

## **Growth Performance and Production of *Neptunia oleracea* Lourerio using Different Plant Materials**

### **ABSTRACT**

Herbaceous perennial plants reproduce by seeds and asexually by means of vegetative organs. Plants from habitat that are unfavorable to seedling establishment tend to rely largely on vegetative reproduction (Sculthorpe, 1967; Fenner and Thompson, 2005). Asexual reproduction is the dominant form of reproduction for wetland plants, i.e. by shoot fragments (*Ceratophyllum*), turions (*Utricularia*), inflorescence plantlets (*Echinodorus*), runners or stolons (*Cryptocoryne*), rhizomes (*Typha*), stem tubers (*Sagittaria*), root tubers (*Nymphoides*) and corm (*Aponogeton*) (Sculthorpe, 1967; Cronk and Fennessy, 2001). *Neptunia oleracea* Lourerio (daun tangki), although less common as a vegetable, is cultivated in inundated fields or canals (Edwards, 1980; Paisooksantivatana, 1994). It is harvested at three to four weeks after planting and 250 shoots are gathered into a bunch for trading in local market. About 30,000 – 50,000 shoots can be harvested in each harvest in one ha area (Paisooksantivatana, 1994). The sexual reproduction of *N. oleracea* is initiated when the seeds are released by opening of two sutures from the dry pod and dropped off to the wet ground followed by germination (Windler, 1966; Cook, 1996; Cronk and Fennessy, 2001). This species also generates new plants through auxiliary buds and lenticels at stem (Paisooksantivatana, 1994; Holtum and Ivan, 2002; DPI, 2009). However, in Sarawak, Malaysia, *N. oleracea* is only gathered from wild and offered for sale in local markets as a leafy vegetable (Voon et al., 1990; Suzalina Akma, 2008; Dayangku Alifah, 2009; Mohd Syahrul, 2009; Muhd Arif, 2009). This study was conducted to evaluate the propagation methods for culturing this potential vegetable using the different forms of plant materials, by seedling and stem cutting. The study was also conducted to evaluate the yield of *N. oleracea* as well as harvesting period per cycle propagation.