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August 9, 2007

### **Agroterrorism: Preparation, Effects, Prevention**

In the aftermath of September 11<sup>th</sup>, America quickly began to tighten security—airport screening became a much longer process, buildings/monuments deemed high risk were fortified. The news began to talk about pens that could be used as weapons. Judith Miller wrote a national bestseller called *Germ: Biological Weapons and America's Secret War*, detailing bioterrorism in the wake of 9/11 (Tanzer 1). Orange, red, and yellow alerts began to tell a story of a nation preparing itself for another attack. While these efforts undoubtedly helped secure our nation, the government overlooked an area of terrorism that could cause more harm than the fall of two skyscrapers—agroterrorism.

The American people are familiar with contaminated produce and meat. This past spring American pets began to get sick. On March 16, 2007, Menu Foods of Canada, sold in America under popular brand names like Iams and Eukanuba, announced a recall of its pet food, after receiving reports of kidney failure in pets that ate their food (McCormick 1). It was later found that the source of contamination was rat poison, found in wheat imported from China (McCormick 1). China was also the culprit in a recent seafood contamination scare (Osnos and Greising 1). The FDA announced on June 28<sup>th</sup>, 2007 that it would stop the sale of five types of Chinese seafood, contaminated with unapproved drugs and additives (Osnos and Greising 1). Green onions have also been a contaminating agent. In 2003, green onions from Mexico were the culprit behind a hepatitis contamination in Chi-Chi's restaurants (Martin and Lambert 1). In December of 2007, Taco Bell traced an E. coli outbreak to green onions from a Californian farm

(Martin and Lambert 1). The outbreak at the fast food chain contaminated 99 people in the Northeast (Martin and Lambert 1). While E. coli is a pretty common bacterium, thriving in the intestines of humans and animals, toxic strains can cause abdominal cramps and diarrhea, and in select cases fatal consequences resulting from kidney failure, anemia, and/or bleeding (Martin and Lambert 1).

While Americans may have lost faith in domestic and imported produce, the contaminations also show the vulnerability of agriculture to agroterrorism. Agroterrorism, a subset of bioterrorism, is defined by the Congressional Research Service “as the deliberate introduction of an animal or plant disease with the goal of generating fear, causing economic losses, and/or undermining social stability” (Monke summary). Agroterrorism, if extended to the American dinner table could cause infection or death.

Past agroterrorism examples include an insurgent organization in Kenya killing 33 cows at a mission station using a local plant toxin, African milk bush (James Martin Center for Nonproliferation Studies 1). A cult in Oregon also used agroterrorism by spreading salmonella in salad bars (James Martin Center for Nonproliferation Studies 1). Opponents of the Amin regime in Uganda threatened to poison Uganda’s coffee and tea crops (James Martin Center for Nonproliferation Studies 1). Chemical weapons have been used against agriculture much more often. Agent Orange was used by the United States during the Vietnam War (Monke 12). Israeli settlers sprayed pesticides on grapevines destroying tons of grapes; the Arab Revolutionary Council used mercury to poison Israeli oranges (James Martin Center for Nonproliferation Studies 1).

While agroterrorism doesn’t contain the “shock” factor of other types of terrorism, and thus is not a primary target, it is a viable secondary option (Monke 1). In 2002, al Qaeda terrorist

hideouts were found in Afghanistan containing agricultural documents/manuals detailing ways to make plant and animal poisons (Monke 1). The CIA confirmed 9/11 hijackers sought to fly crop-dusting planes, which could disperse hazardous contaminants on farmlands (CSO 1). Al-Qaeda has long sought to cripple the U.S. economy, and agroterrorism is a viable way.

If agroterrorism took place the first hit to the economy would be the loss in production. The cost of destroying diseased products would be worsened by the cost of containment, drugs and veterinary cost (Monke 8). Money in exports would be drained as restrictions on U.S. food would grow (Monke 8). Farm dependent businesses could be crushed including grocery stores, food manufacturing and transportation (Monke 8). In order to fix many of these economic deficits the federal government may have to reimburse or subsidize the cure. By doing so, the federal government could suffer by having to raid the federal coffers. Eventually this spending would reflect on the taxpayer and on the American lifestyle as a whole. Agroterrorism would ultimately lead to an undermining of the government.

Agriculture is especially vulnerable because of its location and geography. Farms are often dispersed over wide areas, and largely isolated (Monke 2). And yet, livestock are often placed or transported in confined locations, often in combination with other herds, making circulation of an obtained disease easy (Monke 2). There are far more dangerous and contagious pathogens for plants and animals than for humans—making distribution of biological agents simpler and safer for the terrorist (Woods 1). In fact, contaminating a farm could be as easy as walking around the land with shoes containing dangerous microbes (Woods 1). Or terrorists could infect animal feed, causing much farther destruction since farms share feed (Von Bredow, Myers, Wagner, Valdes, Loomis, Zamani 1). As we have seen in foreign traded food products, it's easy for contamination to go overlooked until it is used and has caused devastating effects

within American borders. International trade also poses a threat because of the possibility of interception. Domestic veterinarians may also lack proper experience with foreign animal diseases (Monke 42).

Animal pathogens seem to be the most likely avenue for agroterrorism because of the possibility for the pathogens to be zoonotic (passable to humans) and because of the close proximity of herds and live animal travel (Monke 43). Some of the most dangerous and most watched diseases include: avian influenza, newcastle disease, bovine spongiform encephalopathy, contagious bovine pleuropneumonia, malignant catarrhal fever, rinderpest, and brucellosis of sheep (Monke 45). Foot-and-mouth disease could easily be one of the most effective contaminants of agroterrorism. The disease is “twenty times more infectious than smallpox” with the airborne transmission range being 50 miles (Schmitt 1). The disease causes horrendous blisters on the tongues and hooves of cloven-hooved animals, leaving them unable to walk, eat, or drink (Schmitt 1). Generally, humans cannot contract the disease, but they can transmit it to animals easily since the virus can stay in human lungs for up to 48 hours (Schmitt 1).

The most dangerous plant pathogens include: citrus greening, citrus variegated chlorosis, philippine downy mildew (corn), brown stripe downy mildew (corn), bacterial wilt, brown rot (potato), potato wart or potato canker, bacterial leaf streak (rice) (Monke 47).

A 1998 Presidential directive on securing critical infrastructure did not include food and agriculture; it was only after September 11<sup>th</sup> that agriculture received more attention in an ever expanding field of terrorism policies (Monke 4). Measures to secure our food have increased in the last five years. Laboratories have been upgraded and national security response measures

now include plans for agroterrorism. Hearings have been held within congress, and congress has passed laws with agroterrorism-related provisions (Monke 42).

The Bioterrorism Preparedness and Response Act, P.L. 107-188, enacted after September 11<sup>th</sup>, calls for an expansion of the Food and Drug Authority to be more involved in drug imports and manufacturing (Monke 13). The Act also asks for a better control over possible biological agents and toxins (Monke 13).

Within the Homeland Security Act of 2002, P.L. 107-296, the government switched agricultural border inspections from the USDA to DHS and switched jurisdiction of the Plum Island Animal Disease Center in New York from the USDA to DHS as well (Monke 16). In addition the Animal Enterprise Terrorism Act, P.L. 109-374, expands consequences for criminally interfering with animal productions (Monke 19).

Appropriations for agrohomeland security has also grown, from \$225 million before September 11<sup>th</sup> to \$818 million in fiscal year 2007. Still, agriculture only receives about 2% of the total non-defense budget for homeland security (Monke 36).

Agroterrorism is often overlooked. The Government Accountability Office, in six reports after 2002, has found dangerous vulnerabilities in government protection of agriculture. After the foot and mouth outbreak across Europe, GAO found the United States insufficient on border inspection and control with which to keep the dangerous disease out (Monke 19). Control of another well known animal disease, BSE or “Mad Cow,” was also lacking in documentation and enforcement of “federal feed ingredient bans” and international imports (Monke 19). GAO found that the Food and Drug Administration did not have the authority to enforce corrections to many security deficits (Monke 19). On the Plum Island lab, GAO found that workers without “adequate background checks had access to secure areas” (Monke 19). GAO also found a lack

of American veterinarians with foreign animal disease knowledge and procedures (Monke 20). GAO also found a lack of interagency coordination (Monke 20). Old methods from USDA inspections were being used by DHS despite the transfer of power; inspection dogs declined in number from 140 to 80, many also failed inspection proficiency tests (Monke 20).

Congress needs to enact more security measures to protect against agroterrorism. HR 1717, ordered to be reported (amended) by voice vote, is a very good start. The bill would “amend the Homeland Security Act of 2002 to establish a National Bio and Agro-defense Facility” (Congress.gov 1). The facility would be a disease research center for human, foreign-animal, and zoonotic disease, and would work on protective developments, testing, and evaluation supporting America’s defense (Congress.gov 1). The facility would also help protect against certain “nationally-occurring incidents related to agriculture” (Congress.gov 1). Under this bill, the facility would have to develop an emergency response plan to agroterrorism, and, in order to form a response to animal health emergencies, form a cooperative relationship with both the National Animal Health Laboratory Network and American Association of Veterinary Laboratory Diagnosticians (Congress.gov 1). It also requires that the facilities be able to study the live virus of foot and mouth disease (Congress.gov 1).

On top of this bill and other measures taken to do research on agroterrorism, farmers and food carriers must be alerted to the risk of terrorism and be given a set plan which to follow. Biosecurity measures should be followed including: setting up infrastructure to keep animals from spreading diseases to other herds, cleaning and disinfecting visitors to farms or agricultural communities—bootcovers would be start (Monke 49). Farmers who believe their crops have been tampered with must be told to go immediately to authorities and be assured that if their crop has been used for unlawful reasons—they will be fully reimbursed by the government. Farmers

must be given contact information to report suspicious activity. Food carriers must know that they need to watch their produce constantly, perhaps even with video camera surveillance. And restauranteurs must understand that a recall is a recall and they will be held to the full severity of the law if they do not obey.

The FDA must be given more funding and even stricter regulations with which to judge food entering and leaving the United States. In a world of globalized and fast-traded commodities there must be more security on shipments and better testing for their entrance into the United States. Americans have seen what some contaminated wheat imports did to their pets; they do not want to see kidney failure in their children.

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