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## Problems of Increasing the Quality of Raw Material for Wine in the Stavropol Region.

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### ABSTRACT

In the Russian context of globalization and integration into the world economy, improving the quality of raw material for wine coming to the fore, as the lack of effective ways to maintain positions in the domestic or global market threatens to increase of the crisis is already inside the country. The wine-making industry has experienced a strong shock during the anti-alcohol campaign in the eighties of the last century. Productive vineyard area were cut almost in half, and as a result was not only a reduction in the production of raw material for wine, but also their quality has deteriorated sharply. Almost completely discontinued vintage wine. Collection of wines, produced for decades, have been destroyed.

**Keywords:** raw material for wine, raw quality, varietal affiliation, organoleptic evaluation

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## INTRODUCTION

Currently, Russia is the only country in the world (among wine-producing), which has no existing legal acts to regulate the quality of wine products in the near future the development and adoption of such documents is not planned.

This means that there are no basic criteria to distinguish natural wines from the counterfeit, which leads to the free flow of alcohol on the market of the country of low-quality products. There is no regulatory framework and methods of identifying the wines.

Unfortunately, the methods of falsification of wines over the years improved. There already exist methods that lead to even improve the organoleptic properties of wine. Therefore, to distinguish the fake from the real wine can be difficult, not only the consumer, but also professional.

## MATERIALS AND METHODS

The study identified the main problems of the quality of wine growing in the Stavropol region, and also describes the collected and processed data. When solving the problems in the study used primary data - data which have been obtained specifically to address the problems identified and secondary information - data from existing sources of information previously collected for other purposes.

The sources of obtaining primary data were questioning and observation. In order to collect qualitative information necessary for the task study visit was organized to the popular supermarket chains to assess the basic requirements of the consumer to the quality of the goods.

The secondary sources of information have been included: analysis of financial and economic feasibility of growing grapes; analysis of the financing of the sector from the regional and the federal budget; legal studies in viticulture and winemaking; wine market analysis; analysis of the competitiveness of the alcohol market in Russia; analysis of the range and quality of products of winemaking Stavropol Territory; analysis of research, development work, innovation, implementation of scientific achievements and best practices aimed at the development of viticulture and winemaking in the Russian Federation; study statistics on trends in the development of viticulture and winemaking in Russia and expert analysis of the global wine market.

## RESULTS AND DISCUSSION

Nursery - a basis of development of viticulture - is in a state of recession. The industry significantly decreased the volume of production of high quality certified planting material, in particular grafted seedlings and their quality [7].

Of particular importance in wine making acquires raw quality problem. Vintage in low sugar content and high acidity causes that produced wine production is low quality and, consequently, reduced competitiveness [4].

The problem is the supply of the domestic market poor quality of wine varietal without accessories, microbial unstable and do not have high-quality taste and bouquet. It is also noted the presence on the market of counterfeit products [8].

Lack of grants to support work on the young vineyards care and the allocation of the minimum rate cannot compensate for part of the cost to create a support-trellis structure. As a result of the lag the pace of installing trellis rates Bookmark vineyards around 30% of young vineyards are not raised in the trellis, which leads to their destruction or loss of productivity [7].

Currently, the main sources of funding for the laying and maintenance of young plantations are:

- 12% - federal budget (subsidies to the tab and care of perennial plants);
- 30% - means the regional budget;

58% - own funds of enterprises.

Stavropol Territory is now the third largest producer of wine production in the Russian Federation.

Currently, in the province are involved in production of wine products 18 specialized viticulture enterprises with factories of primary winemaking, the total production capacity of 120-130 tons of grapes per season, and 21 enterprises engaged in bottling wines in consumer packaging [3].

Viticultural organization Stavropol Territory specialized in the cultivation of wine grapes mainly. Main technical cultivated varieties: Rkatsiteli - occupies 1248,01 hectares; Levokumsky – 1062,65 hectares; Saperavi – 450,55 hectares; Magarach – 308,92 hectares; Gift Magaracha – 260,42 hectares; Aliquot – 214,83 hectares; Bianca – 172,73 hectares; Rubin Golodrigi – 157,56 hectares; Risu – 140,07 hectares; Cabernet Sauvignon – 129,71 hectares; Chardonnay -119,67 hectares; Flower – 83,84 hectares [3].

Among the table varieties, the total area in the Stavropol region 696,02 hectares, Moldova occupies 362,39 hectares, accounting for more than 50% of the landings of table grapes; other common table grapes: Augustine – 164,72 hectares, Arcadia – 61,33 ha; White Muscat – 57,62; Delight – 49,96 hectares [3].

To date, much attention is paid to planting European grape varieties. Among young vineyards predominate varieties such as the Chardonnay, Riesling, Sylvaner, Pinot white, Onitskansky white, Pinot black, Merlot.

The industry produces a wide range of wines, which differ among themselves as the technological features of production and cost efficiency production of a variety of products, presented in Table 1.

**Table 1: The range the product of wine-making industry of Stavropol Territory**

Dry wines:	Fortified wines:	Dessert wines:	Blends:	Semi-dessert wines:	Sweet wines:
«Cabernet»	«Kum Valley@»	Cahors «Svyatogor»	«Rkatsiteli»	«Kum Valley» (white)	«Port 333»
«Muscat»	«Rubin Stavropolya»	«Isabella South»	«Chardonnay»	«Kum Valley» (pink)	«Port 777»
«Chardonnay»	«Amber Tear»	«Southern Night»	«Muscat»	«Kum Valley» (red)	Cahors «Arkhangelsk»
«Sylvaner»	«Sunny Valley»	«Black eyes»	«Sylvaner»		
«Aliquot»	«Nectar of the South»	«Amber Prikumya»	«Carmen»		
«Rkatsiteli»		«Bunch of Stavropol»	«Long Night»		
«Red»		«Smile»	«Love melody»		
«Saperavi»			«Prairie Rose»		
«Merlot»					

By price segment these wines correspond to the average level. In high and premium price segments leading position occupied by the production of countries importing (France, Italy, Spain, Chile). An interesting pattern formed from the names of some brands of wine, so popular in USSR times, the brand "Isabella", "Merlot" and some others do not currently belong to any manufacturer. In order to allow consumers to somehow distinguish the products of such items, the company's steel output in the wine market series or collection, but do not carry out activities for the legal licensing of titles under its own brand.

However, in recent years the market counterfeit wine production is growing and currently stands at about 30%.

Examinations carried out on organoleptic and physico-chemical parameters for compliance with all-Union State Standard 52523-2006 «Table wine and wine dining. General technical conditions» and sanitary regulations № 2.3.2.1078-01 «Hygienic requirements for safety and nutritional value of food» show the

presence of many samples of synthetic dye, although all-Union State Standard and sanitary regulations № 2.3.2.1293-03 say neatly that in the table wine is not allowed the content of any additives not provided normative and technical documentation.

It was also found that some manufacturers do not indicate on the labels of wine complete and accurate information about the product. Do not meet the requirements of all-Union State Standard 51074-2003 «Food Products. Consumer information. General requirements»:

- Wine «Muscat» (closed (joint-stock) company «Stavropolskiy») - the label is not contains the information about the content of a food additive preservative sulfur dioxide [1].

Modern development of viticulture, primarily causes comprehensive and deep mechanization of production processes, that determines the development of this area in the future and the introduction of modern technologies in production.

However, the technologies and equipment used by specialized companies morally and technically outdated. In such circumstances it is extremely difficult to produce competitive products. Under these circumstances, crucial government support [6].

Since 2011 jeopardized market semisweet wines, since the fight against forgery State has not led, through-monitoring system and mandatory declaration is not introduced, the industry has not been exempt from excise tax. The role of wine in the structure of Russian consumption on the national level for the first time in a long time was affected by the development of a concept for 2010-2020 [9].

Many researchers see the solution to all the problems of the wine industry in the agro-industrial integration, ie the creation of holdings or AFG (agroindustrial financial groups). It provides for the unification of all the grape producers and factories of secondary winemaking under a single brand (eg "Wines of Stavropol Territory"). Such structures are effective in other areas of agriculture. But we must not forget about the historical features of the development of viticulture, the specifics of the activity and world experience [3].

However, the most interesting is a completely different path of development of the industry, which is to use the resources of public investment funds attracted investors and own assets of enterprises; creation on the basis of specialized vine-growing farms with raw materials for wine, factories focused on bottling wine directly produced from grapes of the agricultural enterprise and under its brand name. In other words, the improvement of wine, vintage wines tab, planting new vineyards areas aimed at sustainable development of the industry.

An example of this is the production of closed (joint-stock) company "Praskoveyskoe" full production cycle of the enterprise: the cultivation of grapes - wine implementation in specialized stores, with a wide range of products from table wines, champagne, brandy, vodka to the production of fine wines, cognacs and whiskeys [5].

Also worthy of attention recently launched project « Zhuravushka», the initiator of which was the agricultural production cooperative agricultural cooperative (kolkhoz) «Bolshevik» [2].

The essence of the project lies in the fact that any interested person who is thought to do the cultivation of grapes and wine-making, can be purchased at the farmstead «Zhuravushka» land with plantations of wine grapes ready area of 1 hectare. Available in different planning areas: only under the vineyard, a vineyard with a residential house and (or) winery.

Favorable soil and climatic conditions of the estate can produce high-quality wines with unique regional characteristics. Varietal Composition: red - Merlot, Cabernet Sauvignon, Pinot Noir, Saperavi; White - Riesling, Sauvignon Blanc, Chardonnay and Rkatsiteli.

## CONCLUSION

To improve the quality of raw materials for wine in the region must be taken to ensure quality control to do this necessary:

- Monitor critical points in which there is contamination of raw materials, semi-finished and finished products with microorganisms, heavy metal cations, pesticides, toxins and other toxic compounds;
- Develop effective control of authenticity of wines methods based on the combination of modern methods of analysis and sensory evaluation;
- To create a data bank of genuine wines and create a unified federal network for the identification of products;
- Create a common reference standard samples of wine products, analogues of which are in the EU.

#### REFERENCES

- [1] Wine fake [http://ozpp.ru/pr/release/articles-about-new\\_1111.html](http://ozpp.ru/pr/release/articles-about-new_1111.html)
- [2] Grape Estate «Zhuravushka » official website. <http://juravushka26.ru/index.php?id=6>
- [3] <http://www.stavvinprom.com>
- [4] Sustainable production of the wine industry on the basis of modern science [http://azosviv.info/sites/azosviv.info/files/obespechenie\\_ustoychivogo\\_proizvodstva\\_vinogradovinov\\_elcheskoy\\_otrasli\\_0.pdf](http://azosviv.info/sites/azosviv.info/files/obespechenie_ustoychivogo_proizvodstva_vinogradovinov_elcheskoy_otrasli_0.pdf)
- [5] Winery «Praskoveisky» Official Site <http://www.praskoveya.ru>
- [6] Meat and interior features rams of different genotypes / Trukhachev V. I., Moroz V. A., Chernobay E. N., Ismailov I. S. // Research Journal of Pharmaceutical, Biological and Chemical Sciences. 2016. № 7 (1). pp. 1626 - 1630.
- [7] Comparative assessment of concentrates from different manufacturers for poultry egg crosses / Trukhachev V. I., Zlydnev N. Z., Epimakhova E. E., Oleynik S. A., Samokish N. V. // Research Journal of Pharmaceutical, Biological and Chemical Sciences. 2016. № 7 (1). pp. 1272 - 1276.
- [8] Applications symbiotic complex to correct the physiological state of the piglets / Trukhachev V. I., Rastovarov E. I., Filenko V. F., Skripkin V. S. // Research Journal of Pharmaceutical, Biological and Chemical Sciences. 2016. № 7 (1). pp. 1616 - 1620.
- [9] Quality assessment embryo and day old chicks of poultry / Trukhachev V. I., Epimahova E. E., Skripkin V. S., Alexandrova T. S. // Research Journal of Pharmaceutical, Biological and Chemical Sciences. 2016. № 7 (1). pp. 1631 - 1637.
- [10] Trukhachev V. I., Zlydnev N. Z., Sycheva O. V. Formation of quality of dairy products on the example of a family business Kaasboerderij Weenink Netherlands // Research Journal of Pharmaceutical, Biological and Chemical Sciences. 2016. № 7 (1). pp. 1125 - 1129.
- [11] Adaptation of the recommendations of the international committee for animal recording (ICAR) in evaluating the quality of milk / Trukhachev V.I., Oleinik S.A., Zlydnev N.Z., Morozov V.Y. // Research Journal of Pharmaceutical, Biological and Chemical Sciences. 2015. № 6 (6), pp. 1317-1320
- [12] Trukhachev V. I., Zlydnev N. Z., Samokish N. V. Methods of protein raw materials falsification defining // Research Journal of Pharmaceutical, Biological and Chemical Sciences. 2015. № 6 (6), pp. 1321-1327.
- [13] Application of the recommendations of the international committee for animal recording (ICAR) in assessing the yields of dairy cattle in Russia / Trukhachev V.I., Zlydnev N.Z., Oleynik S.A., Morozov V.Y. // Research Journal of Pharmaceutical, Biological and Chemical Sciences. 2015. № 6 (6), pp. 1314-1316.
- [14] Justification for the selection of components in phyto-teas: Steviana / Trukhachev V.I., Starodubtseva G.P., Sycheva O.V., Lubaya S.I., Veselova M.V. // Research Journal of Pharmaceutical, Biological and Chemical Sciences 2015. Volume 6, Issue 4. P. 990-995.
- [15] The problem of the valuation of the national wealth of Russia / Truhachov V. I., Kusakina O. N., Gruzkov I. V., Medvedeva L. I., Rusanovsky E. V. // Biosciences Biotechnology Research Asia. 2015. № 12 (1), pp. 847-856.
- [16] Trukhachev V., Ivolveva A., Lescheva M. Enhancement of land tenure relations as a factor of sustainable agricultural development: Case of Stavropol Krai, Russia // Sustainability (Switzerland). 2015. 7 (1), pp. 164-179.
- [17] Development of technology for food for people with hypersthenic body type / Trukhachev V. I., Sadovoy V. V., Shlykov S. N., Omarov R. S. // Research Journal of Pharmaceutical, Biological and Chemical Sciences. 2015. № 6 (2), pp. 1347-1352.



- [18] Biological method for increasing adaptive potential of edstevia (*Stevia rebaudiana* (Bertoni) Bertoni), producer of native sugar substitute Analysis of the market for agricultural products in south Russia / Trukhachev V. I., Starodubtseva G. P., Voiskovoy A. I., Krivenko A. A., Donets I. A. // *Biology and Medicine*. 2014. № 6 (3).
- [19] Analysis of the market for agricultural products in South Russia / Trukhachev V. I., Mazloev V. Z., Sklyarov I. Yu., Sklyarova Yu. M. // *American-Eurasian Journal of Sustainable Agriculture*. 2014. № 8 (6), pp. 52-59.
- [20] Copenhensive socio-ecological and economic assessment of the status and development of Southern Russia agricultural regions / Trukhachev V. I., Kostyukova E. I., Gromov E. I., Gerasimov A. N. // *Life Science Journal*. 2014. № 11 (5). pp. 478-482.