

FINAL PUBLISHABLE SUMMARY REPORT

AN EXECUTIVE SUMMARY

Willing to set up an integrated approach to food/feed quality and safety, the forces of 10 partners from Bulgaria, Denmark, Estonia, Finland, Lithuania, and Spain were gathered to jointly contribute to food and feed security improvement in Europe. The project "Food and feed Laboratory of Varied and Outstanding Research in Estonia (FLAVOURE)" (FP7-REGPOT-2008-1) started on 01/02/2009 with Estonian Research Institute of Agriculture (ERIA) as the coordinator.

The project was aimed to advance the capacity for assessment and prognoses of the quality risks of food/feed in the Baltic region and in Europe in general. Better analytical capabilities of ERIA enable to meet national and European needs for analysis on food/feed quality and safety and develop new molecular biological methods. FLAVOURE sought to increase the knowledge, visibility and collaboration of ERIA with its existing and new partners within Europe in the field of food/feed quality and safety across the whole food chain.

Having purchased new up-to-date laboratory equipment (centrifuge, universal oven, HPLC, GC, spectrophotometer, PCR, electrophoresis equipment), ERIA has established a modern research laboratory enabling to perform molecular biological analyses related to safety and quality of foods/feeds. After organizational changes, laboratory was taken into use as a basis for training researchers and for participating in international and national research projects.

The skills of ERIA's young and experienced researchers and laboratory technicians of using modern laboratory equipment have increased thanks to mobility to partner institutions and by incoming experienced researchers from partner institutions. The seminars and methodological group trainings for researchers organized in Estonia have increased the researchers' knowledge of food and feed quality and safety, grassland biodiversity, soil micro-organisms, evaluation and preservation of genetic resources and GMO-s.

As a result of visits and networking with other research institutions as well as attending and organizing international scientific conferences and Food-Cluster events, ERIA's collaboration has increased on international level. The formed and activated Extension Department is increasing the transfer of knowledge between researchers and agricultural producers, and advances ERIA's local visibility and collaboration.

In conclusion, by the end of the project, ERIA's analytical capacities and scientific skills have improved and collaboration on national and international level has notably intensified.

A SUMMARY DESCRIPTION OF PROJECT CONTEXT AND OBJECTIVES

EU FP7 SP4-Capacities (FP7_REGPOT-2008-1) project “Food and feed Laboratory of Varied and Outstanding Research in Estonia (FLAVOURE)” with duration of 36 months was started on February 1st, 2009 and Estonian Research Institute of Agriculture (ERIA) as the single beneficiary,

Objective of the FLAVOURE project was to advance the capacity for assessment and prognoses of quality risks of food and feed and develop new molecular biological methods. This project provided ERIA complementary analytical capabilities that enable the Institute to answer to the national Estonian as well as European needs for analysis on food and feed quality and safety.

The objective of the project was achieved by means of its six work packages:

- WP1: Upgrade of equipment and setting up of a modern laboratory;
- WP2: Scientific trainings through researchers’ mobility;
- WP3: Life-long training within ERIA;
- WP4: Strengthening partnership and building a joint future between ERIA and other actors in Estonia and abroad;
- WP5: Dissemination;
- WP6: Management.

Willing to set up an integrated approach to food and feed quality and safety within Europe, ERIA has gathered the forces of ten partners to jointly contribute to food and feed security improvement. The FLAVOURE partners consist in entities ranging from convergent regions (Estonia, Lithuania, Bulgaria) to Western European countries (Finland, Denmark, Spain) covering the whole food chain. The FLAVOURE project aimed to generate an increase of knowledge, visibility and intensity of collaboration of ERIA with its existing and new partners within Europe in the field of food and feed quality and safety.

Work performed and main results

The project began with increasing of analytical capabilities in ERIA - a laboratory building was renovated (financed by Estonian Ministry of Agriculture) and new laboratory equipment suitable for molecular biological analyses was purchased in 2009. Through the FLAVOURE project WP1, seven main pieces of up-to-date equipment have been obtained which enable to carry out samples preparation (centrifuge, universal oven); to analyse peptides, proteins and trace components (HPLC, GC, spectrophotometer), and are suitable for DNA-based analyses (PCR, electrophoresis equipment). After organizational changes, laboratory was taken into use as a basis for training of researchers and for participating in international and national research projects related to safety and quality of foods/feeds.

At the same time, for increasing the skills of research staff, mobility trainings at partner institutions were organized under WP2. One-month mobility trainings for three experienced researchers at Helsinki University and Aarhus University were carried out. Six-month mobility trainings for young researchers as well as trainings for laboratory personnel were organized at partner institution

in order to increase their skills in using modern laboratory equipment and safety aspects. Also the visits of experienced and young researchers from partner institutions to ERIA were organized. These mobility trainings have increased the knowhow of researchers in evaluation of food and feed quality and safety through the using of modern laboratory equipment and have also improved linguistic skills of the research staff. The knowledge obtained is valuable for planning, leading and participating in research projects, supervising young researchers, and working in international research teams.

To provide a continuous opportunity for the researchers to improve their professional expertise, 2-day seminars and methodological group trainings in ERIA were organised (WP3). Altogether six seminars and three methodological group trainings have been carried out which has increased the researchers' knowledge in food and feed quality and safety, grassland biodiversity, soil micro-organisms, evaluation and preservation of genetic resources and GMO-s.

Since the beginning of the project, collaboration has grown both on international and national level. Visiting different research institutions, defining a collaborative research agenda, and attending and organizing scientific conferences (WP4, WP5) as well as taking part in the Food Cluster meetings and developing of websites (WP5) has played an important part in strengthening partnerships and intensifying ERIA's international collaboration. In order to increase its national collaboration, the Extension Department was formed at ERIA (WP5) to promote transfer of knowledge between researchers and agricultural producers as well as increasing the visibility of ERIA on the national scene.

Based on the work performed and the results achieved during M1-M36, it can be concluded that ERIA's analytical capacities and the scientific skills of researchers have notably improved and collaboration has intensified, leading to an increased number of scientific papers authored by the researchers working at ERIA. Improved capacities and skills of researchers have also paved the way to development of new joint research projects between ERIA and partner institutions.

Final results, their potential impact and use

FLAVOURE contributes to better co-ordinated research activities in the food and feed quality and safety, create new knowledge in Estonia and provide new insights for policy making in the field. It has reinforced the analytical capacities of the expert community through the development of new skills, know-how and practices. Finally, FLAVOURE helps to prepare for the future through the network and common strategies set up with the various actors.

FLAVOURE results include:

- Strengthened laboratory facilities at ERIA for protein chemistry and trace components related analyses (HPLC, Gas Chromatography, Spectrophotometer), DNA-analyses (PCR equipment, equipment for electrophoresis), and samples preparation (centrifuges universal ovens). The laboratory will be a facility providing life-long learning for research institutions, hands-on experience for early stage scientists and a meeting point for knowledge exchange;
- Improved competence in food and feed quality, safety and risk assessment at ERIA by means of the Food and Feed Safety and Quality network; joint events with top quality research countries and individual contacts between researchers;

- Closer local cooperation with agricultural producers, government officials, and politicians and other stakeholders through seminars, training days, advisory services, technology networks;
- Increased participation of ERIA in EU projects.

Covering such a crucial topic for the EU as food/feed quality and safety, FLAVOURE have an impact on the development of the given field at ERIA, in Baltic research region, and thereby also in European dimension.

Upon the realization of this project, researchers of ERIA had a chance to take part in the enhancement of the risk assessment and forecasting system for food/feed quality in Estonia and through the advisory body of European Food Safety Authority in the pan-European exchange of food/feed safety research information and risk assessment process.

By the close of FLAVOURE project, ERIA has built a reputation as a fast developing research institute with an ambitious development strategy, a rapidly increasing international collaboration, a high ability to react to changes and a solid experience in project management. The modernized laboratory contribute to raising interest of agricultural producers in research and involving enterprises into funding regional research projects within ERIA and international research cooperation, contributing thereby to strengthening the European competitiveness. The working conditions have improved and the career options of ERIA research staff expanding. As a project result, the improved laboratory equipment at ERIA enables effective cooperation with research institutions in other countries. The integration with countries around the Baltic Sea and their respective research institutions grow firmer, facilitating thereby the fostering of the common research area in the Baltic Sea region.

A DESCRIPTION OF THE MAIN S&T RESULTS/FOREGROUNDS

WP1: Upgrade of equipment and setting up of a modern laboratory

Objective of the WP1 was to establish a modern research laboratory, enabling ERIA to perform molecular biological analyses in connection with safety and quality of foods and feeds.

Obtaining of infrastructure in ERIA suitable for molecular biological analyses in food and feed research

In beginning of the project the infrastructure in ERIA was formed suitable for molecular biological analyses in the field of food and feed quality and safety. For that purpose ERIAs' laboratory building was renovated (financed by Estonian Ministry of Agriculture) and new laboratory equipment suitable for molecular biological analyses was purchased and installed.

Through the FLAVOURE project WP1, seven main pieces of up-to-date equipment have been obtained and installed:

- Equipment needed for samples preparation before the analysis of components:
 - Centrifuge;
 - Universal oven (with temperature control, air circulation).
- Equipment to analyse peptides, proteins and trace components:
 - High Performance Liquid Chromatography (HPLC);
 - Gas Chromatography (GC);
 - Spectrophotometer;
- Equipment needed for DNA-based analyses:
 - PCR;
 - Electrophoresis equipment.

Also, **organisational changes at the ERIA's laboratory** like forming of laboratory management team and carrying out of seminar about laboratory working safety and basic laboratory techniques helped to reach a higher level of efficiency and safety.

Main results of WP1:

Thanks to FLAVOURE project a modern research laboratory has been established enabling ERIA to perform molecular biological analyses in connection with safety and quality of foods and feeds which is taken into use as a basis for training of researchers and for participating in international and national research projects related to safety and quality of foods/feeds.

WP2: Scientific trainings through researchers' mobility

The main objective of WP2 was to develop the skills of researchers in the use of modern molecular biological methods through the exchanges of researchers between ERIA and its FLAVOURE partners.

For increasing of skills of research staff in using modern laboratory equipment and safety aspects both young and experienced researchers as well as laboratory technicians were sent to partner institutions. Also the visits of experienced and young researchers from partner institutions to ERIA were organized.

Trainings of ERIA's young researchers in partner institutions:

In FLAVOURE project six young researchers had a possibility for 6-months training at partner institutions (Task 2.1) which increased their skills of using of modern laboratory equipment for food and feed research. Each trainee was closely supervised by a senior researcher from the hosting entity.

Overview about ERIAs' young researchers' trainings in FLAVOURE partner institutions:

- Training for a young scientist was mostly carried out in University of Helsinki, Department of Agricultural Sciences, Faculty of Agriculture and Forestry, Finland. The training increased the researcher's basic skills in using of PCR-techniques for isolation and multiplication of fungi connected with potato diseases. For obtaining deeper knowledge about laboratory techniques for analysing fungal plant diseases, another 3-week training was carried out at Institute of Sustainable Agriculture IAS-CSIC, Spanish National Research Council, Spain.
- Training for a young scientist in University of Aarhus, Faculty of Agricultural Sciences, Denmark increased the researcher's skills in using laboratory techniques for identification of peptides with antioxidative and bioactive properties from foods of plant and animal origin.
- Training for a young scientist was mostly carried out at University of Aarhus, Faculty of Agricultural Sciences, Denmark. The training increased her skills in using of PCR based methods for identification of mould in grain products. In order to develop her skills in laboratory techniques needed for the analysis of mycotoxins, 1-month training was carried out at University of Novi Sad, Faculty of Technology, Serbia.
- Training for a young scientist was organized in the Department of Agricultural Sciences, Faculty of Agriculture and Forestry, University of Helsinki. The training increased his skills in PCR based methods for analysing of genetic factors influencing overwintering of plants.
- Training for a young scientist in the Department of Agricultural Sciences, Faculty of Agriculture and Forestry, University of Helsinki increased her skills in planning of laboratory experiments and using molecular methods for identification of potato virus diseases.
- Training for a young scientist at Institute of Natural Resources and Agrobiology of Salamanca, IRNASA-CSIC, Spanish National Research Council, Spain increased the skills in methods needed for analysing of carbohydrates and peptides from plant material.

Training of ERIA's experienced researchers in partner institutions:

Three experienced researchers from ERIA have been hosted by partner institutions in connection of one-month trainings which increased their international working experiences and their skills of using state-of-the-art laboratory equipment.

Overview about experienced researchers' methodological trainings:

- Training for an experienced researcher at University of Helsinki, Faculty of Veterinary Medicine, Finland increased his skills in using of PC programmes for evaluation of feed and food risks, developed skills in field of analysing of animal welfare as a part of food quality and increased international team-working skills.
- Training for an experienced researcher at University of Aarhus, Faculty of Agricultural Sciences, Denmark increased her knowledge in modern laboratory techniques for identification of antimicrobial peptides from milk as well as increased collaboration between ERIA and Aarhus University.
- Training for an experienced researcher at University of Aarhus, Faculty of Agricultural Sciences, Denmark increased the researcher's skills in the soil connected factors influencing food and feed quality as well as in planning of field trials.

Welcoming of experienced researchers from partner institutions at ERIA:

5 experienced researchers from partner institutions visited ERIA. As a result of these visits. ERIAs' researchers knowledge in the use of molecular biological methods as well as the collaboration in general between the institutions increased. In addition, the internal evaluation of ERIA was carried out.

Overview of the experienced researchers' visits from FLAVOURE partner institutions to ERIA:

- An experienced researcher from Helsinki University, Faculty of Veterinary Medicine, Finland
Main results of the visit: 1. Increased knowledge of ERIA's researchers in methods used in assessing of different aspects of animal welfare; 2. ERIA's organisational mapping was carried out and in connection to that the observer's view and proposals for improvements in terms of structure, internal and external communication, and development strategy were worked out; 3. Possibilities for scientific communication and international funding most appropriate for ERIA were mapped; 4. Future collaboration possibilities between ERIA, Estonian University of Life Sciences and Helsinki University were planned.
- An experienced researcher from the University of Aarhus, Faculty of Agricultural Sciences, Denmark:
Main results of the visit: 1. Knowledge of ERIAs' researchers increased in field of methodology used for analysis of bioactive and antioxidative properties of foods; 2. Experienced researcher participated as advisor in improvement of analytical capacities needed for food research as well as mapping of safety aspects to be considered when developing new laboratory facilities at ERIA; 3. Possibilities for scientific collaboration

between ERIA and University of Aarhus in the field of food science were mapped/identified.

- An experienced researcher from National Centre for Public Health Protection, Bulgaria:
Main results of the visit: 1. Increased knowledge of ERIA's researchers in the field of methods used for analysis of mycotoxins; 2. Possibilities for scientific collaboration between ERIA and National Center for Public Health Protection, Bulgaria in the field of food safety were mapped; 3. Overview was obtained about distribution of mycotoxins between geographically and climatically different regions.
- An experienced researcher from Institute of Natural Resources and Agrobiology of Salamanca. IRNASA-CSIC (Spanish National Research Council):
Main results of the visit: 1. The visit increased knowledge of ERIA's researchers in the field of using modern laboratory equipment and methods for analysing carbohydrates from plant material; 2. Possibilities for scientific collaboration between ERIA and IRNASA-CSIC in the field of food quality were mapped.
- An experienced researcher from Institute of Sustainable Agriculture IAS-CSIC, Spanish National Research Council, Spain:
Main results of the visit: 1. The visit enabled to increase the knowledge of ERIA's researchers about the molecular methods used for analysing plant diseases; 2. Possibilities for scientific collaboration between ERIA and Institute of Sustainable Agriculture IAS-CSIC in the field of plant protection were mapped.

Welcoming of young researchers from partner institutions in ERIA

- ERIA spread the knowledge and expertise gained during the project by welcoming a young researcher from Institute of Agriculture (Lithuania) at ERIA. This training increased her knowledge in the fields of green manure management technology, biologically fixed nitrogen of legume as well as mineralization of plant underground and above ground biomass. Also during her visit, the young researcher got a preliminary overview of writing and management of international projects.
- Another young researcher from Department of Animal Health and Biosciences, Faculty of Agricultural Sciences, Aarhus University (Denmark) was visiting ERIA. The training was focused on the methods used for identification of moulds in foods.

Training of laboratory technicians in partner institutions

Trainings for laboratory technicians from ERIA at partner institutions were organized to increase their knowledge in the use of modern laboratory equipment and safety regulations.

Overview about ERIAs' laboratory technicians' trainings in FLAVOURE partner institutions:

- Laboratory technician's training in Helsinki University, Faculty of Veterinary Medicine, Finland. His training served to increase knowledge of using of modern laboratory equipment and laboratory organization.
- **Laboratory technician's** training in Aarhus University, Faculty of Agricultural Sciences, Denmark. Training was aimed to increase the skills of the laboratory technician in the use

of modern laboratory equipment like HPLC, MALDI and spectrophotometer, as well as various safety issues connected with using different equipment.

- **Laboratory technician's** training was carried out in Aarhus University, Faculty of Agricultural Sciences, Denmark to increase her knowledge in laboratory organization and safety regulations.

Main results of WP2:

These mobility trainings organized under WP2 have increased the knowhow of researchers in evaluation of food and feed quality and safety through the using of modern laboratory equipment and have also improved linguistic skills of the research staff. The knowledge obtained is valuable for planning, leading and participating in research projects, supervising young researchers, and working effectively in international research teams.

WP3: Life-long training within ERIA

The main objective of WP3 is to improve researchers' skills on the basis of complementary events, such as scientific seminars and group trainings targeted at methodological knowledge and work with laboratory equipment and at fostering good practices.

To provide a continuous opportunity for the researchers to improve their professional expertise, 2-day seminars and methodological group trainings in ERIA were organised. Altogether six seminars and three methodological group trainings have been carried out which has increased the researchers' knowledge in food and feed quality and safety, grassland biodiversity, soil micro-organisms, evaluation and preservation of genetic resources and GMO-s. In addition to ERIA's staff, researchers from other Estonian research institutions as well as from other European countries were attending the seminars and methodological group trainings.

2-days international seminars:

Six seminars were organized by ERIA for the purpose of providing a continuous opportunity for researchers to improve their expertise in field of feed and food research. These seminars also generated discussion between various scientific views and aspects, which led to a better understanding and new cooperation ideas between different research groups.

Overview about seminars organized by ERIA:

- **“Food and Feed Quality and Safety” (March 2009** in Tallinn, Estonia). All together there were 50 participants from three countries – Estonia, Lithuania and Finland. The seminar increased researchers knowledge about food and feed quality and safety from the point of view of organic farming and the global climate change as well as introduced trends of technology development in food/feed research.
- **“Biodiversity of Grassland Based Farming Systems in Europe”** (October.2009 in Tallinn, Estonia). There were 45 participants from three different countries - Estonia, Hungary and Finland. The seminar gave a wide-scale overview of the research carried out in the field of grassland-based farming in Estonia and in other

European countries, as well as led to open discussion between scientists, politicians and farmers.

- **“Soil Micro-organisms as Indicator for the Biological Quality of Soils”** (March 2010 in Saku, Estonia). There were all in all 52 participants from five different countries - Estonia, Latvia, Lithuania, Spain and Finland. The seminar increased researchers’ knowledge about legislation, laboratory and scientific methodology, as well as the latest scientific results from different European countries in the field of soil study as a basis for food and feed safety.
- **" Assessment of risks related to food/feed quality and safety "** (November 2010 at ERIA in Saku, Estonia). There were 28 participants from five different countries - Estonia, Latvia, Denmark, UK and Finland. The seminar pointed out the versatility of the basic topic. Participants got a large-scale overview of the assessment of possible risks in food and feed safety presented from the point of view of researchers, controlling organizations, agricultural- and industrial producers.
- **“Genetic resources: evaluation and preservation. GMO-s”** (April 2011 in Tallinn). There were 45 participants from four different countries - Estonia, Latvia, Denmark and Finland. The seminar gave an overview of the importance of genetic resources, diversity and the impact of modern technologies.
- **“New methods in assessment of food/feed quality and safety“** (January 2012 in ERIA, Estonia). There were 41 participants from five different countries - Estonia, Latvia, Serbia, Denmark and Finland. The seminar introduced research carried out in different countries in the field of food and feed safety. Also it showed a research questions where additional information is needed.

Methodological group trainings

Three methodological trainings were organized to develop the researchers ‘laboratory skills in the field of food and feed research. Main attention was paid to general aspects and special solutions of HPLC, GC and PCR techniques.

Overview about methodological group trainings organized in ERIA:

- **”HPLC and GC in assessment of food/feed quality and safety“** (November 2010 in ERIA). There were 18 participants from three countries – Estonia, Denmark and Latvia. Training developed researchers’ knowledge and skills in working with contemporary HPLC and GC-MS systems.
- **“Hands on in using PCR“** (June 2011 in ERIA). There were 19 participants from 2 countries - Estonia and Bulgaria. This training gave researchers basic skills in using of PCR in their research.
- **„New methods in assessment of food/feed quality and safety“** (December 2011 in ERIA). There were 20 participants from four countries – Estonia, Denmark, Spain and Lithuania. Training developed researchers’ skills in the fields of laboratory techniques for obtaining food/feed safety and quality.

Main results in WP3:

Researchers' knowledge in food and feed research as well as their skills in using of modern laboratory equipment have increased thanks to a continuous opportunity to participate in life-long learning seminars and methodological group trainings.

WP4: Strengthening partnership and building a joint future between ERIA and other actors in Estonia and abroad

The main objective of WP4 is to deepen collaboration and networking on international and national scale.

FLAVOURE has deepened the collaboration on international scale and established new potential contacts in the field of food and feed quality/safety research. The Food and Feed Safety and Quality Network was formed on the basis of FLAVOURE partner institutions and a joint collaboration agenda was worked out. In order to find new potential collaboration partners, the representatives of ERIA have participated international scientific workshops and conferences as well as visited different European research entities.

On national scale closer contacts to other research entities and national laboratories were established in order to exchange knowledge and collaborate closely. Altogether four meetings were organised, in which participated in addition to the representatives of national control laboratories and research institutions, also the representatives of the Ministry of Agriculture and stakeholder associations (e.g., Estonian Food Association, the National Contact Point of EFSA, etc) as to provide a more coherent understanding of the cooperation challenges and opportunities.

Establishment of Food and Feed Safety and Quality network:

The Food and Feed Safety and Quality network representing all FLAVOURE partner institutions was established, and a common vision and collaboration action plan were devised. The partners met annually on a rotative basis, so that the hosting partner would have an opportunity to introduce its research premises and equipment to other FLAVOURE partners. The following network meetings were held:

- at University of Helsinki, February 2009;
- at the Faculty of Agricultural Sciences in Foulum, Aarhus University, Denmark in January 2010;
- at the Institute of Sustainable Agriculture, Spanish Council for Scientific Research in Cordoba, Spain in February 2011;
- in Tallinn, Estonia in October 2011.

For a more efficient use of financial resources Management Meeting was always incorporated into the agenda of a Network meeting. The network members agreed to regard the Food and Feed Quality and Safety Network as an informal network (no official membership procedures, etc formalities) which is targeted to serve as a basis for establishing a consortium for future

collaboration projects. Therefore, there was organised an additional practical workshop for project development – the workshop “Beyond Food and Feed Safety and Quality Network: Building New Perspectives“ was hosted by the Consejo Superior de Investigaciones Cientificas (CSIC) in Salamanca, Spain (November, 2011).

Participation of international scientific conference and symposium:

To introduce research carried out in ERIA as well as to find new research contacts, the researchers from ERIA attended two international scientific events in the framework of FLAVOURE .

- **The conference “Total Food 2009: Sustainability of the Agri-Food Chain” in Norwich, UK** was attended by two researchers from the Department of Plant Sciences.
- **22nd International ICFMH Symposium, Food Micro 2010, in Copenhagen Denmark** was participated by ERIA’s researcher with poster presentation.

Visiting European Food and Feed safety and quality research institutions:

In order to develop partnership on international scale different European research entities were visited by delegations of ERIA (. The following research institutions were visited and contacts established:

- University of Agriculture in Krakow; Institute of Soil Science and Plant Cultivation State Research Institute in Pulawy; Institute of Agricultural and Forest Environment in Poznan and Institute of Plant Genetics (both under Polish Academy of Sciences), and the National Research Institute of Plant Protection in Poznan (Poland):
 - Cooperation agreement has been signed between Institute of Soil Science and Plant Cultivation State Research Institute in Pulawy and ERIA.
- Czech University of Agriculture and Food Research Institute in Prague (Czech Republic):
 - a cooperation agreement between the Food Research Institute and ERIA has been signed by now.
- Wageningen University (Netherlands);
- **The Bavarian State Research Centre for Agriculture/Hop Research Centre in Hüll (Germany);**
- French National Institute for Agricultural Research INRA and the network of agricultural research institutes ACTA (France).

Development of cooperation with national actors:

Cooperation was developed also with various national actors. There were organised four meetings and seminars on Food and feed Safety and Quality within Estonia:

- **First meeting at ERIA (2009)** was organized in order to build closer relations with national research institutions and control-laboratories and to map the issues to be targeted for common interests.

- At the second meeting at Tallinn Technical University (2009), assignments were given to the representatives of each stakeholder group to map the interests for cooperation within the given stakeholder group.
- A seminar in Haapsalu, Estonia (2011) with presentations by the research organizations of their research laboratory activities and by food industry enterprises regarding their needs and expectations to research laboratories in terms of food and feed quality and safety.
- A seminar in the form of a field trip to different laboratories (2011), such as Estonian Veterinary and Food Laboratory (control function); Food Hygiene Laboratory at Estonian University of Life Sciences (research function), and the recently established molecular and microbiology laboratory at ERIA (established as part of FLAVOURE project) was organized. The aim of the seminar/field trip was to continue the mapping of food and feed related laboratory capacities in Estonia and to provide a practical overview of the facilities of the key laboratories dealing with food and feed safety and quality in Estonia.

Main results of WP4:

WP4 has successfully contributed to building up a promising contact network of potential partners for ERIA, both abroad as well as in Estonia.

WP5: Dissemination

Objectives of WP5 is dissemination of FLAVOURE results on all possible communication means to increase the impact of research results on the various concerned actors.

Extension Department has been created and activated in ERIA, which has notably increased exchange of knowledge and information between researchers and end-users. On national level, two practical workshops have been organized to the representatives of industry and agricultural producers thereby intensifying the transfer of new information in the field of food and feed quality and safety from researchers to producers. Also a technology development network was established. On international scale, two scientific conferences were organized. In addition, FLAVOURE joined the EU FOOD-CLUSTER initiative.

ERIA's virtual visibility has increased through the continuous updating of the project website as well as ERIA's website. Increased visibility in turn has led to starting of new international cross-border projects.

Gaining national visibility:

Creation and activation of Extension Department in ERIA

To communicate ERIA's research results to end-users and gather information from end-users and analyse it within ERIA, the Extension Department was created and activated at ERIA in 2009. The Extension Department has been active in organising the information days for producers, seminars for agricultural advisors, publishing articles in newspapers, advising farmers, as well as participating in applied research projects targeted to Estonian agricultural producers, and editing *Agronomy Research* journal.

Overview of the activities carried out by Extension Department:

- 8 seminars organized;

- 43 information days and seminars attended;
- Participated in 4 applied research projects targeted to Estonian agricultural producers;
- 370 agricultural producers and industries visited;
- 650 times advising of agricultural producers via e-mail and phone connections;
- Participated in devising the Development Plan for Agricultural Advisory and Extension Services in Estonia.
- Also the Extension Department has increased ERIA's international visibility through the:
 - Organizing of publishing of peer-reviewed scientific journal "Agronomy Research" which is abstracted and indexed in international scientific databases like Thompson Scientific database, AGRIS, DOAJ, CAB Abstracts, VINITI etc;
 - Coordinating of INTERREG IVA programme project "KNOWSHEEP" starting from year 2010.
 - Two project proposals were submitted under the recent Call of the Estonia-Latvia-Russia cross-border cooperation programme within European Neighbourhood and Partnership Instrument 2007-2013.

Organizing practical workshops for the industry and farmers

In order to disseminate new information about feed and food safety and related risks, ERIA has organized one-day workshops for farmers and representatives of food industry:

- **Workshop "Agricultural year 2009: What to learn from this year and what to think about the next year" (Saku, 2009)**
 - There were 85 participants including researchers, farmers, food industry representatives, advisors, policy makers, farmers' organisations, etc.
 - Presentations and discussions of the workshop covered such topics as cereal crops, seed rape, potato, forage crops, diseases and insects, quantity, quality, milk industry, economy, cluster-based cooperation particularly from the aspect of the quality of crops in relation to the quality of end product.
- **Workshop "From science into practice: Impact of climate conditions on the quality of end product" (Penijõe in Western Estonia, 2010)**
 - There were 54 participants, including 34 farmers and 8 agricultural advisors.
 - The presentations and discussions of the workshop covered subjects like climate conditions, quality and quantity, vegetables, mushrooms, organic farming, nitrates, GMO plant varieties, soil processing in springtime, potato growing: varieties, products.
 - During the workshop, the co-operation agreement between ERIA and Lääne county government was signed.
- **Workshop "Impact of agro-technical methods on the quality of agricultural products" (2011) .**
 - There were 28 participants including researchers, farmers, advisors, policy makers, etc.
 - The goal of the day was to give an overview of the influence of using of different agro-technical methods for quality aspects of the most important field crops (rape, wheat, barley, oak and potato) and legumes (clovers, *Galega orientalis*). Presentations and discussions covered such topics as the impact of microbiologic factors on quality and safety of cereals and rape, growing of potato, weeds and diseases control, growing of forage legumes.

- Workshop “**Feeding of cows and analysing feed quality**“ (2012).
 - There were 13 participants including researchers, farmers, and representatives of Ministry of Agriculture, farmers’ associations, and control laboratories.
 - The goal of the current workshop was to exchange information about dairy cows feeding strategies and possibilities for assessment of feed quality as well as working out methods for improvement of feed quality.
 - In connection with the current workshop, future development directions were worked out, including the following:
 - working out easily understandable and useful instructions and recommendations for interpretation of results of analysis obtained from different laboratories;
 - to carry out studies comparing efficiency of biological and chemical silage additives under different silage production conditions;
 - to monitor quality of forage grasses from different regions of Estonia in order to work out recommendations for farmers about the proper time for starting of silage production in 2012.

Establishment of organic farming technology development network

In order to provide the best and prompt information to producers, producer organisations, agricultural advisors, and other target groups, the organic farming technology development network was established. To share the information about organic farming technologies 2 discussion seminars were carried out by organic farming technology development network.

Overview about discussion seminars carried out by organic farming technology development network:

- First discussion seminar (Saku 2010) with representatives ranging from the farmers to the officials from the Ministry of Agriculture. The speakers gave an overview of the work performed at different institutions and an overview of the problems faced by organic farming. Thematic work groups were set up for: a) development of plant protection technology, 2) fertilisation of field crops; c) minimisation of soil tillage; d) production technology development for winter grass feeds; e) production quality and development; f) plant breeding and seed production; and g) marketing working group. Based on workshop, it can be concluded that there are both need and interest for organizing an organic farming technology development network in Estonia.
- The second discussion seminar (2011 in Saku). There were 13 participants from 7 different institutions. The speakers gave an overview of the possibilities of minimizing soil cultivation in organic farming, fertilization possibilities, plant protection technology development, producing winter feeds (silage) for cows, situation in organic seed production and plant breeding, and organic sheep and cattle husbandry.

Gaining international visibility:

ERIA’s international visibility increased notably through organizing two international conferences (and through the participation in Food-Cluster Initiative activities).

Organizing of international conferences

Two international conferences were organized as to disseminate information about FLAVOURE and Food and Feed quality and safety network, to deepen ERIA's integration in the European Research Area as well as to gain international visibility:

- **The international conference “Risks in Agriculture: Environmental and Economic Consequences“ (Tallinn 2010)** There were 42 delegates from 8 countries attending. Conference presentations were grouped into 5 sessions: 1) Plenary session, 2) Food and Feed Quality and Safety, 3) Environmental Strategy; 4) Weather and Soil Resources; 5) Crop Production and Economy Consequences. Conference related scientific papers (32 in total) were published in a special issue of the peer-reviewed international scientific journal “Agronomy Research“.
- **The international conference “Food/Feed Quality, Safety and Risks in Agriculture” (FLAVOURE Conference) (Tallinn 2011)** The Conference was facilitating the transfer of knowledge between scientists and other stakeholders of agro-food sector and forming a basis for developing innovative food/feed products and more environmental friendly production technologies. There were 69 delegates from several European countries including Estonia, Finland, Latvia, Lithuania, UK, Spain, Serbia, Poland, and Denmark. The delegates of the conference were representing 10 different research institutions and also agro-food companies, agricultural producers and public authorities. Conference presentations were grouped into four sessions: 1) Technological aspects of food quality; 2) Technological aspects of feed quality; 3) Risks related to food quality and safety in production chain; 4) Poster sessions. Conference -related scientific papers (23 in total) were published in a special issue of the peer-reviewed international journal “Agronomy Research” (vol. 9, special issue 2). In connection with FLAVOURE Conference FP7 KBBE Programme project MAITRE seminar about “Communicating Food Science Research” was organized as the parallel event to the conference.

Participating in FOOD-CLUSTER INITIATIVE activities

FLAVOURE has joined the EU Food Cluster Initiative and has been participating in its activities (meetings, dissemination activities, etc.). Participating in Food Cluster Initiative activities gave an opportunity to introduce the FLAVOURE project and ERIA to a wide range of European research and development institutions as well as to establish and develop contacts for cooperation which has formed an excellent basis for developing new projects on food safety and quality. Also ERIA's knowledge and understanding about cluster development in Europe was increased.

FOOD-CLUSTER INITIATIVE events participated by FLAVOURE:

- In Mersin, Turkey (2009):
- “Research Connection 2009“ in Prague, Czech Republic (2009)
- “Connecting European Food Clusters“. 4th official meeting Food Cluster Initiative” in Wageningen, Holland (2009)
- Thessaloniki, Greece (2010):
- “Week of Innovation Regions in Europe“ in Granada, Spain (2010)

- Food-Cluster Initiative Conference “How to build successfully regional clusters. How to find support” in Ghent, Belgium (2010). One of the parallel workshops (session D) was organized and carried out by FLAVOURE team.
- “Week of Innovation Regions in Europe 2011” (*WIRE 2011*) in Debrecen, Hungary (2011)
- In Brussels, Belgium (2011)

Main results gained from attending FOOD CLUSTER events:

- Acquiring the skills for SWOT analysis, which were implemented when performing an analysis of the situation of agrifood sector in Estonia.
- Developing cooperation with the food industry in Estonia in connection with analysing the situation of the local agrifood sector.
- Establishing and developing contacts for cooperation with a wide range of European research and development institutions, which has formed an excellent basis for developing new projects on food safety and quality.
- Introducing the FLAVOURE project and ERIA at FOOD-CLUSTER events. Getting visibility and contacts.
- Obtaining knowledge and new ideas about research and industry collaboration, clustering and innovation strategy.

Gaining virtual visibility

For gaining virtual visibility ERIA has developed its website (<http://www.eria.ee>) as well as creating and updating continuously the website of project FLAVOURE (<http://www.flavoure-project.eu>).

Main results of WP5:

During the FLAVOURE project period ERIA’s visibility has notably increased both on national and international level, which has formed a good basis for communicating research results to various actors.

THE POTENTIAL IMPACT AND THE MAIN DISSEMINATION ACTIVITIES AND EXPLOITATION OF RESULTS

Covering such a crucial topic for the EU as food/feed quality and safety, FLAVOURE will have an impact on the development of the given field at ERIA, in Baltic research region, and thereby also in European dimension.

Impact of the FLAVOURE presented by work package:

Through the FLAVOURE project, ERIA has set up an Action Plan covering the main weaknesses identified in the SWOT analysis. Impact of the project is first of all presented by work

package, highlighting the time schedule of such expected impacts and the scale on which the impacts will occur (for ERIA, on a national scale, international, etc.). The overall impact of the project (such as publications and new cooperation projects) deriving from the activities of more than one WP is provided at the end of this section.

Through the WP1 laboratory equipment was upgraded and the laboratory was reorganized for obtaining of greater efficiency and to better comply with EU standards. The impacts for WP1 include:

- *International scale*: attractiveness of ERIA is notably increased to international research teams as research results are more interesting for the European Union research community (by December 2010)
- *National scale*: attractiveness of ERIA is significantly increased, thanks to its research capacities available for high level research.
- *ERIA*: the level of excellence is increased since ERIA has obtained capacities to carry out research on molecular level (by January 2010).

The WP2 mobility trainings for researchers from ERIA at the hosting entities has lead to exchange of knowledge between ERIA and its partners.

Impacts of WP2 include:

- *International scale*: intensive international cooperation and joint projects with FLAVOURE partners as well as with new partners from other European countries. Mobility trainings have intensified communication between institutions, work groups, and individuals.
- *ERIA*: young and experienced researchers have developed their complementary skills which can be seen in increased number of scientific papers published in peer-reviewed scientific journals (by January 2012).

The WP3 trainings targeted to exchange of knowledge have let to the following impact:

- *International scale*: Extensive seminars improved research quality at ERIA, in Estonia, as well as in other European countries (by January 2012).
- *ERIA and individuals*: ERIA's staff was trained to use modern research equipment and methodology (by January 2012). Today the researchers working in ERIA are able to use these methods as well as work with equipment needed for preparation of samples for performing different research mostly connected with food and feed quality and safety. Laboratory equipment is maintained and the studies are supported by laboratory technicians. Main areas in which laboratory equipment is used are as follows:
 - studies of antimicrobial and antioxidative components in milk and plant material;
 - identification of moulds and mycotoxins from plant material;
 - studies of new methods for eradication of plant diseases and genetic stability of plant genetic resources;
 - studies on various aspects of overwintering of plants.

The WP4 partnership strengthening activities have had the following impact:

- *International scale*: New international contacts have been established between institutions, work groups, and individuals active in the field of research of food and feed quality and safety. Through the networking with project partners and finding new and active contacts FLAVOURE gave a possibility to build up a promising contact network of potential foreign partners (by January 2012).

- *National scale:* A higher level of collaboration on a national scale leads to a greater excellence of results and of the impact of research within Estonia (by January 2012).
- *ERIA:* A higher level of collaboration on an international scale leads to an increase of the number of joint projects and thereby of the participation of ERIA in European collaboration projects (by December 2011).

The WP5 consisting in dissemination activities has generated the following impacts:

- *International scale:* Participating in EU FOOD-CLUSTER Initiative events and using of publishing opportunities, the information about the FLAVOURE project, ERIA laboratory excellence of feed/food quality and safety, and training opportunities in Estonia have been disseminated (by January 2012).
- *International scale:* Organised two international conferences and publishing of international peer-reviewed scientific journal “Agronomy Research” as well as creating the FLAVOURE website and developing of ERIA’s website have made information about FLAVOURE and ERIA visible on international level (by January 2012).
- *National scale:* Through the organizing of local seminars, conferences, information days, workshops, discussion seminars, as well as publications in local newspapers and journals, the information has been actively disseminated among producers, producer organisations, agricultural advisors, local authorities, etc, leading to new applied research projects targeted to Estonian agricultural producers and processors, and for advisory pilot actions enabling them to receive new information about feed and food safety (by December 2011).
- *National scale:* Through the advising of agricultural producers and processors by Extension Department, ERIA is helping to improve competitiveness of small-sized agricultural enterprises and processors (by December 2011).
- *National scale:* The established organic farming technology development network results in excellent dissemination of new scientific information to producers and end-users (by December 2011).
- *National scale:* The visibility of the centre is increased on national level by means of internet portals, (such as www.pikk.ee, <https://www.etis.ee/index.aspx?lang=en>) to distribute information to researchers, producers, officials, and political decision-makers in the field of agriculture.

Overall impact resulting from the activities of all WPs can be measured mainly by two quantitative indicators – new cooperations and publications:

I Increased cooperation and increased number of cooperation projects:

Before the launch of FLAVOURE development of international cooperation was largely obstructed by a too narrow focus on Estonian agriculture, insufficient fluency in English, and, consequently, lack of the related experience. ERIA's participation in international projects and networks was practically non-existent. FLAVOURE has restored the tradition of taking part in international projects. By December 2011 ERIA was participating in 3 international projects showing a notable activation of ERIA's international collaboration. The international projects ERIA was joined during years 2009-2011 are:

- *KNOWSHEEP* („Developing a Knowledge-based Sheep Industry on the Baltic Islands“) from *Central Baltic INTERREG IV A programme 2007-2013*, Archipelago and Islands Sub-programme. ERIA is the lead institution of this project.
- *Baltic MANURE* („Baltic Forum for Innovative Technologies for Sustainable Manure Management“) from *INTERREG Baltic Sea Region Programme*. ERIA is a partner in this project.

- *COST Action ES1106* (Assessment of EUROpean AGRiculture WATer use and trade under climate change (EURO-AGRIWAT)). This project is represented by 2 experienced researchers from ERIA (Dr. Jüri Kadaja and Dr. Triin Saue) as members of Management Committee.

Increase of ERIA's participation in international projects has continued also after the end of project FLAVOURE.

- *In February 2012 Estonia was accepted to participate in COST Action FA0905* “Mineral-improved crop production for healthy food and feed” represented by ERIA's experienced researcher Dr. Marge Malbe.
- Also 5 project proposals were submitted by ERIA's researchers to the INTERREG Estonia-Latvia-Russia cross border cooperation Programme within European Neighborhood and Partnership instrument 2007-2013. By the time being, one application at least has been selected to the next selection round and the full proposal will be submitted in September 2012.

II The number of publications has doubled:

- ERIA: the number of scientific papers published in peer-reviewed scientific journals increased during years 2010-2011. Before FLAVOURE the researchers of ERIA published most of their research results primarily in journals, compilations, newspapers, etc., in Estonian language with local reader as the target group. Number of publications published in peer-reviewed scientific journals was quite low. For example, during three-year period before FLAVOURE (years 2006-2008) only 19 articles were published in peer-reviewed scientific journals written by ERIA's researchers. There has occurred a significant change in publications during the period of FLAVOURE. In 2009-2011, 37 peer-reviewed scientific publications were published by ERIA's researchers – it means the publications have doubled as compared with three years period before FLAVOURE.
- ERIA: In addition to scientific publishing, FLAVOURE has had an impact also on the developing innovation activities in the Institute and patenting innovative solutions. Before FLAVOURE applying for patents remained considerably modest. On average, one useful model or patent application was submitted per year; there were even years without any submitted applications. The situation changed during years of FLAVOURE. During years 2009-2011 2 patent applications were accepted and 9 additional patent applications were submitted by ERIAs' researchers.

For summarizing:

Without FLAVOURE obtaining of these quantitative measures during such a short period as three years would have been highly unlikely. Without the FLAVOURE project, the practical experiences of the researchers in being actively involved in international scale cooperation as well as their skills of using of modern scientific methods would be too limited and ERIA would probably have neither modern laboratory equipment nor a strong network of partners. This means that ERIA would not be attractive for other institutions as a partner for international projects or research collaborator, so ERIA's participation in international projects would be limited or non-existent, the same goes to number of scientific publications published in peer-reviewed scientific journals. It must be noted that already the fact that ERIA has been participating in the 7th FP as a beneficiary, has benefitted the institute's reputation both in Estonia and abroad.

Improved research capacities (including improved quality of equipment and human resources) and intensified research collaboration has made ERIA more attractive also for young and

experienced researchers giving a possibility that recruited and trained researchers prefer to stay in ERIA and continue development of their own research projects.

Socio-economic impact and the wider societal implications

Thanks to FLAVOURE network and common strategies set up with various actors, FLAVOURE has led to better co-ordinated research activities, create new knowledge in Estonia, and provide new insights for policy making in food/feed quality and safety.

An update laboratory and qualified staff will increase the interest of agricultural producers in research and will attract private partners into research cooperation, strengthening thereby the European competitiveness.

FLAVOURE will contribute to developing a Baltic Research Region on food/feed safety, and, through participation in European Food-Cluster, boosting cooperation with other European regions, fastening ERIA's integration in European Research Area, strengthening food/feed research, and offering further opportunities for interregional and national projects.

Contribution to a better regional research capacity to improve economic and social cohesion

- The activities of FLAVOURE increased the scientific knowledge of researchers working at ERIA and the modernized laboratory gave an opportunity to take active part in enhancement of the risk assessment and risk forecasting system for food and feed quality in Estonia (e.g., through the processing the research data received from national veterinary and food laboratories, improving the methodologies used, and assessing the risks) as well as through the advisory body of European Food Safety Authority in the pan-European exchange of food and feed quality and safety research information and risk assessment process.
- ERIA have had always a close cooperation with agricultural producers and industries. The modernized laboratory will contribute to raising interest of agricultural producers in research and involving enterprises into funding regional research projects within ERIA and international research cooperation, contributing thereby to strengthening the European competitiveness.
- The working conditions will improve and the career options of ERIA research staff will expand. As a project result, the improved laboratory equipment at ERIA will enable effective cooperation with research institutions in other countries. The integration with countries around the Baltic Sea and their respective research institutions will grow firmer, facilitating thereby the fostering of the common research area in the Baltic Sea region. The implementation of this project provides an excellent opportunity for an even more active dissemination of knowledge within the EU as well as outside.

Increase of excellence and visibility on an international scale will open new opportunities

As a result of the project, the laboratory equipment at ERIA and the know-how of researchers have notably improved, i.e., the quality of research carried out at ERIA has increased. This can be witnessed in increased number of publications published in peer-reviewed scientific papers, making ERIA's research results available for scientific community on global scale.

An increased visibility enables to develop effective cooperation with research institutions in other countries. The integration with countries around the Baltic Sea (Finland, Denmark, Latvia, Lithuania, Poland and Germany) and their respective research institutions (University of Helsinki, University of Aarhus, Lithuanian Agricultural Institute, etc) is growing firmer, facilitating thereby the fostering of the common research area in the Baltic Sea region. In addition, ERIA is now able to take more active part in the European research networks related to the quality and safety of food and feed.

Exchange of knowledge, transmission to the youth and attractiveness for foreign researchers: The development of international cooperation is going hand in hand with the mobility of researchers, which is one of the recognized priorities within Europe. The training of young researchers employed by ERIA at the University of Helsinki, Aarhus University, Institute of Natural Resources and Agrobiology of Salamanca or University of Novi Sad provided them a better integration with the European Research Area. The skills and knowledge obtained during their methodological trainings are very valuable for further advancement of ERIA.

Estonia as a small-sized country will never have enough of research staff to cover all necessary fields of research; therefore the project based collaboration with researchers from other EU countries and outside EU is necessary. ERIA as a modernized research centre is attractive for researchers from other countries. An excellent research base provides a prospect for integrating – either wholly or partially – into the projects carried out in Estonia such researchers who have worked or studied in other countries meanwhile and who have close contacts with research institutions or universities abroad, and, by the same token, improve the integrations of ERIA as well.

At the same time, the acquired contemporary research equipment and the unification of research methods provide a solid foundation of skills and knowledge for the ERIA employees to work on some narrower, specific problem at a scientific laboratory in some other country.

The renewed and widely disseminated new brand of a modern and international research centre has increased **ERIA's attractiveness for research** collaboration projects. The increased capacity in management, human potential and research infrastructure enable ERIA to attempt to create itself consortia to participate in the EU-funded programmes as a coordinating institution.

The implementation of this project provides an excellent opportunity for an even more active dissemination of knowledge within the borders of EU as well as outside. ERIA estimates a rapid increase in the number of scientific articles published in English. On the other hand, the existence of such contemporary laboratory enables to organise international research events (conferences, symposia, etc), refresher and updating courses for the researchers, research administrators, research politicians, agricultural advisors and agricultural producers, internships for university students, etc, from the whole Baltic Sea region.

Main dissemination activities and exploitation of results

To make sure that dissemination was wide spread and towards appropriate actors, various dissemination activities were set up. The dissemination activities were organized on three different scales: local visibility, international visibility and virtual visibility.

Local visibility

In order for FLAVOURE to establish durable and productive contacts with local actors, ERIA set up a department in charge of local dissemination activities: the Extension Department. The aim of the Extension Department is to communicate ERIA's research results to agricultural advisors, farmers and other end-users, and on the other to reciprocally gather information from end-users and analyse it within ERIA. It is organizing information days for producers about food and feed quality and safety and disseminates information through the publication of brochures and books, directed to agricultural producers and advisors publish articles in local journals and newspapers as well as advising farmers directly.

Further action was put into implementation in order to foster local interdisciplinary integration. Practical specialised workshops for industries and farmers were organised on the basis of one-day trainings. Topics of these workshops included "Agricultural year 2009: What to learn from this year and what to think about the next year", "From science into practice: Impact of climate conditions on the quality of end product", "Impact of agro-technical methods on the quality of agricultural products", "Feeding of cows and analysing feed quality". In purpose of sharing information about organic farming technologies, ERIA organized an organic farming technology development network for agricultural producers, producer organizations and advisors. ERIA will also continue its current and regular dissemination activities through technology days, local fairs and farmers' days, scientific conferences, publishing papers, short communications, booklets and information lists in local journals and magazines.

International visibility

Dissemination activities on international scale formed a good basis for communicating research results to various actors and promoted ERIA's integration into the European Research Area. Information about FLAVOURE and food and feed quality and safety research in Estonia was disseminated on international scale mostly through the organizing of international conferences in Estonia, establishing of Food and Feed Safety and Quality network, participating in FOOD-CLUSTER Initiative activities and publishing of international peer-reviewed scientific "Agronomy Research".

During the FLAVOURE project 2 international conferences were organized by ERIA: "Risks in Agriculture: Environmental and Economic Consequences" (8-10 June, 2010 in Tallinn) and "Food/Feed Quality, Safety and Risks in Agriculture" (FLAVOURE Conference, 25-28 October 2011 in Tallinn). These conferences as well as established Food and Feed Safety and Quality network were facilitating the transfer of knowledge between scientists and other stakeholders of agro-food sector and forming a basis for developing innovative food/feed products and more environmental friendly production technologies. Participation of FLAVOURE project in Food Cluster Initiative activities gave an opportunity to introduce the project and ERIA to a wide range of European research and development institutions as well as to establish and develop contacts for cooperation which has formed an excellent basis for developing new projects on food safety and quality.

Virtual visibility

For gaining virtual visibility ERIA has developed its website as well as creating and updating continuously the website of project FLAVOURE. The objective is to increase public awareness about ERIA, project FLAVOURE activities as well as on the importance of food and feed quality and safety.

The websites gave a possibility to initiate a wide communication about the FLAVOURE project and ERIA's results. In addition various other actions have been implemented: publication of press releases, participation in targeted conferences, scientific days, commercial leaflet etc.

THE ADDRESS OF THE PROJECT PUBLIC WEBSITE

The address of the project public website:

<http://www.flavoure-project.eu>

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