PHYSIOLOGICAL RESPONSE OF GRAPEVINE (*VITIS VINIFERA* L. CV. FETEASCĂ ALBĂ) AT THE CLIMATIC CONDITIONS OF 2012 IN IAŞI AND COTNARI WINE REGIONS

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Abstract

As a result of global climate change, strongly felt in recent years, the grapevine is becoming increasingly exposed to abiotic stress factors. Among these, temperature, light intensity and rainfall, with significant variations from normal, play an important role in the occurrence of changes in the physiological activity of the plant. The aim of this study was to investigate the physiological response of Fetească alba grapevine variety at the climatic conditions of the year 2012, in Iaşi and Cotnari wine regions. A source-sink relationship was analyzed based on photosynthetic activity, water use efficiency and storage of metabolites in different plant organs. In the phenophases of flowering, grapes growth and grape maturation were found changes in photosynthetic activity and water use efficiency of the plant, caused by different climate conditions, without significant quantitative differences in the assimilate storage. This means that, at *Vitis vinifera* L cv Fetească albă, better adaptated to environmental conditions in this two regions, reduced photosynthetic activity due to insufficient light or rainfall can be compensated by an efficient transport and storage of assimilates, demonstrated by the grape production and dry matter accumulation on the grapevine leaf or canes level.

Key words: *Vitis vinifera,* photosynthesis, water use efficiency, source-sink relationship