

THE ECONOMIC IMPACT OF CLIMATE CHANGE - EVIDENCE FROM GRAPE OUTPUT AND RANDOM FLUCTUATIONS IN WEATHER

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Abstract. Grape Yield and Quality have been studied for 11 vine types (White Feteasca, Royal Feteasca, Aligote, Sarba, Cabernet Sauvignon, Merlot, Black Babeasca, Black Feteasca, Chasselas Dore, Hamburg Muscat and Black selected Coarna) in close relation to weather conditions in the years 2007 and 2008 at Bujoru Vineyard in the South Eastern Romania. The Index Method, Gain Method, Share Method, Comparison Method have shown the evolution and importance of 22 climate factors and their impact upon grape yield, production and quality. Important differences have been noticed by vine type concerning grape yield and quality. The increased level of climate factors in the year 2008 compared to 2007 determined an increased acidity, grape weight and volume, but a decreased sugar content for almost all the vine types.

Key words: economic impact, climate change, grape, production

1. Introduction

Climate change has a deep impact on physical and biological systems in many regions of the world and this process is expecting to continue in the coming years. According to IPCC Working Group, in the 20th century, the average surface temperatures at world level have increased by 0.6 – 0.9 degrees and in the 21st this warming trend will continue so that in 2100 temperatures will be 1.4 to 5.8 degrees higher than 1990[16].

This world trend varies by region and would lead to changes in the variability of climate and in frequency and intensity of some extreme phenomena. The vulnerability of the bio systems depends on their social, economic and environment conditions. [3, 4, 15].

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