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

MAMTA DEVICHOUDHARY*, T. M. BHARPODA, SUSHMA DEB AND SUMAN CHAUDHARY

Department of Entomology, B. A. College of Agriculture, Anand Agricultural University, ANAND (GUJARAT) INDIA

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 (>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 (> 2909) values, lower number of adult emergence (< 2.67) and higher germination count (>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 (> 5121) and lower number of adult emergence (< 2.63). The same insecticides also exhibited lower per cent loss (10.16 to 18.66%) in germination of cowpea seeds.