SESSION 10: SAMPLING AND TRAPPING TO MONITOR INSECT POPULATIONS IN RELATION TO CA AND/OR FUMIGATION

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Rapporteur's Report

Insect detection and the estimation of population size are of fundamental importance when deciding if a control measure has been effective or if treatment is needed. Sampling and trapping are the tools most often used to provide this information on stored-product pests (both in commodities and in stores). Poor detection methods must, at the very least, lead to an overestimate of the efficacy of treatments. There are also implications for the early detection of resistance and the survival of low numbers of resistant insects. Therefore, it is very appropriate that a Sampling and Trapping Session was included in this conference. It is important that researchers working on control methods remain aware of the best options for detection as well as the risks associated with less efficient options. Trappers and samplers, particularly at a practical level, need to be aware of the problems they are expected to solve. This conference provides an ideal forum for such an interchange.

The point was made during questions that good detection methods are not always popular. Well, science must rule, and trappers and samplers must boldly go (splitting infinitives on the way) — but watch out for the men in suits!

The papers in this session covered pest detection and population estimation in grain, under laboratory and practical conditions, and the detection of pests in freight containers filled with cocoa. Several different approaches were covered, and different methods and equipment were compared.

Three of the papers presented (and one relevant poster) compared different traps or equipment, giving valuable information directly applicable to practical studies. Trematerra and Mancini showed that there are significant differences, both in terms of numbers caught and the response of different species, between trap types. However, the work also showed a high level of variability in trap-catch results, even under controlled laboratory conditions.

The theoretical view of sampling, presented by Bhadriraju Subramanyam, Hagstrum, Meagher Burkness, Hutchison and Naranjo, was supported by some practical results. Wilkin and Van Natto gave a practical account of the comparison of two methods and, at the same time, showed the disadvantage of using small samples in estimating insect populations or detecting insects at low densities.

Trematerra, Fontana and Mancini showed that natural insect pheromones, as well as the presence of dead insects in a trap, can affect trap catch. In the final paper, Cogan discussed the use of traps in freight containers, specifically to assess the efficacy of earlier fumigations. He also compared three different types of trap in his presentation.

The conclusions seem to be that traps must be calibrated and compared and that we also need to set objectives for detection regimes and to be cautious of spot data.