

# Efficacy of various seed protectants against *Callosobruchus chinensis* (L.) on cowpea (*Vigna unguiculata* L.) under storage condition

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## ABSTRACT

Investigations were carried out at Department of Entomology, B. A. College Agriculture, Anand Agricultural University, Anand, Gujarat (India) during 2011-12 for the evaluation of plant oils, botanical leaf powders as well as synthetic insecticides as seed protectants against *Callosobruchus chinensis* Linnaeus on stored cowpea. Cowpea seeds treated with castor, *Neem* and pongam oil @ 1% (v/w) recorded significantly higher adult mortality ( $\geq 57\%$ ) of *C. chinensis* during storage period of 6 months with higher half-life values (about 2.5 months), higher gross persistency (4707 to 3597), lower population growth (3.87 to 5.36 adult emergence) and lower per cent loss in germination (19.45 to 22.36%). Among the various leaf powders; *Neem*, eucalyptus and *Tulsi* @ 2% recorded higher per cent adult mortality ( $> 43\%$ ), higher half-life (about 3 months) and higher gross persistence ( $\geq 2909$ ) values, lower number of adult emergence ( $\leq 2.67$ ) and higher germination count ( $\geq 70\%$ ) and were found to be more effective. Among synthetic insecticides; deltamethrin 2.8 EC, cypermethrin 10 EC, spinosad 45 SC and fenvalerate 20 EC @ 4 ppm were significantly more effective against *C. chinensis* and recorded significantly higher mortality ( $> 71\%$ ) with higher half-life values (3 to 8 months), higher persistency ( $\geq 5121$ ) and lower number of adult emergence ( $\leq 2.63$ ). The same insecticides also exhibited lower per cent loss (10.16 to 18.66%) in germination of cowpea seeds.

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