THE IMPACT OF DIFFERENT TILLAGE SYSTEMS USED IN VINEYARDS ON SOIL PHYSICAL PROPERTIES

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Abstract

It is well known that global climate change represents one of the greatest threats to the environment social and economic sector. Current trends in adopting sustainable agriculture are increasingly based on the implementation of agricultural practices designed to protect the environment and ensure the food needs of a growing population. Vineyards are among the oldest crops in the world, with the highest level of soil degradation. In vineyards there are several different cultivation technologies with different soil management systems, but all of them have the common objectives of creating optimal, favorable conditions for the growth and development of vines while maintaining or even improving soil health. Protecting the physico-chemical properties of the soil as well as conserving its productive capacity is a permanent concern of mankind, and the success of well-defined development clearly depends on it. In order to identify the stability patterns, this research assesses the protecting impact of grass cover, conventional and minimum-tillage system on physical soil properties in traditional vineyards. The study was carried out at the Vasile Adamachi Student Research and Practice Station of the "Ion Ionescu de la Brad" University of Life Sciences in Iasi, from the north-eastern part of Romania. To maintain environmental quality, vineyard yields and grape quality at a high level, as a response to an increased awareness of the value of soil health, the adoption of sustainable soil management practices is becoming increasingly common in wine-growing regions worldwide.

Key words: grass cover, tillage systems, vineyard, climate change.