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黄河三角洲土壤肥力质量的时空演变——以垦利县为例

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Spatial-temporal evolution of soil fertility in Yellow River Delta——Case study in Kenli County

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摘要 利用相关系数法确定土壤肥力质量评价指标的权重,采用综合指数法在ARCGIS中自动化评价土壤肥力质量,通过对1986和2003年土壤肥力质量的比较,探讨黄河三角洲土壤肥力质量变化规律。结果表明,2003年与1986比较,黄河三角洲土壤肥力质量54.22%的区域基本无变化,林草地和旱地下降,西部水浇地提高;土壤有机质41.14%的区域下降,耕地区基本不变或增加;土壤碱解N.46.96%区域基本无变化,西部的耕地地区和东南部林草地地区增加,而黄河两侧的旱地地区下降;土壤有效P在耕地地区增加,滩涂下降,盐荒地基本不变;土壤速效K除了林草地上增加外,一半以上(50.74%)有下降趋势;土壤盐分47.29%的区域下降,耕地地区基本不变,而沿黄两侧增加。

关键词: 土壤肥力质量 时空特征 GIS 黄河三角洲 土壤肥力质量 时空特征 GIS 黄河三角洲

Abstract: Through comparison of soil fertility quality between 1986 and 2003,we discussed the regularity of soil fertility evolution at Yellow River Delta.The soil fertility index weights were reckoned using correlation analysis method,and soil fertility quality was evaluated using ARCGIS adapting integrated Quality Index.Compared to 1986,54.22% soil fertility quality of Yellow River Delta in 2003 showed little or no change,but a drop in the forest land and dryland and an enhancement in irrigated field in the western were observed.Soil organic matter in 41.14% region dropped,while it showed little or no change or increase in arable land;46.96% region showed little or no change for hydrolysable N,while an enhancement in western arable land and southeast forest grass land,and a drop in the dryland along both the Yellow River banks were found.Soil available P increased in arable land,dropped in mud flat and showed little or no change in the salt wasteland;soil rapidly available K dropped in over half(50.74%) area except forest and meadow land,in which it increased.Soil salt decreased in about half(47.29%) area,but little or no change in arable land,didn't change on plough land and increased along the Yellow River were observed.

Keywords:

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