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Poster Abstract – A.12

NEW NAKED OAT GENOTYPES FOR PRODUCING FUNCTIONAL FOODS

R. REDAELLI*, D. SGRULLETTA**, G. SCALFATI**, E. DE STEFANIS**,
C. M. POLLINI***

*) CRA – Experimental Institute for Cereal Research, Via Stezzano 24, 24126 Bergamo
**) CRA – Experimental Institute for Cereal Research, Via Cassia 176, 00191 Rome
***) Pavan Tecnologie S.p.A., Via Monte Grappa 8, 35015 Galliera Veneta (PD)

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In consideration of the role of diet in health and wellness preservation and the recognized protective effects of oats against some chronic pathologies, an innovative product was recently proposed (Sgrulletta et al., 2003), an oat-wheat pasta obtained through the enrichment of commercial durum wheat semolina with the flour of naked oat cultivars. This product could be defined as a "whole grain food" naturally rich in functional compounds. A large variability among oat cultivars in the response to pasta-making processes was shown, highlighting the importance of choosing the oat genotypes with the most suitable chemical composition for food production. The objectives of the present study were to examine the existing variability for functional compounds in a group of forty-one naked oat genotypes (cultivars and breeding lines) and to assess the nutritional value of the pasta obtained by mixing the flours of some of them to semolina. Significant genotypic differences were observed in oat flours with respect to protein (range: 12.8-22.7 %d.m.), total β-glucan (2.2-5.4 %d.m.) and soluble β-glucan (1.2-3.6 %d.m.). The pasta making process was found to safeguard the content of the different components: cooked oat pasta showed an improved nutritional value in comparison with the traditional 100% durum wheat pasta, particularly in relation to the increase of fibre (TDF and β-glucan) content. These data confirmed that: i) the suggested oat-wheat pasta could fit well in a balanced diet, as the high soluble fibre content contributes to lower the level of blood cholesterol; ii) the choice of the genotype that is used for pasta production strongly affects the technological and organoleptic aspects of the process. Specific breeding programs to develop and select the most suitable genotype have been activated.

Sgrulletta D., De Stefanis E., Conciatori A., Redaelli R., Pollini C.M. (2003). Influence of different naked-oat cultivars on the nutritional value of pasta. Tecn. Mol. Intern. 54(2/A): 125-130.