

EFFECT OF GASTIGHT STORAGE ON GROWTH OF FUNGI IN PADDY STORED OUTDOORS

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Due to high temperature and relative humidity in the Philippines, significant losses occur as a result of mold deterioration. The problem is exacerbated when grains are not properly or uniformly dried before storage. This led to the investigation of hermetic storage using gastight flexible liners on population changes of fungi in dry (below 14% moisture content) and growth of fungi with intermediate moisture content (16%) paddy stored outdoors.

The concepts of gastight storage was tested using especially designed enclosures and employing heavy duty flexible liners developed in Israel. Field evaluations showed that insect infestation was controlled in bagged paddy and have the added benefit of controlling mold growth too. Following one and a half months to six months storage, most fungi generally did not develop. This may be attributed to the effect of modified atmosphere generated inside the gastight liners. Higher fungal counts were noted at the periphery and bottom of the gastight cube. Similar occurrence was noted at the top of the gastight cube. Further observations revealed that the proliferation and prevalence of fungal species was affected by storage time and the modified atmosphere inside the gastight liners.