

三江平原农业需水量及适宜水稻种植面积的研究

Agricultural water consumption and suitable paddy rice plant areas of the Three-River-Plain

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中文摘要:

三江平原水田面积已达 $95.3 \times 10^4 \text{ hm}^2$, 占总耕地面积的28.6%。集中种植区种植比例超过50%, 最大比例为90%, 造成地下水位持续下降并形成集中降深。该地区内有大面积湿地分布, 地表径流减少和地下水漏斗的形成将对湿地和地区整体生态环境造成极为不利的影响。该文以农业需水量和地下水可开采模数两种计算方法, 计算了适宜水稻种植的面积。结论为: 在现有水田比例情况下, 农业需水量为464 mm; 考虑一定的径流量, 适宜比例为30%, 若不考虑径流, 最大种植比例为50%~60%

英文摘要:

The paddy rice areas in the Three-River-Plain has reached 0.95 million hectares, accounting for 28.6% of the total cultivated area, which resulted in the descent of the groundwater, and would make much adverse impact on the swamp and the whole environment. The suitable paddy rice planting areas were estimated based on the Agricultural Water Consumption (AWC) and Groundwater Exploitable Modulus. The primary conclusions are as follows: first, AWC is 483 mm at the present paddy field proportion. The feasible proportion should be 30% if certain runoff is taken into account, and the maximal proportion could be up to 60% if there is no runoff. Second, the essential approaches to enlarge the paddy rice areas are to adopt advanced planting method to reduce water consumption of paddy rice, and to derive water from rivers to increase usable water.

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