

Food Defense Awareness

Doing Business in US

Marco Gerevini

Milano 17/05/2022

TECNOALIMENTI



EXPO
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 FEEDING THE PLANET
 ENERGY FOR LIFE

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2013



- Piattaforma Nazionale SeriT (Security research in Italy)
- Progetto EU EDEN - Encircle
- Food Defense Coordinator – AIB (USA)
- Implementazione di Sistemi di Gestione della Food Defense
- Brevetto: «Sistema per trasporto e delivery di prodotti alimentari»
- DTS di certificazione volontaria per aziende della filiera della ristorazione
- Food Defense Lead Instructor – FSPCA (USA)

2022



Marco Gerevini

Has completed the requirements and been awarded the status of

Certified Food Defense Coordinator

Certification valid through: 31-DEC-2020

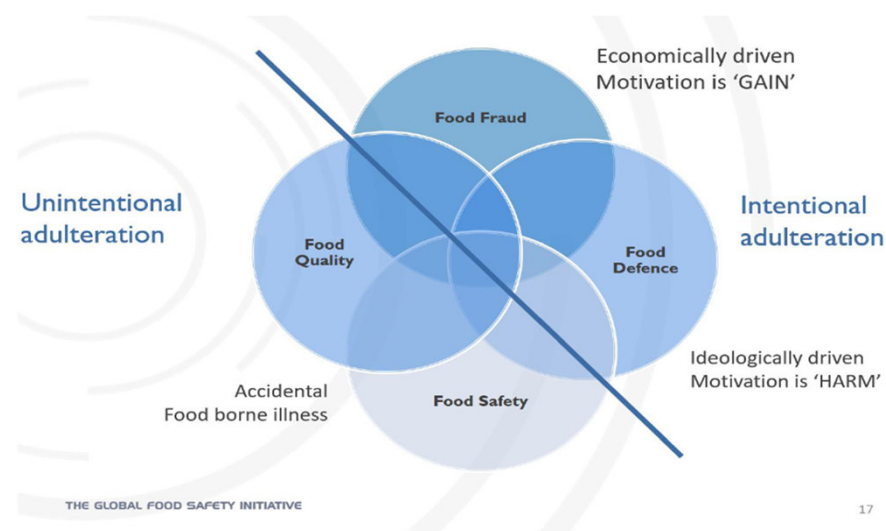
Barbara Allen
Chairman of the Board



Andie Biane
President and CEO

Il concetto di Food Defense

- **Food Defense** riguarda tutte le azioni messe in pratica per prevenire e/o reagire ad **adulterazioni intenzionali** dei prodotti alimentari realizzati allo scopo di **creare gravi danni di salute pubblica**.
- Food defense si diversifica dalla Food Safety che si occupa dei rischi **prevedibili e non intenzionali**.



FOOD DEFENSE : Dove nasce?

Food Defense nasce a seguito gli attacchi terroristici dell'11 Settembre (Bioterrorism act - 2002)

2019 – FSMA – Intentional Adulteration Rules

- Standard Volontari GFSI (BRCv8, IFSv6,1, FSSC2200)



Cosa viene richiesto?



- Food defense plan
 - Vulnerability assessment (VA)
 - Strategie di mitigazione (MS)
 - Procedure per il monitoraggio della food defens
 - Procedure per le azioni correttive per la food defense
 - Procedure per la verifica della food defense
- Records
- Training

What does the IA rule do?

- Establishes requirements to prevent or significantly minimize acts intended to cause **wide-scale public health harm**
- Uses a **HACCP-type** approach, with important differences from the Preventive Controls for Human Food rule
- Is **risk-based** and **flexible**

Who is Covered by the IA Rule?

- **Facilities that manufacture, process, pack, or hold human food** (facilities required to register with FDA)
Not farms or retail food establishments
- **Applies to domestic and imported food**
- Some exemptions and modified requirements apply

Compliance Dates:





What is Required?



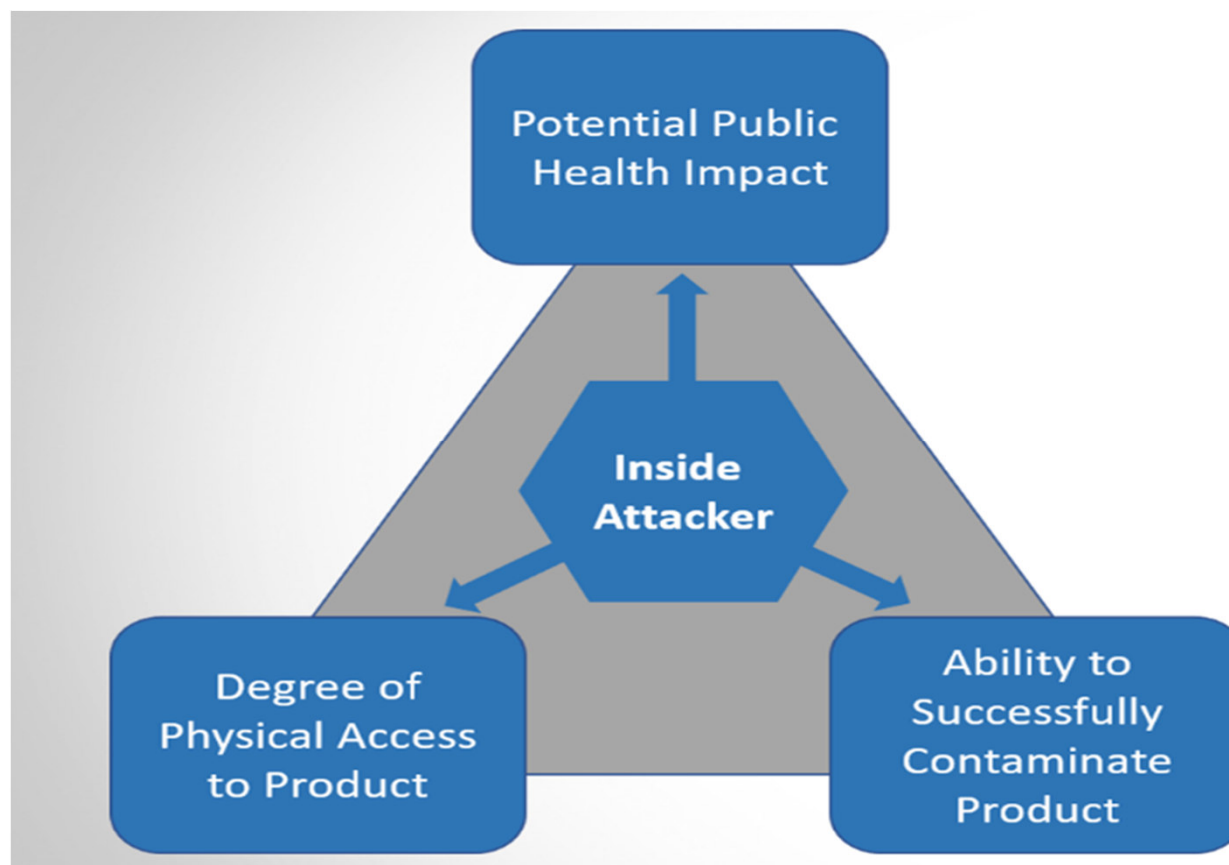
Food defense plan

- Vulnerability assessment (VA)
- Mitigation Strategy (MS)
- Procedures for food defense monitoring
- Procedures for food defense corrective actions
- Procedures for food defense verification

Records

Training

Vulnerability Assessment



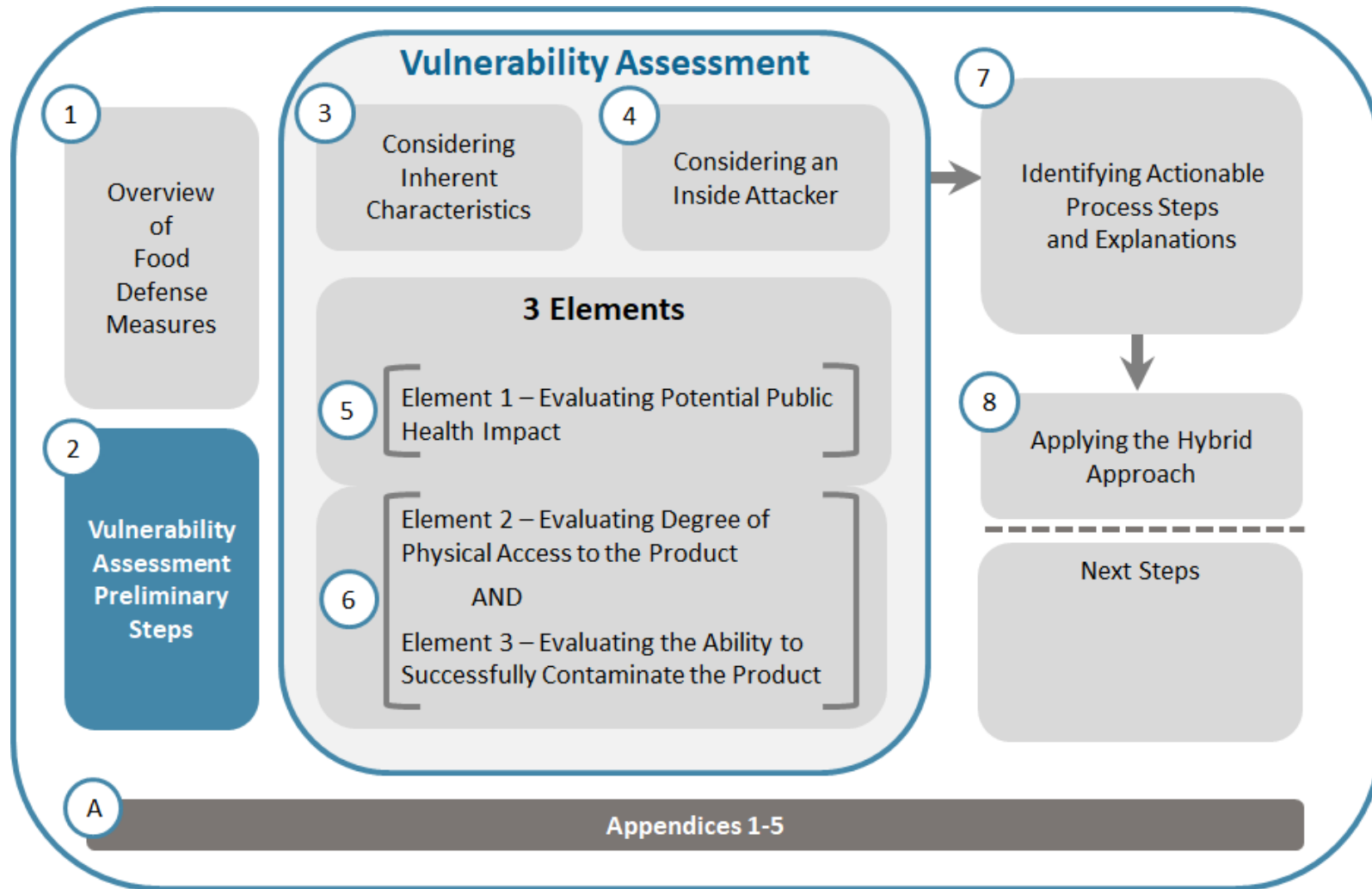
Key Terms: Actionable process step (APS)

APS son qui **points, steps e procedures**, dove esiste una vulnerabilità significativa, cioè:

- in cui è significativamente elevata la possibilità che possa avvenire una adulterazione intenzionale in grado di **causare un grave danno di salute pubblica**
- quindi richiedono l'implementazione di un' Azione di Mitigazione
- **MS: «risk-based», reasonable appropriate measure** che un operatore, opportunamente formato sulla Food Defense, può implementare per minimizzare una vulnerabilità significativa che esiste in un determinato APS

Lesson 2: Vulnerability Assessment

Preliminary Steps



Element 1 – Scoring Table

Table 1. Potential Public Health Impact	
Description	Score
Potential public health impact over 10,000 (acute illnesses, deaths, or both), or over 10,000 servings at risk.	10
Potential public health impact between 1,001 – 10,000 (acute illnesses, deaths, or both), or 1,001 – 10,000 servings at risk.	8
Potential public health impact between 100 and 1000 (acute illnesses, deaths, or both), or 100 – 1000 servings at risk.	5
Potential public health impact between 1 - 99 (acute illnesses, deaths, or both), or between 1 – 99 servings at risk.	3
No potential public health impact (i.e., no illnesses or deaths) or no servings at risk.	1

Element 2 – Scoring Table

Table 2. Degree of Physical Access to the Product

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Description	Score
<p>Easily Accessible.</p> <ul style="list-style-type: none"> • Inside attacker has access to the product (e.g., attacker can physically touch the product). • There are no inherent characteristics that would make access to the product difficult (e.g., enclosed systems, pressurized equipment, railings, equipment safety features, or shields). • Product is open and unsecured by packaging, equipment, or other physical access barriers. • Product is handled, staged, or moved in an easily accessible manner. 	10
<p>Accessible.</p> <ul style="list-style-type: none"> • There are limited inherent characteristics that would make access to the product difficult (e.g., enclosed systems, pressurized equipment, railings, equipment safety features, or shields). • Product is in equipment that can be accessed without tools or specialized supplies. • Access to the food is not difficult (e.g., there are minimal physical space constraints that limit access to food) but may require opening equipment, access points, or non-tamper-evident packaging. 	8
<p>Partially Accessible.</p> <ul style="list-style-type: none"> • Inside attacker has partial access to the product. • There are some inherent characteristics that would make access to the product somewhat difficult (e.g., enclosed systems, pressurized equipment, railings, equipment safety features, or shields). 	5
<p>Hardly Accessible.</p> <ul style="list-style-type: none"> • There are significant inherent characteristics that would make access to the product very difficult (e.g., enclosed systems, pressurized equipment, railings, equipment safety features, or shields). • Product is in equipment that make access difficult without tools or specialized supplies. • Physical space constraints limit access to food being processed or stored. 	3
<p>Not Accessible.</p> <ul style="list-style-type: none"> • Inside attacker has no access to the product (e.g., attacker cannot physically touch the product). 	1

Element 3 – Scoring Table

Table 3. The Ability of an Attacker to Successfully Contaminate the Product

Table 3. The Ability of an Attacker to Successfully Contaminate the Product	
Description	Score
<p>Highest Ease of Successful Contamination.</p> <ul style="list-style-type: none"> • The process step is in an isolated area, or obscured from view, enabling an inside attacker to work unobserved with little or no time limitations. • It is easy to successfully add sufficient volume of contaminant to the food. • Inherent characteristics of the point, step, or procedure (e.g., uniform mixing) would evenly distribute the contaminant into the food. • It is highly unlikely the inside attacker would be detected adding a contaminant to the food; an attacker would need to act with little to no stealth to introduce the contaminant. • There are no, or few, workers in the area, and it is highly unlikely that they would notice a contamination attempt by an inside attacker. • There is a low likelihood of the contaminant being removed (e.g., by washing, screening, vibration), diluted, or neutralized at this or later points, steps, or procedures in the process. 	10
<p>Moderately High Ease of Successful Contamination.</p> <ul style="list-style-type: none"> • The process step is seldom observed, enabling an inside attacker to work unobserved with minor time limitations. • It would be relatively easy for an inside attacker to successfully add a contaminant in sufficient volume. • It is unlikely the inside attacker would be detected adding a contaminant to the food; an inside attacker would need to act with minimal stealth to introduce the contaminant. • There are few workers in the area, and it is unlikely that they would notice a contamination attempt by an inside attacker. • Mixing, or agitation, is present but the contaminant may not be evenly distributed throughout the food because of inherent characteristics of the point, step, or procedure. • There is a moderately low likelihood of the contaminant being removed (e.g., by washing, screening, vibration), diluted, or neutralized at this or later points, steps, or procedures in the process. 	8
<p>Moderate Ease of Successful Contamination.</p> <ul style="list-style-type: none"> • The process step is observed about half of the time, or semi-obscured from view; an inside attacker would be under time limitations. • It would be somewhat difficult for an inside attacker to successfully add a contaminant in sufficient volume without being detected. • An inside attacker only would be able to add a reasonably small volume of contaminant (e.g., what can be carried in a pocket) without being detected. • It is moderately likely the inside attacker would be detected adding a contaminant to the food; an inside attacker would need to act with some degree of stealth, irregular, or suspicious activity to introduce the contaminant 	5

Food Defense Plan – VULNERABILITY ASSESSMENT

(1) #	(2) Process Step	(3) Process Step Description	(4) Element 1: Score and Rationale	(5) Element 2: Score and Rationale	(6) Element 3: Score and Rationale	(7) Sum	(8) Explanation	(9) Actionable Process Step

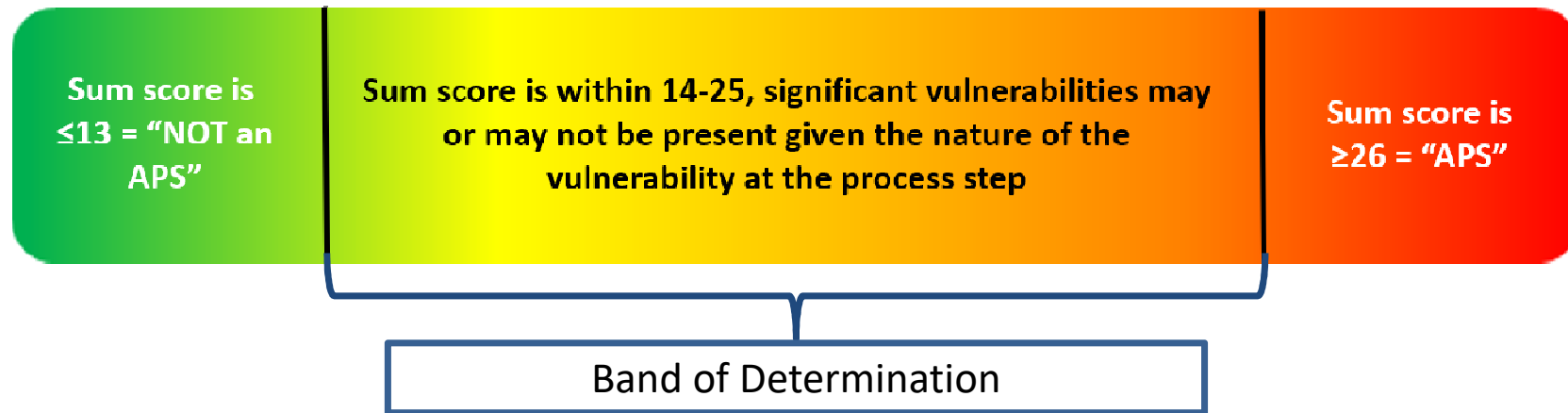
Prioritize Process Steps Based on Scores

Example Rank Order Worksheet	
Process Step	Sum Total Score
Process Step 1	26
Process Step 5	26
Process Step 2	24
Process Step 4	24
Process Step 11	18
Process Step 3	11
Process Step 6	11
Process Step 8	11
Process Step 9	9
Process Step 7	9
Process Step 10	n/a*
Process Step 12	n/a*
Process Step 13	n/a*
Process Step 14	n/a*
Process Step 15	n/a*

- Analyze sum of scores to determine where there may be a noticeable separation of higher scoring process steps

**For these process steps, one of the elements scored a 1, therefore they are not summed.*

The Band of Determination



- Naturally, significant vulnerabilities would more commonly exist at the upper range of sum scores in this range, but there is no specific number within this band that indicates that a significant vulnerability is present in all cases

Mitigation Strategies for Actionable Process Steps

(1) #	(2) Actionable Process Step	(3) Mitigation Strategy	(4) Explanation

Mitigation Strategies Management Components

(1) #	(2) Actionable Process Step	(3) Mitigation Strategy	(4) Monitoring Procedure and Frequency	(5) Corrective Action Procedures	(6) Verification Procedures	(7) Records

TECNOALIMENTI E' UN POLO PER L'INNOVAZIONE COMPOSTO DA 31
AZIENDE IN SINERGIA CON IL MINISTERO DELLA RICERCA.



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[VIDEO](#)

<https://youtu.be/lVqZ4oGegi0>



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