

EU-FRESHBAKE partners

PARTICIPANT	COUNTRY	WEBSITES
1. ENITIAA - coordinator	FRANCE	www.enitiaa-nantes.fr
2. CEMAGREF	FRANCE	www.cemagref.fr
3. KRAKOW UNIVERSITY	POLAND	www.ar.krakow.pl
4. IATA-CSIC	SPAIN	www.iata.csic.es
5. ZAGREB UNIVERSITY	CROATIA	www.pbf.hr
6. TTZ-EIBT	GERMANY	www.ttz-bremerhaven.de
7. RUSSIAN ACADEMY of SCIENCE IBCP RAS	RUSSIA	www.ras.ru
8. MIWE – Industry	GERMANY	www.miwe.com
9. PURATOS – Industry	BELGIUM	www.puratos.com
10. BIOFOURNIL – Industry	FRANCE	www.biofournil.com
11. BEZGLUTEN – Industry	POLAND	www.bezgluten.pl
12. DR. SCHÄR – Industry	ITALY	www.schaer.com



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<http://eu-freshbake.eu/eufreshbake/>

FP6 EUROPEAN PROJECT
Thematic Area "Food Quality and Safety"
Contract FOOD-2006-36302-EU-FRESHBAKE
Starting date: 1st October 2006
Duration: 3 years

PROJECT abstract

This project aims at taking benefit of refrigeration to improve the availability for the consumer of fresh bread with enhanced nutritional and textural quality. It concerns the BAKE OFF TECHNOLOGY (BOT), which consists in producing bread from industrial refrigerated or frozen or non frozen bakery goods and to retail them in downtown baking shops OR to make them available in supermarket for domestic baking. So far, BOT has concentrated its efforts on production of plain white breads with low nutritional value. The nutritional and organoleptic qualities of bread can be improved by taking benefit of refrigeration if specific enzymes and ferments and specific process are used. In addition, most processes and technologies used in the BOT is energy demanding. This project is aiming at improving the industrial practice versus energy consumption and also in taking benefit of refrigeration to improve the availability for the consumer of fresh bread with enhanced nutritional and textural quality of bread; applications will concern "gluten" breads, "gluten free" breads and organic breads. At the same time, it will aim at promoting and helping the ongoing rise of the BOT, which needs to be adapted to the needs of the consumer for products with improved nutritional quality and health benefit.

This project (12 partners among which 5 industries) is supervised by ENITIAA (Nantes France).

EU-FRESHBAKE project

“Freshly baked breads with improvement of nutritional quality and low energy demanding for the benefit of the consumer and of the environment”



The EU-FRESHBAKE project is supported by



Food Quality
and Safety



EU-FRESHBAKE consortium

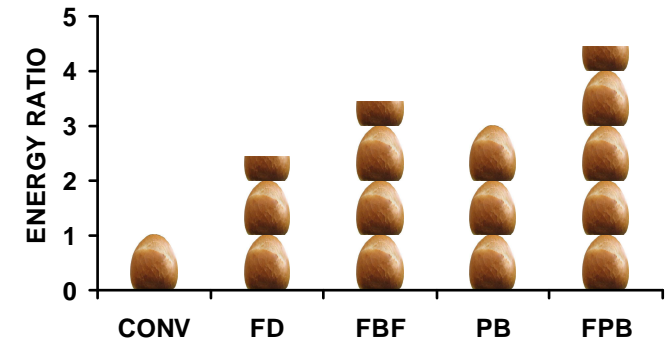


Energy and Bake Off Technology:

Most processing conditions used for the Bake off technology are energy demanding. The graph below shows the ratio of energy demand based on enthalpy of bread:

- CONV** = Conventional bread making,
- FD** = Frozen Dough,
- FBF** = Fully Baked Frozen,
- PB** = Partially Baked,
- FPB** = Frozen Partially Baked.

The evaluation is done for a bread (37% water content) with the following conditions: Partial baking @ 200°C, baking @ 220°C & freezing @ -20°C. Heating up energy is not taken into account. It appears that FPB (frozen part baked) which is leading the market of BOT needs more than 4 times more energy than CONV (conventional baking). Alternative solutions such as non frozen partbaked (PB), of fermented frozen (“ready to bake”) technologies will be investigated.



The Five Key Objectives of EU-FRESHBAKE

- 1. To take benefit of refrigeration:** At low temperature, enzymes are still active meanwhile yeast and ferments are not or minimally active. Refrigeration during fermentation may be used to improve nutrition quality.
- 2. Innovative process / Energy saving:** The frozen partially baked bread technology is growing because of its convenience. This process needs more than four times the energy needed for conventional baking. Research will focus on optimizing frozen part baked bread process and in developing innovative process pathways which are low energy demanding.
- 3. Equipments adapted to the innovative process:** Innovative equipments adapted to the innovative process pathways will be designed and prototypes will be tested.

- 4. Innovative formulations / Nutrition quality:** Research will focus on designing specific recipes and ingredients adapted to the innovative processes. Gluten bread, gluten free breads and organic breads will be targeted. Specific nutritional parameters will be considered.
- 5. Tools to extend the findings to future applications:** A guide of good practice will be delivered to help industry to take into account energy consumption in bread making. A label will be designed concerning energy consumption of the process and specific quality aspects. Informations will be transferred to industry.

Map from http://europa.eu.int/abc/maps/index_en.htm
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Major Project Deliverables

- Scientific publications in scientific journals.
- A guide of good practice for Bake Off Technologies will be published in October 2008.
- Conference(s) will be organized in October 2009 to present specific results to consumers & industry.