

Seed Health Status of Farmers Saved Seed with Respect to Insect Infestation

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Rice is the most important staple food crop of India. In spite of continuous efforts to achieve higher productivity, our per hectare yield remains to be low. Availability of quality seed which is one of the major inputs for achieving this is less than 10 per cent and most of the farmers use the seed that is available among themselves. Information on the health status of seed stored by farmers is scanty [1]. Storage of wheat seed under improper conditions has resulted in 4.4 per cent loss to the seed [2]. In Haryana 67.8 per cent of wheat seed samples were rejected as they did not meet minimum seed certification standards due to insect infestation [3]. Present studies to survey on the quality of rice seed available with the farmers was undertaken in six villages of Guntur and nine villages of West Godavari districts of Andhra Pradesh.

A total number of 116 samples, each weighing one kilogram were collected in polythene bags and properly sealed after labeling. Information on type of storage structure, protection measures taken, period of storage etc. were collected from farmers through a questionnaire prepared for the purpose. After bringing the samples to the laboratory they were mixed thoroughly individually before drawing samples. Moisture content was estimated using OSAW universal moisture meter. Insect infestation was estimated by taking 400 seeds and examining for pest damage. For estimation of hidden infestation the same seed samples were stored in polythene bags and insect infestation was estimated one week

later. Per cent insect infestation was estimated by totaling the initial and final observations. Germination test was conducted by following between paper method by drawing 400 seeds from each sample. Each treatment consisted of one hundred seeds replicated four times.

Vigour index was calculated by multiplying germination per cent with seedling length [4]. Moisture content in 98 per cent of the samples was below 13 per cent. However, infestation by lesser grain borer, *Rhizopertha dominica* (Fab.) and angoumois grain moth, *Citotroga cerealella* (Oliv.) was recorded in most of the seed samples. Combined infestation ranging from 0.5 to 16.0 per cent was recorded in 77.0 per cent samples in Guntur district and 78.0 per cent samples in W. Godavari district. As per the minimum seed certification standards [5] 35.0 per cent samples in W. Godavari district and 38.0 per cent samples in Guntur district which recorded more than 1.0 per cent damage failed to meet certification standards. Germinability of more than 80.0 per cent was recorded in 62.0 per cent of the samples in Guntur district and 88.0 per cent samples in W. Godavari district (Table 1 & Fig 1). Similar results were reported by Huda *et al.*, [6] wherein 49.3 per cent samples collected from farmers showed germination below minimum seed certification standards of 80.0 per cent. Prasad *et al.*, [7] also recorded low germination in 67.0 per cent samples.

It can be concluded that failure to prevent

Table 1. Seed health status of farmers saved paddy seed with respect to insect infestation

S.No.	Name of district	Villages surveyed	Seed samples collected	Per cent seed samples with		
				Pest damage <1.0%	Viability > 80.0 %	Moisture <13.0%
1	W. Godavari	9	93	35	62	98
2	Guntur	6	23	38	88	99

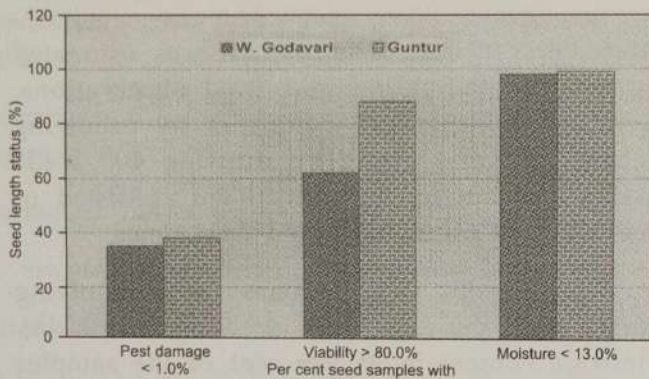


Fig. 1. Seed health status of farmers saved paddy seed in Andhra Pradesh

insect damage during storage may have serious consequences leading to poor crop stand in the field and ultimately yield. Thus present studies clearly indicate the importance of management of stored seed pests. There is an urgent need to make the farmers aware of the losses caused to the seed during storage and management practices to be adopted like sanitation and judicious application of insecticides which do not affect the quality of seed.

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