

ASSESSMENT OF SOIL QUALITY THROUGH NDVI-INDEX AT SC AGRO MIXT SPINENI SRL, IASI, ROMANIA

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Abstract

Precision agriculture is a management strategy that aims to optimize soil resources, water, and chemical inputs to obtain high and quality yields, improve environmental protection, and increase the agricultural system's sustainability. In precision agriculture, satellite images are particular tools that provide information about the areas covered with vegetation from which different structural indices of vegetation can be calculated. The objective of this research was to develop a variable fertilization map based on crop health status and the Normalized Difference Vegetation Index (NDVI). The results obtained show that the NDVI values depend on soil properties and fertility, weather conditions, crop technologies and degree of biomass development. The average values of NDVI index between 0.18-0.84 indicate a healthy crop, which determines the plant's normal conditions given by the concentration and balanced ratio between the main nutritional elements which correlates with high and quality crops. The use of satellite images in crop monitoring will lead to improve life quality and environmental protection and optimize soil, water and nutrient resources.

Key words: NDVI, satellite images, plant growth, soil properties