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陕西省耕地生产能力的时空分布

Spatial-temporal distribution of cultivated land production capacity in Shaanxi province

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英文关键词: [land use](#) [productivity](#) [geographic information systems](#) [cultivated land](#) [use intensity](#) [pressure index](#) [Shaanxi province](#)

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中文摘要:

为了明确陕西省耕地生产能力的现状,该文利用2008—2010年陕西省各县平均粮食产量数据,结合GIS分析描述陕西省各县耕地实际利用强度、理论利用强度、耕地可实现增产潜力和理论增产潜力及其空间分布变化规律;利用1978—2008年陕西省粮食产量和消费数据计算耕地压力指数的时序变化规律。结果表明:耕地实际利用强度较小地区集中在陕北中部、关中西部,这些地区提高利用强度空间较大,是生产技术投入和劳动力投入的主要区域;耕地理论利用强度呈现出中西部地区高,北部和东南部地区低的分布规律;耕地压力指数时序表明陕西省自1978年以来,耕地压力年际间波动较大,近几年由于科技进步和政策导向致使耕地压力减小,耕地保护与耕地占用之间矛盾缓和;可实现增产潜力较大区域分布于陕北中部和关中西部,而陕南大部分地区可实现增产潜力较小,陕北北部和关中北部可实现生产潜力居中;耕地理论增产潜力呈东南部高,西北部低的空间分布规律,该文为陕西省耕地利用规划、土地整理和粮食安全提供科学依据。

英文摘要:

In order to evaluate the status of cultivated land production capacity in Shaanxi province, indexes of cultivated land capacity were analyzed based on average grain yield data of each county (2008-2010) and GIS software. The indexes were composed of realistic use capacity of cultivated land, theoretical use capacity of cultivated land, realizable production capacity and theoretical production capacity, meanwhile space distribution of the indexes were represented. Sequential variation of cultivated land pressure index were calculated based on data of grain yield and grain consumption from 1978 to 2008 of Shaanxi province. The result showed that cultivated land with smaller realistic use capacity of mainly spread over mid of north Shaanxi and westward of mid Shaanxi and were major input regions of agricultural technology and labor force. Theoretical use capacity of cultivated land index was stronger in central and western regions than north and southeast region in Shaanxi. In addition, sequential variation of cultivated land pressure index with among years was presented as a larger fluctuation and demonstrated the contradiction between cultivated land protection and occupation trend towards moderate because of agricultural technological progress and policies guidance in the last few years. The size of realizable production capacity was ranked as following sequence: mid of Northern Shaanxi and westward of Central Shaanxi > north of Northern Shaanxi and Central Shaanxi > south region of Shaanxi. Meanwhile, theoretical production capacity of southeast region was higher than that of northwest region in Shaanxi province. This research provides scientific evidences for planning cultivated land use and food security.

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