

Effect of Cow Urine Based Plant Extracts Against Maize Weevil (*Sitophilus zeamais*) on Different Pulse Grains

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Productive handling of storage grains following harvest is greatly contributed to socio-economic endorsement in every country. As the cow urine infusion has been expressed as remedial enhancer and availability of anti-infectant agent, this experiment was conducted to evaluate the effects of 10% cow urine-based extract of four selected botanicals; nochi (*Vitex nugendo*), eucalyptus (*Eucalyptus globulus*), neem (*Azadirachta indica*) and annona (*Annona squamosa*) against the infection of *Sitophilus zeamais* on pulse grains namely red cowpea, cowpea with black eye, green gram and chick pea. Treated and untreated grains were significantly varied ($p \leq 0.0001$) in weevil mortality and grain damage. The results indicated that neem and annona provided significantly ($p \leq 0.0001$) highest protection among these botanicals and eucalyptus was followed by nochi was effectively killed the weevils. Similarly, numbers of damaged grains were relatively less in neem and annona treated treatments. Furthermore, nochi had no significant influence on the grain damage except green gram among the tested host seeds. Moreover, significantly ($p \leq .00001$) very low adult mortality and huge grain damage was observed in untreated control. The results of the present study confirmed the efficacy of cow urine-based neem owing to the antifeedant, deterrent, and anti-ovipositional effects.

Key words: *Anti-infectance agent, botanicals, grain damage mortality*

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