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Genotypic and Environmental Variation of Lag Period of Pod Growth in Soybean

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Abstract: Pod growth in soybean (*Glycine max* (L.) Merr.) begins several days after flower opening, compared with more immediate growth in other beans. We investigated the relationship between genotype, raceme order of pod set, assimilate supply or photoperiod and the length of lag period of pod growth (LP, days from flower opening to the time when pod length reaches 10 mm). Soybean (five cultivars) plants were grown in a greenhouse and in the field in 2001. The lengths of pods developed from 20 flowers which opened on the same day and set on the same raceme order, were measured every other day. The length of LP varied with the cultivar from 5 to 16 days and it was longer in late cultivars. The LP in the primary raceme (early flowers) was 15 days but that in the secondary raceme (late flowers) was 8 days. Both late sowing and short photoperiod (10h) after the start of flowering shortened the LP by up to 7 days in Enrei and 5 days in Fukuyutaka. However, neither sink (except the target racemes) removal nor BA application to the target racemes at the start of flowering affected the length of LP, even though these treatments were expected to stimulate pod growth.

Keywords: Lag period, Photoperiod, Pod growth, Soybean

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