

研究论文

菲律宾以稻为基础的种植制度生态学评价

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摘要 在菲律宾的雨养旱地、雨养低地和灌溉田种植制度研究基点上, 分别对各种农民和拟推广的实验种植方式, 进行了生物量及其组成、作物分器官的C、N、P、K含量与分布比率、作物残茬燃烧后C、N、P、K损失测定。从添加与取走两个方面, 分三种添加与取走情况, 计算了土壤很难维持N、P、K的养分平衡与有机质平衡。结果显示: 在当地施肥水平下, 即使归还全部残茬, 很难维持N、P、K的养分平衡, 但能较好满足土壤有机质平衡。为维持土壤有机质的年平衡, 雨养低地和雨养旱地需分别归还1400和1900公斤生物物质/公顷·年。并对当地维持养分平衡的途径作了分析与探讨。

关键词 [菲律宾, 种植方式, 养分和土壤有机质平衡](#)

分类号

Ecological Evaluation of Rice-Based Cropping Systems in the Philippines

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Abstract This paper makes an agro-ecological evaluation of the perspective of nutrient balance of the rice-based cropping patterns of the farmer's field and experimented field in the rainfed upland, rainfed lowland and irrigated paddy sites in the Philippines. In order to study the balance, the biomass and its components, the contents of C, N, P, K of different organs and the Loss of C, N, P, K of stem and leaf after burning for various crops were measured. The results calculated for the balance of nutrient and organic matter from 2 aspects of addition and removal with 3 cases of residues return indicated that even if all of the residues were returned under local application level of chemical fertilizer, it is still difficult to maintain a balance of N, P, K, although the balance of organic matter in the soil could be maintained. To maintain an annual balance of soil organic matter, 1400 and 1900 kg biomaterial/ha/yr should be returned to the Soil in lowland and upland. Ways to maintain nutrient balance were also discussed.

Key words [The Philippines](#) [Cropping patterns](#) [Balance of nutrient and soil organic matter](#)

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