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Eco-Friendly Management of Cowpea Pests Using Local Plant Extracts in Ngaoundere, Cameroon

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1 ABSTRACT

Crop cultivation, which often depends on the application of chemical pesticides, leads to environmental and people's health issues, and it is really important to look into greener options. Some local plants, such as *Annona senegalensis*, *Chromolaena odorata*, and *Eucalyptus camaldulensis*, have been used as insect pest killers for some time. This present study checked out how effective these plant extracts worked at different dosages (5%, 10%, and 15%) to control cowpea pests on cowpea plants in Ngaoundere, Cameroon. We conducted field tests for two rainy seasons (2023 and 2024), using a setup where we randomly applied eleven treatments with four replicates. One treatment was considered the negative control. In total, we recorded 2,458 in 2023 and 2,628 in 2024 on cowpea plants. The most common insect pest was *Aphis craccivora*, followed by *Ootheca mutabilis*. : The results revealed that treatments based on *E. camaldulensis* and *A. senegalensis* treatments have strong insect pest-killing potential because they contain compounds with adulticidal properties. They also seemed to repel insect pests. The plant extracts lowered the number of bugs compared to the untreated control, especially *E. camaldulensis* and *A. senegalensis* extracts. Therefore, these extracts could be better and sustainable options for managing bugs instead of using synthetic insecticides. As we mostly found sap-sucking bugs and leaf-feeders, it makes sense to use a pest management strategy that includes plant extracts, which is ecofriendly.