Demonstration and technology transfer to European SMEs

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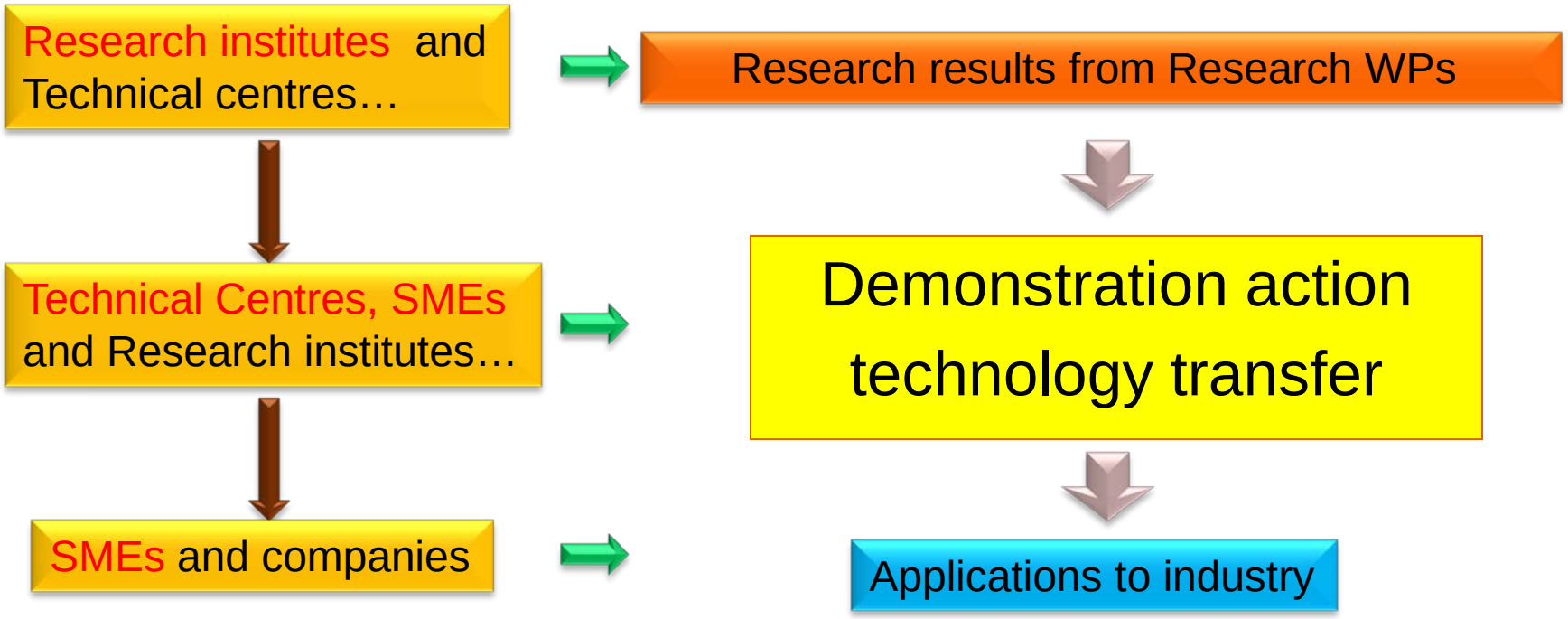
Final TRUEFOOD Conference

New roots for traditional European foods:

Possibilities for success and sustainability

Brussels, 13 April 2010

Demonstration and technology transfer to European SMEs – WP6



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- The **overall objectives of WP6** are to validate and demonstrate innovation on an industrially relevant scale

Tasks 6.1 and 6.2

- ✓ **6.1. Validation of scientific knowledge at pilot scale and/or industrial scale on a range of products and/or processes studied under research WPs**

- ✓ **6.2. Wider application and validation of scientific knowledge acquired in research WPs**

Demonstration and technology transfer to European SMEs – WP6

6.1 Validation of scientific knowledge at pilot scale and/or industrial scale on a range of products and/or processes studied under research WPs

- **6.1.1 Application of a microbial consortia exhibiting anti listeria activity in traditional cheeses –** M31 to M46
- **6.1.2 New ripening room monitoring strategies improving cheese ripening processes efficiency** – M25 to M46
- **6.1.3 Improvement of pork meat safety using lactic acid bacteria – M33 to M45**
- **6.1.4 Set up of a "respiratory cell" for the determination of cheese respiratory activity during ripening and under packaging** – M25 to M46
- **6.1.5 Improvement of packaging in order to increase both food safety and ripening –** M25 to M46
- **6.1.6 Application of new predictive models to manage the shelf life and the safety of food products** – M25 to M46
- **6.1.7 Innovative starter cultures in Swiss type cheeses in order to increase BioActive Peptides with nutritional properties –** M33 to M46
- **6.1.8 Validation of strategies for reduction or substitution of salt content of dry-cured hams (bone-in hams and boned hams) –** M29 to M46
- **6.1.9 Integration of Sym'Previus modelling tool in a tag recording real time temperature in order to follow bacterial evolution as a function of storage and distributiontemperature monitoring** – M33 to M46
- **6.1.10 Use of X-ray methodologies to improve the raw material selection and to optimize the processing of dry-cured ham at industrial scale –** M37 to M46

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Constraints to take into consideration for the selection of demonstration activities:

- ✓ **identification of promising research results performed under WP2, 3A, 3B, 4 and 5**
- ✓ **cost/benefit ratio critical for SME's adoption,**
- ✓ **food safety aspects, legislation,**
- ✓ **integration on existing production lines,**
- ✓ **environmental impacts, differentiation criteria for innovated TFP**

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Management of demonstration activities

- Organization of 7 meetings dedicated to WP6 during all the duration of the project

- 26 industrial companies have been involved in the 10 « demonstration » sub-tasks, among them 15 are SMEs

- 2 main sectors targeted: dairy products (cheeses) and meat products

- No major deviation recorded during the performance of these demonstration activities.

-A real strong implication of all the partners : **ACTIA (ACTILAIT, ADIV, ADRIA, ADRIA NORMANDIE, LNE) (FR), INRA (FR), ENEA (IT), ETAT (GR), IRTA (SP), ICT (CZ Republic)**

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Main results with application in industry

Dairy sector and cheese manufacture

- Creation of microbial consortia exhibiting anti Listeria activity for the fabrication of traditional French cheeses (Saint Nectaire and Pont L'Evêque) and applicable to other European traditional cheeses – INRA, ACTIA (ADRIA, ADRIA NORMANDIE) (FR)

- Specifications for new air monitoring strategies based on sequential ventilation and allowing reduction of energy consumption in cheese ripening rooms applied to Saint Nectaire French cheese but applicable to other European cheeses – INRA (FR)

- Construction of a respiratory cell available for studying wrapped and unwrapped cheese ripening in controlled conditions of temperature, relative humidity and CO_2 / O_2 content for industrial use and for better understanding for wrapping films properties (gas and water permeability) for support in designing and selecting the accurate films as a function of expected cheese evolution – INRA, ACTIA (LNE)(FR)

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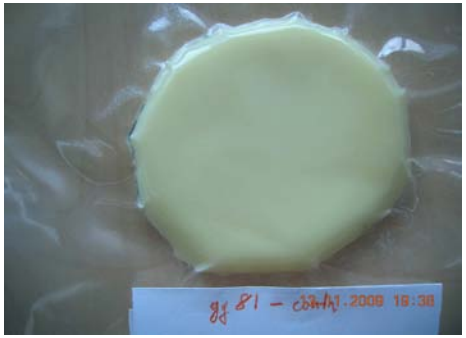
Main results with application in industry



Dairy sector and cheese manufacture

- Fabrication of new packaging films treated with antimicrobial substances able to increase the shelf life of traditional cheeses – INRA, ACTIA (LNE)(FR)

- Methodology for the selection of the most adapted combinations of thermophilic starters for cheese makers to enhance the production of bioactive peptides in cheeses. The maximization of anti-hypertensive peptide content is linked to an optimization of proteolysis patterns and related modifications of sensory characteristics – INRA, ACTIA (ACTILAIT)(FR)

- A predictive model to manage shelf life and safety of non-acidic dairy desserts based on the growth of Listeria monocytogenes is available – ETAT (GR).

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Main results with application in industry

Meat sector and delicatessen

- Selection of one very efficient strain of Lactic acid bacteria inhibiting Listeria monocytogenes in fresh pork meat and dry fermented sausages – ACTIA (ADIV)(FR)

- Strategies for reduction and substitution of salt content of dry-cured hams (bone-in-hams and boned hams) available for producers – IRTA (SP)

- Automatic equipment for on-line measurement of pH and weight at industrial conditions for raw material classification in order to avoid soft texture problems in dry-cured hams, especially in the case of a reduction in the salt content – IRTA (SP), ACTIA (ADIV) (FR)

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Main results with application in industry

Meat sector and delicatessen

- High Pressure Process (HPP) service available for the texture improvement in dry-cured meat products with reduced salt content – IRTA (SP)

- Non-destructive methodology based on Computed Tomography (CT) for the standardization and optimization of industrial processes for dry-cured meat products with standard or with reduced salt content available for producers – IRTA (SP)

- Use of Sym'Previus modelling tool to follow bacterial evolution as a function of storage and distribution temperature monitoring for European meat producers – ACTIA (ADRIA) (FR).

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Main results with application in industry

Other sectors

- A predictive model available for managing shelf life and safety of green olives, based on the performance of lactic acid bacteria and yeasts during fermentation process – ETAT (GR)

Thanks for your attention!