

Grape Quality under the Impact of Climate Change in the Hilly Areas, Eastern Romania

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SUMMARY

The paper analyzed grape quality for 11 Vine types at Bujoru Vineyard, based on the analysis of 22 climate factors. We concluded that the year 2009 was an extremely dry year compared to 2007. The useful thermal balance, sunstroke, average temperature in August, air humidity, bioactive period, bioclimatic index and oenoclimatic coefficient were higher, while global and active thermal balance, average rainfalls during the vegetation period, average temperature in July, August and September, minimum air temperature, average temperature in the 1st and 2nd decades, nebulosity, number of days with maximum temperatures over 30 degrees, hydrothermic index registered lower levels in 2009. As a result, sugar content decreased while acidity, the weight of 100 berries and grape weight have grown up for almost all vine types as shown in Tab.1. Point Method allowed to establish the hierarchy of Vine varieties, which in the decreasing order is: Hamburg Muscat, Șarba, Coarnă neagră, Babească neagră, Chasselas doré, Fetească neagră, Fetească albă, Aligoté, Fetească regală, Merlot, Cabernet Sauvignon.

Tab.1

Grape quality in 2009 (Experimental variant) compared to 2007 (Control variant)

Vine type	Year	Sugar Content g/l must	Acidity g/l must H ₂ SO ₄	Weight of 100 berries-g	Volume of 100 berries-m ³	Average grape weight (g)
Fetească albă	2007	220	3.3	7	84	90
	2009	207	2.9	120	134	85
Fetească regală	2007	200	4.3	89	94	89
	2009	188	4.0	119	100	79
Cabernet Sauvignon	2007	223	2.4	127	95	45
	2009	205	3.8	100	90	67
Hamburg Muscat	2007	229	2.35	220	200	80
	2009	209	3.10	284	257	243
Coarnă neagră	2007	215	2.69	200	180	102
	2009	183	3.10	256	243	239
Merlot	2007	231	3.64	107	82	50
	2009	219	4.5	100	87	78
Babească neagră	2007	190	3.6	168.5	180	90
	2009	243	4.6	213	193	196
Fetească neagră	2007	218	2.56	153	137	59
	2009	263	2.80	104	95	85
Chasselas doré	2007	206	2.1	120	100	54
	2009	192	3	162	135	113
Aligoté	2007	212	1.98	140	122	84
	2009	209	3.5	125	107	98
Șarba	2007	243	2.79	110	90	78
	2009	219	3	159	137	123

Keywords: climate change, grape quality, hilly areas, Eastern Romania

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