool of researchers interested to present their research and invite the leading scientists in the field for presentation. At the end of the symposium the scientific committee will evaluate the 9th ISB 2004 and elect new president of IBRA and the host country for the 10th ISB in 2007. Scientific committee will consist of an international group and a local group. The international group of the scientific committee will be represented by president of IBRA (International Buckwheat Research Association) and IBRA board, honoured leaders in the buckwheat science and representatives of IPGRI (International Plant Genetic Resources Institute), FAO (Food and Agriculture Organisation) and RICP. The international group will play mainly a formal representative role and advisory purpose in terms of reach a scientific value of the planned symposium. Local group of the scientific committee will be mostly Czech scientists who will coordinate organising committee on the spot.

The organising committee will be responsible for preparation of convenient conditions to assure successful process of the international event. Also logistics and technical support will be its issue. The symposium will take place in Congress Centre on the ground of Czech University of Agriculture (CUA) in Prague that also belongs among supporters of the symposium. So the most important goals are reservation of the modern Congress Centre at CUA, accommodation facilities and catering service; all have already been reserved at CUA campus and nearby hotel. CUA offered to provide human resources (students) to assist in administration and help service at the symposium time. Accompanying programme, such as various workshops and meetings organised by RICP or main sponsors and symposium supporters on cooperation in research (RICP), genetic resources (RICP), organic agriculture and agro-biodiversity (Pro-Bio – Association of Ecological Farmers), processing, storage and trading with buckwheat (PRO-BIO Ltd), etc., is still being negotiated. Appointed members of the organising committee are undoubtedly in charge of adequate publicity for the symposium and dissemination among world buckwheat community.

Main sponsors and supporters interested in participation at the 9th ISB in 2004 known at present are: Pro-Bio Association of Ecological Farmers, University of Ljubljana (SLO), Czech Ministry of Agriculture, IPGRI (International Plant Genetic Resources Institute), Czech University of Agriculture, University of South Bohemia – Faculty of Agriculture and Kepka – Frozen Convenience Food.
5. Publicity
The first announcement about the 9th ISB in 2004 was published in scientific journal on buckwheat research – Fagopyrum, vol. 19, 2002. The organisational committee has created a website dedicated to the 9th ISB and its content is regularly updated and step by step all necessary information will be added, including on-line registration forms (http://www.vurv.cz/buckwheat). The publicity of the website is supported by adding links to some Internet search engines.

Of course traditional forms of publicity will be used too. At present the 1st announcement is being sent out to the potential participants in number of 750 copies. The following 2nd announcement will be prepared and sent at the end of summer 2003 containing detailed information and registration form.

We also want to encourage our sponsors and supporters to place the link of the 9th ISB website to their own web presentations. Invitation will be published in scientific journals and other accessible media at the right time. A promotion among researchers is planned to be provided at National Conference on Minor Cereals and Pseudocereals in Prague in 2003.

6. Dissemination
Dissemination of the results will provide publishing of symposium proceedings for all participants. We are also planning on presenting paper abstracts at the 9th ISB homepage which will make the website helpful long after the symposium is over. Results and evaluation will be published in Fagopyrum and other crop science journals.

7. Objectives
The International Symposium on Buckwheat 2004 will be organised under auspices of the International Buckwheat Research Association which is a unique buckwheat organisation in the World. The symposium, thanks to the location, has the ability to help participate on establishing a border-free zone for research where scientific resources will be better deployed to create more placements and cooperation to improve European and international competitiveness.

This international event will support exchanges of researchers, information and scientific results. The buckwheat symposia are a strong tool that keeps highly motivated researchers and specialists in touch. Furthermore European buckwheat research society belongs among strengthened collectives of the continent.

We also believe that the ISB 2004 will be a great chance to set up cooperation among different national and international research programmes concerned with buckwheat and so make this scientific field more efficient in research and information exchange.

The ISB 2004 should present the Czech Republic as country of progressive research and familiarize symposium participants with research approaches and development in this region. This scientific event should then encourage students and young research workers for career in the buckwheat science and related fields to it, such as diversification and organic agriculture.
8. Preliminary calculation of expenses

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<td>- printing and publishing (I.+II. announcements., proceedings, postage, other material)</td>
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<td>- refreshments, reception, programme</td>
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<td>- rent of TC, interpreting, honoraria</td>
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<td>- field trip and transportation to Moravia</td>
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<td>- other fees and services</td>
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<td><strong>Total</strong></td>
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(EUR 32 CZK / 1 EUR

312.81 62.562.50)