

3. The Investigation of the Manufacturing Technology Influence on the Wine-Making Materials of Different Regions of Ukraine

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Introductory part. In modern manufacturing circumstances, when different types of the wine-making manufacturing technologies and different finning materials are used, the aim of the investigation is to analyse the influence of the enogelatin (domestic manufactured) on the quality of the wine-making materials and their permanence. The domestic manufactured gelatin (powdered), which is traditionally used for wine manufacturing, possesses a number of essential disadvantages: a long lysing period, a smell of an animal glue, a complicated process of wine-making manufacturing under the low temperature, different adhesive and flocculate abilities. On the contrary, enogelatin has higher level of interacting with phenolic compounds (in comparison to the traditional gelatin in the process of the wine-material manufacturing) and increases organoleptic qualities and provides a durative permanence of drinks; it also has the weak finning ability due to this they can be used under the low temperature.

Methods of the investigation. The investigation was conducted on the white dry champagne wine-making materials made of the following grape varieties: Aligote, Chardonnay and Riesling which were manufactured during the season 2013 at LLC “Zolota Balka” (Simferopol), HMC “Lymanskyi” (Mykolayiv Region, Ukraine) and a single proprietor firm (Berehove, Transcarpathian Region).

The influence of the finning agents of enogelatin (liquid form), gelatin (powdered form), argosite on the quality of the wine-making materials was investigated.

Firstly, the physical and chemical features of wine-making materials and schemes of manufacturing depending upon the storage conditions were defined. Then the trial finning of the wine-making materials by gelatin, enogelation, argosite (domestic manufactured) was conducted and their optimal doses were defined. The results of the trial finning showed the tendency towards decreasing of enogelatin doses in comparison to powdered gelatin: for Chardonnay from 40 cm³ to 35 cm³ for 10 dm³ of the wine-making material; for Aligote from 33 cm³ to 30 cm³ for 10 dm³ of the wine-making material; for Riesling from 33 cm³ to 13 cm³ for 7 dm³.

After the trial finning, manufacturing of the laboratory lots of the wine-making material from different regions of Ukraine was conducted. The results showed that the usage of enogelatin allowed getting permanent wine-making materials by using the lower dose of the finning agent.

The results got during the laboratory investigations were mathematically processed by Exel and the coefficient of the correlation was found and it is 0,95.

Results. The comparison of the concentration of phenolic elements in the investigated wine-making material varieties before and after finning shows that their concentration decreases essentially after finning by enogelatin. The discrepancy in Aligote is 2,5%, in Riesling – 3%, and the most essential is in Chardonnay – 5%, that has great influence on the taste, colour and typical features of the wine.

The variation of the amount of the general SO₂ in the investigated wine-making materials before and after finning are considered: general amount of SO₂ becomes 2% less

by finning for all types of the investigated wine-making materials and the amount of the free SO₂ by finning becomes 25,8% less for Riesling; for Aligote – 16,8%, and for Chardonnay 24,7%. It has positively influenced the organoleptic features of the investigated wine-making materials.

The comparison of the polymeric and monomeric forms of the phenolic agents in the investigated wine-making materials before and after finning shows that their amount decreases essentially after finning. The highest discrepancy is in Aligote – 20,8%.

Conclusions. Wine-making material manufacturing by enogelatin and argosite provides the permanence of the wine-making material with close to “ideal” features.

Literature

1. Чурсіна, О.А. Нові допоміжні матеріали / О. А. Чурсіна // Харчова і переробна промисловість. – 2007, січень. – С. 24–26.

2. Новый препарат желатина для виноделия – эножелатин // Напитки. Технологии и Инновации / В.А Загоруйко, О.А. Чурсина, А.В. Весютова– № 1-2. – 2012. – С. 62.