

**INVESTIGATION OF CHIO CHIPS PRODUCTS**  
Part I.

**COMPARATIVE SENSORY EVALUATION  
OF DIFFERENT CHIO CHIPS PRODUCTS**

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**ABSTRACT**

Many measurements were carried out - sensory, analytical and other ones – for investigation of Chio chips products. In this part of the article information is given about the sensory evaluation of products. The results - high level sensory properties – were analysed with Student t-test and Kramer-method.

**INTRODUCTION**

In the last years all over the world a lot of unfair information has been given in the media – concerning the need of healthy nutrition, as well – about the consumption of chips products, proposing that these products are not perfect and mainly unhealthy. The reason is e.g. the too high energy and fat content and presence of toxic or unhealthy components (e.g. salt, acrylamide, glycidamide, trans fatty acids) in the chips products.

Based on the commission of Chio Hungary Ltd. numerous measurements were carried out at the Department of Food Chemistry and Nutrition – in cooperation with other departments and research institutes - concerning the sensory, packaging, analytical and microbiological parameters and storability of different Chio products. In this paper information is given about the comparative sensory evaluation of 2 Chio products (salted chips and flavoured with onion and sour cream ones). Later (in part II) we try to give objective information also about the healthy status of chips products. Let us mention that these products are produced using high level of technology and excellent quality regulation and control systems (ISF, HACCP) with very good sensory properties.

## RESULTS AND DISCUSSION

The measurements were carried out in 2007, using the 20 and 100 scores system with 28 panellists, all having the necessary level of knowledge in organoleptic qualification of foodstuffs. The results for comparison were analysed with Student t-test and method of Kramer.

Using the 100 scores system in case of salted chip products the average value was 86.5 (standard deviation 6.3), for products with onion and sour cream the average one was 88.4 (standard deviation 7.3). In the 20 scores system we got as average 15.8 (standard deviation 1.9) in case of salted chips, and 16.4 (standard deviation 2.3) in case of onion-sour cream flavoured products. For both products a relative strong correlation (correlation coefficients 0.6574 and 0.7558) was determined between the results of the 20 and 100 scores systems, but based on the t-test there was no significant difference between the salted and onion-sour cream flavoured products. Anyway, all samples were evaluated as products with very good sensory properties.

Using the Kramer method – in this case on the base of total scores given for the products by the individual panellists the ranking points (1 or 2) will be summarized – in both systems the total ranking scores were 36.5 for the products with onion and sour cream flavour and 47.5 scores for the salted samples. This is a significant difference, so to the opinion of the panellists the organoleptic quality of the investigated chips samples with onion and sour cream flavour was higher than in case of salted chips samples.

Finally, we would like to mention that the average chips consumption in Hungary is only 0.4-0.5 kg/year/capita – based on the food consumption structure of hungarian population.