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| **Item type** |  |
| **Bibliography** | Bugajim, C.; Groves, K.; William, C.; Henderson, L.; Brown, P. (2024) Yield performance of virus free sweetpotato (Ipomoea batatas) cultivars in the highlands of Papua New Guinea, In: New Zealand Journal of Crop and Horticultural Science (Special issue), 1-9, URL: https://doi.org/10.1080/01140671.2024.2314475 |
| **Abstract / Content summary** | Sweetpotato (Ipomoea batatas (L.) Lam.) is the dominant staple food crop in the Highlands Provinces in Papua New Guinea (PNG), but productivity is constrained by pests and diseases including viral pathogens. Meristem-tip culture and thermotherapy can be used to
eliminate viral pathogens in planting material, overcoming productivity constraints caused by viral infections. In this study, the performance of four PNG sweetpotato cultivars grown from virus cleaned or farmer-sourced planting material were assessed at four production locations in PNG Highlands Provinces. Total root yields were significantly increased in three of the four cultivars by using virus-cleaned material, with root number and root weight increasing as well as root quality. A weak interaction between the origin region of a cultivar and trial site location was observed, suggesting that response to virus-cleaning may be lower when cultivars selected for tolerance to pathogens in a production region are grown in the same region after virus-cleaning. The results demonstrated that under traditional production practices in gardens frequently used for sweetpotato production, the use of virus-cleaned planting material is a viable practice for farmers aiming to transition from subsistence production to commercial production.
Keywords: Cultivar decline; pathogen testing; sweetpotato viruses; yield reduction; food security
Note: Special issue: Plant science research in the Pacific |
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