

# HOW TO DEAL WITH FOOD FRAUD AND THREATS

With increasing criminal attacks on the food industry, you need a plan to protect your customers and your reputation.

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In 2008 six infants died in China after drinking melamine-laced infant formula and more than 300,000 people were affected by contaminated dairy products. In 2013 undeclared horse meat was found in beef products across Europe. Even here in Australia we have recently seen food fraud activity associated with imported honey (adulterated with sugar syrup) and free range eggs (not free range).

Behaviourally or ideologically motivated threats and food fraud is a growing concern for the global food industry. With the increase in globalisation and complexity of supply chains, criminal activity in the food industry is on the rise and companies are losing money and facing reputational damage. Food fraud alone is reputed to cost the global food industry US\$10–15 billion every year. The industry needs to protect consumers by strengthening its capability to proactively identify and combat these risks.

The food industry today is reliant on the principles of HACCP (Hazard Analysis and Critical Control Points) for safe food production. Currently, many food safety management systems are designed around traditional HACCP applications. Unfortunately, HACCP is not designed to deal with deliberate tampering with foods or ingredients – either due to fraudulent, economically motivated adulteration or malicious contamination associated with extortion and terrorism.

New food safety guidelines have been introduced by various scheme owners and attempts have been made in various geographical regions to deal with these risks through regulations or international standards. There are many examples of this in the US in relation to food defence, dealing with the real threat of terrorism, and in Europe and Asia in response to food fraud scandals.

But as this area of risk management in the food industry is developing, there is still a lot of confusion about different approaches and terminology. For instance, TACCP (Threat Assessment Critical Control Points) is seen to deal with food

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defence associated with behavioural and ideological threats, while VACCP (Vulnerability Assessment Critical Control Points) specifically deals with food fraud and vulnerabilities associated with economically motivated adulteration (EMA), primarily in relation to raw materials and ingredients. Both methods can be used independently of each other.

The US Food and Drug Administration's (FDA) *Food Safety Modernization Act (FSMA) Final Rule on Mitigation Strategies to Protect Food Against Intentional Adulteration* requires companies to have a food defence plan including a vulnerability assessment. Guidelines produced by the Global Food Safety Initiative (GFSI) and Woolworths consider VACCP as dealing with economic motivation and TACCP as dealing with behavioural and ideological motivation. The UK *PAS 96:2014 Food Defence* standard regards TACCP as the evaluation of threats from any source, including EMA, and recommends assessing vulnerabilities to all these threats at each step throughout the food supply chain using a paddock to plate approach.

What all these systems have in common is that they are based on risk management – identification of who the attacker might be, their motives, the type of food tampering, where tampering may occur and how to reduce the risk through specific interventions.

Instead, perhaps it is best to take a holistic approach and think about managing this set of complex issues as a complete Threat and Vulnerability Management Program, rather than only focusing in isolation on TACCP or VACCP, otherwise you risk the chance of having a disjointed program and will fail to capitalise on the synergies between the two. ➤

## Let us show you through the TACCP & VACCP Maze...

TACCP (Threat Assessment Critical Control Point) & VACCP (Vulnerability Assessment Critical Control Point) Systems are becoming essential components of business risk management. There is a genuine threat to food manufacturers from deliberate malicious attacks, food fraud or substitution and adulteration. However, many companies are confused as to what TACCP & VACCP is, let alone develop and implement systems.

Quality Associates are experts in TACCP & VACCP Systems and offer consulting and a comprehensive training course that will enable you to identify different types of threats, determine vulnerability points in the supply chain and conduct a TACCP & VACCP evaluation using risk management framework.

Find out more by visiting [www.qualityassociates.com.au](http://www.qualityassociates.com.au)  
or speak to us today, call 1300 737 193



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### TYPICAL THREATS

Economically Motivated Adulteration (EMA) eg, substitution, dilution, grey market, diversion, theft, mislabelling, concealment

Malicious contamination

Extortion

Counterfeiting

Cyber crime

Espionage

### ATTACKER PROFILES

Attacker Type	Drivers
Extortionist	Financial gain, remaining hidden, targetting high profile business
Opportunist	Has access, technical knowledge, rationalises substitution
Extremist	Focus on impact, possibly wants to cause harm, failure is a deterrent
Irrational Individual	No specific motive, detection or preventing access is a deterrent
Disgruntled Individual	Believes has been treated unfairly, wants to cause embarrassment or financial loss
Cyber Criminal	Drive a cause or disrupt business through IT platform
Professional Criminal	Make money if little risk of getting caught or penalised

Implementing a Threat and Vulnerability Management Program can best be summarised in eight steps.

**STEP 1.** Form a cross-functional implementation team.

**STEP 2.** Identify and assess potential threats (economic, ideological, behavioural) against the organisation, operational site and product.

**STEP 3.** Develop flow charts for the food supply chain.

**STEP 4.** Identify where the vulnerable points are in the supply chain for specific threats.

**STEP 5.** Evaluate risk and prioritise these threats and vulnerabilities using an impact and likelihood matrix to categorise the overall risk.

**STEP 6.** Assess the need for an additional control that detects or prevents such threats.

**STEP 7.** Keep records of assessments and findings.

**STEP 8.** Keep a watch on developing trends and issues from a global perspective and review the plan periodically, at least annually or when a change or incident occurs.

As there are many different types of motivations and possible avenues of attack, intimate knowledge and information, as well as an historic perspective of the company's operational activity is important. The implementation team should comprise individuals with a wide range of tenure and job roles including security, human resources, quality, production, purchasing, distribution, marketing, information technology and so forth. In contrast to HACCP, developing a Threat and Vulnerability Management Program should not rely solely on the quality professional, but rather it should be shared as part of a wider business continuity process. For business-wide acceptance it may best if the program is driven from outside the quality function.

It is important to have trusted team members participate, as information discussed is highly confidential and, in many respects, very sensitive. The plan will become the vulnerability blueprint for the business, which can be dangerous in the wrong hands.

When assessing attackers, it is important to think about their motivation, capability and determination. This can sometimes be achieved by putting yourself into the attacker's mindset to "think like an attacker".

Controls will need to be identified for high risk points in the supply chain and recorded confidentially. Where the residual risk after implementing changes is still excessive, or where new information changes the risk profile, further controls will need to be considered and implemented.

Controls will be specific to the risk identified and, while by no means an exhaustive list, they could range from one or any combination of these factors: controlled access to site; site security; risk rating and auditing suppliers of ingredients and raw materials; testing and inspection of raw materials and product; human resource screening; using cameras in at-risk points; and using tamper evident seals and packaging.

Finally, as with any risk management system, the response to a possible incident should be pre-planned and practiced with periodic mock exercises. Emphasis should be placed on ensuring public safety always comes first, followed by commercial interests and the effectiveness to react and recover in the best possible way.

We find that many businesses in Australia have little experience with these new food safety guidelines and, with the confusion between TACCP and VACCP, they simply do not know the best place to start. I believe that over time threat and vulnerability programs will become an integral part of food safety management systems across Australia. 

*John Varcoe is a Partner and Managing Director of Quality Associates, a provider of client-focussed quality services and training (RTO 41341) to the food industry. For further information, please visit [www.qualityassociates.com.au](http://www.qualityassociates.com.au).*

#### SAVE THE DATE!

Want to know more about TACCP & VACCP? Quality Associates will be presenting on the topic at the 2017 AIFST 50th Anniversary Convention from 17-18 July 2017.