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Abstract

Shoot Borer Earias Vittella—A Threat to the Indigenous Vegetable Pele Abelmoschus Manihot in the Pacific †

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Abstract: The indigenous vegetable *Abelmoschus manihot* (Malvaceae) is one of the staple crops in the Pacific island countries. It is known by various local names, including Pele (Samoa, Tonga), Bele (Fiji), Aibika (Papua New Guinea), and slippery cabbage (Solomon Islands). The Food and Agriculture Organisation (FAO) has recommended this as one of the top crops for nutritional security. The leaves of *A. manihot* are consumed raw, in soups and in various local cuisine. Herbivory is a major problem in growing *A. manihot*; however, farmers are reluctant to use pesticides. We examined the damage caused by the shoot borer *Earias vittella* (Lepidoptera: Noctuidae) to three common *A. manihot* varieties, Green (GN), Red Broad (RB) and Red lobed (RL) in Samoa. In both field and laboratory assessments, *E. vittella* attacked all the selected varieties. Female lay eggs on shoot tips, and the hatched larvae bore into young shoots. The succulent green variety was found to be more susceptible to the borer attack than red varieties. In field assessment, RL was the least attacked by the borers. In the laboratory bioassay, the larvae that developed on RL were much smaller and weaker than those on the other varieties. In sensory testing, the shoot tips of RN were found to have a tougher/fibrous texture that probably made RN undesirable to the borer. Furthermore, the taller plants were found more vulnerable to borer attack. The study suggests that pruning *A. manihot* could minimise borer attack; and that RN is a potential variety for future breeding programmes.

Keywords: slippery cabbage; Malvaceae family; staple crop; Lepidoptera; Noctuidae

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