

**EURALLIVEG**

<b>VEGETATIVE ALLIUM, EUROPE'S CORE COLLECTION, SAFE AND SOUND</b>			
<b>Targeted Action</b>			
<b>EU Reference</b>	<b>AGRI GEN RES 050</b>	<b>Duration</b>	48 months
<b>Coordinator</b>	Leibniz Institute of Plant Genetics and Crop Plant Research (IPK)	<b>Start Date</b>	01/04/2007
		<b>End Date</b>	31/03/2011
<b>Address</b>	Corrensstr. 3 06466 Gatersleben Germany	<b>Total Cost</b>	1.089.000 €
		<b>EU Co-funding</b>	544.500 €
<b>Contact Person</b>	E.R. Joachim Keller		
<b>Tel.</b>	+49 39482-5-267		
<b>Fax</b>	+49 39482-5-741		
<b>E-mail</b>	<a href="mailto:keller@ipk-gatersleben.de">keller@ipk-gatersleben.de</a>		
<b>Website</b>	<a href="http://www.ipk-gatersleben.de/en/">http://www.ipk-gatersleben.de/en/</a> <a href="http://pgrc.ipk-gatersleben.de/euralliveg/">http://pgrc.ipk-gatersleben.de/euralliveg/</a>		
<b>Co-Beneficiaries</b>			
<b>Organisation name</b>		<b>Address</b>	
Research Institute of Crop Production (RICP) - Výzkumný ústav rostlinné výroby (VURV)		Drnovska 507 161 06 Prague	Czech Republic
Research Institute of Vegetable Crops (RIVC)		Konstytucji 3 Maja 1/3 96-100 Skierniewice	Poland
Università degli Studi della Basilicata (UNIBAS)		Via N.Sauro n.85 85100 Potenza	Italy
Stichting Dienst Landbouwkundig Onderzoek (DLO)		Costerweg 50 7601 BH Wageningen	The Netherlands
Institut National de la Recherche Agronomique (INRA)		147 rue de l'Université 75338 Paris Cedex 07	France
Nordic Gene Bank (NGB)		Smedjevägen 3 230 53 Alnarp	Sweden

ObjectivesOverall objective:

Establishment of European Core Collection of vegetative alliums, covering **garlic** including molecular characterization, cryopreservation and virus elimination, and molecular characterization of **shallot**

Specific objectives:

- Use European Allium Database to screen garlic and shallot germplasm.
- Screen 1600 garlic and 550 shallot accessions for redundant duplication by general molecular marker system.
- Confirm interrelationships by morphological character lists.
- Develop a structured Core Collection under elimination of redundant duplicates.
- Cryopreserve the 200 most important garlic accessions using vitrification.
- Exchange safety duplicates of cryopreserved garlic to establish the Tripartite Cryopreservation Genebank
- Disseminate CGP documents to facilitate joining other European partners.
- Virus elimination to free 125 most important garlic accessions from viruses, prove of virus-free state.
- Conclusions for future expanding preservation from garlic to shallot and other vegetative alliums.

## **Actions and means involved**

Because of increasing awareness that vegetatively maintained germplasm is the most expensive part of plant genetic resources, a consortium of seven European partners comprising main collection holders of vegetatively propagated alliums, virus and molecular marker experts was established to use high-tech methods for rationalization and increase of storage safety and health conditions. Five work packages were developed: Documentation, Molecular screening, Cryopreservation, Virus elimination and Coordination. The emphasis is on the WPs Molecular Characterization (MC), screening of 2150 accessions, cryopreservation (CP), storing 200 accessions and virus elimination (VE) of 125 accessions. From a budget point of view 31%, 36% and 25%, respectively, will be invested in MC, CP and VE activities. The total budget of the European Vegetative Allium Project will amount to 1.089 M€. Most important is the universal use of one molecular marker system for all accessions to ensure comparability in screening for duplicates in genetic patterns, which requires service of one laboratory to all countries. A half-centralized approach for germplasm storage in liquid nitrogen will be adopted joining laboratories of three countries, which allows connecting the advantages of economically favourable centralization and needed local safety splitting. Virus elimination increases germplasm quality facilitating its free exchange. This major investment in EU vegetative Allium genetic resources will result in upgrading the European Allium Database and considerable improvement of storage safety and health conditions of material, whose general number will be reduced by rationalization after molecular marker comparisons. This rationalized collection will release budget and manpower otherwise needed to establish more expensive field duplication of germplasm. This budget can be used for collecting new germplasm, when the screening will show gaps in the collection. The better-structured core collection concept will provide all users more easy access to the germplasm.

## **Relevance to the objectives:**

The proposed project will ensure and improve conservation, characterization, collection and utilisation of PGR in agriculture in the community through:

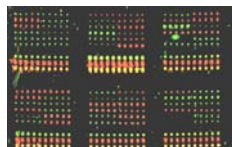
- Updating documentation of EU vegetatively propagated alliums, which highly improves access to collections.
- Reducing number of stored accessions by elimination of undesired (redundant) duplicates, facilitating establishment of desired (safety) duplicates, which will increase stability of the collection.
- Giving completed insight into genetic structure of two important crops, which will help identifying gaps in collections that can be filled by using money saved by rationalization.
- Ensuring storage safety of most important (core) garlic germplasm in economically most efficient way, which will ensure long-term germplasm access for utilization.
- Improving health conditions of most important (core) garlic germplasm, which will allow its easier distribution between EU countries and drastically reduce risk of diseases spreading.
- Disseminating results by publications and training, offering Internet-accessible database of the Cryo-Genebank.

## **Workpackages:**

WP 1  
Documentation



WP 2  
Molecular  
Duplicate  
screening



WP 3  
Cryopreservation



WP4  
Virus  
elimination



WP5  
Coordination

