

## GIS AND REMOTE SENSING APPLICATION ON PRECISION AGRICULTURE

JANSLE V. ROCHA  
UNICAMP/Faculdade de Engenharia Agrícola  
CP 6011, 13081-970 Campinas-SP  
e-mail: jansle@agr.unicamp.br

**Abstract.** Global market economy and high competition in prices has led the agricultural sector in Brazil to search for more efficiency and a better information control at field level. Furthermore, the high pressure for natural resources conservation and less soil pollution is another factor to influencing new mentalities to operate the production process. Precision agriculture is a being used as a form to reach efficiency through the site specific management of crops. It uses GIS, GPS and Remote Sensing technologies to produce and manage soil and crop variability maps in order to optimise the use of fertilizers and chemicals on agriculture. To study and understand the causes for crop yield and soil variability problems is a challenge to soil and crop management, mainly in nutrition and spraying application, where the site specific management using precision farming technology will have a very important role in the near future. Geotechnologies such as GIS, GPS and Remote Sensing are the key to manipulate the huge amount of information generated at site specific level for each field within a farm. Some experiments are being conducted in order to introduce this technology in Brazil, and the data is being processed using geostatistics, GIS and remote sensing techniques. The main goal of this presentation is to show the experiments, the methodology used and some results.