

## SIROFLO<sup>®</sup>, - A BETTER WAY TO FUMIGATE GRAIN

R.G.WINKS and G.F.RUSSELL

*CSIRO, Division of Entomology, P.O. Box 1700, Canberra, Australia.  
Fax: 61624642092*

Although phosphine has been used to fumigate grain in unsealed storages for many years such usage is not an acceptable option in any on-going fumigation strategy. At best it will lead to an illusion of success by killing the mobile stages; at worst it will promote the selection for phosphine resistance. Similarly, methods such as "trickle-flow" or regular "top-up" of concentrations in storages that are not sealed are equally unacceptable.

With the development of SIROFLO<sup>®</sup>, a technique designed for both sealed and unsealed storages, the questions concerning fumigation strategies and whether or not some storages should be sealed have been brought into focus. The choice of fumigation strategy can now be between the use of sealed storages with recirculation or with passive distribution of gas or alternatively the use of a positive pressure distribution system in storages that may or may not be sealed. An understanding of the behaviour of gases and the factors that give rise to gas loss is a primary consideration in examining this question. Other factors that will influence the choice include the geometry of the structure and the costs of the options available. The relative merits of the alternative strategies are discussed.