

Three Promising Lines of Turmeric Responses to Organic Fertilizer

Hera Nurhayati*, Ireng Darwati

Indonesian Medicinal and Aromatic Plants Research Institute

Jln. Tentara Pelajar No. 3, Bogor, Indonesia 16111

*email: heranurhayati@yahoo.com

ABSTRACT

There are not many researches concerning the effect of organic fertilizer on growth, quality, and yield of turmeric. Therefore, the objective of this research was to obtain the responses of three promising lines of turmeric to organic fertilizer package. Work was conducted at Cibinong Research Installation, Bogor, Indonesia in November 2005 to August 2006. The experiment was arranged in Randomized Block Design with nine replications. The treatment was three promising lines of turmeric, i.e. Balitro 1, Balitro 2, and Balitro 3 with organic fertilizer package of Bokashi 10 t/ha + biofertilizer 90 kg/ha + zeolite 300 kg/ha + rock phosphate 300 kg/ha. The three promising lines of turmeric had equal potential productivity to yield fresh rhizome ranged from 4.94 to 6.35 kg/7.2 m² (equivalent to 4.80-6.17 t/ha). Essential oil content of rhizome of Balitro 1, Balitro 2 and Balitro 3 were 3.86, 4.39, and 4.26%, respectively, whereas curcumin contents were 6.99, 7.83, and 7.17%, respectively. Other quality parameters, such as water and alcohol soluble extract and also ash content, have fulfilled the requirement of Indonesian Materia Medica. Phytochemical compounds of them were divided into three categories: very strong positive (alkaloids, phenolics, flavonoids, and glycosides), positive (saponins and tannins) and weak positive (steroids). The organic fertilizer package could be applied in turmeric cultivation without degrading its quality.

Key words: turmeric, *Curcuma domestica*, organic fertilizer