

THE MONITORING OF THE AGRICULTURAL WORKS IN THE PRECISION AGRICULTURE

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Abstract

The precision agriculture, the most advanced form of agriculture, used even in the developed countries of the European Union and the United States, but not on large areas, has as its foundation the most modern methods of control of the quality status of the various environmental resources, as well as the application at an optimum moment in time of all technological components, determining a precise control over the possible parameters which could determine the degradation of the surrounding environment. Within a crop field, with the same crop planted at the same moment in time all over the field, standing in the same climatic conditions (because of the limited extension of the specific field), one could observe areas (preferable as small as possible) which have anomalies in the development of the plants, delays in the vegetative process, variable dispersion of individual plants over this limited area, as well as the spectral response of the plants' leaves, calculated using various combinations of vegetation indices (NVDI, RATIO, SAVI, NRVI, etc.). The developed system could be also used for the agricultural fleet management, as well as for the control of the fuel consumption. In the case of some major soil improvement work, the same area can be researched, in order to observe if the improvement actions have had the expected effects on a longer term, not only during an agricultural season.

Key words: precision agriculture, vegetation indices, agricultural GIS, fleet management
