



## Development and yield of essential oil of basil (*Ocimum basilicum* L.) under successive cuts and application of growth regulators

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The cultivation of medicinal plants, aromatic and culinary grows every year. The state of Paraná has featured in the cultivation of these plants, accounting for 90% of Brazil (1). Lamiaceae family species have great economic importance for producing essential oil in their glandular trichomes. The use of active substances which enhance the growth and yield of vegetable species has great economic interest. The objective of this study was to evaluate the development and the essential oil yield of basil plants when they are subjected to successive cuts using different biostimulants and plant growth regulators applied in isolation and combination. The experiment was conducted under field conditions, Londrina, PR, Brazil. Seedlings were obtained from seeds. The experimental design was a randomized complete block in a factorial  $2 \times 2 \times 2 + 3$  (IBA (IBA)  $10 \text{ mg L}^{-1}$ ; gibberellic acid (GA 3)  $10 \text{ mg L}^{-1}$ ; kinetin (KIN)  $18 \text{ mg L}^{-1}$ ; AIB  $10 \text{ mg L}^{-1}$  + GA3  $10 \text{ mg L}^{-1}$ ; AIB  $10 \text{ mg L}^{-1}$  + KIN  $18 \text{ mg L}^{-1}$ ; GA3  $10 \text{ mg L}^{-1}$  + KIN  $18 \text{ mg L}^{-1}$ ; AIB  $10 \text{ mg L}^{-1}$  + GA3  $10 \text{ mg L}^{-1}$  + KIN  $18 \text{ mg L}^{-1}$ ; control (distilled water); Biostimulant; witness with foliar application of macro and micronutrients (TAF) 1%; witness with ammonium sulfate topdressing (TAC) ( $250 \text{ kg ha}^{-1}$ ) and five replications. Three cuts were made during the development of the experiment at 40, 80 and 120 days after transplanting. Each repetition was evaluated for plant height, leaf area, dry mass of leaves and yield essential oil. The collected data were submitted to variance analysis and the comparison of means was performed by Tukey test at 5% probability. All variables of basil plants exhibited maximum peaks in the 1<sup>st</sup> cut. The average yield of essential oil was  $2.72 \text{ L ha}^{-1}$  (1<sup>st</sup> cut),  $2.29 \text{ L ha}^{-1}$  (2<sup>nd</sup> cut) and  $1.58 \text{ L ha}^{-1}$  (3<sup>rd</sup> cut). The application of treatments was not able to keep the development and yield of essential oil from plants on the 3<sup>rd</sup> cut.

1. Corrêa Júnior, C.; Scheffer, M.C. Horticultura Brasileira, 2014, **32**, 376.

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