

HealthBread

‘From Science to Business’

Final project meeting

Hamburg, September 16th 2014.

Project Coordinator: Jan Willem van der Kamp

TNO - Food and Nutrition, Zeist, the Netherlands

www.healthbread.eu



Project Data



➤ Call Topic (2012)

KBBE.2012.2.3-02: **Exploitation** of Framework Programme projects in food processing, **by small and medium-sized enterprises**

➤ Time / Budget

2 years: 01-10-2012 – 01-10-2014

Total budget k€ 1.558 EC Funding k€ 997, 75% for SMEs

➤ Project Coordination / Administration Coordination

TNO (NL)

RTD Services (AT)

➤ Consortium Partners

2 RTOs (TNO, VTT), **8 SME Bakers (AT, D, I, NL), 5 other SMEs**

2 major flour and ingredient suppliers - who don't receive funding!!

3 partners are acting as **mentoring partners** for the SME bakers



Wheat grain kernel, composition and relation to health benefits

Europe: Dietary fibre intake too low

Hauner et al. (2012, German Nutrition Society)

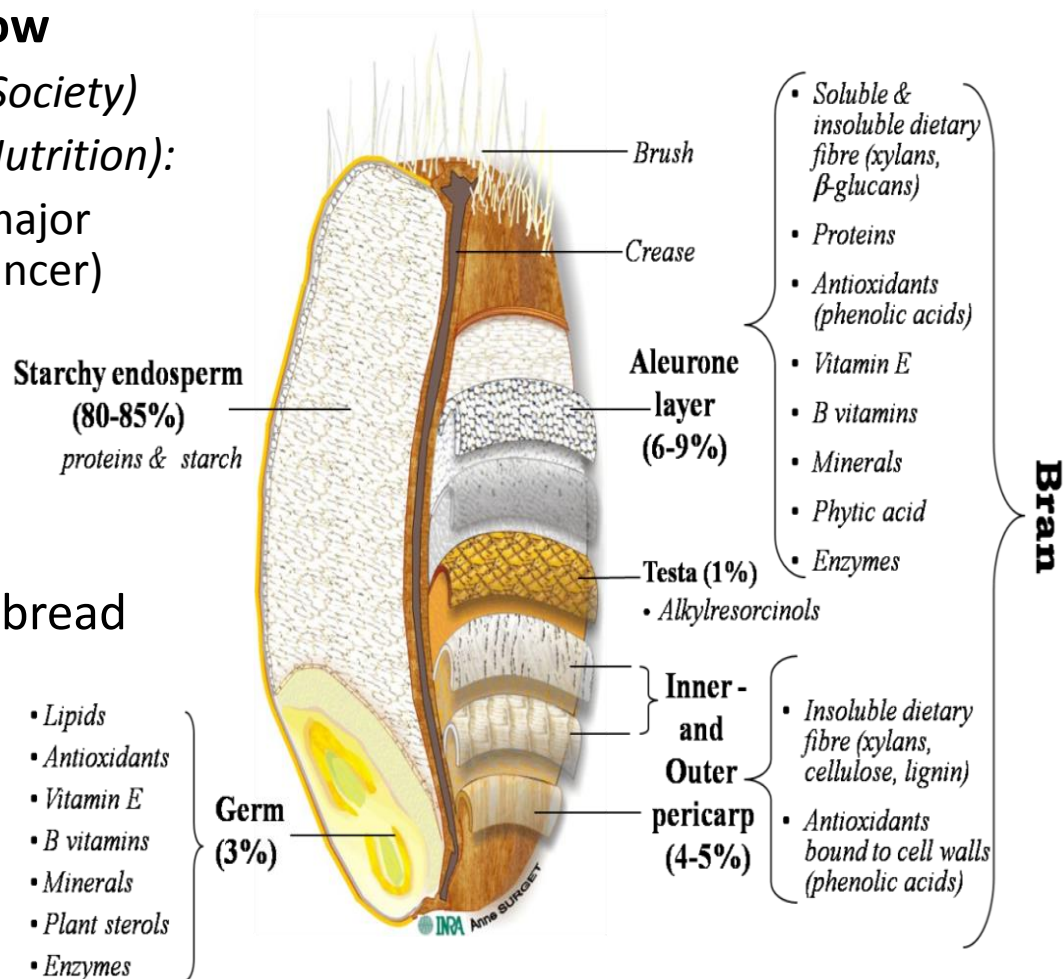
Cho et al. (2013, American Society for Nutrition):

- ❑ Higher intake will reduce risks for major diseases (heart, diabetes, (colon) cancer)
- ❑ Recent dietary guidelines :

Cereal fibres highly recommended

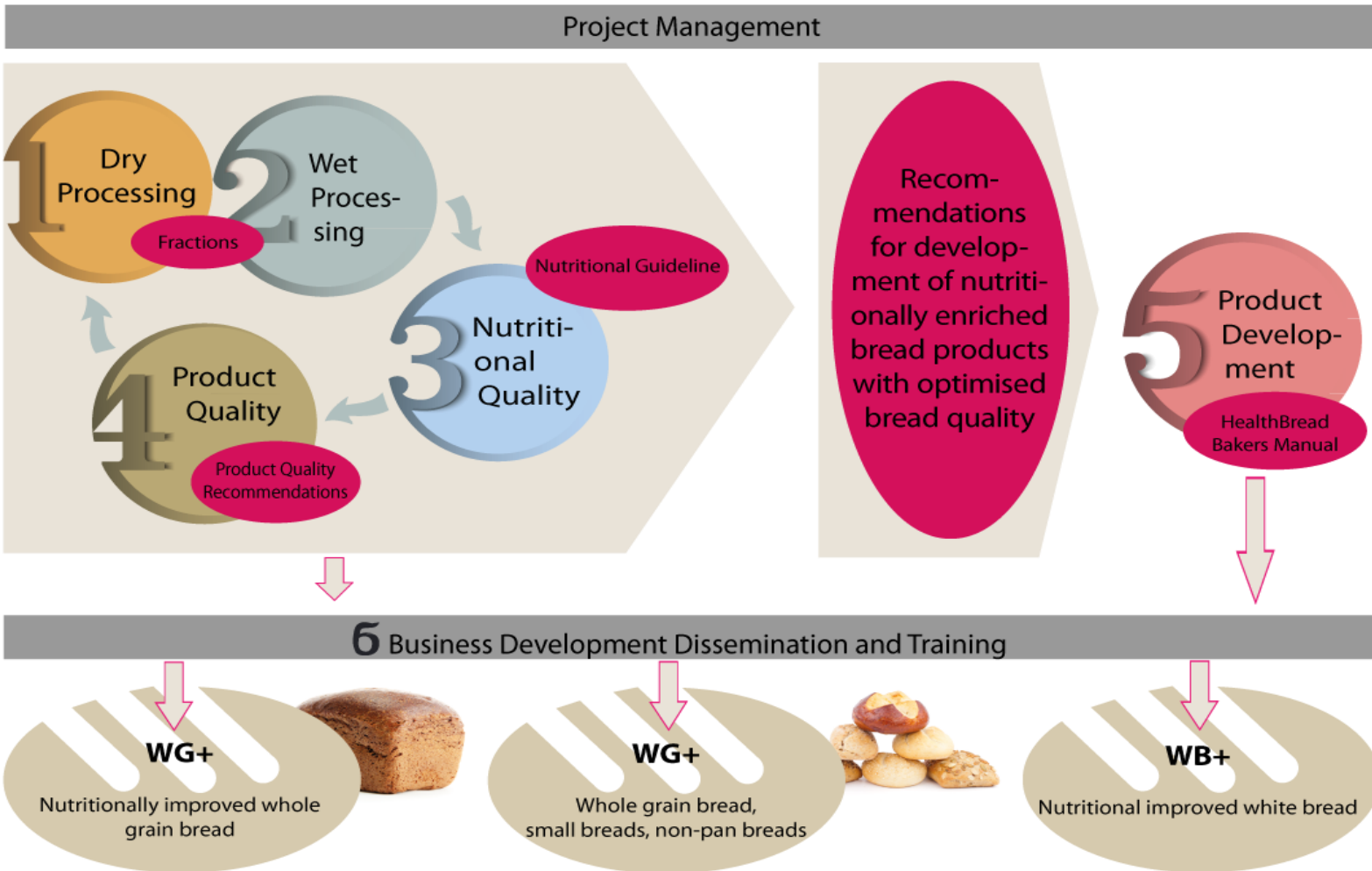
- ❑ Challenge: develop breads
 - With fibre levels as in wholegrain bread
 - **Possibly with enhanced benefits**
 - More attractive taste for most Europeans

USE OUTER GRAIN LAYERS with less colour and mild taste



Source: Surget A, Barron C. Histologie du grain blé. Industries des Céréales. 2005; 145:3-7. Draft version 2012-11-11 prepared by Line Lindner MSc, ICC and Healthgrain Forum Communication Task Force

Project Overview



Processing - Overview



SELECTION OF FLOUR MIX

Base flour + wheat fraction high in fibre and micronutrients

(aleurone, whole grain concentrate)

Ratio e.g. 93/7 or 82/18

OPTION: BIOPROCESSING

Bioprocessing of wheat fraction

i.e. fermentation 12-18h

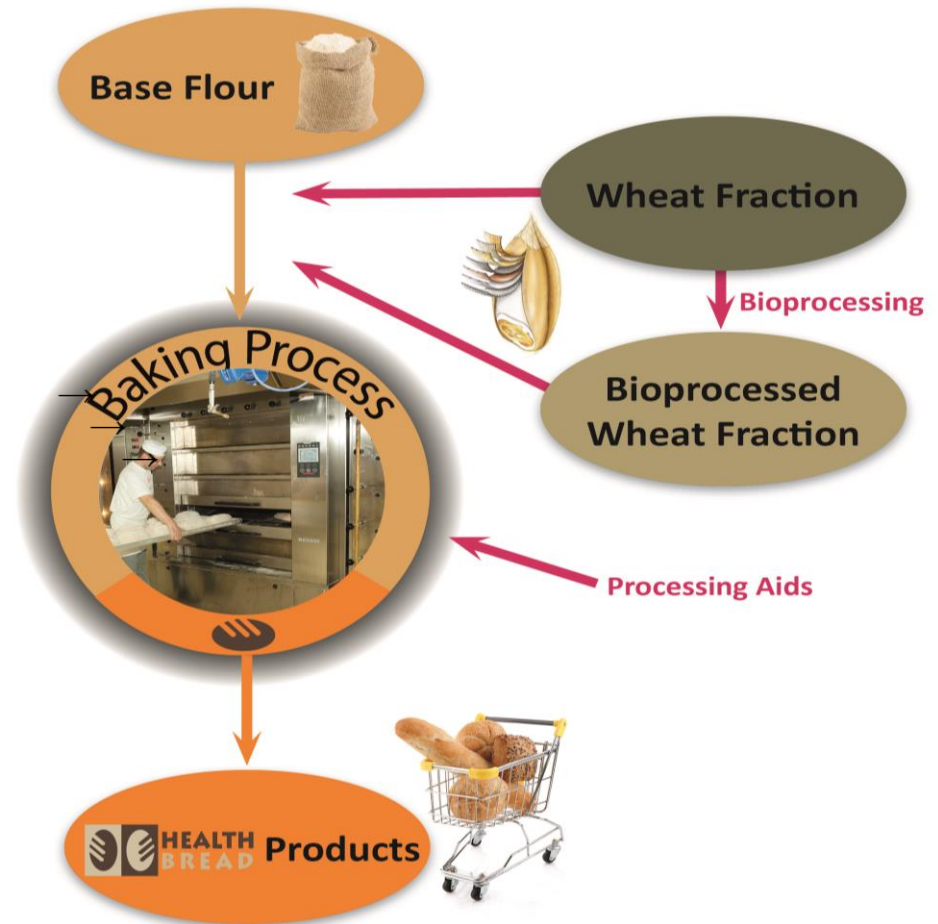
By bakery or supplier

BAKING

a) With bakery improvers (→ labelling)

b) With food grade enzymes

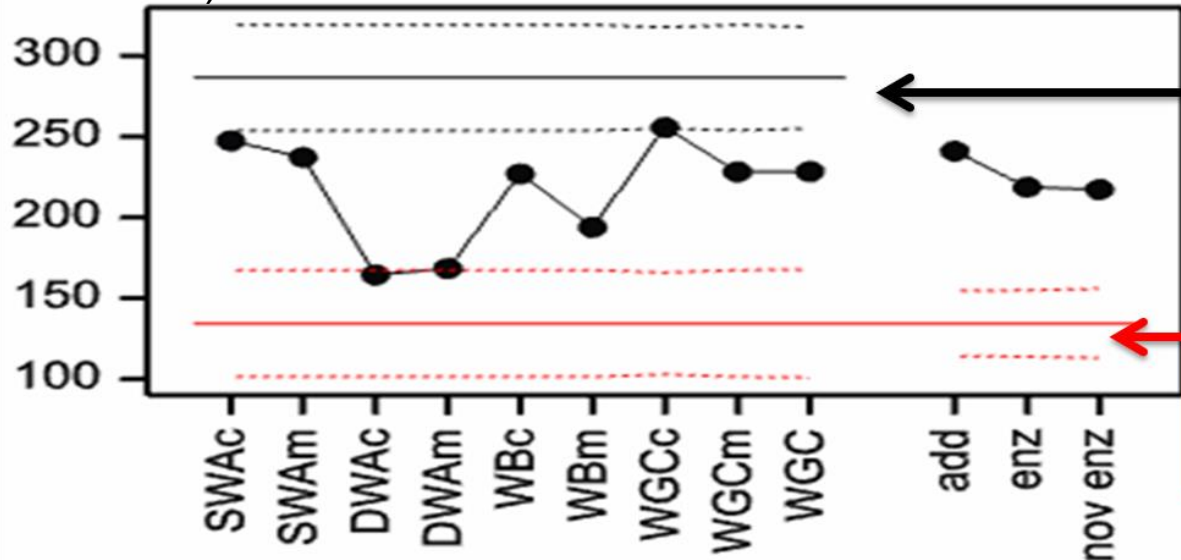
c) Without a) or b) (→ lower volume)



HealthBread crispy rolls with >6% fibre bridging gap between white and wholemeal bread



Volume mL)



SWA



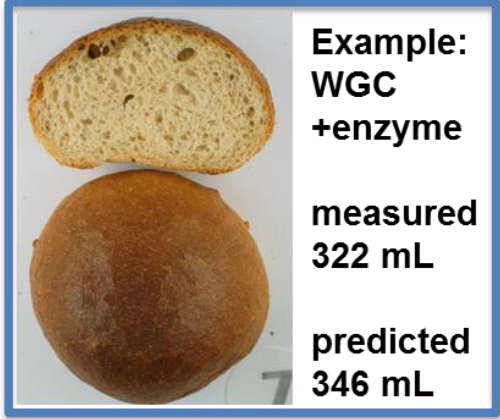
DWA



WB



WGC

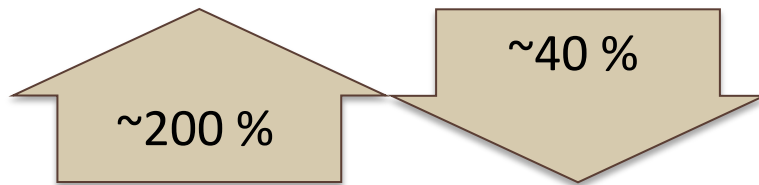
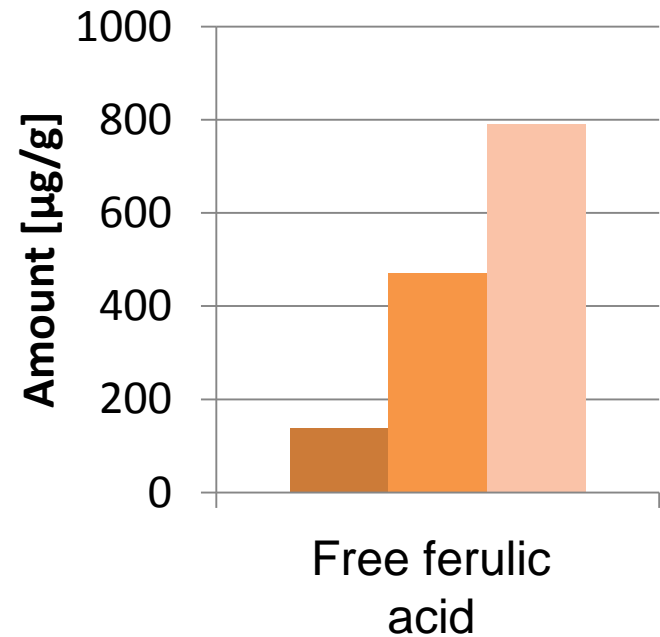
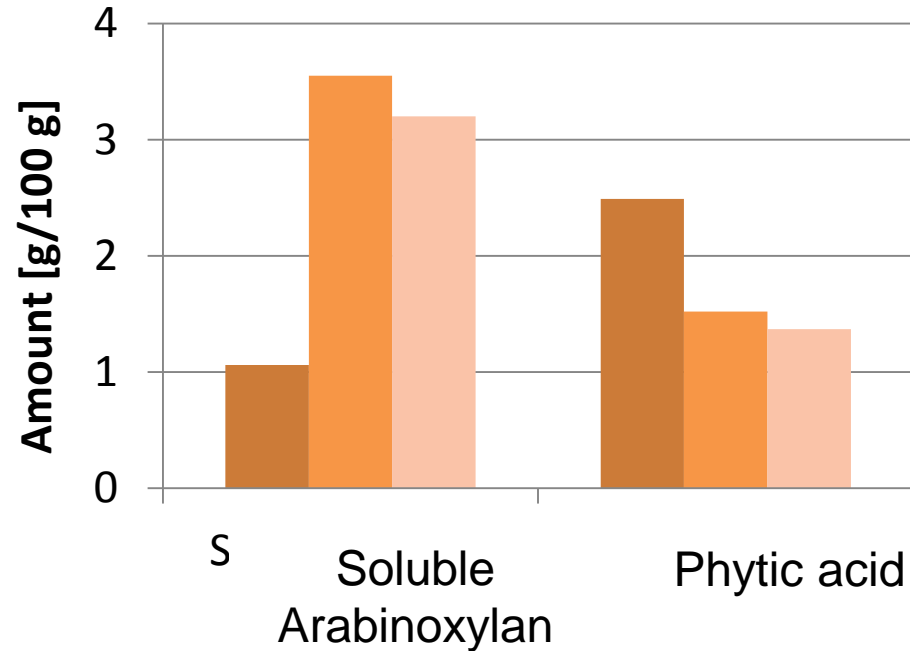


Results of bran fermentation

Nutritional benefits



■ No fermentation
 ■ Fermentation 1
 ■ Fermentation 2



Europe – nutrients of concern and HealthBread products



Conclusions of European Nutrition and Health Report

(Elmadfa et al. 2009) and national surveys

- **Dietary fibre** - intake is too low all over Europe,
- compounds with actual intake often below recommended intake include **Magnesium, Zinc, and Iron** and **folate** (*females, but also others*),

HealthBread products and authorised claims (Regulation (EC) 1924/2006)

- Nutrition claims used :
 - **High in fibre** (at least 6g / 100g product)
 - **Source of** at least 2 of the micronutrients of concern: Fe, Mg, Zn, folate
- Health claims
 - **Fe, Mg, Zn, folate** have different important functions including contributing to the reduction of tiredness and fatigue, to normal muscle and immune system functions.
 - Not used: Wheat bran fibre - ‘increases faecal bulk’ ‘accelerates faecal transit’



- 5 bakeries (Austria, Italy, Germany) ~ 1.000 consumers
- Buyers of regular product received
 - Free sample of HealthBread products
 - information on its nutrition and health benefits
 - On-line questionnaire: focus on taste, satisfaction, price acceptance

Results indicated

- HealthBread products well appreciated
- Many consumers interested in buying HealthBread product for higher price than their standard product
- Both taste and health related information were appreciated,
 - Also: list with levels of selected nutrients as nutrition information
- 75% of replies: I will recommend this to friends

From RTD to innovative products



Technologies (HealthBread WP's)	HEALTHGRAIN FP6	HealthBread FP7
WP (1) Milling/ fractionation	Exploration → fractions high in bioactives	Commercially viable processes Various fractions chosen by bakeries for addition to base flour.
WP (2) Fermentation/enzyme application - Long duration (bioprocessing) - Use of specific enzymes	Studies on 'bioprocessing' (long fermentation, > 10h) → nutritional benefits, poor bread quality	Long fermentation processes applied by all bakeries.
WP (4) Baking technology	Bioactives up↑ → bread quality down Insights gained why	Good bread quality by combination/ integration of knowledge/ insights.
WP (4, 5) Technology transfer	Between scientists/ technologists in labs / pilot plants	From RTD to SME bakeries Bridging gap: Mentoring Partners
WP (3, 5, 6) Support for transfer and implementation	Secondment of young scientists to other labs Exchange with Industrial Platform	Support for - Business development - Nutrition/health communication Claims Regulation EC 1924/2006 - Consumer tests



Exploitation & business perspectives for industry partners



Partner , roles in project	Legal entity	Exploitation and business perspectives
Kampffmeyer Food Innovation (D) WP1, WP2 (dry and wet processing) Mentoring partner bakeries (D, AT)	IND	HealthBread = opportunity for real innovation <ul style="list-style-type: none"> - New flour fractions developed + application know-how for existing and new fractions - Sales to HealthBread bakeries and sales to new clients
Tandoi (It, south) WP1	IND	New more profitable markets for their improved Durum wheat aleurone (DWA)
Geovita (It, north) WP1 (Dry processing, milling, heat treatments - stab)	SME	Further upgrading HealthBread flour fractions Heat treatment/stabilisation of Tandoi's DWA
Dyadic (NL)	SME	Planning of major investment for entering bakery market with enzymes produced with Dyadic's efficient technology



Product development and market introduction by bakeries



Bakery	Concept product	Market introduction	HealthBread fraction	Nutrition statements	Remarks
Fusè (It)	Salutello	June '14	Wholegrain (WG) concentrate	Fibre, Fe, Mg, Zn, Vit.B9 (folate)	Fermentation: All bakeries included long and/or special fermentation e.g. - of HB fraction - of dough - using sourdough
Reggazoni(It)	FibraPiù	July '14	Durum wheat aleurone	Fibre, Fe, Mg, Zn	
Uljee (NL)	Origo Wit	Not yet	WG concentrate	Fibre, Zn, Vit.B9	
Kamstra (NL)	GoedBegin	Not yet	Wheat aleurone	Fibre, Fe, Mg, B9	
Ripken (D)	Vollwert Riese	June '14	WG concentrate Pre-fermented	Fibre, Fe, Mg, Zn, Vit.B9 (folate0	
Lasser (At)	Europa-Krusterl	June '14	Wheat aleurone	Fibre, Fe, Mg, Zn, Vit.B9 (folate)	
Kasses (At)	Vollwert Laib	June '14	WG concentrate Pre-fermented	Fibre, Zn, Vit. B9	
Boni (It)*	HealthBread Fiore	August '14	Wholegrain Concentrate	Fibre, P, Zn, Vit. B9 (folate)	
Saccani (It)*	HealthBread Rosa	Not yet	Durum wheat aleurone	Fibre and ... (to be decided)	



Contributors & contact details

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Contributing Partners:



Find us on www.healthbread.eu

Triggering interest of scientists, technologists, dieticians, ...

By range of communication activities – with public documents

- **HealthBread Nutrition Guideline**
 - Communication of nutrition /health claims with background information.
- **HealthBread website continued use**
 - With <http://www.healthbread.eu/press-corner/> for guidance to all public HealthBread documents: publications, presentations, leaflets
 - Envisaged to be used as a registration platform for SME bakers to obtain information on the HealthBread ingredients and training.
- **Cooperation with new EU project on transfer of knowledge to SME's**
 - TRADEIT project

Rolling out the HealthBread approach in Europe



- HealthBread Bakers Manual

- 4 languages (English, Dutch, German, Italian)
- Providing concise technological and nutritional guidance for bakers for developing and marketing HealthBread products
- Dissemination (electronically/hardcopy) to SME bakers

- Establishment of HealthBread Association

- Rolling out the HealthBread approach to artisan bakeries to key European markets
- By providing technological and marketing support (branding concept)
- Allowing the use of the HealthBread logo by bakers for their products fulfilling HealthBread criteria regarding nutritional and health benefits

For more information about the HealthBread Association please contact:

healthbread@rtds-group.com or see www.healthbread.eu

