

DIAGNOSIS OF THE DISEASE-CAUSING AGENT OF PLANTS SAMPLES RECEIVED FROM LOCAL FARMERS

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The Agriculture Research Centre (ARC), Department of Agriculture, is one of the five research centers in Sabah, providing advice and free services to the local farmers besides conducting general researches. Under the ARC Unit of Plant Pathology, disease diagnosis including identification of the disease symptoms and the causing agent is one of the fundamental aspects of plant protection. Without proper identification, a disease control measure may not be able to recommend to the local farmers in Sabah. In 2017, several plant samples including leaves, stems, roots, and fruits were received from farmers between April and November for disease diagnosis. Received samples include plant samples of durian (*Durio zibethenus*), guava (*Psidium guajava*), jackfruit (*Artocarpus integer*), pineapple (*Ananas comosus*), sweet orange (*Citrus sinensis*), sweet pea (*Pisum sativum*), paddy (*Oryza sativa*), and tea (*Camellia sinensis*). General diagnostic practices, such as disease symptom description and culturing of the infectious agent, Gram-staining test, microscopic examination, as well as Koch's postulates test were conducted whenever possible. Based on references of the CMI Description of Pathogenic Fungi and Bacteria published by C.A.B. International, several fungal and bacterial genera were identified: *Cephaleuros* sp., *Colletotrichum* spp., *Corticium* sp., *Dickeya* sp., *Erysiphe pisi*, *Fusarium* spp., *Phytophthora* sp., *Pyricularia oryzae*, *Verticillium* sp., and *Xanthomonas* sp. Also, our observations indicated that in some plant samples, plant pathogens were not the causal agents; symptoms developed due to nutrient deficiencies or chemical injuries. Hence, proper disease diagnosis will ensure that the most appropriate disease-controlling method is recommended to local farmers.

Keywords: disease diagnosis, tropical fruit, fungi, bacteria, plant pathogen