Utility of Lotus japonicus genotypes: I. Comparison of Flowering and Seed Production. (C08-beuselinck161849-Poster)

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Abstract:

Lotus japonicus is a model legume with a small diploid genome (2n = 2x = 12). The availability of a fast-growing and short-cycled L. japonicus genotype is important for classical and molecular genetics research. We evaluated three genotypes, 'Gifu', 'Noocho', and 'MG-20' for flowering and seed production in the greenhouse, under natural lighting or natural lighting supplemented to extend the photoperiod to 18 h. Day length did not affect flowering, seed pod formation, or total seed weight. The three genotypes differed markedly with respect to flowering and seed formation. MG-20 initiated flowers at 50 to 55 d after seeding and completed its reproductive cycle at 75 d. Gifu and Noocho flowered at least 3.5 wk later than MG-20. Gifu and Noocho produced twice as many pods per plant as MG-20, but pod sizes were smaller and had fewer seeds per pod than MG-20. MG-20 produced more seed mass (849 mg/plant) than Gifu (422 mg) or Noocho (750 mg). MG-20 had larger seed size with 900 seeds/g while Noocho and Gifu produced 1400 seeds/g. Unscarified seeds of the three genotypes had 70% germination.

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