Challenges and Solutions for Pest Management in Food Production Facilities

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The U.S. Food & Agriculture Organisation estimates that if post harvest food loss, related to pest activity could be reduced by 50% -

There would be enough food to feed the world's population.
Wouldn't that be something!?

Global population growth

The world's population is now odds-on to swell ever-higher for the rest of the century, posing grave challenges for food supplies, healthcare and social cohesion. A ground-breaking analysis shows there is a 70% chance that the number of people on the planet will rise continuously from 7bn today to 11bn in 2100

(source: The Guardian UK)

A 2010 CSIRO analysis indicated *'what <u>rodents</u> eat and spoil globally, could feed 280 million people in developing countries for a year (Meerburg et al. 2009a)'*

The population must be fed

Forget iron ore & coal – FOOD IS THE NEW RESOURCE

Food security & bio-security will become paramount.   All parties concerned will need to become more efficient & resourceful

The agriculture industry will be looking to improve yields on crops & stock.   It will also need to focus on reducing food loss from pests

What are the challenges for the food industry?

- To meet the food quantity and quality needs of the growing population

- To comply with increasingly demanding food safety standards

- To meet higher food safety & quality regulations from government

How can the Pest Control Industry help the food industry?

1. Provide pro-active and re-active pest services via innovation, research & technology (not just good old fashioned service)

2. Provide pest related advice, recommendations and guidance to the food industry, including education & training

3. Develop, evaluate and improve industry best practice

ALL VITAL COMPONENTS OF INTEGRATED PEST MANAGEMENT

What outcomes do we (pest industry) want to achieve?

- Reduction of food loss (from pest feeding activity)

- Minimise food contamination from pests

- Help the food businesses meet stricter government food safety & quality regulations

- Help the food businesses to comply with increasingly demanding food safety standards and assist them with passing their audits

- Align our two industries (food & pest control) through harmonisation of practices, procedures, expectations & outcomes …………………………………….

What challenges are we faced with achieving these outcomes?

We'll discuss a couple of these:

1. Be able to provide a pest free environment while using safer but effective pest management methods with less reliance on pesticides

"safer but effective pest management methods with less reliance on pesticides"

Sounds easy?

No pheromone lures or traps will stop these guys

European Wasp (*Vespula germanica*)

Sydney Funnel Web (*Atrax robustus*)

Giant Termite (*Mastotermes darwiniensis*)

Redback Spider (*Lactradectus hasselti*)

Aus. Paralysis Tick (*Ixodes holocylus*)

Bulldog Ant (*Myrmecia gulosa*)

Australian Mouse Plagues

"safer but effective pest management methods with less reliance on pesticides"
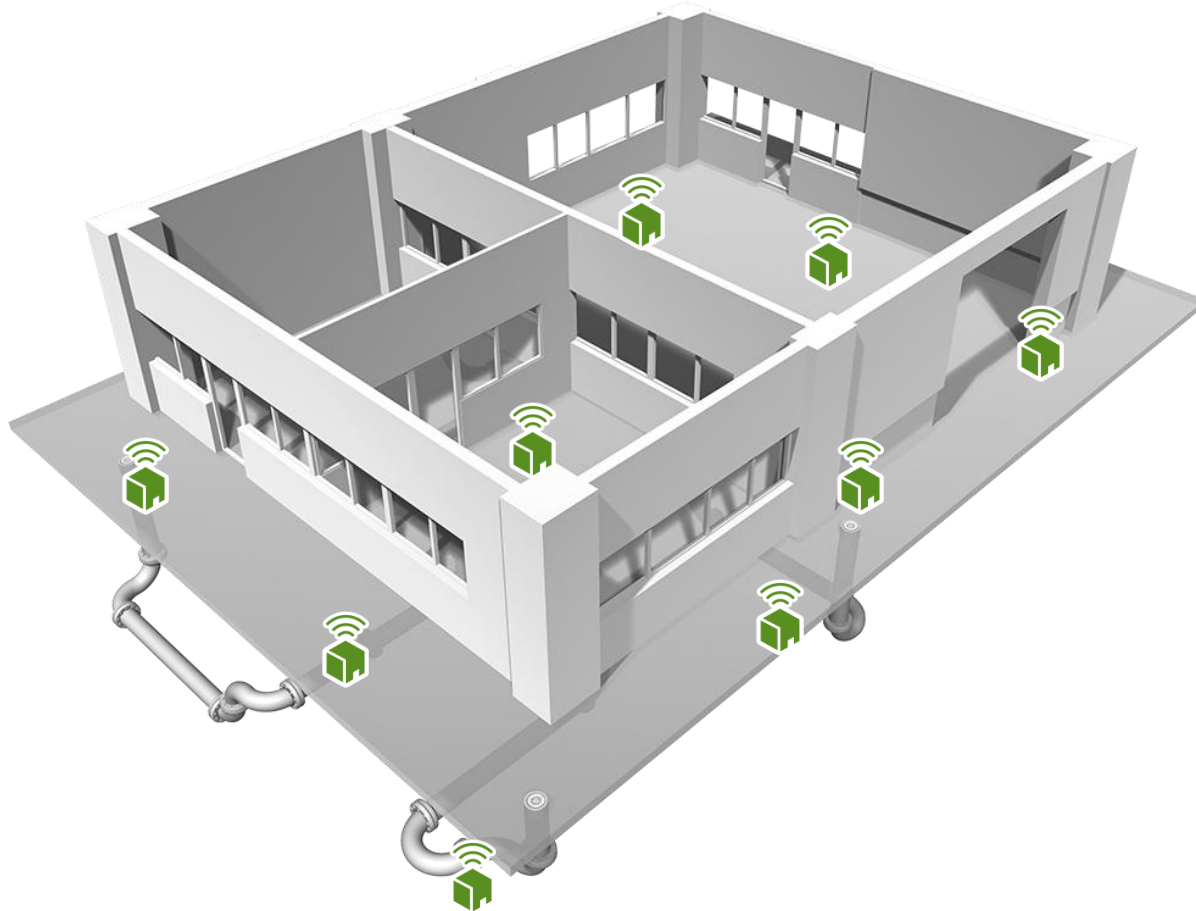

This is a true challenge

"safer but effective pest management methods with less reliance on pesticides"

- **Sure, we have heat & cold treatments but insulative factors interfere**

- **We can reduce relative humidity where food commodities are stored**

- **We can alter concentrations of atmospheric CO2, Nitrogen & Oxygen**
  but these methods have limitations

- **Biological control introduces more organisms into the food commodity**

- **Baits work well but are chemicals/pesticides after all**

- **Pheromones are great but are more for monitoring & limited to specific species**
  we must find solutions

Solutions – Innovation & development. We must find more efficient and "greener" methods & technologies

At a company level: Anticimex *SMART* Solutions

Ground breaking technology which incorporates 24/7 monitoring & recording of pest activity and if required, elimination of that activity
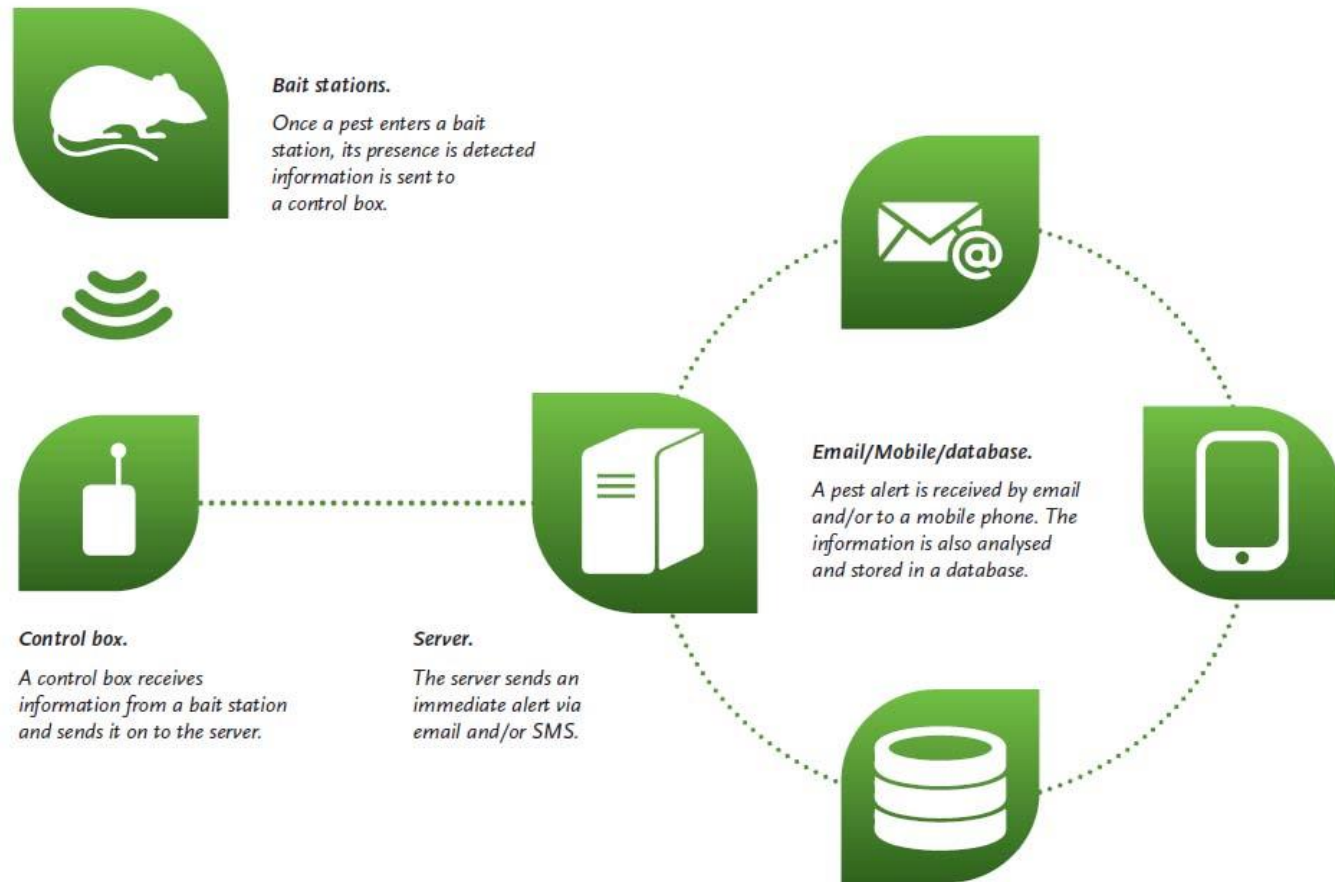
Anticimex *SMART* Solutions

- A completely flexible system which can be tailored to suit specific sites, situations and customer requirements

- Provides pinpoint location of rodents, which then enables focused, localised management of that rodent activity, the moment it occurs, minimising the potential for localised pest ingress to escalate into a major infestation

Anticimex *SMART* Solutions -

The **SMART** Solutions incorporates quick and humane rodent elimination <u>without the use of rodenticides</u> (if required)

Bait stations.
Once a pest enters a bait station, its presence is detected information is sent to a control box.

Control box.
A control box receives information from a bait station and sends it on to the server.

Server.
The server sends an immediate alert via email and/or SMS.

Email/Mobile/database.
A pest alert is received by email and/or to a mobile phone. The information is also analysed and stored in a database.

Offers real time intelligence & reporting, which contributes greatly to food standards compliance and enhances audit results for food businesses
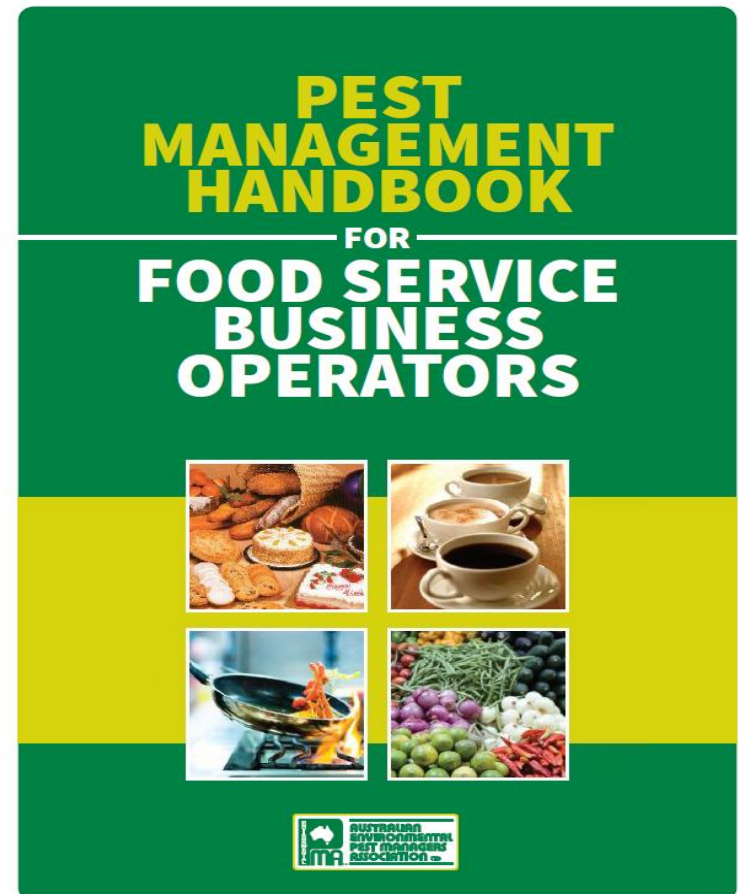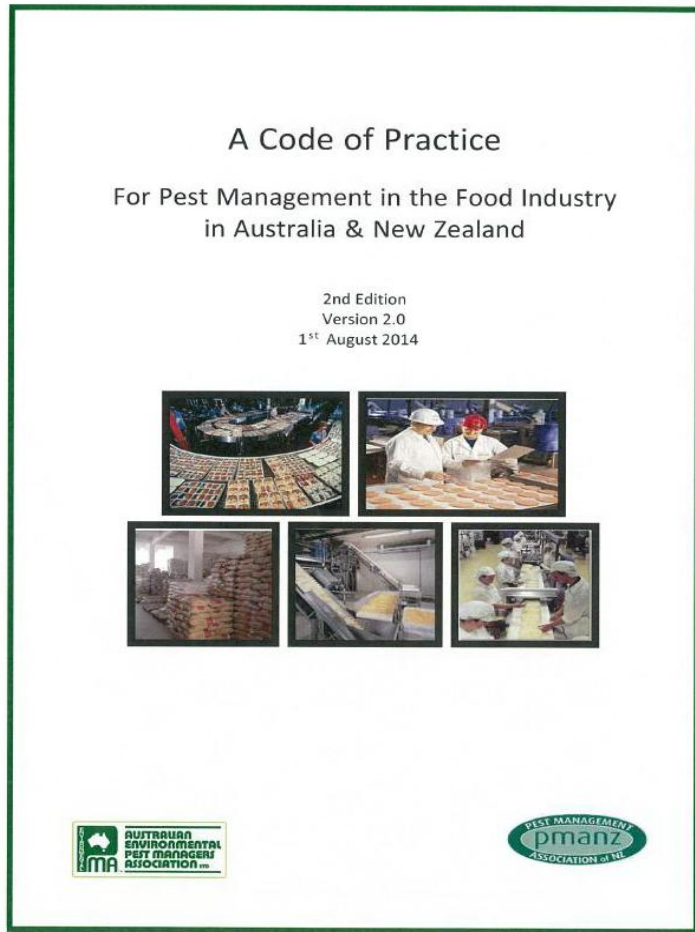
2. Align our two industries (food & pest control) through harmonisation of practices, procedures and expectations

- **This is difficult if we only have limited knowledge of each others 'modus operandi'**

- **We need to realise similar goals and objectives, so we understand better, how each industry operates & hopefully achieve mutually satisfying outcomes**
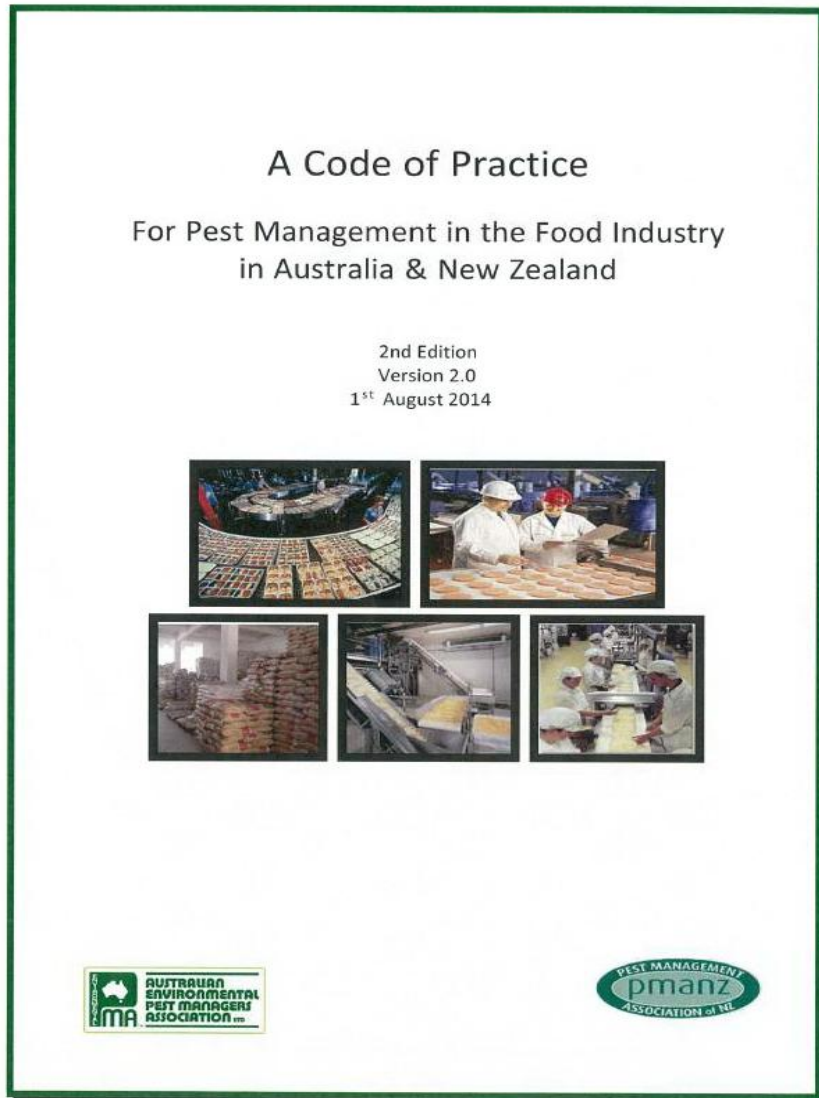
Solution: Communication & knowledge sharing is a good start

At an industry level: Education & training via development of industry standards & codes of practice which inform both parties and which address inconsistencies in expectations and perceptions between the two

A Code of Practice

For Pest Management in the Food Industry in Australia & New Zealand

2nd Edition
Version 2.0
1st August 2014

PEST MANAGEMENT HANDBOOK
FOR
FOOD SERVICE BUSINESS OPERATORS

COP - Pest Management in the Food Industry - AUS/NZ

Example

A Code of Practice

For Pest Management in the Food Industry
in Australia & New Zealand

2nd Edition
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IN SUMMARY: To provide a more prescriptive reference for use by Pest Managers & Food industries in partnership, to define Best Practice in managing pests at Food Premises

This COP also complements food based standards & food safety programs in AUS & NZ

Improvements & benefits of the new COP

- Being "more prescriptive" is meant to serve as a reference for pest control companies to benchmark their services against, so they can grasp <u>what to do, how to do it and when to do it</u>

- Much expanded tables which give methods and solutions for managing specific pests (internally & externally) with both non-chemical and chemical variations
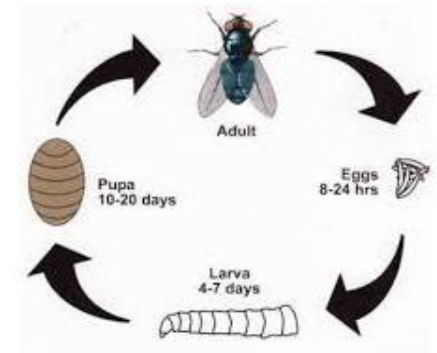
Improvements & benefits of the new COP

- Spells out which parts of integrated pest management are the responsibility of the pestie and which parts are for the food business

- Provides a reliable source of information, including step by step guides for on site procedures for both pest companies & food businesses

- Detailed explanation of individual pest biology and habits
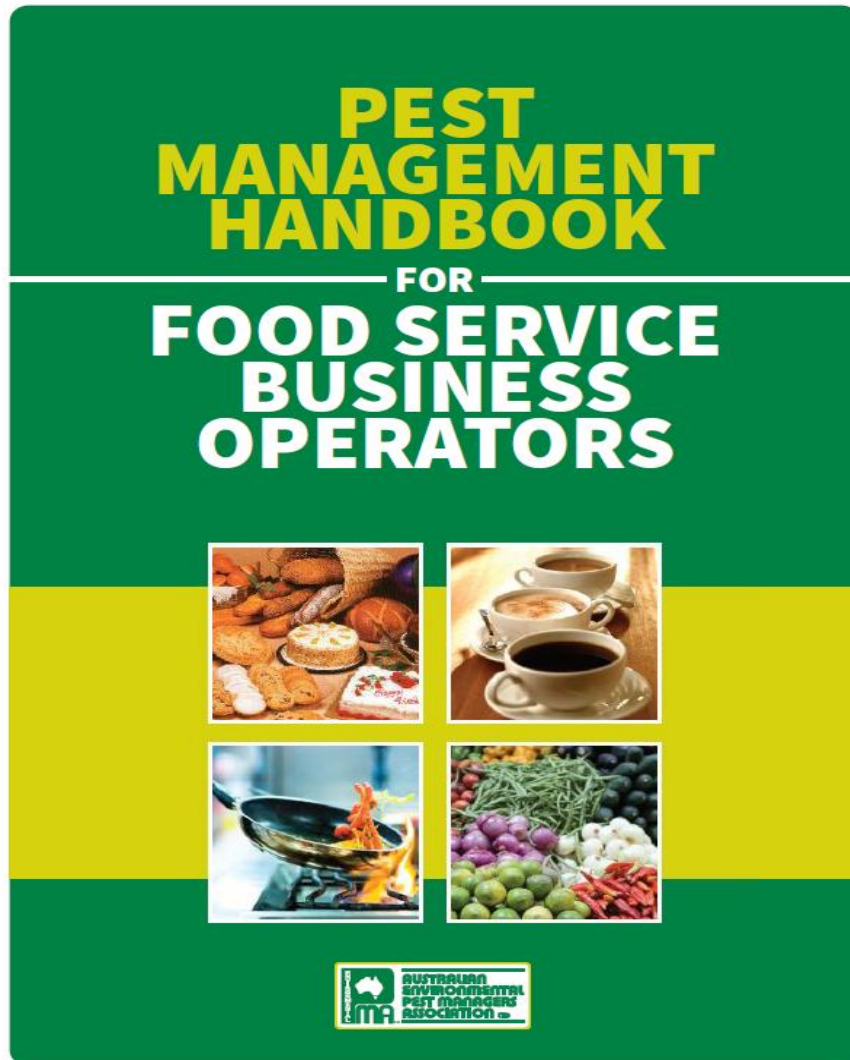
Improvements & benefits of the new COP

- Actual lists and descriptions on:
  - » What documents to provide to the food business
  - » What documents to have filed for auditors
  - » How to develop & compile a Site Register (what's needed - with the purposes & descriptions)
  - » How to develop & structure a Pest Management Plan
  - » Necessary sections & content information required in a Service Report

- Explains the differences between audits & site surveys, the scope of both and what elements of the pest control service and the food business operations should be audited from a pest/risk management perspective

HANDBOOK – For Food Service Business Operators

Example

IN SUMMARY: An easily understood guide to help Food Business Operators to:

- Provide advice to self manage the risk of pest prevention

- Comply with legislation

- Select a professional pest manager

- Provide guidance on pest control devices & products and the suitability of same for retail food businesses

- Provide advice about pest species status, habits & risk

As a responsible and professional service industry, we must engage and communicate with our food industry partners

There can be a huge gap between what the food business expects from us and what we deliver/recommend. That gap must be minimised wherever possible

THE END