

***Effect of Warm Water Soaking Duration and Natural Plant Growth Regulator
from Bamboo Shoot Extract on Production and Seed Quality of
Bird's Eye Chili (*Capsicum frutescens* L.)***
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ABSTRACT

*This study aimed to determine the effect of warm water soaking duration and natural plant growth regulator derived from bamboo shoot extract (*Dendrocalamus asper*) on the growth, production, and seed quality of bird's eye chili (*Capsicum frutescens* L.). The research was conducted at Politeknik Negeri Jember from July to December 2025 using a factorial Randomized Block Design. The first factor was bamboo shoot extract concentration (15%, 25%, and 35%), and the second factor was warm water soaking duration (2, 6, and 12 hours). Observed parameters included plant height, stem diameter, fruit weight per plant, seed weight per plant, 1000-seed weight, germination percentage, growth rate, and uniformity of germination. The results showed that bamboo shoot extract significantly affected plant height at 20 days after planting and 1000-seed weight, and significantly influenced stem diameter at 30 days after planting. Warm water soaking significantly affected plant height at 20 days after planting, while the interaction between treatments significantly affected stem diameter at 30 days after planting. However, the treatments did not significantly affect fruit weight, seed weight, germination percentage, growth rate, or uniformity of germination. A bamboo shoot extract concentration of 35% tended to produce better growth and seed quality performance.*

Keywords: *bird's eye chili, bamboo shoot extract, warm water soaking, seed quality*