

GIS支持下的耕地地力等级评价

GIS supported quantitative evaluation of cultivated land fertility

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中文摘要:

以农业部有关耕地地力等级评价在山东省的试点县青州市为例,在借助遥感、野外采样和室内化验分析等手段获取大量耕地地力相关信息的基础上,在GIS的支持下,利用系统聚类方法、层次分析法、模糊评价等数学方法和数学模型成功地实现了耕地地力自动化、量化评价。评价获取了青州市各耕地地力等级面积及其分布信息,经实地调查分析符合当地实际,表明运用该技术方法对耕地地力等级评价的可行性和科学性。对耕地资源的科学管理和可持续利用有积极意义。

英文摘要:

Taking Qingzhou City as our study area, which is an experimental unit of Ministry of Agriculture, this paper intends to research for quantitative methods for cultivated land fertility evaluation. Based on the plentiful information that obtained by remote sensing technique, field-survey and lab analysis, the automatic and quantitative evaluation procedure was realized by adopting various mathematical models and methods such as system-cluster, Analytical Hierarchy Program, fuzzy math, etc. and supported by GIS techniques. The area and spatial distribution information of cultivated land fertility were acquired, and the results were consistent with local conditions according to field survey and analysis. The approach was feasible and effective in cultivated land fertility assessment. This research contributes significantly to scientific management and sustainable use of cultivated land resources.

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