Genetic Mapping of Four Female Partial-Sterile Mutants in Soybean. (C07-palmer152525-Poster)

Authors:

- K.Kato - *Obihiro University, Obihiro City, Japan*
- R.G.Palmer - *USAD-ARS-CICGR*

Abstract:

We molecularly mapped four soybean lethal ovule mutants, PS-1, PS-2, PS-3, and PS-4, which had been identified as partial female-sterile mutants from a gene tagging study. The four mutants are classified to two mutation classes, (1) PS-1 is a sporophytic mutation, which affects sporophytically expressed gene, and is inherited as a single recessive gene; (2) PS-2, PS-3, and PS-4 mutants are female gametophyte specific mutantions, which affect gametophytically expressed genes and are not transmitted through the female parent. Molecular mapping studies demonstrated that these four mutant genes are located independently on soybean molecular linkage groups (MLG) using simple sequence repeat (SSR) markers. PS-1 is located between SSR markers Satt170 and Satt363 on MLG-C2 and linked by 13.9cM and 12.1cM, respectively. PS-2 is located between SSR markers Satt538 and Satt429 on MLG-A2 and linked by 13.3cM and 25.4cM, respectively. PS-3 is located on the terminus of MLG-F and linked to Sat 152 by 13.1cM. PS-4 is located between SSR markers Satt324 and Satt138 on MLG-G and linked by 25.4cM and 4.5cM, respectively.

Corresponding Author Information:

Reid Palmer
USDA-ARS-CICGR
G301 Agronomy Bldg.
Ames, IA 50011

phone: 515 294-7378
e-mail: rpalmer@iastate.edu

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