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Detection of PStV Isolates Originated from 12 Provinces in Indonesia and Characterization of The Isolates Based on Their Symptom in Various Peanut Cultivars

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Peanut stripe virus (PStV) is a major virus infecting peanut. This virus has been known to exixt among various peanut growing areas in Indonesia. However, information regarding whether there are different isolates of PStV among those areas are not known. Since understanding of isolates diversities are important for developing control strategies for the virus, studies regarding isolates diversities of PStV are necessary. This study was conducted to develop detection strategy for various isolates of PStV from defferent areas in Indonesia using dot blot hybridization and reverse-transcriptase polymerase chain reaction (RT-PCR). Subsequently, characterization of the isolates from different areas in Indonesia was conducted.

Samples of virus infected peanut were collected from 12 provinces in Indonesia. All peanut samples were subjected to two times local lesion assay on leaves of *Chenopodium amaranticolor,* to separate PStV from other viruses infecting peanut. All isolates were propagated on peanut cv. Gajah and they were used for subsequent experiments. For dot hybridization, leaf and seed of PStV infected peanut were ground with grinding buffer and the diluted supernate was spotted on nylon membrane. Fragment of PStV CP was amplified with PCR and was used as probe to assay the presence of PStV on peanut samples. Hybridization and detection of PStV were done using standart technique as described for DIG-labelling and the detection system. For RT-PCR assay, primers corresponding to the carboxyl-terminus part of the PStV CP were utilized. The primers amplified approximately 234 bp of the terminal end of the PStV CP open reading frame. The RT-PCR condition were optimized for Perkin Elmer RT-PCR kits.

Results of the local lesion assay identified the presence of fifteen isolates of PStV from samples of infected peanut. All isolates were proven to be PStV based on their symptoms exhibited on various peanut cultivars. Using the symptoms, all PStV isolates were separated into six different groups. Dot blot hybridization and RT-PCR assays also confirmed the identity of the isolates as PStV. Complete results of the investigation will be presented later on