

HealthBread

Attractive Bread Products With High Nutritional Value

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www.healthbread.eu



HealthBread – HealthBread product innovation based on FP 6 Healthgrain results and knowledge. GA number: 312165

Funded by the 7th Framework Programme of the European Union, Collaborative Project.

KBBE.2012.2.3-02 – Exploitation of Framework Programme project results in food processing by small and medium-sized enterprises.



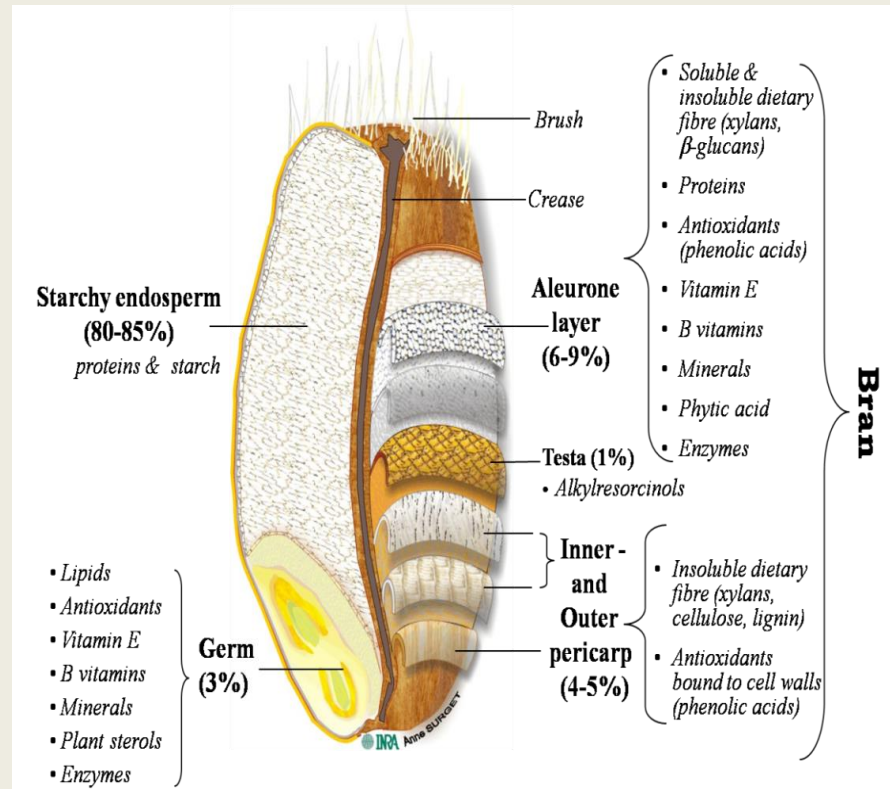
Presentation will cover....



- 1. Wheat kernel and its composition**
- 2. Nutritional Needs - Nutrition and Health Report Conclusions**
- 3. HealthBread Product Aims**
- 4. Processing & wheat fraction / micronutrients**
- 5. First Year Results**
 - Impact of Wheat fraction on bread volume
 - Impact of processing on bread volume / quality
 - Benefits of fermentation and enzymes
- 6. Second Year Objective**
 - SME Bakeries baking bread

Wheat grain kernel and its composition

- The kernel has 3 major parts:
 - Bran
 - Germ
 - Starchy Endosperm
- Whole grain flour contains 100% of the original germ and bran
- Bran and germ have a high content of fibre, micronutrients (vitamins, minerals, trace-elements) and bioactive plant compounds (antioxidants, sterols, etc).



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

Nutritional Needs - Dietary Fibre



Dietary fibre

- World-wide consensus: intake of dietary fibre below recommended levels.

Type of recommendations

- Recommended intake for adults is 25 – 40g a day.
- This intake only from fibre present in fruit, vegetable and wholegrain type products (Netherlands, Health Council, 2006)
- Cereal fibre is the preferred type of fibre (German Nutrition Society, 2012)

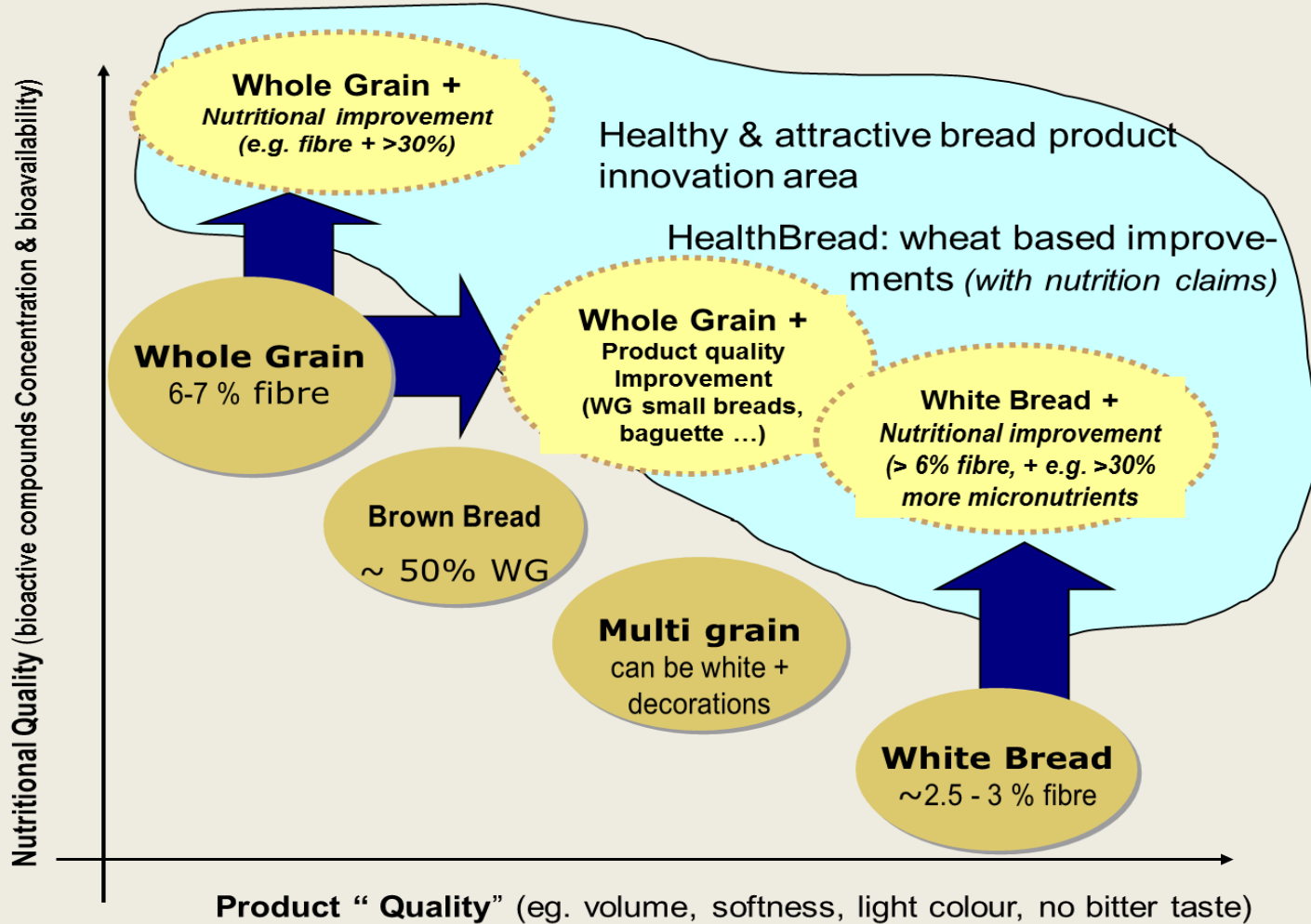
Recent scientific findings - benefits of cereal fibres over other types of fibre!

- Health benefits for bran are stronger than for whole grain (American Society for Nutrition. Scientific statement 2013)

Nutrition and Health Report - Conclusions

1. Intake of fibre is too low in all countries
2. Magnesium, Zinc, Iron (for females), are included in the list of compounds where actual intake is often lower than the recommended intake

HealthBread Product Aims



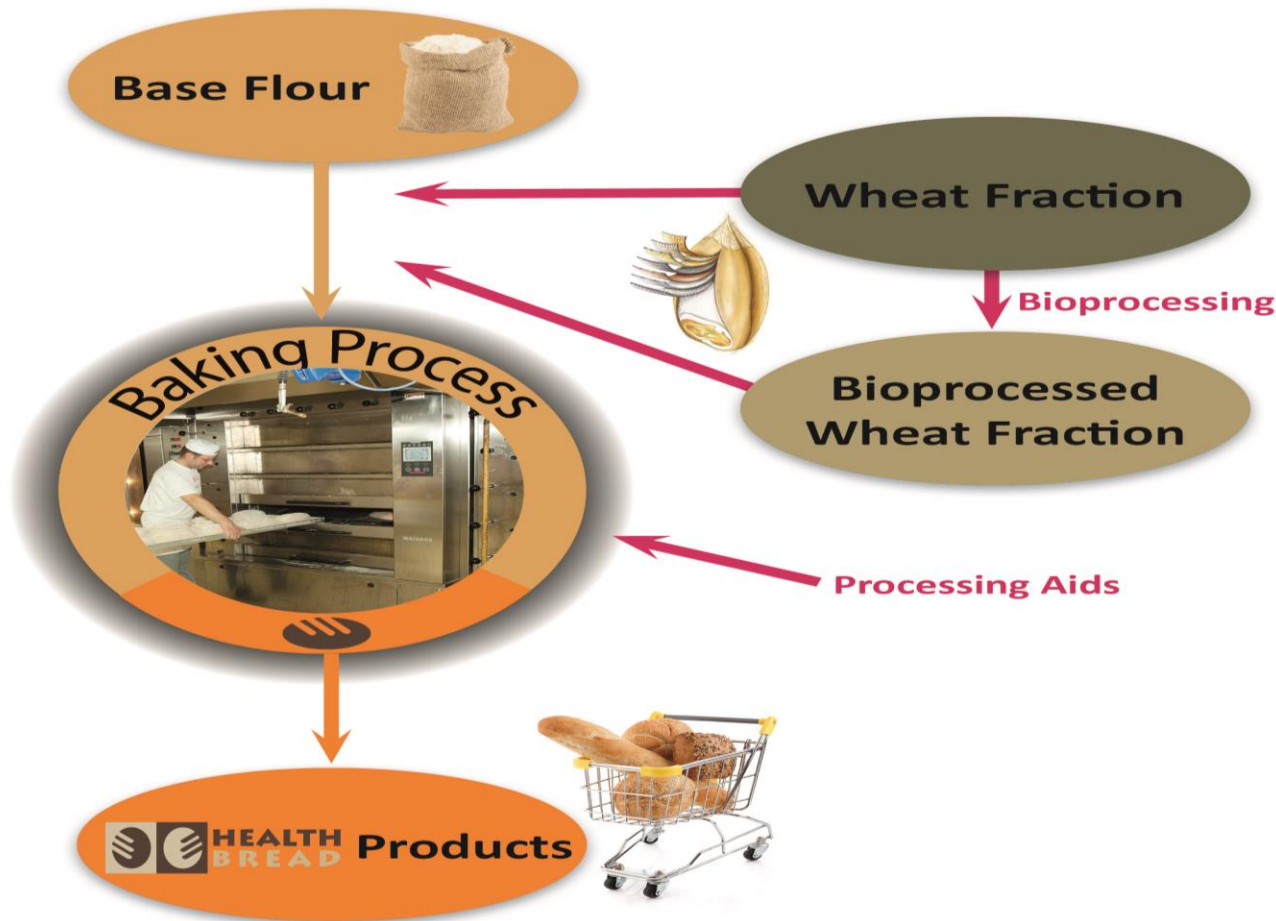
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Processing of base flour + wheat fraction high in fibre/micronutrients



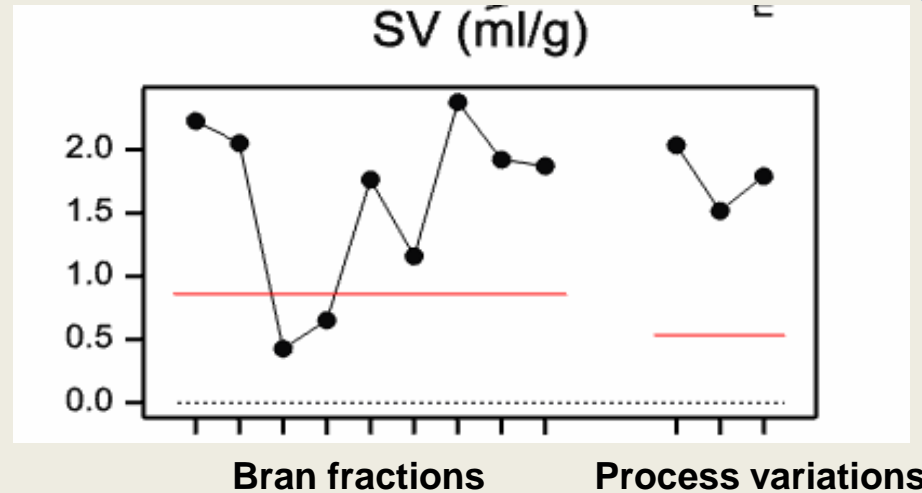
Y1 Results - Impact of wheat fraction on bread volume/ quality



Refined flour



wholegrain



Aleurone A



Aleurone B



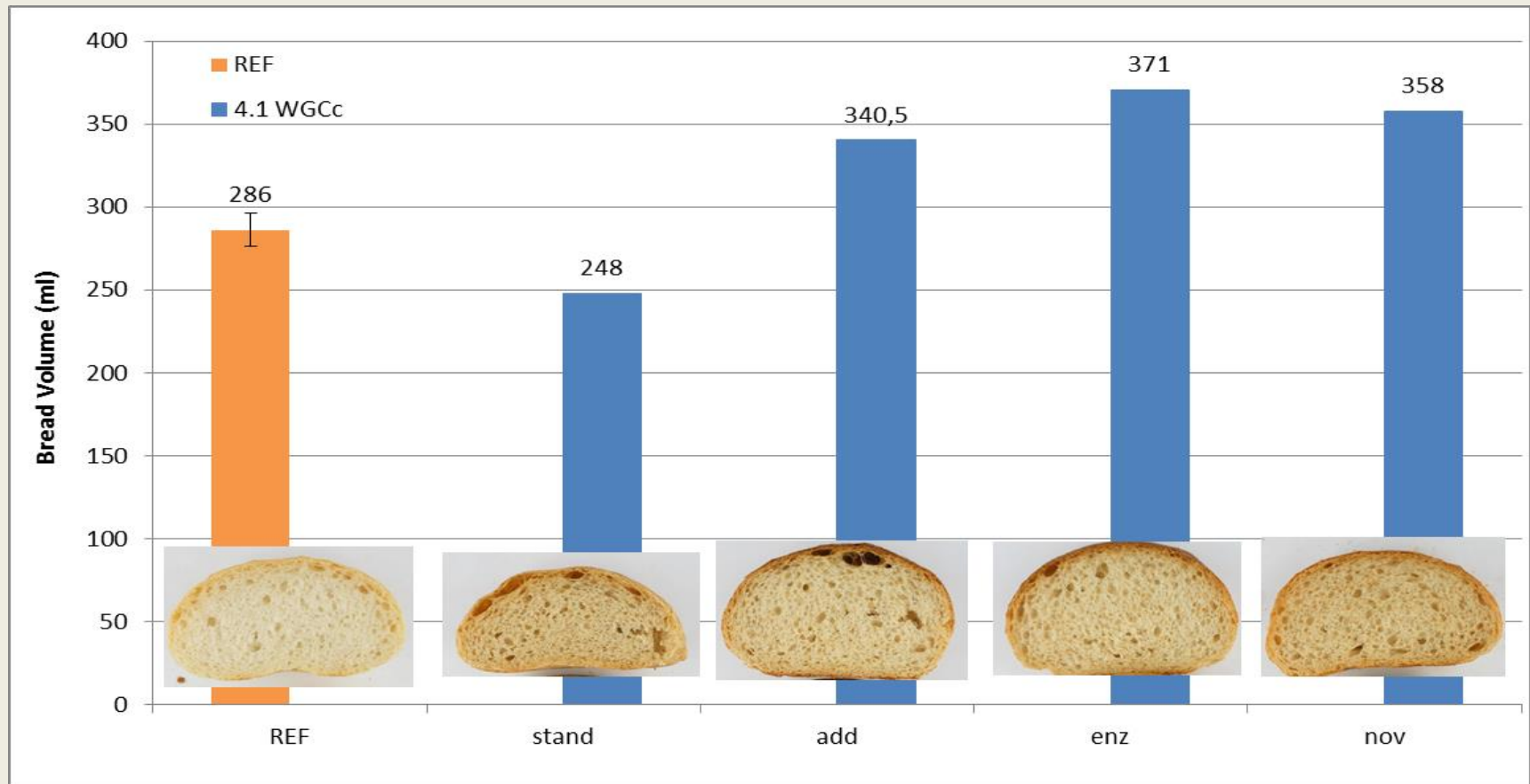
Bran A



Bran B

Y1 Results - Impact of processing on bread volume / quality

Effect of different treatments



Y1 Results - Benefits of fermentation and enzymes

Example: bioprocessing (~ 15h) of a wheat fraction

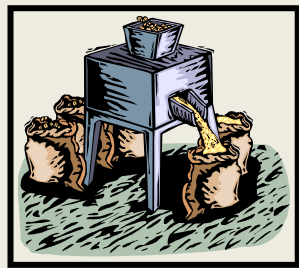
Best results with fermentation with specific enzymes and process with additives

- ❑ Bread quality score improved from 1.9 -> 4.6
- ❑ Bread volume from 225 ml -> 424 ml

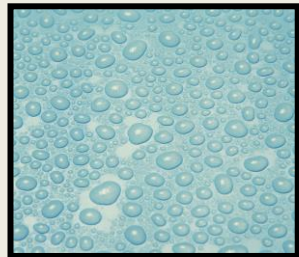


Y2 Objectives – From research to SME Bakeries

Translate optimised products (WP4) with improved nutritional quality (WP 3) made by dry (WP1) and wet processing (WP2) and develop into real bakery products to be sold through SME Bakeries (WP6).



WP1



WP2



WP4



WP3



WP5



WP6

