Shrikant et al., Agrotechnol 2014, 2:4
http://dx.doi.org/10.4172/2168-9881.S1.012

OMICS Group Conferences
Accelerating Scientific Discovery

3rd International Conference on
Agriculture & Horticulture
October 27-29, 2014 Hyderabad International Convention Centre, India

Detection of infestation and management of stored product insect pests of cocoa

Shrikant[1], R Harischandra Naik[1] and Mohan S[2]
[1]University of Agricultural Sciences, India
[2]Tamil Nadu Agricultural University, India

Investigations on monitoring of insect pest of stored cocoa beans in various storage facilities of cocoa was done during 2010-2011 in Tamil Nadu, India. The monitoring studies revealed the presence of 10 insect species revealed namely *Lasioderma serricorne* (F.), *Tribolium castaneum* (Herbst.), *Araecerus fasciculatus* (De Geer*), Prostephanus. Truncates* (Horn), *Carphophilus spp.*(Erichson) *Ephestia* spp.(Walker), *Hypothenemus* spp. (Ferrari)., *Cryptolestes ferrugineus* (Stephens) *Liposcelis* spp and *Plodia interpunctella* (Hubner). The probe trap detected the *T. castneum, L. serricorne* and *C. ferrugineus* in stored cocoa beans, more effectively. The detection ratio was higher in probe trap compared to sieve sampling irrespective of source of beans. UV light trap with 4 Watts germicidal light source set 1.5m above ground level in warehouse corners proved very effective in trapping *C. ferrugineus, P. interpuntella, E. ellutella, L. serricorne, T. castaneum, P. truncatus, Carpophilus spp, A. fasiculatus, Hypothenemus spp, Bracon spp, Xylocoris spp. and Liposcelis spp. Among them trapping was more in C. ferrugineus* and *T. castaneum*. Stack probe was found effective as a monitoring tool in the detection of stored product insects mainly, T. castaneum and *C. ferrugineus* and Carpophilus spp. in bag storage of cocoa beans. Pheromone trap were found to be the ideal tools for detection of *P. interpunctella* and *E. ellutella* stored product insects in stack storage of cocoa beans. The egg removal device proved to be effective in the crushing the eggs of T. castaneum in cocoa beans. Highest efficacy (76%) was found when the treatment was made for 5 days (15 min/day). A biodiversity index revealed that, insect species richness was maximum in UV light trap method and minimum in stack probe method. Insect species diversity in stored cocoa beans was rich in UV light trap method followed by normal sieve method. Species richness, species diversity and evenness were higher in the order Coleoptera and lower in Hemiptera.

shrikantagri@gmail.com