COMPARATIVE CHARACTERISTICS OF RAW MATERIALS FOR FUNCTIONAL FRUIT CHIPS

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An important direction in the food industry is the production of domestically produced mass consumption food products with a high content of biologically active substances intended for various population groups [1]. Such products include chips from various fruits. Improving the quality of chips, as well as increasing their nutritional value, can be achieved through the use of secondary raw materials from wine products. Interest in grape seed extract has continued to grow in recent years.

The object of the study is the seeds of grapes of white and red Chardonnay and Pinot varieties, selected at the wineries of Cricova and Criuleni in the central region of the Republic of Moldova, harvest of 2021. The pear varieties Konferentsia, Kiure, Moldavskaya rannyaya, Ogorodnik were also studied. A comparative assessment of the main physical and chemical parameters was carried out. The content of solids was determined by the gravimetric method according to ISO 1026:1982, the ash content was determined by the gravimetric method according to GOST 27494-87, the titratable acidity was determined by the potentiometric method according to SM SR ISO 750: 2014, the oil content was determined by the Soxhlet method according to GOST ISO 659-2017, the content ascorbic acid was determined by the potentiometric method according to ISO 6557-2:1984, the total content of polyphenols was determined by the colorimetric method using the Folin Ciocalteu reagent according to GOST R ISO 14502-1-2010.

The seeds were preliminarily dried to a moisture content of about 4-6%, the ash content of all varieties was approximately at the same level - about 2.5-3%, titratable acidity - 1.19-2.43%. The oil content in the studied grape seeds ranges from 8.7-25%. The content of total polyphenols is in the range of 108.41-153.89 mgGAE/g. From the analysis of experimental data on pears, it follows that the content of soluble solids ranges from 14.7-17.2%. Titratable acidity ranges from 0.3-0.4% in terms of malic acid. A significantly higher content of ascorbic acid was found in the Moldavskaya rannyaya variety - 8.2 mg/%, and the lowest - in the Kiure variety - 6.3 mg/%. According to the content of total polyphenols, the Moldavskaya rannyaya variety stands out - 5.321 gGAE/100g.

The results of the case study showed that the oil content in the analyzed grape seeds formed the following percentage sequence: Pinot Noir, Pinot Grigio (24-25%) > Pinot Meunier (17.5%) > Chardonay (8.7-17%). The total content of polyphenols formed the following sequence: Pinot Grigio > Chardonay (Criuleni) > Pinot Noir > Chardonay (Cricova) > Pinot Meunier. According to the content of ascorbic acid, the studied pear varieties are distributed as follows: Moldavskaya rannyaya > Konferentsia > Ogorodnik > Kiure. According to the content of total polyphenols, the studied pear varieties are distributed as follows: Moldavskaya rannyaya > Ogorodnik > Konferentsia > Kiure.

Keywords: grape seed, acidity, properties, polyphenols, oil, pear.

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