

平成29年度 第3回環境循環系セミナー 学位論文発表会

Root growth plasticity and phosphorus remobilization in rice as adaptive mechanisms to phosphorus deficiency
(根の生育の柔軟性とリン再転流によるイネのリン欠乏適応機構)

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日時 : 平成30年1月30日 (火) 12:50~13:50

場所 : 生物生産学部 C301講義室

Rice cultivars with enhanced phosphorus (P)-use efficiency are increasingly important for sustainable food production, as P is a prominent nutritional constraint to global rice production. Experiments were conducted with two Japanese rice cultivars Akamai and Koshihikari to explain low-P tolerance mechanisms. Results demonstrated that low-P tolerant rice cultivar, Akamai exhibits plasticity of root growth and efficient P remobilization from lower senescing leaves to upper developing leaves which ultimately result comparatively higher grain yield in P-deficient conditions than low-P sensitive cultivar, Koshihikari. Efficient leaf P remobilization of Akamai is partly related to lipid remodeling of lower mature leaves in which phospholipids were mainly replaced with galactolipids. Low P-tolerance trait of Akamai is attributed by *QTL for Low-P Tolerance 1 (qLPT1)* located in chromosome 12. Akamai would then be a genetic resource for developing future P-efficient rice genotypes. (発表は英語で行われます; Presentation will be in English)

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