

EFFECT OF INOCULATION WITH ACC-DEAMINASE CONTAINING RHIZOBACTERIA ON ETIOLATED PEA SEEDLINGS.

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Inoculation with ACC (1-aminocyclopropane-1-carboxylate)-deaminase containing rhizobacteria has been reported to reduce the endogenous levels of ethylene in plants. Etiolated pea seedlings show a characteristic “triple response” to ethylene. Pea seedlings inoculated with ACC-deaminase⁺ or ethylene producing rhizobacteria were sown in 100 mL beakers containing 5 mM ACC in airtight mason jars wrapped in green foil to provide “safe” green light. Seedlings exhibited a very strong classical triple response (significant reduction in root elongation and swelling of hypocotyls) in all the treatments except seedlings inoculated with ACC-deaminase⁺ rhizobacteria. This might be due to the ability of ACC-deaminase⁺ rhizobacteria to hydrolyze endogenous as well as exogenously applied ACC. These results imply that rhizobacteria with ACC-deaminase activity could be employed to alter the endogenous ethylene synthesis in favour of better plant growth.