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| **Bibliography** | Lu, H.; Wilson, B.; Zhang, H.; Woruba, S.B.; Feng, B.; Johnson, A.C.; Komolong, B.; Kuniata, L.; Yang, G.; Gurr, G.M. (2024) Detection and identification of Bogia coconut syndrome phytoplasma from seed‑associated tissues and seedlings of coconut (Cocos nucifera) and betel nut (Areca catechu), In: Scientific Reports, Vol.14 (11542), 1-9, URL: https://doi.org/10.1038/s41598-024-61916-4 |
| **Abstract / Content summary** | Evidence for seed transmission of phytoplasmas has grown in several pathosystems including coconut (Cocos nucifera). Bogia coconut syndrome (BCS) is a disease associated with the lethal yellowing syndrome associated with the presence of ‘Candidatus Phytoplasma noviguineense’ that affects coconut, betel nut (Areca catechu) and bananas (Musa spp.) in Papua New Guinea. Coconut and betel nut drupes were sampled from BCS-infected areas in Papua New Guinea, dissected, the extracted nucleic acid was used in polymerase chain reaction (PCR), and loop mediated isothermal amplification (LAMP) used to check for presence of phytoplasma DNA. In a second study, drupes of both plant species were collected from multiple field sites and grown in insect-proof cages. Leaf samples taken at 6 months were also tested with PCR and LAMP. The studies of dissected coconut drupes detected phytoplasma DNA in several tissues including the embryo. Drupes from betel nut tested negative. Among the seedlings, evidence of possible seed transmission was found in both plant species. The results demonstrate the presence of ‘Ca. P. noviguineense’ in coconut drupes and seedlings, and in seedlings of betel nut; factors that need to be considered in ongoing management and containment efforts.
Keywords: Seed borne, Seed transmission, Lethal yellowing disease, 16S rRNA |
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