

Judul: Root and collar rot disease: a new threat to young cacao (*Theobroma cacao* L.) plants in Sulawesi, Indonesia

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Abstrak:

A root and collar rot disease caused by a fungal complex has been identified for the first time in orchards of cacao on Sulawesi Island, Indonesia. The disease affects young plants, from eight to eighteen months old. The present work describes the disease and the isolation of potential pathogens associated with it. The symptoms in the field are rotting of the collar and tap root, reduced growth of deep and lateral roots, and leaf chlorosis and fall. Thirteen fungal isolates were recovered from diseased roots, 62% were *Lasiodiplodia theobromae* and *L. parva*, 23% *Diaporthe eucalyptorum*, and 15% *Neocosmospora rubicola*. All isolates caused chlorosis, drying and abscission of leaves, and reduced growth of lateral roots and reduced root weight when inoculated into wounded young cocoa plants. By nine weeks after inoculation more than 75% of leaves were affected. There was no significant difference between the isolates in symptom development. Root weight was reduced by from 25 to 73%. All isolates except one (ARL-.08) caused a significant reduction in root weight compared to the control at nine weeks after inoculation. It is likely that these well-known endophytic fungi became pathogenic following drought and nutrient induced stress known to have occurred in the dry season of 2019 in the particular districts affected.

Kata kunci: *Diaporthe*; *Lasiodiplodia*; *Leaves chlorosis*; *Neocosmospora*; Root weight; First report