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Abstract

Agricultural Management Integrated System Based on Smart Sensing Technology †

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Precision agriculture implies, alongside conventional issues, the use of information in the management and execution of agricultural tasks in order to increase the productivity of crops. The use of an integrated information system allows farmers to observe and check the progress of agricultural parameters and make the right decisions to increase the productivity. The implementation of an automated strategy for managing this approach involves knowing the dynamics of agricultural culture, developing a specific management strategy, using the systems and technologies of acquiring, processing and visualizing the information of interest, respectively, and the existence of a system for implementing decisions. This paper details the management of this approach for potato crops. Specific solutions for the equipping of terrestrial and aerial mobile systems with the sensory platforms needed to acquire specific information are brought to attention. Equipment for the processing and visualization of agricultural parameters, their advantages and disadvantages in relation to the specific architecture are analyzed. Technical solutions for terrestrial system are proposed to ensure flexibility and adaptability in the acquisition process in relation to the monitored culture or its monitoring period. Experimental data regarding spectral response and specific vegetation indices for experimental potato lots are provided and analyzed.

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