

United States Patent [19]

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[54] **BRADYRHIZOBIUM JAPONICUM
MUTANTS EXHIBITING SUPERIOR
SOYBEAN NODULATION**

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C05F 11/08

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435/172.1; 435/878; 71/7

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435/878, 252.2, 252.3; 71/7

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[57] **ABSTRACT**

Mutant strains of *Bradyrhizobium japonicum* having enhanced nodulation properties were created by transposon mutagenesis of known *Bradyrhizobium japonicum* strain I-110. The mutant strains grow well in a yeast-extract mannitol medium, produce extracellular polysaccharides at a level greater than the parent strain under appropriate conditions, are capable of growth on a nutrient medium containing a normally inhibitory amount of succinic acid, and contain a 21 Kdalton protein absent from the parent strain. Such strains can be used to inoculate soil in which soybean plants are grown, resulting in improved plant yields.

3 Claims, No Drawings