B27

THE EFFECT OF GROWTH REGULATORS ON THE *In Vitro* GROWTH OF MAIZE KERNELS

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In order to study the cause for tip kernel abortion of maize ears in intact plants, maize cob clocks were grown *in vitro*. It was hypothesized that an imbalance of growth regulators might be the cause for this phenomenon.

Thus, maize ears were harvested four days after pollination and divided into cob blocks containing four fertilized kernels. The cob pieces were placed on a standard solidified culture medium supplemented with benzyl adenine, naphthalene acetic acid, and gibberellic acid, 0, 0.005 and 0.05 ppm concentrations. All combinations of growth regulators were experimented.

In all experiments, the young kernels showed initial growth for about 7 to 10 days. Later different degrees of growth were observed even in a single block of 4 kernels. Among the 27 treatments, 4 to 25% kernels developed to be full

Kernels, while 0 to 30% Kernels showed medium growth. 18 to 52% Kernels showed slight growth or no growth at all. There was no treatment effect on time to denting.

None of the combinations of growth regulators increased the percentage of Kernels developing fully. Three possible interpretations can be suggested: Kernel abortion *in vitro* is not due to a growth regulator imbalance; the incorrect growth regulators were tested; or the growth regulators were not efficiently absorbed by the tissue blocks.