

Cow manure application cuts chemical phosphorus fertilizer need in silage rice in Japan

キーワード Cow manure, paddy rice, phosphorus fertilizer

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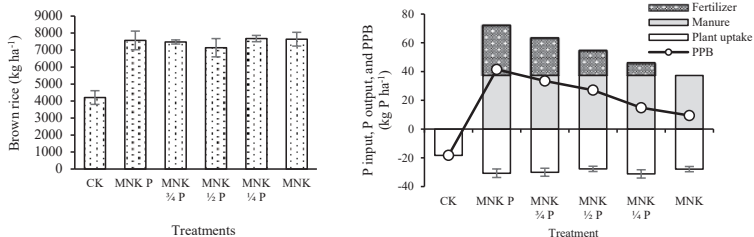
■ 研究概要

Phosphorus (P) is an essential micronutrient for the growth and yield of rice plants. After green revolution the application of P fertilizer have been the common practice to sustain the crop yield and soil P fertility. However, the resource of rock for producing P fertilizer is limited and will be empty in near future with the present rate of exploitation. Therefore, the source of P in organic matters such as cow manure should be an important alternative source of P for the future of agricultural system.

In Japan, large amount of P fertilizer has been consumed in the paddy fields and it resulted in high level of P accumulated in paddy soil.

From above context, we conducted this study to investigate on the possibility of using cow manure as source of P input to the field instead of P fertilizer in P rich paddy soil.

We found that the application of cow manure could cut off the use of P fertilizer but maintain the rice growth, rice yield, partial P balance (PPB), and soil P fertility.



■ どのような共同研究・連携に結びつけられるか？

- The effect of cow's feed on P content in cow dung
- The cycling of P in mixed rice-livestock system
- The economic value of using cow manure in paddy rice

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