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#### Modification of Root System Morphology in a Peanut Seedling Inoculated with Arbuscular Mycorrhizal Fungus, *Gigaspora margarita* Becker & Hall

Katsuya YANO, Akira YAMAUCHI and Yasuhiro KONO

1) School of Agricultural Sciences, Nagoya University

2) School of Agricultural Sciences, Nagoya University

3) School of Agricultural Sciences, Nagoya University

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#### Abstract:

Modification of root system morphology caused by the inoculation of arbuscular mycorrhizal fungus (*Gigaspora margarita* Becker & Hall) was evaluated in peanut (*Arachis hypogaea* L.). Peanut plants were grown for 16 days in root boxes placed in a growth chamber with natural light. Inoculum of the fungus was uniformly mixed with the soil in root boxes, whereas in others, the soil was uninoculated to serve as a control. In each root system, the tap root axis was divided into 10-mm sections, where lateral roots remained intact, to evaluate the difference in lateral root development along the tap root. Two-way ANOVA in which the variation sources were divided into the inoculation treatment and section of tap root axis, showed significant effects of the inoculation on lateral root development. As for the root number, the effect was promotive for the 1st order lateral roots but inhibitive for the 2nd order ones, and as for the individual root length, inhibitive for the former but was not detected for the latter. Our conclusion is that the inoculation caused changes in root system morphology of peanut through lateral root development on the tap root, where the responses were different between 1st and 2nd order lateral roots.

#### Keywords:

*Arachis hypogaea* L., Arbuscular mycorrhiza, *Gigaspora margarita* Becker & Hall, Lateral root, Peanut, Root system

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