

# THE USE OF ON-SITE GENERATED ATMOSPHERES TO TREAT GRAIN IN BINS OR FLOOR STORES

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Systems available for on site generation of low oxygen atmospheres for application to typical storage structures are described. The performance of a propane burner in generating and maintaining an atmosphere lethal to stored grain pests is evaluated for three bins and a small floor store. Under reasonably calm conditions, a flow rate of 4.5 m<sup>3</sup>/h was required to maintain an atmosphere containing 1% or less oxygen in a bin containing 290 tonnes of grain, compared with 11.5 m<sup>3</sup>/h for a bin loaded with 810 tonnes of barley and 12 m<sup>3</sup>/h for a bin containing 1150 tonnes of wheat. The 100 tonne bulk of floor stored grain was held under a 1 % oxygen atmosphere by a maintenance flow rate of 9m<sup>3</sup>/h. The results are discussed in the context of sealing problems, the effect of interruptions caused by windy weather or wide temperature fluctuations, and application costs. A provisional dosage schedule, based on the current and previous work, is presented.