ABSTRACT

Pakcoy (*Brassica rapa* L.) is a horticultural crop with a relatively short harvest period and good market potential. Increasing pakcoy productivity requires appropriate and sustainable cultivation practices, including the use of organic materials. Rice husk charcoal can improve the physical properties of the growing medium, while cow manure provides organic matter and nutrients that support plant growth. This study aimed to determine the effects of rice husk charcoal and cow manure doses, as well as their interaction, on the growth and yield of pakcoy. The research was conducted from March to April 2026 at the Experimental Garden and Laboratory of the Faculty of Agriculture, Universitas Malikussaleh. The experiment used a 3 × 3 factorial Randomized Complete Block Design with three replications. The first factor was rice husk charcoal consisting of 0, 150, and 300 g/polybag, while the second factor was cow manure consisting of 0, 200, and 400 g/polybag. The observed parameters included plant height, number of leaves, leaf width, leaf chlorophyll content, root length, fresh total plant weight, fresh shoot weight, fresh root weight, dry root weight, dry plant weight, and harvest index. The results showed that rice husk charcoal significantly affected plant height at 1 week after planting and highly significantly affected leaf width at 2 and 3 weeks after planting. Cow manure significantly affected plant height at 3 and 4 weeks after planting, leaf width at 3 weeks after planting, fresh total plant weight, fresh shoot weight, and fresh root weight, and highly significantly affected dry root weight and dry plant weight. The interaction significantly affected several growth and yield parameters. The A_0S_2 treatment produced the highest fresh total plant weight of 125.31 g/plant, which was not significantly different from A_0S_1 at 124.74 g/plant. Rice husk charcoal and cow manure affected several growth and yield parameters of pakcoy, while 200 g/polybag of cow manure can be considered as an alternative dose because several parameters were not significantly different from the 400 g/polybag treatment.

Keywords: cow manure, growth, pakcoy, rice husk charcoal, yield.