

## Verbesserung der fermentierten Fleischprodukten Sektor über Training on Innovation in Produkte, Prozesse und Sicherheitsmanagement

2010-1-GR1-LEO05-03952

<http://www.adam-europe.eu/adam/project/view.htm?prj=10506>

## Projektinformationen

**Titel:** Verbesserung der fermentierten Fleischprodukten Sektor über Training on Innovation in Produkte, Prozesse und Sicherheitsmanagement

**Projektnummer:** 2010-1-GR1-LEO05-03952

**Jahr:** 2010

**Projekttyp:** Innovationstransfer

**Status:** bewilligt

**Land:** EL-Griechenland

**Marketing Text:** Das Fleisch TIPS Projekt Schulungsmaterial für die Präsentation von technologischen Entwicklungen, um das Personal der kleinen und mittleren Unternehmen Produkt fermentierten Fleischprodukten und anderen relevanten Stellen durch Ausbildung entwickelt. Die Projektpartner haben Schulungsmaterial zu den folgenden Themen entwickelt: der Einsatz von Milchsäurebakterien als ein Mittel zur Verbesserung der Produktsicherheit und-qualität, die wichtigsten Grundsätze für die Entwicklung wirksamer Managementsysteme für die Lebensmittelsicherheit für Wurstwaren, verschiedene individuelle Verarbeitung oder Verpackung Technologien , eine Methodik für die erste Bewertung der Innovation durch die Unternehmen des Sektors.

Das Schulungsmaterial wurde mit großem Erfolg in einer kleinen Zahl von Pilot-Workshops eingesetzt. Es ist nun an Interessenten in elektronischer Form, sowohl in roher Form und unter einer Online-E-Learning-Plattform.

**Zusammenfassung:** MEAT TIPS produced training material and a suitable accompanying methodology on various innovative technological developments for the fermented meat products sector of the food industry. The project, involved central competent food authorities, technology centres, universities, research centres and business associations as partners, covering Spain, Italy and Hungary, countries with considerable expertise on that specific sector, which - through the work of the project - were transferred to Greece, where the corresponding market is characterised by lower (but increasing) performance.

The training elements that were developed, covered (i) the use of lactic acid bacteria as a means of improving product quality and safety, (ii) the elaboration of efficient safety management systems and (iii) the presentation of major innovative developments on processing and packaging of the corresponding sausage products. Those topics are of high relevance to the needs of the sector, and although they can contribute to competitiveness and consumer trust, they often remain unexplored by the industry. The training material included results from publicly-funded research projects that the partners had recently participated in. The consortium consists of:

- Research and technological institutions with scientific and technological knowledge on fermented meat products (AINIA, UNITO, OHKI), obtained by their scientific specialization and/or their participation in previous relevant projects.
- A sectorial business federation (SEVEK) and a chamber of commerce department (LCCIAA), which have an integrated knowledge for the sector's current situation in their region and will be able to motivate the sector to participate in the project's training actions, as well as contribute considerably to the wider dissemination of the project's results.
- A professional body (EEX) with expertise in developing training methodologies for VET and structuring the corresponding training material, having experience in Life Learning projects.
- The Greek Central Competent Food Authority (EFET)

The outcomes of the project were:

- Training material for seminars, in various formats, compiled in English and translated in all 4 languages of the consortium on (i) Use of lactic acid bacteria for fermented meat products' quality and safety (ii) Hygiene & Safety Management of fermented meat products (iii) Technological Innovations in Fermented Meat Production. The training material was validated via expert focus groups.
- 12 training seminars for relevant VET professionals and industry trainers were delivered.
- E-learning platform modules

## Projektinformationen

- Audio-visual material on fermented meat products.
- Project web-site

MEAT TIPS will help enhance the relevance of the VET system to the needs of the target sector and will boost the know-how, skills and potential of the fermented meat products sector.

**Beschreibung:** The MEAT TIPS project has developed training material for the presentation of technological developments to the personnel of small and medium fermented meat product enterprises and of other relevant bodies through training. The project partners have developed training material on the following topics: the use of lactic acid bacteria as a means for improving product safety and quality, the key principles for the development of effective food safety management systems for sausage products, various individual processing or packaging technologies, a methodology for the initial evaluation of innovation by the enterprises of the sector.

The training material was used with great success in a small number of pilot workshops. It is now available to interested parties in electronic format, both in raw form and under an online e-learning platform in the following links:

<http://www.meattips.gr/> (Project website)

<http://test-moodle.ainia.es/> (Project e-learning platform)

**Themen:** \*\*\* Lebenslanges Lernen  
 \*\*\* Fernlehre  
 \*\*\* Unternehmen, KMU  
 \*\* Nutzung und Verbreitung von Ergebnissen  
 \*\* Qualität

**Sektoren:** \*\*\* Gastgewerbe/Beherbergung und Gastronomie  
 \*\*\* Erbringung von Freiberuflichen, Wissenschaftlichen und Technischen Dienstleistungen

**Produkt Typen:** Module  
 Fernlehre  
 Unterlagen für offenen Unterricht  
 Lehrmaterial  
 Homepage

**Produktinformation:** The main products of the project are:  
 1) Innovative training material for the fermented meat sector, i.e. Training material on the use of lactic acid bacteria for fermented meat products' quality and safety, raining material on Safety Management in the production of fermented meat products, and Training material on Technological Innovations in fermented meat products.  
 2) Project website  
 3) project e-learning platform

**Projektwebseite:** <http://www.meattips.gr/>

## Vertragnehmer

Name: Hellenic Food Authority (EFET)  
Stadt: Athens  
Land/Region: Attiki  
Land: EL-Griechenland  
Organisationstyp: Öffentliche Einrichtung  
Homepage: <http://www.efet.gr/>

## Kontaktperson

Name: Evangelos Mourelatos  
Adresse: Kifissias 124 Ave & Iatridou 2, Athens  
Stadt: Athens  
Land: EL-Griechenland  
Telefon: +30 210 6971580  
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E-Mail: [vamourelatos@efet.gr](mailto:vamourelatos@efet.gr)  
Homepage: <http://www.efet.gr/>

## Koordinator

Name: Hellenic Food Authority (EFET)  
Stadt: Athens  
Land/Region: Attiki  
Land: EL-Griechenland  
Organisationstyp: Öffentliche Einrichtung  
Homepage: <http://www.efet.gr/>

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E-Mail: [vamourelatos@efet.gr](mailto:vamourelatos@efet.gr)  
Homepage: <http://www.efet.gr/>

## Partner

### Partner 1

Name: ASSOCIATION OF GREEK CHEMISTS  
Stadt: Athens  
Land/Region: Attiki  
Land: EL-Griechenland  
Organisationstyp: andere  
Homepage: <http://www.eex.gr>

### Partner 2

Name: UNIVERSITA' DEGLI STUDI DI TORINO  
Stadt: Turin  
Land/Region: Lombardia  
Land: IT-Italien  
Organisationstyp: andere  
Homepage: <http://www.unito.it/>

### Partner 3

Name: ASSOCIATION OF GREEK MEAT PROCESSING INDUSTRIES  
Stadt: Athens  
Land/Region: Attiki  
Land: EL-Griechenland  
Organisationstyp: andere  
Homepage:

### Partner 4

Name: Hungarian Meat Research Institute  
Stadt: Budapest  
Land/Region: Észak-Magyarország  
Land: HU-Ungarn  
Organisationstyp: andere  
Homepage: <http://www.ohki.hu>

## Partner

### Partner 5

Name: LABORATORIO CHIMICO CAMERA DI COMMERCIO TORINO  
Stadt: Turin  
Land/Region: Lombardia  
Land: IT-Italien  
Organisationstyp: andere  
Homepage: <http://www.lab-to.camcom.it>

### Partner 6

Name: Asociación de Investigación de la Industria Agroalimentaria  
Stadt: Paterna  
Land/Region: Comunidad Valenciana  
Land: ES-Spanien  
Organisationstyp: andere  
Homepage: <http://www.ainia.es>

## Projektdateien

### Formación ainia.pdf

<http://www.adam-europe.eu/prj/10506/prj/Formaci%C3%B3n%20ainia.pdf>

### I+D+i ainia.pdf

<http://www.adam-europe.eu/prj/10506/prj/I%2BD%2Bi%20ainia.pdf>

### Innovación e investigación tecnológica - Meat Tips - ainia.pdf

<http://www.adam-europe.eu/prj/10506/prj/Innovaci%C3%B3n%20e%20investigaci%C3%B3n%20tecnol%C3%B3gica%20-%20Meat%20Tips%20-%20ainia.pdf>

### Interview.pdf

<http://www.adam-europe.eu/prj/10506/prj/Interview.pdf>

### MeatDays2012\_abstract.doc

[http://www.adam-europe.eu/prj/10506/prj/MeatDays2012\\_abstract.doc](http://www.adam-europe.eu/prj/10506/prj/MeatDays2012_abstract.doc)

### Meat Tips in Meat Days.ppt

<http://www.adam-europe.eu/prj/10506/prj/Meat%20Tips%20in%20Meat%20Days.ppt>

### Meat-Tips project ainia.pdf

<http://www.adam-europe.eu/prj/10506/prj/Meat-Tips%20project%20ainia.pdf>

.pdf

<http://www.adam-europe.eu/prj/10506/prj/%CE%94%CE%B5%CE%BB%CF%84%CE%AF%CE%BF%20%CF%84%CF%8D%CF%80%CE%BF%CF%85%20%CE%B3%CE%B9%CE%B1%20%CF%83%CE%B5%CE%BC%CE%B9%CE%BD%CE%AC%CF%81%CE%B9%CE%B1%20%CE%9C%CE%9>

MEAT TIPS.doc

<http://www.adam-europe.eu/prj/10506/prj/%CE%94%CE%95%CE%9B%CE%A4%CE%99%CE%9F%20%CE%A4%CE%A5%CE%A0%CE%9F%CE%A5%20%CE%93%CE%99%CE%91%20%CE%A4%CE%9F%20%CE%A0%CE%A1%CE%9F%CE%93%CE%A1%CE%91%CE%9C%CE%9C%CE%9>

## Produkte

- 1 Training material on the use of lactic acid bacteria for fermented meat products' quality and safety.
- 2 Training material on Safety Management in the production of fermented meat products.
- 3 Training material on Technological Innovations in fermented meat products.
- 4 Meat Tips e-learning platform
- 5 Meat Tips website

## Produkt 'Training material on the use of lactic acid bacteria for fermented meat products' quality and safety.'

**Titel:** Training material on the use of lactic acid bacteria for fermented meat products' quality and safety.

**Produkttyp:** Lehrmaterial

**Marketing Text:** The training material consists of power point presentations and notes for the lecturer. A number of scientific references has also been made available (the authors being members of the consortium team).

The main topics covered are:

- Microbiology of fermented meat, terms and definitions,
- General differentiations between fermented meat products,
- Lactic Acid Bacteria (LAB) background information and features,
- LAB ecology in European fermented sausages,
- Yeasts and Moulds in fermented sausages,
- Starter cultures in fermented sausages,
- Legal aspects,
- Bacteriocins and food applications,
- Remarks and future challenges, etc.

**Beschreibung:** The training material consists of power point presentations and notes for the lecturer. A number of scientific references has also been made available (the authors being members of the consortium team).

The main topics covered are:

- Microbiology of fermented meat, terms and definitions,
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- Yeasts and Moulds in fermented sausages,
- Starter cultures in fermented sausages,
- Legal aspects,
- Bacteriocins and food applications,
- Remarks and future challenges, etc.

**Zielgruppe:** VET professionals and meat industry trainers

**Resultat:** This training set uses knowledge produced in a previous publicly funded project (SAFETY SAUSAGE - FP5) and expands it, incorporating state-of-the art developments. Altogether, this training set is suitable for an audience with a scientific or technological background. However, it is possible for trainers to produce stripped-down versions highlighting the benefits of LAB and starter cultures, in general, which would be suitable for an audience with little or no scientific background.

**Anwendungsbereich:** This training set uses knowledge produced in a previous publicly funded project (SAFETY SAUSAGE - FP5) and expands it, incorporating state-of-the art developments. Altogether, this training set is suitable for an audience with a scientific or technological background. However, it is possible for trainers to produce stripped-down versions highlighting the benefits of LAB and starter cultures, in general, which would be suitable for an audience with little or no scientific background.

**Homepage:** <http://www.meattips.gr/>

**Produktsprachen:** Ungarisch  
Italienisch  
Englisch  
Griechisch  
Spanisch

## Produkt 'Training material on Safety Management in the production of fermented meat products.'

**Titel:** Training material on Safety Management in the production of fermented meat products.

**Produkttyp:** Lehrmaterial

**Marketing Text:** The training material mainly consists of power point presentations (accompanied with notes for the lecturer) as well as texts and handouts to be used by the audience. The main topics covered are:

- (1) Food Safety Management Systems,
- (2) Quality Management Systems
- (3) HACCP Principles Implementation in Fermented Meat
- (4) Standard Operating Procedures (SOPs) for Meat Fermented products.

**Beschreibung:** The training material developed under the WP2 (WP leader:ETAT) mainly consists of power point presentations (accompanied with notes for the lecturer) as well as texts and handouts to be used by the audience. The main topics covered are:

- (1) Food Safety Management Systems, including:
  - an introduction for the provision of an overview of the commonly used food safety management standards and how to gain certification against these standards, including main terms and definitions,
  - requirements and procedures for the certification and the audit as well as procedures after the audit,
  - the relevant EU legislation,
  - features and content of Food Safety Management Standards.

The power point presentations are accompanied by four (4) handouts concerning: the key obligations of food business operators, meat products EU and National legislation, ISO 22000 clauses.

- (2) Quality Management Systems, including:
  - An introduction including terms and definitions, quality control, Total Quality Management aspects, etc.
  - Case studies (for Listeria Monocytogenes and E.coli)
  - Targets, Reasons and Benefits of training.

(3) HACCP Principles Implementation in Fermented Meat: Meat related microbiological, chemical & physical hazards, sources of contamination, Codex Alimentarius HACCP principles, a case study and information sources. This part of training material is accompanied by a generic HACCP forms that will be useful as exercise material during the training seminars.

- (4) Standard Operating Procedures (SOPs) for Meat Fermented products.

**Zielgruppe:** VET professionals and meat industry trainers

**Resultat:** he training material developed under the WP2 (WP leader:ETAT) mainly consists of power point presentations (accompanied with notes for the lecturer) as well as texts and handouts to be used by the audience. The main topics covered are:

- (1) Food Safety Management Systems, including:
  - an introduction for the provision of an overview of the commonly used food safety management standards and how to gain certification against these standards, including main terms and definitions,
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  - An introduction including terms and definitions, quality control, Total Quality Management aspects, etc.
  - Case studies (for Listeria Monocytogenes and E.coli)
  - Targets, Reasons and Benefits of training.

## **Produkt 'Training material on Safety Management in the production of fermented meat products.'**

Resultat: (3) HACCP Principles Implementation in Fermented Meat: Meat related microbiological, chemical & physical hazards, sources of contamination, Codex Alimentarius HACCP principles, a case study and information sources. This part of training material is accompanied by a generic HACCP forms that will be useful as exercise material during the training seminars.  
(4) Standard Operating Procedures (SOPs) for Meat Fermented products.

Anwendungsbereich: This training set combines basic knowledge on safety management together with knowledge on the requirements of ISO 22000, a widely recognised food safety management standard in the food sector. Effort was put to keep the material modular and simple. Examples have been produced, allowing trainers to achieve interaction during training if so desired. Altogether, this module addresses more mainstream needs of a food industry and may be more relevant for small , expanding or restructuring meat industries.

Homepage: <http://www.meattips.gr/>

Produktsprachen: Spanisch  
Ungarisch  
Italienisch  
Griechisch  
Englisch

## Produkt 'Training material on Technological Innovations in fermented meat products.'

**Titel:** Training material on Technological Innovations in fermented meat products.

**Produkttyp:** Lehrmaterial

**Marketing Text:** he main topics covered by the training material are the following:

- Steps of fermented sausage production – comparison of technologies of traditional sausage production with starter cultures,
- Quick-Dry-Slice technology,
- Fermented sausage with no additive,
- Packaging,
- Role of nitrite and nitrate in fermented sausages,
- Case studies (*Listeria monocytogenes* and *E.coli*).
- Contribution of molecular methods in understanding microbial ecology of fermented sausages and dynamics during fermentation.
- Steps towards innovation

**Beschreibung:** The main topics covered by the training material developed under the WP3 (WP leader: OHKI) are the following:

- Steps of fermented sausage production – comparison of technologies of traditional sausage production with starter cultures,
- Quick-Dry-Slice technology,
- Fermented sausage with no additive,
- Packaging,
- Role of nitrite and nitrate in fermented sausages,
- Case studies (*Listeria monocytogenes* and *E.coli*).
- Contribution of molecular methods in understanding microbial ecology of fermented sausages and dynamics during fermentation.
- Steps towards innovation: mapping capacities and needs of an enterprise/industry, mapping relevant innovation market, databases - examples of sausage related international patents, evaluation of the feasibility of an investment in innovation - examples, IPR when considering investing in innovation, financial impact, etc. This topic is accompanied by an interaction session which aims to engage participants into evaluating a potential adoption of an innovation in their companies

**Zielgruppe:** VET professionals and meat industry trainers

**Resultat:** The main topics covered by the training material developed under the WP3 (WP leader: OHKI) are the following:

- Steps of fermented sausage production – comparison of technologies of traditional sausage production with starter cultures,
- Quick-Dry-Slice technology,
- Fermented sausage with no additive,
- Packaging,
- Role of nitrite and nitrate in fermented sausages,
- Case studies (*Listeria monocytogenes* and *E.coli*).
- Contribution of molecular methods in understanding microbial ecology of fermented sausages and dynamics during fermentation.
- Steps towards innovation: mapping capacities and needs of an enterprise/industry, mapping relevant innovation market, databases - examples of sausage related international patents, evaluation of the feasibility of an investment in innovation - examples, IPR when considering investing in innovation, financial impact, etc. This topic is accompanied by an interaction session which aims to engage participants into evaluating a potential adoption of an innovation in their companies

**Anwendungsbereich:** The technologies presented cover a wide variety of alternatives the industry is typically interested in. Not all are expected to be applicable to small sausage companies, however, they can offer material for future consideration and - possibly - help place objectives for their future development.

The part presenting the steps for innovation has been created as a stand-alone presentation. It gives an overview of things an enterprise should consider when

## Produkt 'Training material on Technological Innovations in fermented meat products.'

Anwendungsbereich: adopting innovation and can, thus, be considered as "enabling" towards a more innovative corporate culture.

The presentation itself builds on know-how produced in the Knowledge2Innovation project (FP7) and is suited for people with decision-making or advisory capacity (or people being trained to undertake such tasks).

Further to the Powerpoint slides an interactive session has been devised and added to the material, where the rationale of the innovation-approach that is being advocated is sampled in practice.

Homepage:

Produktsprachen: Griechisch  
Ungarisch  
Italienisch  
Spanisch  
Englisch

## Produkt 'Meat Tips e-learning platform'

**Titel:** Meat Tips e-learning platform

**Produkttyp:** Unterlagen für offenen Unterricht

**Marketing Text:** An e-learning tool which provides course modules covering the whole Meat Tips training material divided thematically according to the contents and structured in a way compatible with the expected learning curve of technical education graduates.

**Beschreibung:** Meat Tips E-learning platform

### Selection of the virtual learning tool

Moodle was selected as the online virtual learning environment for the Meat-Tips project. It is an open source and collaborative platform with an extensive and active community of designers, developers and teachers.

### Adaptation of the Moodle learning tool

The Moodle e-learning platform has been installed on ainia's server. It was selected the last stable version of the platform (2.0.3+). This version is more intuitive, with more options, better security system, easy and quick to administer and more adaptable to the Web 2.0 technologies (blogs, collaborative tools...).

One standard Moodle theme has been adapted for the Meat-Tips e-learning platform. The URL of Meat-Tips e-learning site is:  
<http://test-moodle.ainia.es>

When a user comes to the welcome page, has the option to select one of the five languages of the Meat-Tips project (English, Greek, Italian, Hungarian and Spanish).

The user needs a password and username to go in. Open access is possible after the end of the project. From the end of the project, users are able to login with the guest role. They are not able to edit and make changes. The guest user will see five courses form MEAT-TIPS, in the five languages of the project.

The structure of the course, for each topic or information generated in each Work Package is: Title / Introduction and objectives / Educational materials (PDF, video, sound...) / Questionnaires (Embedded Answers (cloze), Multiple Choice, Single-answer and True/False question types).

The e-learning Meat-Tips platform is completed (English, Greek, Italian, Hungarian and Spanish) and the training materials has been uploading and it is publicly available.

**Zielgruppe:** VET professionals and meat industry trainers

**Resultat:** Meat Tips E-learning platform

### Selection of the virtual learning tool

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The e-learning Meat-Tips platform is completed (English, Greek, Italian, Hungarian and Spanish) and the training materials has been uploading and it is publicly available.

Anwendungsbereich: Meat products sector

Homepage: <http://test-moodle.ainia.es>

Produktsprachen: Englisch  
Griechisch  
Ungarisch  
Italienisch  
Spanisch

## Produkt 'Meat Tips website'

Titel: Meat Tips website

Produkttyp: Homepage

Marketing Text: The project's website, is a a tool for the project's results dissemination, available during and after the end of the project. It contains the training material and useful information about the project and the fermented meat sector in general.

Beschreibung: The project's website, is a a tool for the project's results dissemination, available during and after the end of the project. It contains the training material and useful information about the project and the fermented meat sector in general

Zielgruppe: VET professionals and meat industry trainers.

Resultat: The project's website, is a a tool for the project's results dissemination, available during and after the end of the project. It contains the Meat Tips training material and useful information about the project and the fermented meat sector in general.

Anwendungsbereich: Meat Products sector

Homepage: <http://www.meattips.gr/>

Produktsprachen: Italienisch  
Ungarisch  
Spanisch  
Griechisch  
Englisch

## Veranstaltungen

### 2nd international conference on microbial diversity

Datum 23.10.2013

Beschreibung After the success of 1st International Conference on Microbial Diversity: 2011- Environmental Stress and Adaptation, SIMTREA is glad to launch the second edition of the conference titled: "Microbial Interactions in Complex Ecosystems". The meeting aims at gathering scientists in the fields of agricultural, environmental and food microbiology in order to promote discussion and exchange of information and experiences regarding microbial interactions in complex ecosystems. It is well demonstrated that microbes interact through different mechanisms and based on these communications the ecology of microbial ecosystems is determined both in space and time. Examples of such interactions are: quorum sensing, biofilms, symbiosis, competition and dominance throughout production of toxic or inhibitory compounds, such as organic acids and bacteriocins. MD2013 has the goal to update the scientific audience, represented by scientists and professionals in agricultural, environmental and food microbiology on the last developments on this subject. The focus of the Conference will be on the following themes:  
 Symbiosis of microbes with humans, animals and plants  
 Fight between microbes: antibiosis and other strategies  
 Competition, dominance and evenness: how microorganisms manifest their supremacy  
 The potential of microorganisms in reclamation and remediation  
 Biofilms in complex microbial ecosystems  
 Communication among microorganisms  
 In the conference there will a presentation of the Meat Tips Project's results.

Zielgruppe Meat Products Sector

Öffentlich Öffentliche Veranstaltung

Kontaktinformation Coordinator: Dr. Chrysoula Tassou  
 NAGREF-Institute of Technology of Agricultural Products  
 Sofokli Venizelou 1, Lycovrissi Attikis GR-14123  
 tel: +30-210 2845940,1,2  
 fax: +30-210 2840740  
 e-mail: ctassou-at-nagref.gr  
 Project Info: info-at-probiolives.eu  
 Webmaster: webmaster-at-probiolives.eu

Zeitpunkt und Ort 23 Oct 2013 - 25 Oct 2013 Turin, Italy

## Veranstaltungen

### Meat Days Conference

Datum 01.10.2012

Beschreibung Meat Tips presentation in the Meat days Panhellenic Conference

Zielgruppe VET trainers and meta industry professionals

Öffentlich Öffentliche Veranstaltung

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e-mail: [vamourelatos@efet.gr](mailto:vamourelatos@efet.gr)

Zeitpunkt und Ort 29th, 30th September and October 1st 2012