“3S” TECHNOLOGY APPLICATION IN INFORMATIZATION AGRICULTURE

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Informatization agriculture (IT agriculture) is the infallible choice for sustainable agriculture development in the world. IT agriculture technology system includes more and more agro-informatics techs, among them the 3S, including Global Position System, Remote Sensing and Geographical Information System, was regarded as three sustainable technologies. The paper gives a primary summary about the concepts and application of the 3S, and summarizes the advantages and shortages in IT agriculture. The application of IT agriculture behaves many aspects, such as precision agriculture; agriculture nature resource investigation and assessment; land resource utilization research; dynamic supervision in the way of crop growing; prediction in real time and early-warning of agriculture disaster; establishing of the field planning; supervision and administration of agricultural eco-environment; the decision-making in the price of farm product also planning of import and export etc. Although the 3S technology has great advantages, the limitation of be utilized in IT agriculture independently is also un-avoided. Obviously, the integrated utilization can learn from the respective strong points to offset one’s weakness. The paper summarizes the different integrated forms, including GIS and GPS, GPS and RS, GIS and RS, and the 3S whole integration, analyzes the advantages of four integrated forms, gives some examples in IT agriculture, and designs flow chart. The conclusion emphasizes on the functions of the 3S technology which can acquires the multi-dimension information, manages the attribute and spatial data synthetically, and guides the product accurately. So, integrated utilization of the 3S technology will provide a new chance for the sustaining development of IT agriculture.