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Evaluation of Selected Pesticidal Plant Extracts against Major Cabbage Insect Pests in the Field

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Abstract

An evaluation of fresh extracts from three locally available pesticidal plants was carried out at the shores of Lake Victoria, in Central Uganda, against two important cabbage insect pests in the field in order to establish and assess their potency for future pesticidal application. This followed the farmers' view that the plants could have pesticidal features or at least have been observed to protect leafy crops against pests. Locally available plants were used as a result of getting a tip from local farmers that the plants could be of pesticidal importance. Although many plants were mentioned in our preliminary survey, only three plants investigated in this work namely: *Euphorbia tirucalli*, *Jatropha curcas* and *Phytolacca dodecandra* were seen to show reasonable pesticidal features. Results suggest that *E. tirucalli* fresh latex could reduce infestation of *Brevicoryne brassicae* below economic threshold levels. Extracts from *J. curcas* and *P. dodecandra* likewise reduced *B. brassicae* levels but could not do so to the required threshold levels. Their potency was therefore deemed incapable for the required pesticidal requirement. The same extracts were evaluated against the diamondback moth *Plutella xylostella* but none was able to cause reduction of the moth larvae to economic threshold levels. Only *E. tirucalli* latex seemed to be a potential management measure against *B. brassicae* and a contributory factor to managing *P. xylostella* infestations. Although the rest displayed some pesticidal characteristics, they were only seen as contributory to the purpose. It was concluded and recommended that the farmers could continue using the extracts but commercialisation and extensive use should await further research.

Keywords: Fresh extract, *Brevicoryne brassicae*, cabbages, *Euphorbia tirucalli*, Pest management, *Plutella xylostella*