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Characteristics of Growth and Yield Formation in the Improved Genotype of Supernodulating Soybean (*Glycine max* L. Merr.)

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Abstract: Most of the supernodulating soybean lines were agronomically inferior to conventional genotypes. Our previous tests with 'En6500', a supernodulating mutant derived from a variety 'Enrei', revealed that its low growth and yield were not necessarily due to supernodulation. In our attempts to improve the yield of En6500 through crossing with Enrei, we recently succeeded in selecting a supernodulating line showing vigorous growth. Field experiments with this new supernodulating line 'En-b0-1-2' for three years revealed that it yielded much more than En6500. When the overall yield level was low, it even tended to yield more than Enrei. En-b0-1-2 thus showed a remarkably higher productivity than other supernodulating lines reported so far. Its improved yield was largely due to : (a) better seed filling, (b) vigorous vegetative growth during flowering period, and (c) high leaf area index and leaf N content that enabled production of more photosynthates to enhance N fixation and dry matter accumulation during the period of pod and seed development.

Keywords: Genotype, Growth, Nitrogen fixation, Root nodule, Soybean (*Glycine max* L. Merr.), Supernodulation, Yield

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