



ERA 91/01 “Preservation and establishment of true-to-type and virus free material of endangered grapevine cultivars in Croatia and Montenegro”



Autochthonous cultivar's quality assessment

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Autochthonous cultivar's quality assessment



- Viticulture and wine production in Montenegro are today mainly based on production of grapes and wine made from autochthonous grapevine varieties (Vranac, Kratosija, Krstac and Zizak, Muscacela and Trojka)
- As result of their multi-years growing appears very heterogeneous population.
- Also, there are a large number of local grapevine varieties which are registered as autochthonous even though not fully identified.



For microwinification and testing of oenological potential, four varieties were selected:

- **Vranac MNE 17 (Godinje, Crmnica)**
- **Kratosija MNE 15 and MNE 21 (Beri and Medun)**
- **Krstac MNE 41 (Ljeskopolje)**
- **Cubrica MNE 07 (Doljani)**



Processing is performed in the experimental wine cellar for the microwinification of the company "13 jul Plantaze" ad Podgorica



Vranac variety



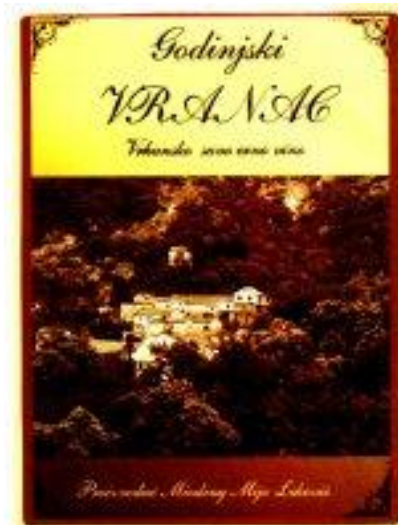
- **Vranac** is Montenegrin autochthonous grapevine variety, originated from Crmnica (Skadar Lake basin)
- **D. Nastev (1967)** states that 'Vranac' is Montenegrin variety spread in Crmnica and in Montenegrin seacoast. In Macedonia 'Vranac' was transferred and planted 1950. on experimental field (Butel) and later it spread out in Macedonia throughout the former Yugoslavia.



- ***M. Plamenac (1891)*** in “Grlica” says that wine from Crmnica is the best wine in Montenegro in it can be compared to the wines of Bordeaux.
- ***Ulicevic (1959)*** in the edition “Contribution to the Zoning of Viticulture in Montenegro” states the following: characteristic variety of Crmnica viticultural area is Vranac, covering about 40% of the assortment of grape varieties. As a matter of fact, this is the only viticultural area where it prevails and the only one where it is represented to a greater extent. It is in a proper sense Crmnica’s variety.
- ***Stojanovic (1929), Bulic (1949), Ulicevic (1959, 1966)*** state about Vranac variety only as Montenegrin variety from Crmnica.



Godinje (Crmnica)





- The first remarkable description of Vranac and Kratosija varieties was given by **Petar Plamenac** in “**Ampelography Viale and Vermonela**“ (1910).
- A more detailed description of Vranac variety is given by **Ulicevic** (1966). For Vranac he states different synonyms and that the variety is named because of the black ripe berries. According to the author, until the First World War, Vranac was presented only in Crmnica. Later it has spread to all viticulture regions of Montenegro.



- **Zirojevic (1979)** states that Vranac is autochthonous Montenegrin variety probably originated by natural crossing from seed. It is mostly represented in Crmnica and in Skadar lake basin, but in last years it has been spreading in Macedonia.
- **Buric (1995), Bozinovik (1996, 2010), Cindric (2000), Avramov (2001)** state that Vranac is autochthonous grapevine variety in Montenegro.
- **Milosavljevic (2008)** said that Vranac is autochthonous Montenegrin variety which is grown for centuries in Montenegro and probably there is originated by spontaneous crossing or as result of spontaneous mutations. Except in Montenegro it is grown in Herzegovina, Dalmatia, Macedonia, Metohia.
- The wine is intensely colored, smooth, harmonious with a particular varietal characteristics. In the appropriate environmental conditions, this variety has great economic importance because of highly valued vranac wine in the domestic and foreign markets.



Vranac

MNE 06



MNE 12



MNE 20



➤ Selected vines of Vranac variety

Variety name	Year	Code number	Number of byotypes	Number of vineyards	Localities	
vranac	2010/2011	MNE 12	5	19	4	Boljevici, Crmnica (Bar) Godinje Crmnica (Bar) Otocici, Crmnica (Bar) Kovacki dolovi (Danilovgrad)
		MNE 17	6			
		MNE 20	3			
	2011/2012	MNE 06	5			



➤ Genotype MNE 17

Locality – Godinje, Crmnica was selected for the microwinification.

Autochthonous cultivar's quality assessment



- Intensive ruby red color;
- The taste is full, slightly tannin (varietal);
- Harmonious wine, with a high alcohol content and extracts;
- Extractive;
- Forest fruit (raspberry, cranberry).



Kratosija variety

- **Ulicevic (1959)** in the edition “Contribution to the Zoning of Viticulture in Montenegro” states that another variety almost remarkable as Vranac is Kratosija.
- Both of these varieties give our most valued and most famous red wine from Crmnica. These varieties are not grown outside of Montenegro, except perhaps in the experimental plantations and represent our autochthonous and original material for the production of high quality red wines.
- According to many literature data, Kratosija is native of Montenegro, originated earlier than Vranac and was introduced into the culture before Vranac. Because of its heterogeneity, Kratosija is less present in the vineyards, mostly in combination with Vranac, which dominates in the assortment of black grape varieties.



- It is well known that the properties of the old indigenous varieties is to show heterogeneity in expression of their properties, which gradually leads to a variety degradation and appearance of a number of biotypes of noticeable difference.
- As opposed to Vranac, which have stable morphological characteristics and has undergone expansion in recent years and became the main grapevine variety for red wines, not only in Montenegro, but also in neighbouring countries, Kratosija is an old grapevine variety, with a lot of biotypes within the population which have not been fully investigated yet.
- Heterogeneity of Kratosija has been described by many authors (Stojanovic 1929, Bulic 1949, Jelaska 1954, Ulicevic 1966, Avramov 1988, Pejović 1988, Burić 1995, Bozinovik 1998, Maraš 2000 and 2004).



➤ Selected vines of Kratosija variety

Kratosija

Variety name	Year	Code number	Number of byotypes	Number of vineyards	Localities
kratosija	2010/2011	MNE 02	10	4	Markovina (Danilovgrad) Beri (Podgorica) Donji medun, Kuci Kovacki dolovl (Danilovgrad)
		MNE 15	5		
		MNE 21	5		
	2011/2012	MNE 05	6		

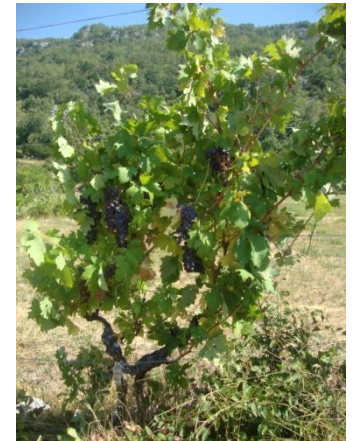
MNE 21



MNE 15



MNE 05



MNE 02



**MNE 15 (Beri) and
MNE 21 (Medun)**
were selected for mikrowinification.

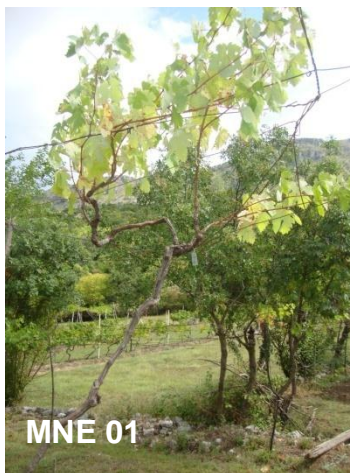
Krstac variety

- Krstac is autochthonous grapevine variety of Montenegro, originated from Beri (near to Podgorica). Individual vines can be also found in Crmnica.
- The name of the variety comes from the look and shape of cluster that resembles a cross, by which it got its name.
- In Montenegro Skadar lake basin and its sub-regions, according to Ulicevic (1959) regarding to white grapevine varieties on localities Beri and Doljani, Krstac was a dominant variety.
- Mostly, it could be found in locality Doljani and Beri, and slightly in Ljesanska nahija. It is a specific variety for this region.



Doljani, Podgorica

Krstac



For microwinification
Krstac from locality
Ljeskopolje MNE 41
is selected.



Variety name	Year	Code number	Number of byotypes	Number of vineyards	Localities	
krstac	2010/2011	MNE 01	10	15	6	Doljani (Podgorica) Beri
		MNE 13	1			
		MNE 16	1			
	2011/2012	MNE 19	1			Godinje, Crmnica Ljeskopolje
		MNE 41	1			
		MNE 43	1			

Cubrica variety

- **Cubrica** originated from Doljani.
- **Ulicevic (1959)** states that with Kratosija (80 %) Cubrica is dominant variety for the production of red wine in Skadar lake region (Doljani) and can be considered specific to the region.
- Therefore, grape of 10 Cubrica biotypes from Doljani was taken for the microwinification purpose (vineyard is over 50 years old).



➤ Harvest of Cubrica for the microwinification

Cubrica
MNE 07 (10 vines)
Locality Doljane-
Podgorica



***Thank you for your
attention!!!***

