

Survey on storage method, insect pest and loss assessment of stored grains in Anseba region, Eritrea

■ Adugna Haile* and Tufail Ahmad

Department of Plant Protection, Hamelmalo Agricultural College, **State of Eritrea**

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ABSTRACT

Method of storage and loss assessment of stored grains of farmers of Anseba region, Eritrea was carried out in 2015-16. 96% farmers stored their grains 6-12 months, 77.7% for food, 15.2% sale after increase of price and 7.2 % farmers for seed purpose. In Anseba region the method of storage are traditional and their type, size and shape are quite similar. The storage types are basically plastic bags, barrel, sacks, pots, hides and skins, gufet, and shirfa. The participants also reported that seeds are stored in pot, sack, godo, skin and Plastic bag (meshemae). In the present study the major storage pests of cereal were *Sitophilus granaries* L., *Sitophilus zeamais* Mostch, *Sitophilus oryzae* L. and *Sitotroga cerealella* followed by *Tribolium* spp. lesser grain borer and saw-toothed grain beetle whereas, in stored pulses *Callosobruchus chinensis* L. and *Callosobruchus maculatus* F. are the major ones followed by *Acanthoscelides obtectus* Say and *Zabrotes subfasciatus*. These storage pests affected the quality and quantity of the grains and reduce their germination capacity. The germination loss for the damaged maize, sorghum barley were (58.5%), (2.17%) and (2.3%), respectively, whereas, in all undamaged cereals the germination was more than (85.0%). The germination of the damaged pulses grain varies from (12.3%) to (35.0%), the highest was observed in cowpea followed by faba bean and the lowest germination was recorded in stored lentil. The weight loss in cereals varies from (2.6%) in barley to a maximum in (15.8%) in sorghum. Likewise, the weight loss for pulses varied from (9.6%) to (42.6%). In general the weight loss of cereals and pulses in the region is very high with a mean of (8.4%) and (24.1%), respectively, which is very high to affect the food security of the region. Farmers use different type of traditional storage structure for grains and seed such as *Koffo* in the high land and *Gufet* in the lowlands with the main being plastic bags and sacks.

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*Corresponding author:
Email : ahailef@gmail.com