

UGR researchers reveal potential of bread that suppresses appetite

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Research news

UGR researchers, in collaboration with the company Puratos, have conducted an in-depth study on the potential benefits of a cereal-based bread enriched with soluble fibre, proteins and dried fruit. The bread, which curbs the appetite more than traditional breads, is designed to reduce food consumption between meals and thereby control energy intake.



The study shows how the consumption of the cereal-based bread, which contains a variety of flours (wheat, oats, and spelt) and contains 22% dried fruit (figs, apricots, raisins), sates the appetite more than standard breads and alleviates hunger in healthy adults.

The research project was directed by Prof. Ángel Gil Hernández and Dr. María Dolores Mesa García, both of whom work at the Department of Biochemistry and Molecular Biology II of the University of Granada. They conducted the study together with Dr. Carolina González Antón, a dietician and nutritionist who obtained her doctorate at the UGR and whose doctoral thesis includes the study.

Dr. González Antón explains that: "Eating high-fibre foods is important when it comes to satisfying hunger, since these foods reduce snacking and therefore help control energy intake and promote healthier food choices."

The high-fibre bread analysed during the study is especially suitable for breakfast. As Dr. González Antón further notes: “Skipping breakfast is a common phenomenon, and too many pastries, sweets and juices are consumed as part of this meal. Such eating habits are associated with excess weight and obesity. Cereal-based bread which is rich in soluble fibre, proteins and dried fruit provides a balanced breakfast solution that is quick and easy, improving appetite as well as glycemic and insulinemic responses.”

Volunteers between 18 and 29 years of age took part in the experiments. All participants ate breakfast on a daily basis and included bread in their diet. The experimental breakfast consisted of the cereal-based bread and a glass of water, while the control group ate a breakfast consisting of sliced white bread (85g), jam (10g) and margarine (2g), and a glass of water. The results obtained regarding the levels of satiety were very positive in the case of the cereal-based bread.

The results of this study were recently published in the prestigious **Journal of Nutrition**. They were also included in the systematic review on bread and satiety carried out by the same research group and recently published in **Critical Review in Food Science and Nutrition**.

Bibliographical reference:

Gonzalez-Anton, C., Lopez-Millan, B., Rico, M. C., Sanchez-Rodriguez, E., Ruiz-Lopez, M. D., Gil, A. and Mesa, M. D. An Enriched, Cereal-Based Bread Affects Appetite Ratings and Glycemic, Insulinemic, and Gastrointestinal Hormone Responses in Healthy Adults in a Randomized, Controlled Trial. *Journal of Nutrition* 2015;145:231-8.

Gonzalez-Anton C, Artacho R, Ruiz-Lopez MD, Gil A, Mesa MD. Modification of appetite by bread consumption: A systematic review of randomized controlled trials. *Critical Review in Food Science and Nutrition*. 2017 22;57(14):3035-3050.



Dr. Carolina González Antón and Prof. Ángel Gil, members of the research project



The cereal-based bread enriched with soluble fibre, proteins and dried fruit analysed in the research

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