

Growth Response of Cucumber to Hydrophilic Polymer Application Under Different Soil Moisture Levels

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ABSTRACT. The effect of hydrophilic polymer addition on the growth of cucumber (*Cucumis sativus* L., cv. Dina) was investigated under different levels of soil moisture. The plants were grown in pots filled with 7 kg of moderately calcareous loam soil. The soil was mixed with five concentrations of hydrophilic polymer Broad Leaf (P-4). These concentrations were 0.0% (control), 0.1, 0.2, 0.3, and 0.4% on a dry-weight basis. Three levels of soil moisture, namely, 25, 50, and 75% of field capacity of untreated soil (control), were used in this study. The results showed a significant increase in the vegetative growth with increasing polymer concentration up to 0.3%. Further increase to 0.4% of P-4 had no significant effect on plant growth. A significant interaction was observed between polymer concentration and soil moisture level. Growing plants under 50% of field capacity with 0.2% polymer concentration resulted in more vegetative growth than did other treatments. Addition of hydrophilic polymers was most effective when the plants were grown