ABSTRACT

Mustard greens (*Brassica juncea* L.) are an important leafy vegetable with good economic potential. However, their growth and production are influenced by soil fertility and nutrient availability, particularly nitrogen. Urea fertilizer provides readily available nitrogen, while cow manure supplies nutrients and improves soil conditions. This study aimed to determine the effects of urea fertilizer, cow manure, and their interaction on the growth and production of mustard greens. The research was conducted using a factorial Randomized Complete Block Design (RCBD) with two factors and three replications. The first factor was urea fertilizer at 0, 0.98, and 1.23 g/polybag, while the second factor was cow manure at 0, 25, and 30 g/polybag, resulting in 27 experimental units. Observed parameters included plant height, number of leaves, leaf width, chlorophyll content, fresh weight, root length, and root volume. Data were analyzed using analysis of variance followed by Duncan's Multiple Range Test (DMRT) at the 5% significance level. The results showed that urea significantly affected plant height, number of leaves, leaf width, chlorophyll content, fresh weight, and root volume. Cow manure significantly affected number of leaves, chlorophyll content, fresh weight, and root length. Significant interactions between urea and cow manure were observed in plant height, number of leaves, and leaf width. The application of urea and cow manure, individually and in combination, improved the growth and production of mustard greens.

Keywords: Fresh weight, fertilization, nitrogen, nutrient availability, vegetative growth.