

Title Identification and biological characterizations of toxin produced by *Botryodiplodia theobromae* on “SIAM BANJAR” citrus

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Abstract

Plant diseases, especially caused by fungi is one of the major constrain for plant production. To overcome the problem many control strategies were known, one of them is using diseases resistant plants. This method is very effective and environmentally safe. However, basic knowledge on plant resistance mechanism to diseases was very limited. A study on the role of toxin in causing diseases is one of basic knowledge for understanding plant resistance to pathogen. Identification and biological characterization of toxin was conducted from March through November 2007. The experiment was done at the Laboratory and at a glass house of the Department of Plant Pests and Diseases of the Faculty of Agriculture-Lambung Mangkurat University in Banjarbam. For a leaf-necrosis bioassay of crude toxin production, the surfaces of the leaves were scratched near the center with a needle, and culture filtrate samples (50 µl) were placed on each wounded site. Treated leaves were incubated in a moist chamber with light at 26°C for 4 days, and toxin activity was determined by induction of veinal necrosis on the seven susceptible cultivar of citrus. The results of the experiment showed that the *B. theobromae* pathogens produce the toxin. The crude toxin was bioassayed for leaf necrosis as to their ability to produce toxin. Culture filtrates of the isolate were highly toxic only on five susceptible citrus leaves siam Banjar citrus, “jeruk irisan”, “jeruk nipis”, “jeruk purut”, and “jeruk sambal”, indicating that the *B. theobromae* can produce toxin. Pathogenicity and toxin production of *B. theobromae* did not differ. While, no necrotic symptom produces on the “jeruk bali” and sunkist. Toxin of *B. theobromae* was produced during spore germination. This toxins, which are produced by a pathogen now known to be involved in a number of plant diseases.