

Farm to Fork

Securing the Food Supply Chain

Presented by:

Kenneth D. Gisborne, CPP



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RISK STRATEGIES
INCORPORATED

**BC Food Protection Association
22 Sep 04**

The World has Changed



- We used to worry about terrorism associated with:
 - Airports
 - Public transportation systems
 - Public buildings
- We must now also concern ourselves with bioterrorism, ecoterrorism and agroterrorism related to:
 - Drinking water supply
 - Food supply chain
 - Our natural resources

What Is Bioterrorism?



- “The threat or use of biological agents by individuals or groups motivated by political, religious, ecological, or other ideological objectives”
- Bioterrorism can further be described as:
 - the use of a microorganism with the deliberate intent of causing infection in order to achieve certain goals.

Bio-Terrorism



Ron Thomas - Associated Press

BIO-TERRORISM
IS CANADA READY?

What is Ecoterrorism?



Violence carried out to further the political or social objectives of radical environmentalists

Primer on Ecoterrorism



- Arsons, bombings and sabotage in the name of saving the environment and its creatures have swept the American west over the last two decades
 - Oregon is increasingly the center of it all
- British Columbia has also had its share of attacks

History Of Ecoterrorism



- Christmas 1983
 - 12 research dogs stolen from a medical laboratory in Torrance, California
- April 1989
 - the Animal Liberation Front set timed incendiary devices beneath a meat company in Monterey, California
- Memorial Day weekend 1993
 - a pipe bomb exploded in the window of an unoccupied U.S. Department of Agriculture predator-control office in Southeast Portland
- 1996
 - torching of the U.S. Forest Service ranger district office in Oakridge, southeast of Eugene created a loss now calculated at \$9 million.

History Of Ecoterrorism



- 1997, terrorists took credit for torching a \$1.3 million slaughterhouse in Redmond on behalf of the Animal Liberation Front.
- 1998 torching two federal wildlife offices in Washington state worth \$1.9 million.
- Oct. 18, 1998 seven fires broke out on Vail Mountain, Colorado, causing \$12 million of damage to infrastructure - the Earth Liberation Front (ELF) claimed responsibility.

Local Examples Of Ecoterrorism



- British Columbia has also been a recent target. In the past five years the following facilities have been hit:
 - UBC, Dept of Forestry: destruction of tree seed stock
 - Western Forest Products, Central Saanich: destruction of research seed orchard
 - Ministry of Forests, Central Saanich: destruction of research seed orchard

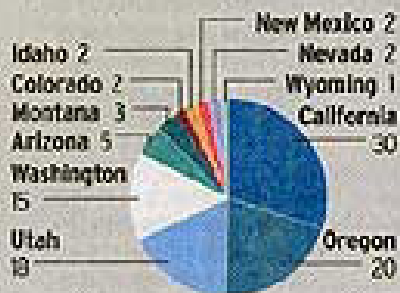
Ecoterrorism's Toll



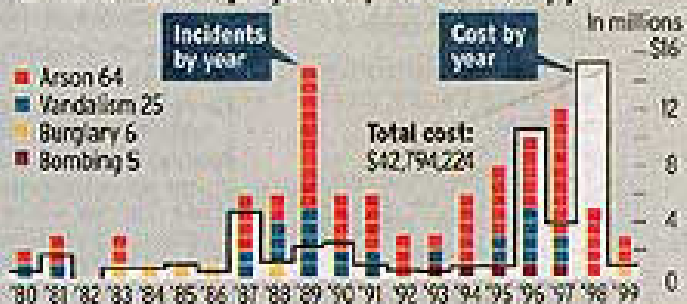
ECO-TERRORISM'S TOLL

The frequency and cost of eco-terror crimes vary widely by state and year. Overall, the incidents are concentrated in severity and value since 1996.

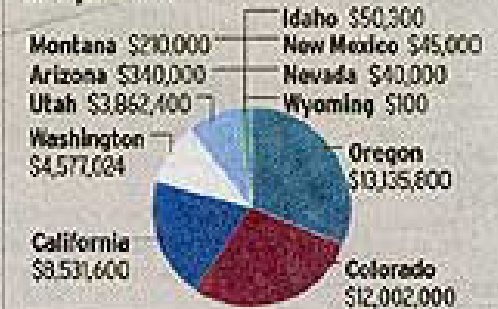
Number of incidents by state since 1980



Number of incidents per year compared with cost by year



Cost per state



What Is Agroterrorism?



The use of biological (to include toxins), chemical, or radiological agents against some component of agriculture in such a ways as to adversely impact the agriculture industry, or any segment thereof, the economy, or the consuming public.

History Of Agroterrorism



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- WWI – Germany spread Glanders Disease on mules and horses destined for Europe.
- WWII - **Canada**, Great Britain, Japan, the United States, and the USSR had offensive programs.
- Japan is alleged to have used animal and plant pathogens, including Rinderpest and Anthrax, against Russia and Mongolia in 1940's.
- In 1969, the US scrubbed its biological weapons program, but it continued defensive research.

History Of Agroterrorism (con't)



- In 1972, the US, Soviet Union, Great Britain, and **Canada** agreed to the Biological Weapons Convention (BWC).
- Soviet BW program grew during the 1970s and 1980s to include more than 30,000 scientists and workers, as well as seven production and two storage facilities.
- Iraq is also known to have developed a BW potential recently, including anti-personnel, animal and crop agents.

Is Canada A Target?



Possibility or Probability?



- The critical concern with agroterrorism is the low level of technical knowledge required to effectively employ it to achieve objectives.
 - Any person with minimal understanding of microbiology can acquire the organisms and spread them
 - It demands less technical stringent care than what is required for other forms of bio-warfare

Terrorist Food Contamination



- The World Health Organization states that:
 - “The malicious contamination of food for terrorist purposes is a real and current threat.”
 - "food is . . . the most vulnerable to intentional contamination by debilitating or lethal agents. The diversity of sources of foods, including the global market, makes prevention difficult, if not impossible."
 - This year we learned from news reports that terrorists have developed materials to manufacture *Salmonella* and botulinum, and they may have intended to poison the food supply of American military troops in Afghanistan.

Who Are Behind These Attacks



- The complexity of the food production and distribution system provides numerous opportunities to contaminate the food supply through:
 - Random Individuals
 - Employees
 - Activists
 - Criminal Organizations
 - Terrorist groups

Why Terrorize the Food Supply?



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- We all have to eat.
- The food supply offers an obvious delivery mechanism for certain chemical and biological agents.
- The complex and multi-layered nature of food production and distribution offers many opportunities for the deliberate introduction of toxic agents.
- The increasingly global nature of the food supply for any area serves to exacerbate this problem.

Attacks on the World Food System



- Canada 1970
 - A meal served in Montreal was inoculated with large quantities of eggs from a parasitic nematode (Roundworm)
- Palestine, 1970's
 - A plot by Palestinian terrorists to inject mercury into Jaffa oranges reduced Israel's exports of citrus fruit to Europe by 40 percent
- England, 1984
 - A group was charged with injecting a turkey with weed killer containing mercury.

Attacks on the World Food System



- United States 1984
 - The Rajneesh cult inoculated items on several restaurant salad bars with *Salmonella typhimurium*. This act was implicated in causing illness in 751 individuals in and around The Dalles, Oregon.
- United States 1989
 - A shipment of Chilean grapes to the United States tested positive for cyanide led to international trade suspensions that cost Chile \$200 million.
- United States, 1996
 - A medical laboratory worker in Texas contaminated muffins and donuts in a break room with *Shigella dysenteriae* Type 2. Twelve people were infected, four of whom had to be hospitalized.

Attacks on the World Food System



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- Canada, 2000
 - In Quebec City, twenty-seven people were poisoned with arsenic after drinking coffee from a single vending machine in the agriculture department at LaValle University.
- United States, 2001
 - In New York City, an individual was arrested for contaminating a salad bar with human feces and urine.
- United States, 2004
 - In Michigan, a supermarket employee deliberately contaminated 200 pounds of beef with Black Leaf 40, an insecticide, poisoning 92 people.
- Canada, Sep 2004
 - An individual was arrested for contaminating a produce department of a grocery store

PETA



- People for the Ethical Treatment of Animals has been described as “by far the most successful radical organization in America”.
 - According to its president and co-founder, Ingrid Newkirk, PETA seeks “total animal liberation”.
 - no meat or dairy
 - no aquariums
 - no circuses
 - no hunting or fishing
 - no fur or leather
 - no medical research using animals
 - PETA is even opposed to the use of seeing-eye dogs.

PETA (con't)



- In the past, PETA has handled the press for the Animal Liberation Front (ALF), an underground group of extremists who use violence to achieve their objectives.
 - planting firebombs in restaurants
 - destroying butcher shops
 - torching research labs
- Bruce Friedrich, PETA's "vegan campaign director" and third-in-command, stated:
 - "It would be great, if all the fast-food outlets, slaughterhouses, test laboratories and the banks who fund them exploded tomorrow."

Accident or Terrorism?



- Distinguishing between a deliberate and an inadvertent contamination of food can be extremely difficult.

Hoaxes Take Their Toll



- Of course, we would all prefer that food terrorism incidents be detected and stopped before they are successfully deployed.
 - This presents a problem
 - When is a threat real and when is it a hoax?
- Hoaxes themselves are very dangerous.
 - Responding to false alarms can overwhelm public safety response capabilities, engender a sense of nonchalance after numerous repeat incidents, and incite public fear and anxiety inappropriately.

The Food Supply Chain is Complex



- Multiple agencies, corporations and individuals are responsible for different aspects of the food supply chain
- Each group involved has its own structure and method of operating its enterprise
- Each group **MUST** apply similar and consistent ***food security protocols*** to ensure the safety of the food supply chain

Counterattack on Agroterrorism



Prevent or reduce the impact of diseases by looking at:

1. the organism level, through animal or plant disease resistance;
2. the farm level, through facility management techniques designed to prevent disease introduction or transmission;
3. the agricultural sector level, through disease detection and response procedures; and
4. the national level, through policies designed to minimize the social and economic costs of catastrophic disease outbreak.¹

¹ Anne Kohlen "Responding to the Threat of Agroterrorism: Specific recommendations for the United States Department of Agriculture."

What Can You Do?



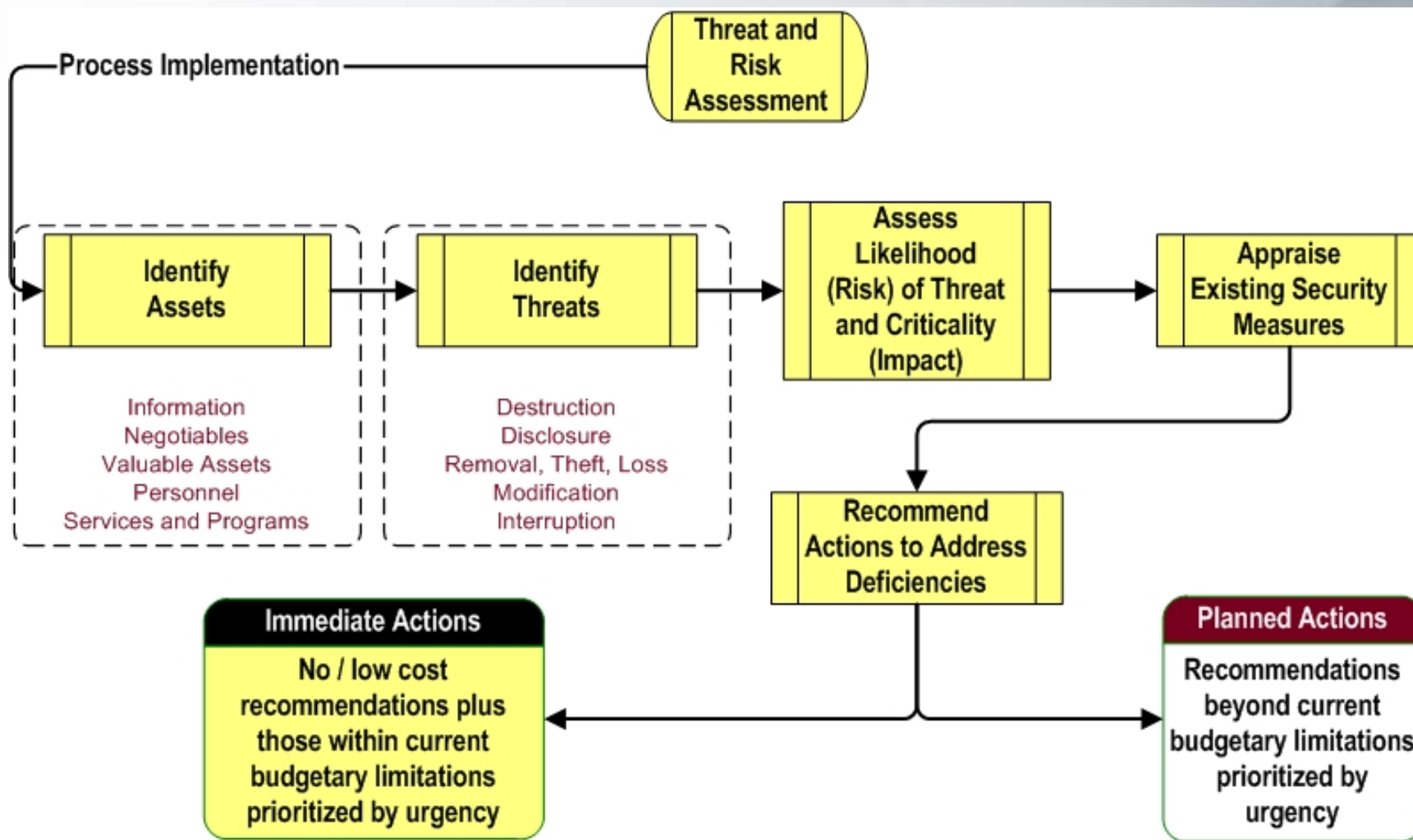
- There are many things food industry managers and workers can do to help ensure the safety of the products they manufacture.
 - We all need to practice the standard food safety protocols to guard against contamination
 - Understand the transport and distribution supply chain before and after your operation
 - We must expand our thinking to consider ways to minimize the opportunity for intentional contamination

What Can You Do?

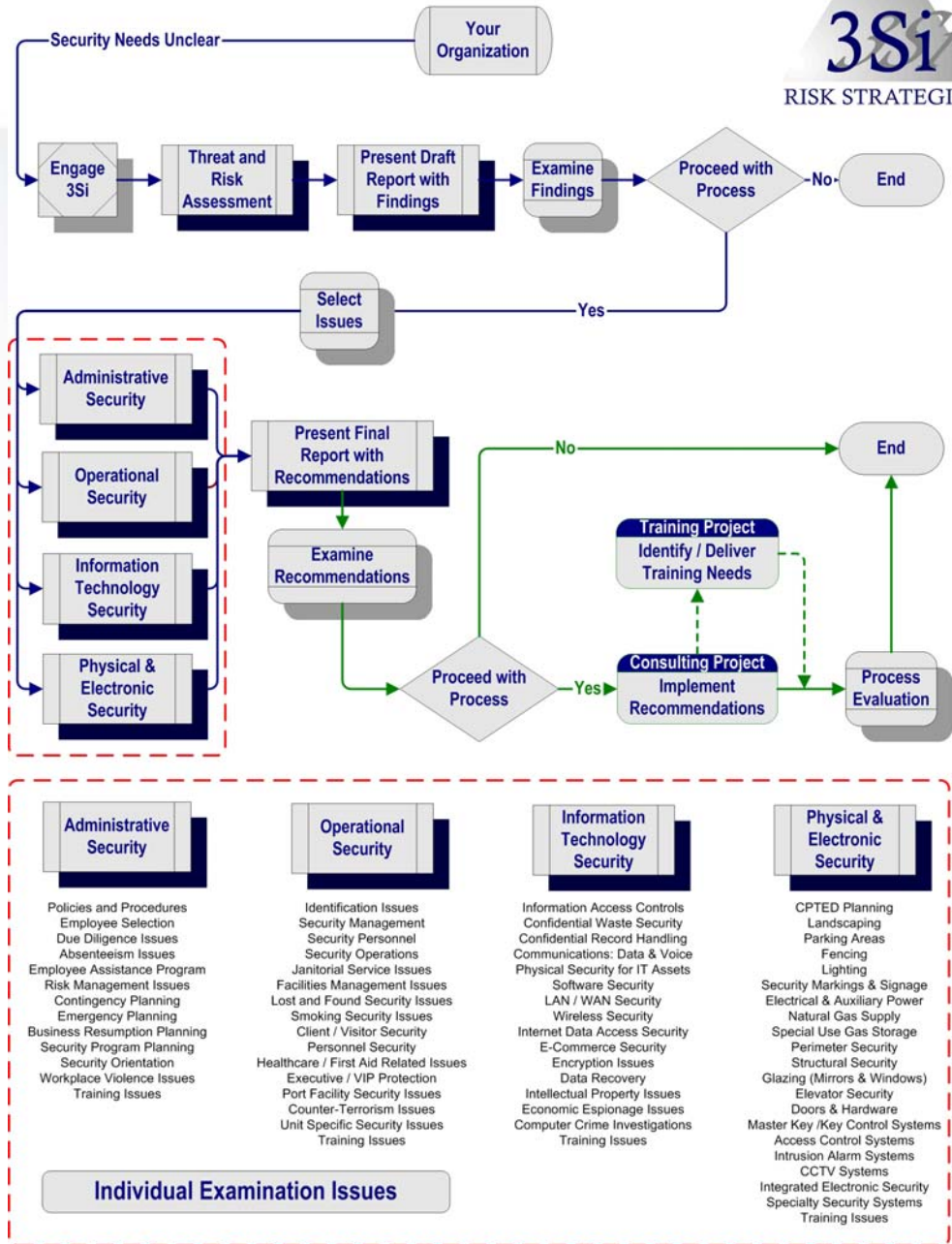


- There must be a continuing momentum to constantly:
 - upgrade the integrity of the food supply chain
 - protect facilities and the movement of the product
 - prevent the product from tampering or contamination.
- You cannot wait for government to enact legislation that requires you to take steps
- You need to more proactively look after your enterprise and industry

Threat and Risk Assessment



Security Needs Analysis Process



What Can You Do?



- Know your employees
 - Consider doing background checks
- Restrict facility access
- Know your contractors and their policies
- Know your suppliers and their products
- Report any unusual activity or threat to your local law enforcement office

What Can BCFPA Do?



- Conduct tabletop exercises so committee members better understand:
 - the potential for attacks on the food supply
 - what could occur in response to different types of attacks
- Establish a Crisis Management Team
- Establish a 24/7 contact information for internal and external communication

Local Bioterrorism Response Plan?



- British Columbia Centre for Disease Control
 - The bioterrorism response plan details how emergency, police and health services would work together to recognize, contain and respond to "bioterrorist incidents".
 - There is a team of multi-disciplinary experts on bioterrorism and a special laboratory available 24 hours a day.

Questions



www.3si.ca
Toll Free 1 – 866 – 374 – 3434