ABSTRACT

SUNARWOTO. Several Agronomic Aspects of Iles-iles (Amorphophallus muelleri Blume). Supervised by FRED RUMAWAS as the chairman, M. AHMAD CHOZIN, SUDIRMAN YAHYA, and IRAWATI as members of the advisory committee.

The research was conducted to study several agronomic aspects of iles-iles (Amorphophallus muelleri Blume), to update the description of the plant, to investigate the best growing medium, to determine the best harvesting time, to find out the best planting methods of tuber, and to study the response of plants on soil with high Aluminium content. A series of experiments were carried out at the experimental fields of Bogor Agricultural University, Darmaga from November, 1999 to May, 2003 and at the experimental field of the Agricultural Technology Assessment Installation unit, Sukabumi from February 2001 to April, 2002.

It was found that Amorphophallus muelleri Blume show positive responses shading; good drainage; liming for acid and high Aluminium content soils, combined with high application of manure (organic matter). The phenological study gave additional informations on describe of this species and also on cultivation aspects such as: planting distance, planting depth, and the best time of harvest. Application of 7.5 tons ha⁻¹ of manure and 4 tons ha⁻¹ of liming (pH 6) increase the yield up to 568.15 g/m². The application of P and K at time of planting did not increase the yield after 14 month. The best harvesting time was found after three vegetatif growth cycles and two dormant periods, when the stems fading and the leaves turned yellow (not necessary the leaf dried). Normal planting of the tuber give the same result as if the tuber is planted upside-down. Common practice by planting the tuber upside-down to give better yield was not proved here. It seems that soil tillage improved the aeration to the plant. Liming on high Aluminium acid soil at the dosage of 1 tons ha⁻¹ for each milliequivalent of Aluminium exchangeable 100 g⁻¹ (20 tons of lime ha⁻¹) is necessary. All bulbil size can be use as planting material, however only large bulbils are recommended for direct planting. The quality of glucomannan was similar for all treatments; only the degree of whiteness of the glucomannan powder improved when harvesting times is extended.