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Evaluation of grain quality parameters of rice varieties stored in different storage materials

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In Sri Lanka paddy prices fluctuate severely showing a minimum price at harvest. To be benefited by higher prices, farmers strive to store paddy. But poor storage management and lack of technology cause quantitative and qualitative losses by rodents, insect attack and microbial deterioration. Most commonly farmers use polysacks (PS) to store paddy. To overcome the pest attacks an air tight storage bags are made of PVC (Polyvinylchloride) were introduced by International Rice Research Institute (IRRI). Therefore, the study was conducted at Rice Research and Development Institute , Batalagaoda to evaluate the grain quality parameters of six rice varieties (Bg352, Bg300, Bg358, Bg360, At405, At306) stored in such hermitically sealed materials (IRRI bags) and polysacks (PS) use as a control sample. Grain qualities (milling, physical, and nutritional) were evaluated after 9 months of storage paddy. Milling qualities like brown rice percentage (BR)); head grain percentage (HG%) were taken and the highest BR% was observed in Bg352 (81.26) and physical qualities such as weight of thousand grains were significantly higher in hermitically stored paddy after 9 months storage. Hardness of variety At 405(52.58) in IRRI and At 306(63.00) in polysacks and the highest whiteness (43.7) in Bg352 stored in polysacks. Variety At306 had the lowest milling quality characteristics than that of other varieties. There was no significant difference in head grain percentage, hardness of the kernels, whiteness and all the nutritional qualities with the two storage materials. It can be concluded from the results that quality parameters such as BR% and grain weight could be maintained better by storing hermetically. Hermitically stored paddy obtained significantly higher grain quality parameters than that of paddy stored in poly sacks. Different paddy varieties showed different grain quality parameters

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