

Abstract

Sensory Evaluation of Prototypes of Novel Dishes and Recipes Based on Underutilized Foods [†]

Marija Ranić ^{1,2,*}, Marija Knez ^{1,2}, Jelena Milešević ^{1,2} , Nevena Vidović ^{1,2}, Vuk Stevanović ¹, Agneš Kadvan ² and Mirjana Gurinović ²

¹ Institute of Medical Research, 11129 Belgrade, Serbia; marija.knez@imi.bg.ac.rs (M.K.); jelena.milesevic@imi.bg.ac.rs (J.M.); nevena.vidovic@imi.bg.ac.rs (N.V.); vuk.stevanovic@imi.bg.ac.rs (V.S.)

² CAPNUTRA, 11000 Belgrade, Serbia; k_agi@yahoo.com (A.K.); mirjana.gurinovic@gmail.com (M.G.)

* Correspondence: marijar@imi.bg.ac.rs

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Abstract: Background and objectives: Since the beginning of the 20th century, more than 75% of genetic diversity has been lost. As a result of this homogenization, thousands of cultivated and wild food plants are no longer used, although they have high nutritional value. This work aims to develop recipes for new dishes and bring biodiversity to the plate in a way that consumers desire. Methods: Prototypes of new foods were prepared in the experimental kitchen. Each recipe was blind-tasted, evaluated, and ranked according to its organoleptic quality using a systematic approach. Both independent professional taste experts and lay public representatives were involved in the sensory evaluation of dishes. After the initial sensory evaluation (discrimination and hedonic scoring tests) in Serbia, the following recipes were selected for further evaluation in four other countries—Greece, Hungary, France, and Turkey: Dandelion and Tomato Salad; Buckwheat and Grass Pea Stew with Eggplant; Baked Eggplant and Potato à la Papa Alexie; Lentils as a Starter and Buckwheat Pockets Filled with Walnuts and Dried Fruit. The recipes were tested by 132 lay public representatives and 24 professionals. Results and Discussion: Of the five dishes tested, Buckwheat Pockets Filled with Walnuts and Dried Fruit were the most popular, followed by Baked Eggplant and Potato à la Papa Alexie and Dandelion and Tomato Salad. Although cultural differences and individual preferences play a role, none of the dishes was considered unacceptable or undesirable, and most were rated as likable to very likable. In line with the feedback, the optimization of the recipe design was discussed to optimize the sensory perception of the new dishes and to achieve a stimulating and satisfying taste and smell with appropriate texture and mouthfeel. The sensory evaluation showed that the new dishes offered, based on the underutilized foods studied in this project, were highly recognized and well received by consumers. Finally, a recipe book was created that includes a detailed explanation of the preparation methods and a comprehensive presentation of the relevant nutritional information of the new food dishes.

Keywords: underutilized foods; sensory evaluation; new dishes; hedonic scoring test; Buckwheat; Dandelion; Grass Pea; Eggplant; Lentils



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