

PEST MANAGEMENT IN THE FOOD INDUSTRY – INTEGRATED CONTROL OF PUBLIC HEALTH PESTS

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INTRODUCTION

The concept of integrated pest management is well established, particularly in the area of agricultural crop protection. The term integrated pest management, when first coined, referred to the intelligent use of selected pest control strategies which have as few unfavourable consequences as possible upon the economic, ecological and sociological environments. These basic principles still apply, but the term has been used in many ways in recent years, often just to cover pest control using two or more methods to control pests. It is important that the true spirit of integrated pest management is embraced for its successful application.

For any strategy of integrated pest management to be implemented in any establishments involved in the food industry the following items should be considered and indeed are covered to varying degrees within this symposium.

Assessment

What is there, why is it there, do we need to worry that it is there. These basic questions apply to any possible infestation in an environment no matter what the suspected infestation

Identification

All good pest control strategies depend upon accurate identification of the organism which has been encountered in the establishment. Knowing exactly what the organism is and the details of its life cycle allows a sensible approach to the control to be developed. A vulnerable stage of the particular pest can be identified.

Strategic insecticidal use

There are situations which will always require the use of toxic chemicals. The need to minimise these is paramount, but is this realistic? For alternative methods to be used they must be effective and there is no point in using ineffective methods which in the long term can have damaging effects. An example of this is methyl bromide which for many years has been used in association with food production. Is there an effective alternative to methyl bromide ?

Biological control in its widest sense.

Are these agents the future ? Employing another biological agent to control a pest, such as one of its natural predators or parasites has much to commend it, but as many examples of this technique have shown the time-scale of the activity is long and frequently expensive. There is rarely instantaneous control when natural predators/products are used.

In the control of many invertebrate pests in the food industry life-cycle manipulating agents, such as the various insect growth regulators, are having limited success - what is their future in the food industry ?

Monitoring

The use of non-toxic baited traps has been a great advance in recent years for assessing the extent

of a pest population and in addition assessing the effectiveness of any control measures. Monitoring techniques need careful consideration to be successful. It is only through a sound understanding of the species being targeted that a successful monitoring programme can be instigated.

Fundamental research

It is frequently assumed that everything is known about the pests which are encountered in the food industry. This is far from the reality, there are many areas where there is a need for the behaviour and physiology of the pest to be more thoroughly understood. Most animals which are classified as pests within the food industry have highly attuned sensory systems with which they detect feeding areas, breeding areas and safe harbourages all of which can be provided by areas within the food industry. Fundamental research into the visual, olfactory and gustatory receptors of such animals continues to enlighten the pest controller and help in the development of more successful control strategies.