

Effect of foliar fertilizer and some growth regulators on vegetative and anatomical characters of dill (*Anethum graveolens* L.)

Authors:

Majeed Kadhim Abbas
and Intedhar Abbas
Marhoon.

Institution:

College of Agriculture
Al-Qadisiya University
Diwaniya Iraq

Corresponding author:

Majeed Kadhim Abbas.

ABSTRACT:

This experiment was conducted to study the effect of foliar fertilizer (Oligo green HF), gibberellin and naphthalene acetic acid and their interaction on some vegetative and anatomical characters of (*Anethum graveolens* L.) Dill local names. The foliar fertilizer, (contains Fe, Zn, Mn, Cu and B), was used at rates of 0, 50, 100, and 150mg/L while the GA3 was used at the concentrations of 250, and 500mg/L and NAA at concentrations of 600 and 1000mg/L. The results showed that foliar fertilizer and both growth regulators increased plant height, stem diameter, and shoot dry weight in proportion to increase in the concentrations used. Number of branches were not affected by the application of growth regulators but they increased significantly by the foliar fertilizer treatments. Also, the lower concentrations of the two growth regulators showed no effect on number of leaves while all rates of the foliar fertilizer increased the number significantly. All rates of foliar fertilizer caused significant increase in cortex thickness, number and thickness of vascular bundles, and vascular units diameter. Also, all growth regulators concentrations increased cortex thickness significantly but they have no effect on vascular bundles number.

Vascular bundles thickness and vascular units diameter decreased significantly under the effect of both growth regulators. Pith thickness decreased significantly as the foliar fertilizer rates increased but it increased significantly due to the use of the growth regulators. Interaction between foliar fertilizer and gibberellin or naphthalene acetic acid had significant effect on most characters studied. It can be concluded that all characters studied are positively affected by factors under consideration.

Keywords:

Cortex thickness; Growth regulators; Micronutrients; Pith thickness; Vascular bundles.