

«PROMITHEUS» THE NEW GREEK RED WINE GRAPE AROMATIC VARIETY

Authors: P. Zamanidis¹, Ch. Paschalidis², L. Papakonstantinou³, D. Taskos¹, A. Karazoglou¹ and Merkouropoulos¹G.

¹Department of Viticulture of Athens. Institute of Olive Tree, Subtropical Crops and Viticulture, Hellenic Agricultural Organization-DEMETER 1 S. Venizelou Str., 14123, Lykovrisi, Attiki, Greece. Email panzamanidis@yahoo.gr.

²Technological Educational Institute of Peloponnese, School of Agricultural Technology, 24100 Antimalamos, Kalamata

³Agricultural University of Athens, 75 Iera Odos str., 11855, Botanikos, Attica.

Corresponding author : chpaschal46@yahoo.gr

Abstract:

Context and purpose of the study - This paper presents the creation, the study and amplographic description of the new Greek aromatic variety of red wine grapes "Promitheus", created in 2012 by Researcher P. Zamanidis at the Athens Vine Department of the Institute of Olive, Subtropical Plants and Vine.

Material and methods - The variety created by crossing with the method of hybridization was used as the female parent, the native newly Greek variety "Porfyro" with the male parent, the variety "Cabernet sauvignon".

Results – The "Promitheus" is a red aromatic wine variety. The duration of the variety from budburst to maturity is 146-155 days. The variety is very strong with large shoot growth (2.1 - 3.0 m). The growth of shoots is higher than 95%. The flowers are morphologically and physiologically hermaphrodite. The yield is very high (15-20 t of grapes /ha). The size of the cluster is medium with a length of 15 cm and a width of 14 cm, the shape is conical, loose density. The length of the peduncle of the grape is 3.5 cm and the length of the peduncle of the berry is 0.5 cm. The average weight of the grape is 180 gr. The size of the berry is small, oval in shape, the length of 1.5 mm and width 1.4 mm with an average weight of 2.2 g and a blue-black color. The numbers of seeds are 3-4 per berry. The skin is thick with high resistance. The flesh is hard and the juice has a particular flavor of the variety, green paper. The content of sugars is higher than 230 g / l. It has high resistance to drought and fungal diseases compared to most *Vitis vinifera* grape wine varieties. The "Promitheus" variety, due to its morphological and physiological characteristics, is classified in the group of *convarietas* pontica Negr. And is intended for the production of dry red wines, but also for sparkling wines, aromatic juices and tsipouro or raki.

Keywords: Hybridization, variety, shoots, leaves, inflorescence, cluster, berry.

1. Introduction.

«PROMITHEUS» -THE NEW RED VARIETY WINE GRAPE AROMATIC

Authors: P. Zamanidis¹, Ch. Paschalidis², L. Papakonstantinou³, S. Sotiropoulos², D. Taskos¹ and M. A. Ovchinnicov⁴

¹Department of Viticulture of Athens. Institute of Olive Tree, Subtropical Crops and Viticulture, Hellenic Agricultural Organization-DEMETER | S. Venizelou Str., 14123, Lykovrissi, Attiki, Greece.

²Technological Educational Institute of Peloponnese, School of Agricultural Technology, 24100 Antimalamos, Kalamata

³Agricultural University of Athens, 75 IerazOdos str., 11855, Botanikos, Attica.

⁴Volgograd State Agrarian University . Volgograd Russia, 26 University Prospect.

Introduction

In the multi-year study of the International Grapevine Genetic Bank it has been shown that wine varieties with disease and cold resistance are minimal. The major objective of genetic improvement of the vine is the creation of quality, productive and adaptable varieties resistant to phylloxera and mycological diseases. The purpose of this paper is to create a new wine-making with superior quality reddish aromatic grape variety "Prometheus".

Keywords: Hybridization, variety, leaves, inflorescence, berry, seed.



Fig.1 Young shoot and bud of the variety "Prometheus"

Material and methods

The new Greek productive variety of red wine grapes "Prometheus", created in 2012 by Researcher P. Zamanidis with the method of hybridization at the Athens Vine Department of the Institute of Olive, Subtropical Plants and Vine. For the creation of the variety were carried out the following tasks: Harvest grapes stratification seeding, seeding planting, cultivation of hybrid seedlings and selecting the best seedlings for candidate varieties. For the crossing was used as the female parent the native newly Greek variety "Porfyro" with the variety "Cabernet sauvignon". The describe the new variety was done by the methodology of the International Organization of Vine and Wine (IOV 2013).



Fig.2 Young and Mature leaves of the variety "Prometheus"

Results – Discussion

The duration of the "Prometheus" variety from budburst to maturity is 146-155 days. The variety is very strong with large shoot growth (2.1 - 3.0 m). The growth of shoots is higher over 95%. The flowers are morphologically and physiologically hermaphrodite. The yield is very high (15-20 t of grapes /ha). The size of the cluster is medium with a length of 15 cm and a width of 14 cm, the shape is conical, loose density. The length of the peduncle of the grape is 3,5 cm and the length of the peduncle of the berry is 0.5 cm. The average weight of the grape is 180 gr. The size of the berry is small, oval in shape, the length of 1,5mm and width 1,4mm with an average weight of 2,2g and a blue-black color. The number of seed are 3-4 per berry. The skin is thick with high resistance. The flesh is hard and the juice has a particular flavor of the variety, green paper. The content of sugars is higher than 23g / l. It has high resistance to drought and fungal diseases compared to most Vitis vinifera grapes wine varieties. The Prometheus variety, due to its morphological and physiological characteristics, is classified in the group of comarietas pontica Negre. And is intended for the production of dry red wines, but also for sparkling wines, aromatic juices and tsipouro or raki. The new table grape variety with resistance to phylloxera, fungal diseases and unfavorable cold climatic conditions in line with the methodology of the International Organization of Vine and Wine (IOV 2013).



Fig. 3 Inflorescence, bunch, berries of the variety "Prometheus"

References

1. Meteorological Station of Kifissia (National Geographic Station 265NE) kifissia.meteoclub.gr
2. Negroul, A.M., 1999 Viticulture from the ampelographical and genetically point of view Moscow (Russian).
3. IOV 2013 Codes des caracteres descriptifs des varietes especes de Vitis. Website
4. Pochman J.M. 1979 Breeding field crops. AVI Publishing Company INC, Westport, Connecticut
5. Stavrakakis M. 2010 Ampelography. Tropic Publishing
6. Stavrakakis D., 2010 Ampelography
7. Vavilov N.J., 1987 The theoretical background of Genetics. Moscow, Science Publications, 160 p. (Russian)
8. Winkler et al. 1974 General Viticulture. University of California Press Ltd. London England
9. Ximias I., 2004 Plant Improvement. Laboratory Exercises. Embryo Publications
10. Zamanidis P., 2005 Vineyard Family (Vitaceae/Juss/Vitis/Janed). Agriculture Livestock 3: 22-26
11. Zamanidis P. Paschalidis Ch., 2013 Creation of new wine grape varieties with the hybridization method at the Athens Vineyard Institute. Varieties for producing red wines. Quarterly Edition of ELGO Demetra Issue 4, pp. 6-9
12. Zamanidis P. K., Paschalidis Ch., Evangelogiannis D. I. 2017 Genetic improvement of wine varieties with interspecific Hybridization Eurasian union of scientists No-4 (37).