

USAWC STRATEGY RESEARCH PROJECT

**AGRICULTURAL TERRORISM: BREAKING NEW GROUND**

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The views expressed in this academic research paper are those of the author and do not necessarily reflect the official policy or position of the U.S. Government, the Department of Defense, or any of its agencies.

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## ABSTRACT

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The threat of agricultural terrorism is real. The consequences of an attack on our agricultural infrastructure may have a devastating impact on our economy while threatening the survival of our citizenry and the very existence of our nation. Our preparations to prevent and respond to such an attack will determine whether the impact of an agricultural terrorism incident is contained or if it has catastrophic results.

How critical is our agriculture infrastructure to our way of life? What is the nature of the threat to our agricultural industry? Are present security methods capable of handling the threat? If not, what steps should the Executive Branch and the Department of Defense take to address the threat? This study seeks to answer these questions while providing a framework using an ends, ways and means analysis to address the development of an agricultural protection policy and identify the role the Department of Defense should play in combating the threat.



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## PREFACE

The employment of United States military forces for domestic activities has long been a contentious issue with our senior political leaders, citizenry and military. The United States military is content with focusing its security efforts to those areas outside the United States where the employment of military forces is not as politically sensitive as operations undertaken in the continental United States. Scenes of the 101<sup>st</sup> Airborne Division, the Texas National Guard, and the 7<sup>th</sup> Infantry Division quelling civil disobedience in Detroit, Waco, and Los Angeles are not conducive to successful political campaigns, nor do they endear the military with their citizenry.

However, recent events such as the bombings of the Murray Building in Oklahoma City and the World Trade Center in New York City highlight the need for our local, state and federal governments to take increased measures to combat terrorism. Decreasing budgets and downsizing require our security infrastructure to maximize presently existing capabilities. Many times shaping the security environment, responding to threats and preparing for the terrorist require unique capabilities present in our military.

Scholars note that the overwhelming conventional capabilities of the United States military will lead our future adversaries to attack the United States using asymmetrical means. Rather than face our nation on the battlefield, they will attack the United States using unconventional means. Our local and state police and fire departments are capable of resolving terrorist attacks using traditional explosives and weapons. However, the proliferation of weapons of mass destruction, with the resultant nuclear, biological, chemical, and radiological contamination poses a threat for which they are not prepared.

In the fall of 1999 the Department of Defense, in conjunction with the Department of Agriculture, was tasked to provide congressional testimony regarding their Executive Branch activities in combating the threat posed by agricultural terrorism. While Congress realizes that it may seem inappropriate for the Department of Defense to provide testimony regarding agricultural terrorism, the Department possesses capabilities that may be needed in the event of a large-scale biological terrorism incident directed against our agricultural infrastructure.

As an action officer in the Office of the Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict, I assisted in the preparation of the Department of Defense representative's testimony. While the federal government is intimately involved in the defense of our populace and facilities from terrorist attack, it was very apparent that it takes a reactive approach to agricultural incidents involving biological contaminants. Several times in our history the Department of Defense provided limited support to the Department of Agriculture by utilizing our research institutions to assist in identifying biological contaminants. However, this support is presently on a "come-as-you-are" basis, not proactive in recognizing the future role in which the Department could participate.

I chose to address this segment of the terrorist threat, which I believe is often ignored. While the aims of most terrorist attacks are designed to either influence the actions of a government or to gain visibility for a cause by attacks on people and facilities, they do not by their very nature threaten the existence or the vitality of the nation-state. This view of the terrorist's goal does not address those groups whose aim may be the destruction of the United States' economic infrastructure. Attacks on food production, processing and distribution systems will threaten our way of life, the survival of our citizenry and their confidence in our government.

My sincere thanks to my fellow action officers, Larry Giusti, Diane Kotras, and Peter Probst, at the Office of the Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict for their insights into recent policy decisions.





## AGRICULTURAL TERRORISM: BREAKING NEW GROUND

“...and it is the quintessence of naivete to expect that peoples with histories radically different from ours will necessarily accept our political, social, economic and ethical values.”

—Henry M. Wriston:

The threat of agricultural terrorism is real. The consequences of an attack on our agricultural infrastructure may have a devastating impact on our economy while threatening the survival of our citizenry and the very existence of our nation. Our preparations to prevent and respond to such an attack will determine whether the impact of an agricultural terrorism incident is contained or if it has catastrophic results.

How critical is our agriculture infrastructure to our way of life? What is the nature of the threat to our agricultural industry? Are present security methods capable of handling the threat? If not, what steps should the Executive Branch and the Department of Defense take to address the threat? This study seeks to answer these questions while providing a framework using an ends, ways and means analysis to address the development of an agricultural protection policy and identify the role the Department of Defense should play in combating the threat.

### Importance of our Agricultural Infrastructure

The most basic principle that every government should follow to ensure its continued survival is the protection of its citizens while ensuring the fulfillment of their basic needs. At the very lowest level of human existence, the basic needs are food, shelter and water. The validity of the government that fails to provide these needs will soon be questioned by its citizenry.

Presently, for every dollar spent, the United States consumer pays approximately 12 cents for food. This is the lowest percentage in the world.<sup>1</sup> The agriculture industry encompassing farms, processing plants, distributors, wholesale and retail markets, was responsible for over \$1 trillion dollars of business in 1997.<sup>2</sup> United States agricultural exports, forecasted to be approximately \$53 billion<sup>3</sup> in 2001, are the largest positive contributor to the U.S. balance of trade. It is responsible for 13% of the gross domestic product and employs approximately 16.9% of the labor force.<sup>4</sup>

The availability of reasonably priced foodstuffs is an ingrained benefit which citizens of the United States expect of their nation. The agricultural industry's production and distribution systems coupled with our government's regulation of the free-market economy ensure this expectation is met. However, a severe biological disruption in this industry while possibly

causing loss of human life will affect our economy and confidence in our government. An understanding of the nature of agricultural biological contaminants and their effects coupled with the potential biological contaminant capabilities of our adversaries are critical to understanding the threat.

### The Nature of Biological Contaminants Affecting Agriculture

Biological contaminants directed towards our agriculture industry can take many forms. A few possibilities of these patterns include: plant to plant, plant to animal, and animal to animal. Not only do infected plants and animals act as vectors for biological pathogens, but also pests, humans, wind, and contaminated soil can serve as transmitters of the contaminant. Moreover, domestic wildlife can also serve as carriers of the biological contaminant, which greatly complicates decontamination efforts. A few types of agricultural biological contaminants such as anthrax can be lethal to humans.<sup>5</sup>

Livestock such as chickens, pigs, and cattle within the United States are much more susceptible to biological contaminants than humans. With the introduction of antibiotics, steroids, genetic manipulation and hormone injections designed to increase the quality and quantity of meat, the natural tolerance of livestock to pathogens is greatly decreased. “Moreover, there are many more agents which are lethal and contagious to animals than is the case with humans.”<sup>6</sup>

A good example of a biological contaminant of livestock is foot-and-mouth disease. This naturally occurring contaminant affects cloven-hoofed animals; sheep, goats, deer, pigs and cattle. Due to the associated fever and blister-like lesions on the tongue, lips, mouth, teats and between the hooves, the affected animals’ eating habits are disrupted. Milk and meat production decreases. The disease can be spread through the air,<sup>7</sup> “by animals, people or materials that bring the virus into physical contact with susceptible animals.”<sup>8</sup>

Unlike the making of biological contaminant weapons directed against humans, creating biological agents targeting animals is a much easier process. An agricultural terrorism attack could be executed by inserting virus-contaminated bird feces into a feeding trough at a large feedlot.<sup>9</sup> The incubation period for biological contaminants varies with the type of pathogen. Therefore, the spread of the disease could remain undetected for several days or weeks.<sup>10</sup>

### Effects of Biological Contaminants to Our Agricultural Infrastructure

The initial impact of an attack against our agricultural infrastructure will be economic in nature. A spreading biological contaminant in our animals or plants will adversely affect

consumer and export markets, while increasing prices at our retail markets.<sup>11</sup> Foreign governments will prohibit the importation of the affected agricultural produce until their inspectors provide a clean bill of health. The United States' balance of trade will be affected.

U.S. corporations and farmers would not only need to destroy the affected produce, but also decontaminate affected factories, farms and distribution facilities. This clean up may take weeks or months and costs would certainly be passed-on to the consumer in the form of higher food prices. Certain segments of the agricultural infrastructure having a low price-to-cost ratio could disappear without government subsidies thus increasing taxes to citizens.

Compounding the problem may be the resistance of the U.S. consumer to buying the produce due to fear. Prolonged or repeated incidents of biological contamination may erode consumer confidence in the commercial sector and in the government's ability to protect the food supply. Obviously, this lack of confidence will have political overtones directed against elected officials. "Deliberate assaults on U.S. agriculture and the food supply system using such unconventional weapons could cause unprecedented public and political concern, and negatively affect consumer confidence in the safety of U.S. products and the government's ability to handle national agricultural disease or toxin emergencies."<sup>12</sup>

#### Who Will Target our Agricultural Infrastructure and Why?

Rogue governments, extremist groups, and economic opportunists, otherwise known as terrorists, may target the agriculture infrastructure of the United States for a variety of political, economic or personal reasons. They may prefer to use agricultural biological contaminants rather than targeting people, because the technology involved is less complex and there is much less risk to the perpetrator.<sup>13</sup>

Agriculture is a *soft target*, meaning it is largely unprotected, vulnerable to attack and easily interdicted. The effects of such an attack would be compounded if the timing occurred during transport. Not only would the original feedlot be contaminated, and therefore subject to infecting arriving cattle, but also, other feedlots receiving contaminated cattle, the road and rail distribution mechanisms, and slaughter houses. The problem would no longer be localized, very possibly crossing state and regional boundaries. A terrorist could easily disperse a biological contaminant by limited spraying of a field and using the wind or pests to spread the contaminant.

Contributing to the *soft target* analysis of agriculture is the ability of the United States to recognize a biological contaminant once it is detected. "The National Board Examination for veterinarians, which is the minimal requirement for licensure in the United States, has very

limited questions on foreign animal diseases.”<sup>14</sup> While foot-and-mouth disease is regarded as the most important disease of livestock in the world, American veterinary students get little to no exposure to this disease. While the Animal and Plant Health Inspection Service is responsible for protecting U.S. livestock against foreign animal diseases, their cadre of field veterinarians has decreased considerably in the last decade. Additionally, many of these field veterinarians have not received training in the recognition of foreign diseases.<sup>15</sup>

Transnational security threats such as an individual attacking the United States with a small vial of biological contaminant are not easily detected. Moreover, the resulting biological agricultural terrorist incident may not manifest itself within a defining event or period of time. Government leaders don't have a *focal point* where they can direct enforcement or response personnel.<sup>16</sup> For example: the perpetrator of an agricultural terrorist incident could attack the U.S. from an overseas location. In 1996 a serious disease of sorghum, African ergot, was accidentally introduced into Brazil. By 1997, it had reached the sorghum producing areas of Nebraska.<sup>17</sup>

It is common knowledge that research institutions within the former Soviet Union were devoted to the development and production of biological contaminants. “At least ten biological warfare agents that could be used against agriculture have been identified.”<sup>18</sup> Additionally, with the demise of the Soviet Union many of these research scientists are now working for other countries in support of their biological weapons programs. “Reportedly, up to 20 nations are suspected of pursuing offensive biological capabilities.”<sup>19</sup> Moreover, “we know that terrorist organizations have expressed an interest in developing a biological warfare capability.”<sup>20</sup> While a mutant strain of a biological agent may be developed in hours, the development of an effective antidote may take years.<sup>21</sup> Evidence of this problem is in the billions of dollars and years of research devoted to the discovery of a defense against AIDS, a naturally occurring biological contaminant.<sup>22</sup>

The ability to disrupt our agriculture infrastructure with biological contaminants is presently in the hands of our adversaries. The potential for agricultural terrorism is here. Its ability to undermine our citizens' confidence in our government and adversely affect our quality of life can not be ignored. Present protection measures are not adequate to combat the threat.

#### Why Present Actions are not Adequate

The United States' current defensive posture to agricultural terrorism and deterrence through the threat of using nuclear weapons is not adequate to confront the asymmetrical threat of biological contaminants. Use of nuclear retaliation is not justified when biological

contaminants may be produced by non-state actors such as, criminals, terrorists or economic opportunists in a room the size of a broom closet and dispersed with little to no signature.

As a signatory to the 1972 Biological and Toxins Weapons Convention, the United States dismantled its biological warfare program despite the fact that the Convention had no verification procedures. In 1986, the Department of Defense official responsible for the Convention negotiations stated, "Because new technology makes possible a massive and rapid breakout, the treaty represents an insignificant impediment at best."<sup>23</sup>

The present interagency structure for combating terrorism is oriented to the threat posed to our populace and our facilities. For example, the Joint Task Force-Civil Support, which supports the lead federal agency with consequence management capability in response to weapons of mass destruction incidents, does not have a veterinarian, entomologist, botanist, ecologist, or horticulturist on staff.<sup>24</sup> While the staff surgeon, medical planners and medical technicians may assist in the treatment of human casualties, their utility in plant to plant, animal to animal and animal to human biological contaminants is limited. "A veterinarian at the Bronx Zoo-a pathologist examining dead birds-was persistent in her efforts to convince federal public health officials that there might be a relationship to cases of encephalitis in the area."<sup>25</sup>

The agencies and departments, which should play a key role in protecting our agriculture infrastructure have not realized or are not capable of responding to the problem. While the Animal and Plant Health Inspection Service is responsible for detecting and therefore, managing the response to a biological attack against plants or animals, their funding has recently decreased. "Recent breaches of their safeguarding system that led to entry of dangerous invasive plant pests into the U.S. have raised concerns that current organizational policies and procedures are inadequate to execute Agency missions."<sup>26</sup> The Executive Summary of the U.S. Action Plan on Food Security states, "Food Security is achieved when all people at all times have physical and economic access to sufficient food to meet their dietary needs..."<sup>27</sup> This interagency working group product does not mention terrorists nor the deliberate introduction of biological contaminants to affect food security.

These *status quo* measures for dealing with emerging biological threats are not adequate to protect our agriculture infrastructure from a concerted attack by terrorists. To fully understand the ramifications of a biological attack directed against agriculture, one can look at the ongoing foot-and-mouth crisis in the United Kingdom.

## A Case Study-British Foot-and-Mouth Crisis

On 19 February 2001 a routine veterinary inspection of pigs at a slaughterhouse detected 27 pigs with “highly suspicious” signs of foot-and-mouth disease. On 20 February the United Kingdom Ministry of Agriculture confirmed the outbreak. By 16 March outbreaks of the disease were confirmed in 261 locations within Britain. Moreover, signs of the biological contaminant were detected in France, Germany, Argentina, Belgium, Denmark, Finland, Saudi Arabia, the United Arab Emirates, Brazil and the Netherlands.<sup>28</sup> Scientists warned that the number of contaminated sights could reach 4,000 by June if more drastic countermeasures aren’t taken.<sup>29</sup>

To control the spread of the contaminant the British government is banning the movement of livestock and hunting, culling all pigs, sheep and goats within 2 miles of a confirmed outbreak, controlling the movement of people and vehicles in infected areas, and postponing military exercises. In some areas: schools are closed, farms are cordoned-off with visitors having to disinfect their shoes and vehicles tires, zoos are closed and sporting events are cancelled.<sup>30</sup>

On 20 March 2001 the British government employed its army in managing the consequences of the foot-and-mouth outbreak. However, by this time the government response to the outbreak was political with the opposition party claiming that the disease was “out of control.”<sup>31</sup> Civil authorities couldn’t burn the animals quickly enough and some farm families were living with carcasses for days. Since the foot-and-mouth contaminant may live in a carcass for as long as a month, fears that vermin feeding on culled animals would continue to spread the disease created public fears.<sup>32</sup>

Some farmers appear to be revolting against government plans to cull livestock that do not exhibit signs of the contaminant, yet lie within the affected areas. This may complicate enforcement measures and contribute to spread of the disease.<sup>33</sup>

Why don’t the British vaccinate their animals? International health guidelines declare a country free of the disease three months after the last case and therefore, able to export meat.<sup>34</sup> If an animal is vaccinated, it takes 2-3 weeks for the vaccination to take effect and it is almost impossible to determine if the animal is carrying the disease. Acceptance of a vaccination policy would require Britain to prohibit exports for one year after the last vaccination and the last case.

The full economic impact of this biological incident cannot be measured until the crisis is over and the British meat industry is back to its previous state. On 16 March 2001, it was estimated that culling may result in one million animals destroyed,<sup>35</sup> however, by 24 March this

estimate reached 31 million,<sup>36</sup> half of Britain's livestock.<sup>37</sup> Presently, British livestock traders are experiencing "significant difficulties" in their \$36 million per-week market.<sup>38</sup>

Countries around the world, to include the United States, have banned the import of meat from the European Union. In the United States, while prices of ingredients for livestock feed, such as soybeans and meal, have gone down due to a reduced demand, prices for pork are at an 8-month high.<sup>39</sup>

While the British crisis appears to be a naturally occurring event of biological contamination, one can imagine the increased difficulties, which may be encountered in responding to a coordinated attack by terrorists over a widespread area. To effectively address the threat of agricultural terrorism the United States should develop an agriculture protection policy, which will identify our political objectives. The policy will provide guidance for the development of ways or methods for preventing, countering and mitigating the threat. The responsibilities for executing of these methods provide the means for implementing the policy.

#### Ends-The Political Objective<sup>40</sup>

Our elected federal officials must develop policies designed to protect our agriculture infrastructure from terrorist attack and mitigate the consequences of an attack should these protective measures fail. The goal of these actions should be redirecting the terrorist from the agricultural infrastructure and increasing consumer confidence in our government and agricultural industry due to improved protection and response mechanisms.

The first step our policy-makers should take is the revision of the President's National Security Strategy to incorporate agricultural infrastructure as a vital national interest. The objectives of our National Security Strategy are to:

...provide for the common defense, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity,...

Additionally, the National Security Strategy states, "Our national security and our economic prosperity rest on a foundation of critical infrastructures including telecommunications, energy, banking and finance, transportation, water systems and emergency services."<sup>42</sup> The National Security Strategy identifies these same critical infrastructures as vital interests, which are of a "broad, overriding importance to the survival, safety and vitality of our nation."<sup>43</sup> The National Security Strategy does not specifically provide for the protection of our agriculture infrastructure.

Our agriculture infrastructure must be identified as a vital national interest. The addition of our agriculture infrastructure as a vital national interest provides the foundation for the

development of an agricultural protection policy. As a vital national interest, our government will use all appropriate means to deter, defeat, and respond to all terrorist attacks on our territory and resources, both with people and facilities, wherever they occur.<sup>44</sup> Moreover, the priority given to the protection of our agricultural infrastructure will provide a focus for governmental agencies while increasing the level of awareness and funding for protection measures and response mechanisms.

While weapons of mass destruction are receiving increasing emphasis within our national security apparatus, by definition biological contaminants that may target plants and animals and not kill people are not weapons of mass destruction. Moreover, “terrorism targeting crops or livestock is not mentioned in the unclassified portions of Presidential Decision Directives 39 or 62 (which both delineate policy on counter-terrorism) or, most surprisingly, Presidential Decision Directive 63, Protecting America’s Critical Infrastructure.”<sup>45</sup> It is paramount that the definition of weapons of mass destruction be revised to incorporate other elements, like agriculture, which are critical to our nation’s interests and survival.

Recognition of our agriculture infrastructure as a vital interest with the resultant incorporation of agriculture within Presidential Decision Directives, combined with a change in the definition of weapons of mass destruction will provide a foundation from which our federal government can begin to address agricultural terrorism. These documents will serve as an impetus for organizational change, budgetary decisions, interagency coordination and action.

#### Ways-Methods for Protection of Agriculture and Mitigating Agricultural Terrorist Incidents<sup>46</sup>

The ways or methods for protecting our agriculture infrastructure from terrorist attack and mitigating the consequences of an attack should deterrence fail are addressed in seven areas of effort for combating terrorism.

**INTELLIGENCE SUPPORT** comprises activities designed to focus the intelligence community on the agricultural terrorist threat. As a vital interest the intelligence community, consisting of the Central Intelligence Agency, the National Security Agency, the Defense Intelligence Agency and the Federal Bureau of Investigation (domestic only) will provide a higher priority for collection of agricultural biological contaminant intelligence. Moreover, it provides a forum for two-way communications between the intelligence community headed by the Director of Central Intelligence and policy-level decision-makers throughout the federal departments and agencies.

**ANTI-TERRORISM** refers to all defensive measures used to protect the agriculture infrastructure from terrorist attack. These measures may be from the promulgation of national-



level security guidelines for feeding lots, to the stationing of personnel along a border to stop the flow of contaminated foodstuffs.

**COUNTER-TERRORISM** are offensive measures used to deter or resolve a terrorist act. Counter-terrorism encompasses those actions designed to apprehend suspected terrorists, deny their sanctuary and prevent them from accomplishing their aims. This capability provides the policy-maker the opportunity to strike at terrorists before their attack on the agriculture industry.

**TERRORISM CONSEQUENCE MANAGEMENT** includes the range of activities required to provide emergency assistance to alleviate damage, loss, hardship, or suffering caused by terrorist actions, to protect the public health and safety with the goal of restoring essential government services. This role of agencies that may respond to an agricultural terrorist incident will be crucial in maintaining citizen confidence in the agriculture infrastructure and our government's ability to resolve the incident.

**RESEARCH AND DEVELOPMENT (R&D)** efforts include rapid prototyping and long-range technology exploration. The *focal point* of these R&D efforts are applicable to intelligence support, anti-terrorism, counter-terrorism, and terrorism consequence management activities. These efforts could range from the development of paper tapes designed to identify biological contaminants and identification of non-material countermeasures, to the development of low-cost biological contaminant sensors.

**INTERNATIONAL COOPERATION** refers to the full complement of policy and diplomatic tools used in concert with our allies to detect, prevent, counter and when necessary mitigate the results of agricultural terrorist activities or events.<sup>47</sup> This cooperation plays a crucial role in halting the introduction of biological contaminants prior to their introduction to U.S. shores. Again, as with R&D, international cooperation efforts are applicable to intelligence support, anti-terrorism, counter-terrorism, and terrorism consequence management activities.

**PUBLIC INFORMATION** is an effective campaign which is necessary to keep the populace informed, thereby, reducing fears and instilling confidence in government efforts to eradicate the biological contaminant threat. Close coordination between local, state, and federal officials is crucial to insure we are speaking with one voice. Moreover, the ability of our citizens to communicate with response agencies may prove crucial to halting the spread biological contaminants. Reports of dead birds by concerned citizens in Pennsylvania have proven crucial to monitoring the spread of the West Nile virus from New York City, New York.

## Means-The Interagency's Responsibilities for Protection of Agriculture<sup>48</sup>

Combating the agricultural biological weapons threat will take a coordinated effort involving federal, state, and local government entities and America's research universities.<sup>49</sup> At the federal level no single agency within the United States Government possesses the legal authorities, response mechanisms, and capabilities to effectively deter or resolve terrorist incidents on its own. By Presidential decision, the Departments of Justice and State are designated the lead federal agencies for combating terrorism in the continental United States and overseas, respectively. Other federal agencies play a supporting role to the lead federal agencies in their actions regarding terrorists.<sup>50</sup>

Accordingly, the force structure needed to address the problem of agricultural terrorism is an infrastructure that incorporates all the elements of national power. Therefore, the Departments of Justice, State, Health and Human Services, Defense, Commerce, Agriculture, and the Federal Bureau of Investigation, Central Intelligence Agency, Defense Intelligence Agency, the National Institute of Health, the National Security Council, the Executive Office of the President and the Center for Disease Control must be actively engaged to address the threat. It is at this level that the necessary measures for intelligence support, anti-terrorism, counter-terrorism, consequence management, R&D, international cooperation and public information must be promulgated to effectively shape, respond and prepare for the agricultural terrorist event.<sup>51</sup>

Our federal government must continue to advance import and export control measures in addition to punitive sanctions to slow the advances in biological terrorism. However, these measures in themselves, have proven ineffective in stemming the threat.

As stated above, the federal government must assist state and local governments in their efforts to address the seven methods for combating agricultural terrorism. While the consequences of an agricultural terrorism event may be regional or national in nature, preemptive actions and responses to an event will initially occur at the local and state level.

The federal government must fully coordinate the agricultural terrorism efforts of its research institutions, such as the U.S. Army Medical Research Institute for Infectious Diseases, and those civilian universities receiving federal grants. These institutions should be used to develop new means for detecting and countering biological contaminant threats to our plants and animals. Additionally, those agricultural colleges and universities receiving federal funds and grants should be required to include the recognition of foreign animal and plant diseases in their curriculum.

A coordinated public information campaign from the federal through the state to the local level will prove crucial to maintaining public confidence in our ability to address agricultural terrorist events. Conflicting information disseminated by agencies at various levels of government will erode confidence in our government. We must speak with one voice.

#### The Department of Defense Role in Combating Agricultural Terrorism

As in all terrorist incidents occurring within the United States, the Department of Defense should be prepared to respond to requests from the designated Lead Federal Agency. A comparison of the seven methods for combating terrorism with existing Department of Defense force structure provides an example of those capabilities that may be useful in combating agricultural terrorism.

**INTELLIGENCE SUPPORT**-Aerial and Satellite monitoring while under the control of the Lead Federal Agency may prove useful in determining the full extent of plant or animal contamination. The forwarding of animal or plant samples through a certified process to the Department of Agriculture by medical personnel redeploying from overseas locations may help to identify biological contaminants, mutation patterns and possibly forecast future biological events.

**ANTI-TERRORISM**-Given prior intelligence, military augmentation of local, state and national police efforts to control security at our borders may prevent or inhibit the spread of biologically contaminated produce and animals. Due to the military's expertise in combating terrorism, their assessment of security throughout the levels of our agricultural infrastructure would identify critical nodes and vulnerabilities requiring increased levels of security.

**COUNTER-TERRORISM**-Our present forces are oriented to terrorists that have the capability of posing a threat to our people and facilities. The inclusion of agricultural contaminants as a weapon of mass destruction will ensure our forces develop the tactics, techniques and procedures to conduct offensive actions against the agricultural terrorist.

**TERRORISM CONSEQUENCE MANAGEMENT**- Mitigating the consequences of an agricultural terrorist attack is the area of combating terrorism in which the utility of military forces could play its most crucial role. Civil Affairs personnel assisting the lead federal agency in crisis action planning, engineer units digging mass culling sites or assisting in the controlled burning of crops, military veterinarians assisting in the inoculation of animals are just a few of the tasks military units can perform in preventing an agricultural terrorist event from becoming an economic or political crisis.

**RESEARCH AND DEVELOPMENT**-Present Department of Defense activities in fulfilling interagency R&D requirements for combating terrorism will be extended to include the

agricultural contaminant. The United States Army Medical Research Institute for Infectious Diseases is more than capable of assisting the Department of Agriculture and the Center for Disease Control in identifying and countering biological contaminants. The Defense Threat Reduction Agency's efforts to develop computer modeling for weapons of mass destruction would be expanded to incorporate the agricultural contaminant.

**INTERNATIONAL COOPERATION-**The military's participation in multi-national combating terrorism exercises oriented to the agricultural threat will insure a prompt and effective military response to actual events which cross international boundaries. Moreover, the military's recent efforts in promulgating interoperability standards for communications equipment provides the Lead Federal Agency with improved capabilities to coordinate activities with allies at the tactical and operational level during a biological incident.

**PUBLIC INFORMATION-** Public Affairs personnel augmenting present information conduits will assist in providing cohesive information between the populace and our governments. Psychological Operations units may provide televideo, loudspeaker, radio, and printing capabilities in support of Lead Federal Agency, state or local government requests to provide information to the public.

### Conclusion

As a critical element of our nation's survival, our agriculture infrastructure is not adequately protected from the emerging biological contaminant threat. Terrorists may choose to use the low cost, technologically feasible agricultural biological contaminant to achieve their aims. The relatively easy introduction of a biological contaminant to a target, it's devastating consequences, with little to no visibility to the perpetrator makes the asymmetrical biological contaminant the terrorist's weapon of choice for the foreseeable future. The combined efforts of applicable agencies throughout our federal, state and local governments are needed to effectively deter and ultimately defeat the agricultural terrorism threat. The Executive Branch and the Department of Defense must take a more proactive role in preparing for the agricultural terrorist threat and when necessary, expeditiously provide trained and ready military forces to combat and mitigate the threat.

Word Count=4668

## ENDNOTES

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