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PROSPECT OF A GIS BASED DIGITIZATION AND 3D MODEL FOR A BETTER MANAGEMENT AND LAND USE IN A SPECIFIC MICRO-AREAL FOR CROP TREES

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Abstract

There is a great need for an efficient geographic information system (GIS) implementation in interdisciplinary domains for providing useful information for scientific and managerial processes of further improving land-use planning and decision making in horticulture. The main goal of this study was the creation of a digital map and GIS application for the Fruit Research Station in Cluj-Napoca, North-Western Romania. The benefit of this implementation is a fully integrated land information system, where information is accessed omnipresent for processing, value adding and further analysis. The created model is as a modern solution for obsolete analogue maps, sketches, inventory and land records that are usually unreliable and poorly represented in agricultural productive units. Using the created GIS database and spatial analysis there were obtained a very useful orchard mappings that incorporate management and economical attributes essential in land planning. Future focus and development will be mainly on system maintenance, including system enhancement and upgrading rather than to create a new systems. Under the constant pressures of urban sprawl and land degradation in this area, the paper conducts towards a guideline and model for an effective use of land resources to the best advantage and capacity.

Key words: GIS database, land planning, management, orchard mapping, spatial analysis

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