

ABSTRACT

Sweet corn (*Zea mays saccharata* Sturt.) is a horticultural crop with high economic value and is widely consumed because of its sweet taste and nutritional content. Increasing demand for sweet corn requires improved productivity through the use of superior varieties and appropriate plant population density. This study aimed to evaluate the effects of different sweet corn varieties and plant population densities on the growth and yield of sweet corn, as well as their interaction. The research was conducted at the Experimental Farm of the Faculty of Agriculture, Malikussaleh University, from January to March 2026. A factorial Randomized Block Design with two factors and three replications was used. The first factor consisted of four sweet corn varieties: Bonanza F1, Talenta, Sweet Boy, and Secada. The second factor consisted of three plant population densities: one, two, and three plants per hill. The results showed that variety had significant to highly significant effects on plant height, stem diameter, number of leaves, days to tasseling and silking, ear weight with and without husk, leaf chlorophyll content, and unfilled cob tip. Plant population density significantly affected plant height, number of leaves, ear weight with and without husk, ear length with husk, ear weight per plot, leaf chlorophyll content, unfilled cob tip, and yield. A significant interaction between variety and plant population density was observed for plant height at 2 weeks after planting (WAP), ear weight per plot, and yield per hectare. Bonanza F1 was the best-performing variety, while one plant per hill produced the highest growth and yield. The combination of Bonanza F1 and one plant per hill was the best treatment for improving sweet corn growth and productivity.

Keywords: Bonanza F1, Cob weight, Interaction, Nutrient, Production.