

Technology transfer of IPM tactics

Hosoda, E.K.*#

Cardinal Professional Products, 57 Matmor Road, Woodland, CA 95776, USA

*Corresponding author, Email: ehosoda@cardinalproproducts.com

#Presenting author, Email: ehosoda@cardinalproproducts.com

DOI: 10.14455/DOA.res.2014.128

Abstract

University and government researchers have provided valuable information on stored product pest management methods and techniques, but frequently lack a vehicle for transferring this technology to the industry. Research on control tactics using various products or devices such as mating disruption, insect growth regulators, ULV treatments and fumigation require a mechanism to bring this technology to the industry and isn't often accomplished. It is incumbent upon consultants or technically oriented manufacturer or distributor representatives to provide the training, education, field trials and assistance required to successfully initiate products in the marketplace. Examples of this would be the introduction of CIDETRAK[®] IMM, a mating disruption product manufactured by Trécé in the United States. Much of the research and development was provided by Dr. James Campbell from the USDA-ARS Center for Grain and Animal Health Research in Manhattan, KS. Trécé provided educational seminars using Dr. Campbell to present information and application techniques to successfully transfer this technology. They have realized a very successful launch of the product and CIDETRAK[®] IMM is currently used as a critical tool for IPM practitioners. Dr. Frank Arthur from the same research unit in Kansas provided the industry with a study on the effectiveness of insect growth regulators on various stored product insects. His study indicated that pyriproxyfen (NyGuard[®]) is most effective in controlling *Tribolium castaneum* and less effective on *Plodia interpunctella*. This knowledge can assist pest management technicians in choosing cost effective products and methods to apply IGR's targeting specific insect pests. In addition to this study, Dr. Arthur published a paper on the comparative effectiveness of ULV treatments showing the effects of temperature and product type/combinations and the level of control of *T. confusum*. It was discovered that dichlorvos treatments resulted in the highest level of control, partly due to its vapor toxicity. Knowing this characteristic of dichlorvos, we can use this product in situations that require control in hard to reach insect harborage sites within warehouses and other facilities. Furthermore, we can research application methods to enhance the application process to utilize this product to its full potential. The introduction of cylinderized phosphine in the United States occurred in 2001. Even though phosphine produced from metal phosphides have been available for years, cylinderized phosphine represented an entirely different approach to using this fumigant due to the combination of liquid carbon dioxide present in the formulation. It took months of field testing and trials by licensed fumigators and distributor representatives to find the most effective and efficient way to successfully apply this fumigant, and has been an extremely important fumigant to use for treatment of stored product insects. The proper transfer of technology is key to the future success of pest management products.

Keywords: CIDETRAK, pyriproxyfen, dichlorvos