Relative light intensity and kitchen waste compost effects on production of andrographis paniculata

ABSTRACT

Andrographis paniculata commonly known as “Hempedu Bumi” is widely used as traditional medicine in Asia to treat hypertension, diabetes, flu, sore throat etc.. Farming of this plant species as a medicinal plant is challenging because it is necessary to avoid chemicals as far as possible to ensure its quality. This study was conducted to investigate the effects of shading and application of kitchen waste compost on growth performance and yield of potted A. paniculata. Seedlings at six weeks after sowing, having height of 2 to 4 cm, were transplanted into polybags sized 23 x 25 cm containing mixture of top soil, sand and cocopeat at 3:2:2. Kitchen waste compost derived from dumped vegetables, fish refuse and expired or dumped bread at 3:1:2 was prepared with 1 kg cocopeat as bulking agent using an automated mini composter. Composting took one month. The compost was then applied to polybags with moist media mixture at 0, 25, 50, 75 and 100 g per polybag. Compost was incorporated into media at a depth of approximately 5 cm at one week before seedling transplanting. Growth performance and yield of A. paniculata as affected by compost application was studied in the greenhouse under full relative light intensity (RLI) and 50% shade provided by commercial 50% shade netting. Watering was done daily with automated overhead mist sprinkler in the greenhouse. Results showed that plants grown under full RLI did not differ from those under shade netting in height but produced more branches and leaves as the main plant part to harvest. Compost at application rate of 75 to 100 g per polybag was the best to enhance the economic yield of A. paniculata in terms of growth of leaves.

Keyword: Medicinal plant; Shading; Growth performance; Yield; Greenhouse