

The fate of P and K in mixed crop-livestock system: utilizing composts and bone as the source of P and K for crops

(耕畜連携システムにおけるリン酸 (P) とカリウム (K) の収支評価: 堆肥と骨粉を作物のPKの供給源として利用する)

キーワード

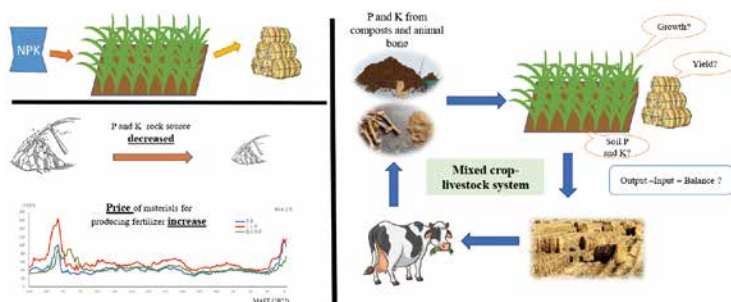
Phosphorus, Potassium, Mixed crop-livestock system

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研究概要

Phosphorus (P) and Potassium (K) are two essential macronutrients for the growth of crops. After the green revolution the application of P and K fertilizer have been the common practice to sustain the crop yield and soil P and K fertility. However, the resource of rock for P and K fertilizer production are limited and will be empty in near future with the present rate of exploitation. Therefore, it is important to recycled P and K from food chain such as animal manure compost and animal bone to conserve the P and K source for the future usage. Mixed crop-livestock system presents as a perfect system for the cycling of nutrients including P and K because it will utilize the waste products from both crops and livestock as the important inputs for each other. From above context, we want to study on the movement of P and K in mixed crop-livestock system and the possibility of replacing P and K fertilizer with composts and animal bone by evaluating the crop's yield, status of soil P and K fertility, and the partial P and K balance in the field.



どのような共同研究・連携に結びつけられるか？

- The P and K content in animal feed
- The adaptivity of crops in each regions
- The economic value of using compost and animal bone in crop-livestock system

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