

Effect of Malformin A1 on the Ethylene Production in
Primary Roots of Maize

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We examined the effect of purified malformin A1 on the ethylene production in primary roots of maize (*Zea mays* L. cv Golden Cross Bantam). Our pervious data in mung bean hypocotyls suggested that malformin A1 inhibited ethylene production in higher concentrations such as 10^{-6} M and 10^{-5} M. However, 10^{-7} M malformin A1 stimulated ethylene production in mung bean hypocotyls. And we observed that ACO activity and transcript level was regulated by malformin A1 as the same as ethylene production pattern. Now we reported the effect of malformin A1 on ethylene production in primary roots of maize. In contrast, all concentrations of malformin A1 stimulated IAA- or ACC-induced ethylene production in maize root segments. The activity of ACC-oxidase and ACC contents are significantly influenced by the treatment of malformin A1. And malformin A1 suppressed ACS activity except 10^{-5} M malformin A1. These data suggested that the action of malformin A1 might be different, depending on plant tissues.

Keywords: malformin A1, maize root, ethylene, ACC oxidase, ACC synthase