

Determining the Growth Parameters of Anise Medicinal Plants Affected by Plant Density, Organic and Inorganic Fertilizer

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Abstract:

Estimating the length of phenological stages, using growth degree-days (GDD) rather than calendar time would be more appropriate. In this research, a field experiment with a factorial combination of different chemical nitrogen (0, 60, 120 kg/ha), biological nitrogen (0, 3, 6, L/ha Azotobacter) fertilizer and plant density (fixed rows of 30 cm, with 2, 4 and 8 cm distance between the plants or 50, 25 and 12.5 p/m²) based on randomized complete block design with three replications was performed. In addition, dry matter, Leaf Area Index (LAI), Relative Growth Rate (RGR) and Crop Growth Rate (CGR) were measured. The plant leaf area index of different plant density were significantly different. So that the maximum leaf area index and dry matter accumulation was related to 50 p/m² treatment and Relative growth rate (RGR) with 60 kg/ha plant density were obtained. Crop growth rate (CGR) of different levels of nitrogen fertilizer in the early stage of growth were the highest with linear growth and increasing crop growth rate related with 120 kg/ha of nitrogen fertilizer with 50 p/m² anise plant density.