

Title The morphological and growth characteristics of *Amorphophallus Muelleri* Blume – a commercially important konjac species

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Abstract

One of most widespread species of konjac and an important source of glucomannan, a polysaccharide of importance for food, cosmetics and pharmaceutical industry is *Amorphophallus muelleri* Blum. *A. muelleri* is closely related to *A. bulbifer* and *A. yuloensis* H. Li. It can be propagated by tubers (called corms), bulbils (small bulbs formed in the leaf axils) or seed. The aim of research was to study and describe the properties of vegetative growth and to determine physiological changes and the age at which the plant reaches the generative stage. The information is crucial for the cultivation of this species as currently most of the crop is still harvested in the wild, mainly in the forest. The research was conducted under field conditions near Surabaya, East Java Island, Indonesia from November 2006 until May 2009. The cultivation and of *A. muelleri* is not easy but it offers an irresistible challenge for any keen agriculture researcher. It was found that *A. muelleri* showed positive response to suitable shading, good drainage, and application of manure as an organic fertilizer. An induction technique was developed and proven successful aiming at accelerating the process of flowering and fruiting of *A. muelleri* in order to increase its propagation rate. The study gave additional information on the best agronomic practice to grow this species including cultivation, planting distance, planting depth, the best time of harvest, storage conditions. Moreover, this study was involved in the determination of the concentration of konjac glucomannan (KGM) in tubers and bulbils, and the optimal ways of breaking dormancy and inducing flowering.