

PRESERVATION OF GRAIN IN HERMETICALLY SEALED PLASTIC LINERS WITH PARTICULAR REFERENCE TO STORAGE OF BARLEY IN CYPRUS

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Preservation of grain quality in a storage system using airtight synthetic liners to sufficiently control insects is reviewed. Structures investigated were bunkers and concrete platforms. They are covered with plastic liners for bulk storage of grain. These structures are recommended for dry grain storage only. Experience with wheat and barley stored in warm climates with a cool season is reported.

In Cyprus, barley of 10% moisture content was stored on two concrete platforms covered with PVC based liners. The floor of one platform was lined with polyethylene over which about 4,000 tonnes of barley were stored for 9 months. On the second platform 2,500 tonnes of barley were loaded over the concrete - without the polyethylene liner - and stored for 7 months. Insect activity was controlled in the first platform within four months. Insect activity was only partially suppressed (0.3 insect/kg of barley during unloading) in the second platform.

Moisture content of barley remained stable except for the peak layer, where moisture migration caused marked moisture increase. Mold damaged barley that was unfit for consumption was 0.0088% in the first platform, and in the second it was 0.1874% of the total quantity. Germination of barley, at sampling points not influenced by moisture increase, remained above 95% throughout the storage periods.