

A COMPARISON OF TWO APPROACHES TO DETECTING INSECTS IN GRAIN

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Detecting insects in grain is a fundamental component in establishing the need for a fumigation, in post-treatment assessment or in comparing the effectiveness of alternative treatments. Despite the importance of pest detection there are few comparative studies between methods. This work compared the testing of samples of infested grain with a Berlese funnel with the Insectomat, which is designed to extract insects from relatively large samples of grain. Samples of grain with a natural infestation of *Oryzaephilus surinamensis*, *Sitophilus granarius* and *Cryptolestes* sp. were used. The Insectomat assessed 5 kg batches, whilst 1 kg batches were used in the funnels. The Insectomat was consistently better than the funnel in detecting all three species of insect. It also produced larger estimates of the size of population. The Insectomat allowed samples to be assessed in about 5 minutes as compared to more than 6 hours for the funnel.

The size of sample used by each system would appear to be the key to detection and the work indicates the potential dangers in using small samples taken from larger bulks to estimate insect populations or to determine the effectiveness of treatments.