

## 基于GIS的滨海集约农区耕地生态环境评价研究

### Ecological environment evaluation of cultivated land in coastal intensive agricultural areas by GIS

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中文摘要:

该文以山东广饶县为例,进行了滨海集约农区耕地生态环境的评价研究。采用土壤图和土地利用现状图的叠置方法划分评价单元,系统聚类与Delphi法结合筛选参评因素,层次分析法(AHP)确定其权重,模糊评判法确定耕地生态环境等级。结果显示,广饶县耕地生态环境总体良好,一、二等地占总面积的39.92%;三、四等地占总面积45.75%;五、六等级仅占14.33%。耕地生态环境等级由东北沿海向西南部的过渡,与耕地的集约利用程度呈现明显的反向关系,同时受不同的耕地利用方式影响明显。该研究探索了滨海集约农区耕地生态环境的评价技术方法,分析了耕地集约利用对其生态环境的影响,对集约农区耕地资源的持续利用和环境保护有积极意义。

英文摘要:

Taking Guangrao County of Shandong Province as a case, the ecological environment evaluation of cultivated land in coastal intensive agricultural area was explored. Overlay method between soil map and land use map was adopted to produce evaluation units, evaluation factors were chosen by Delphi approach and cluster analysis with their weights determined by AHP method. Finally the ecological environment grades of cultivated land were evaluated by fuzzy discrimination method. The results show that the ecological environment of cultivated land in Guangrao County is good in general. The area of the first and the second grades is 39.93% of the total area. That of the third and the fourth grades is 45.75%, and that of the fifth and the sixth grades is only 14.33% of the total area. Ecological environment grades have an obvious reverse relationship with the intensification of cultivated land use according to their gradual spatial transition from northeastern coastal area to southwestern area, in addition, the ecological environment grades are obviously affected by different cultivated land using types. This study explored the technical methods of the ecological environment evaluation in coastal intensive agricultural area and delineated the influence of the intensive land use to the ecological environment; therefore, this study has noticeable significance to the sustainable use of cultivated land resources and its environmental protection for intensive agricultural area.

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