

## THE UTILIZATION OF THE FLOUR FROM GRAPES KERNELS IN THE BAKERIES

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### **Abstract**

*The fortification of the flour is a practice widely spread in all the world in the last period of time using on a large scale by products coming from different industries, with the purpose of satisfying the growing and more diversified demands of the population. The grapes kernels, byproduct of the wine growing production, obtained by the separation of pomace with the mechanical way and dried before milling or pressing, are usually used in the pharmaceutical industry, in the food industry but also in other industries due to their content of fat acids, vitamin E, Calcium, Potassium, Zinc and fibers. The flour from grapes kernels obtained by milling the kernels is used as such or in combination with different foodstuff. In this paper we followed the effects of the addition of flour from grapes kernels in the bread and of the maceration obtained from flour and kernels and water. The results obtained recommend its adding as such in the bakery products in a percentage of maximum 5%.*

**Key words:** grapes, flour from grapes kernels, fermentation, bread

### **INTRODUCTION**

The bread making, a subject always open to innovation, basic part of the food industry in parallel evolution with the science, by finding new techniques of obtaining, raw materials and new auxiliary, by repeated testing in pilot system, brought on the market new products, innovative products, that could bring to the consumer numerous benefits depending on the individual needs.

The grapes kernels are being used for a long time for the obtaining of the cosmetic products, in the kitchen, due to the high content of oil between 8-16% with high content of fat acids, for the high content of vitamin E with effect on the locomotor apparatus, it is rich in Calcium and Potassium, Zinc and a high percentage of dietary fibers.

The utilization of the flour from grapes kernels in the bread-making products can bring to the consumer many benefits: support for a healthy cardiovascular system; it helps maintaining the natural defense of your body; support for the normal functioning of the body cells; assistance in the

fight against the free radicals; support for a good health of the immune system and preventive against the cancerous tumors.

The grapes kernels are byproducts resulted from the wine-growing production, separated from the pomace in a mechanical way and dried before milling or pressing.

The flour from grapes kernels is obtained by cold milling of the grapes seeds, after the oil from grapes kernels was extracted previously by cold pressing. Then, it passes by a special process of milling that helps with the keeping of all the nutritive properties of the flour.

#### **MATERIAL AND METHOD**

The grapes flour can be used to replace a part of the wheat flour in the recipes for the bread. In the content of the premix it shouldn't cross 4-5% of the total quantity of flour. In our products was introduced as such a percentage of 5% also in the form of pomace obtained by mixing the water with flour of grapes kernels 5%, left 24h for maceration and then strained. The maceration thus obtained was used instead of water for the dough forming.

For the obtaining of the dough we used the direct method that consists of mixing all the ingredients in the beginning of the operation, is started the operation of mixing and kneading of the ingredients for 8-10 min (95% white wheat flour strained and weighed, 5% flour of grapes kernels, is mixed with water or maceration and 2% salt) following then the specific technologic steps.

#### **RESULTS AND DISCUSSIONS**

The form of the products is similar, shaped, increased in case of the versions with maceration and less increased in the case of the versions when we introduced more flour of grapes kernels. Also the volume of the products obtained was smaller for the bread obtained from premix, presenting an aspect easily bent, not very developed and gibbous.

The aspect of the crust of breads in which it was introduced flour of grapes kernels was smooth, with cracks and without wrinkles and in case of the one with maceration the crust is smooth with smooth surface, without wrinkles.

We can also mention here the fact that the color of the crust of the bakery products is different between the two versions ranging based on the experimental component as such: in case of the products with maceration the color is easily violaceous compared to the products where it was

introduced flour of kernels that present a darker brown color with violaceous shade.

The aspect of the core in the section presents also differences between the two versions so that: in case of the products obtained from the premix the product is baked enough, when knocking in the crust it produces a clear sound, elastic core on pressing in returns to the initial form, the core of brown-violaceous color, uniform, dry on touch, on cut the blade of the knife remains clean and is shred and the one obtained with maceration is well baked, the core uniform, well fluffy with uniform porosities, and the blade of the knife remains clean and on pressing the core is elastic.

The pores of the core of the versions with maceration are well defined and structured, uniform, of oval form and those obtained from premix the porosity is also in this case good, structured, well defined and uniform. We can also say that the rheological structure of the core is affected very little and only in the version with flour of grapes kernels.

Regarding the taste of the products it was observed that it is present a pleasant smell, characteristic to a product well baked with flavor corresponding to the product on both versions. Related to the taste, in case of the products obtained with maceration it is salted enough, without foreign sour or bitter taste and those obtained of premix it is salted enough, but on mastication they present fine particles of grapes kernels, aspect that can become annoying for certain categories of consumers.

## **CONCLUSIONS**

The bakery products fortified with active biological compounds, originated from flour of grape kernels are designated to different categories of consumers, to healthy persons preoccupied with the maintaining of the health condition and also to the persons that suffer mild affections of the digestive tube, hypertensive, overweight persons and/or in a preventive purpose.

The products obtained are natural, without preservatives, flavors or synthetic colorants. They present different sensorial qualities given by the aspect, color and taste. The flour of grape kernels, during the technological process, is not depreciating or influencing in any kind the quality of the dough or of the finished product. The only disadvantage of using the flour would be the presence in the structure of the core of some small particles of kernels.

We recommend the introduction of the flour of grapes kernels in the alimentation of the people because, by its composition it can have benefic effects on the consumers preventing the increase of cholesterol, favoring the elimination of the fats from the body, it can prevent the appearance of the

coronary diseases, it can regulate and accelerate the intestine transit, it can prevent cancer and gastro-intestinal diseases.

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