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## Japanese journal of crop science

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## ■ Japanese journal of crop science

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[\[ Full-text PDF \(541K\) \]](#) [\[ References \]](#)**Studies on the Flooding Tolerance and Water Uptake of Seed and Elongation Force of Seedling in Soybeans**

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**Abstract:**

Twenty-four soybean (*Glycine max* (L.) Merr.) varieties were used to investigate the relationship between flooding tolerance, water uptake of seed and elongation force in the period of seed germination. The germination rates after 4 days soaking at 25°C under flooding stress are regarded as the index of seed flooding tolerance. Flooding tolerance differed significantly from 0 ~ 100% among soybean varieties. Water uptake types of soybean seed were able to be divided into quick absorption and slow absorption types. The relationship between water uptake and flooding tolerance was not significant under seed flooding stress. Elongation force of seedling (maximum weight displacement of seedlings) differed greatly among varieties. The relationship between flooding tolerance and elongation force of seedlings was not significant.

**Keywords:**

Elongation force, Emergence, Flooding tolerance, Soybean seedling, Uptake, Water

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