III SIMPÓSIO DE PROPAGAÇÃO DE PLANTAS E PRODUÇÃO DE MUDAS
Avanços Tecnológicos na Produção de Mudas de Alta Qualidade
2023

24 – OKRA TRANSPLANT GROWTH AS AFFECTED BY THE EXOGENOUS PLANT GROWTH REGULATOR BENZYLAMINOPURINE

Cláudia Lopes Prins[1*]; Brunno de Oliveira Almeida[2]; Letícia Borges da Costa[3]; Lia Mara da Silva Gomes[4]

UNIVERSIDADE ESTADUAL DO NORTE FLUMINENSE

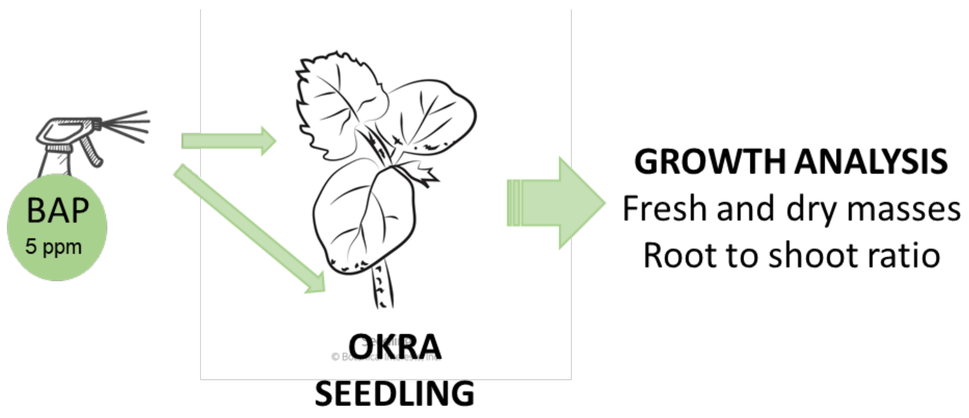
INTRODUÇÃO

Okra (*Abelmoschus esculentus*) plants are grown in tropical regions and are exposed to high temperatures and dry periods. Although okra is considered a resistant plant, its growth is negatively affected by reduced water availability a common scenario in tropical lands. The initial period of plant development is important for future production and practices which allow plants to grow under severe conditions at this stage are needed. Plant growth regulators (PGRs) could confer stress protection to plants, improving their tolerance. Cytokinins or similar products can influence development and increase plant tolerance when applied to transplants.

This work aimed to evaluate BAP with respect to okra transplant growth.

METODOLOGIA

The experiment was carried out in a protected environment. Okra seeds, Santa Cruz 47 cultivar, were sowed in 200 mL pots fulfilled with commercial substrate for transplant production. The experimental design was completely randomized with four repetitions (n=4) and each repetition was composed of six pots. A BAP solution was prepared dissolving BAP (0.2 g) in alcohol (100 mL) and deionized water (100 mL), from this standard solution a 5 ppm solution was obtained and applied to plants. At 30 days after sowing the treatment has started.



Treatment 1 (BAP-shoot) consisted of BAP applications on shoot, treatment 2 (BAP-substrate) consisted of BAP application on substrate and treatment 3 (CONTROL) no BAP application. Each plant received 5 mL of a 5 ppm BAP solution. For control it was applied to plants the same volume of a water and alcohol solution. It was realized three applications in an interval of four days. Four days after the last application the plants were harvested. Before harvesting, it was evaluated the greenness of leaves (SPAD). After harvest plant was separated into leaves and stems and then weighted (fresh matter). Following, foliar area was analyzed (foliar meter, Licor, model LI-3100). Leaves and stems were dried at 65°C until constant weight. For root dry mass determination roots were washed in current water and dried at 65°C.

The data were submitted to Variance Analysis and Tukey test (5%) when treatments showed significant effects.

RESULTADOS E CONCLUSÕES

FIGURE 1 - Okra (*Abelmoschus esculentus*) leaves and stem fresh masses (g) in response to BAP applications.

The same capital letter upon column groups means no statistical difference among treatments (Tukey, 5%).

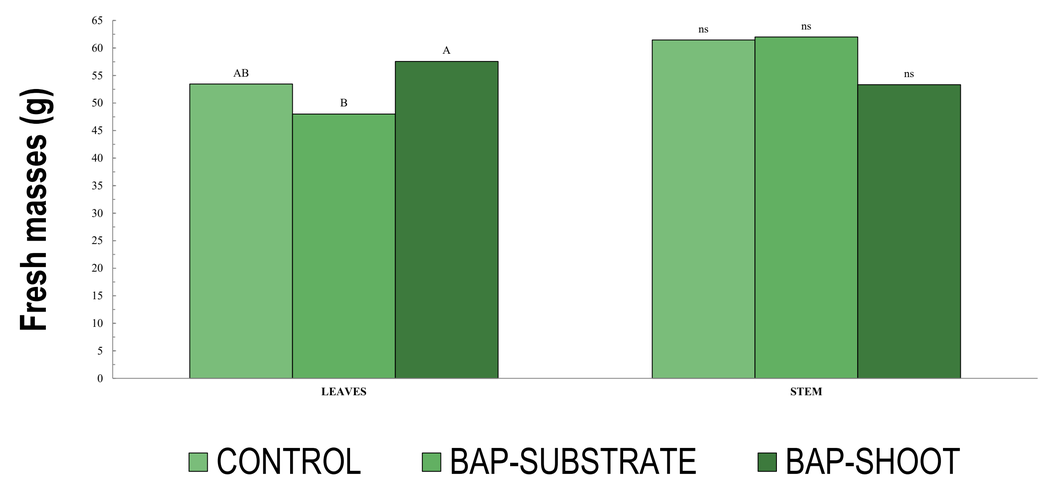


FIGURE 2 - Okra (*Abelmoschus esculentus*) root to shoot ratio in response to BAP applications.

The same capital letter upon column means no statistical difference among treatments (Tukey, 5%).

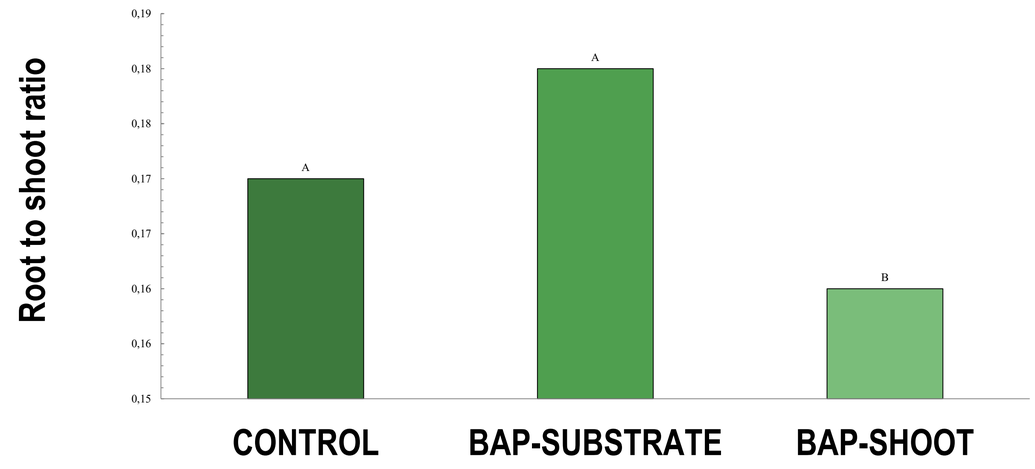


TABLE 1 - Okra (*Abelmoschus esculentus*) leaves, stem and root dry masses (g) in response to BAP applications:

TRANSPLANT ORGANS	TREATAMENTS		
	CONTROL	BAP-SUBSTRATE	BAP-SHOOT
LEAVES	6.53 ns	6.28 ns	7.30 ns
STEM	5.50 ns	5.60 ns	4.95 ns
ROOTS	2.10 ns	2.18 ns	1.97 ns

The same capital letter upon column groups means no statistical difference among treatments (Tukey, 5%). ns – no significant.

Leaves fresh weight and root to shoot ratios were affected by BAP applications in aerial part. BAP application on substrate results in increased leaf Fe concentrations. The other variables were not affected by treatments.

We conclude BAP application, as evaluated in this work, affected young okra plant growth When applied to shoot, BAP promoted growth by enhancing fresh mass and led to reduced root to shoot ratios.

AGRADECIMENTOS

UENF
CAPES
FAPERJ
Fundação Carlos Chagas Filho de Amparo à Pesquisa do Estado do Rio de Janeiro
CNPq
Microbiológica