16 June 2026
Word Count: 1667

MEMORANDUM FOR NSDPI RESEARCHERS
ON FOOD SECURITY AND AGROTERRORISM IN U.S. NATIONAL SECURITY

1. Executive Summary

Biological threats, both natural and intentional, continually pose a risk to the national security of the United States by threatening the critical food and agricultural sector. Historical cases, including Highly Pathogenic Avian Influenza (HPAI), foot-and-mouth disease (FMD), and agroterrorism incidents, demonstrate the economic, social, and political disruption these threats can cause.[i] Recognizing these impacts, the USDA, HHS, and DHS lead mitigation and response efforts, coordinating with all levels of government and industry.[ii] Looking ahead, climate change is expected to exacerbate natural biological threats.[iii] Meanwhile, terrorists, economic opportunists, and militant animal rights or environmental activists will remain the primary agroterrorism threats.[iv]

2. Defining Agroterrorism

Agroterrorism is defined as the deliberate introduction of an animal or plant disease to generate fear, cause economic losses, or undermine social stability.[v] Agroterrorism comprises terrorist attacks on agricultural systems—crops or livestock—using biological agents. It is thus a specific subfield of biological terrorism, distinguished from other attacks on the agricultural sector by its exclusive reliance on disease as the modality of interference. Terrorist organizations may utilize agroterrorism for three principal reasons:

a. The financial and intellectual barriers to entry are low. An organization may need only a few hundred thousand dollars and a small team of graduate-level personnel to produce and maintain a pathogen, or it could travel to a region where the pathogen is endemic and smuggle infected livestock or plant material into the United States.[vi]

b. The pathogens most threatening to U.S. agriculture are largely non-zoonotic. Handlers therefore need not develop an antidote, follow stringent handling procedures, or maintain the extensive command-and-control network that a human-targeted biological weapon would require.[vii]

c. The target profile is strategically attractive. By striking non-human targets, terrorists avoid the catastrophic state retaliation that mass human casualties would invite, while still potentially drawing significant public attention. The absence of direct human casualties, combined with high public-attention potential, allows an attack to garner attention without producing mass fatalities.[viii]

3. Threat Landscape

The food and agriculture sector, one of 16 U.S. critical infrastructure sectors, contributes $1.573 trillion annually to the U.S. economy, accounting for roughly 5.5% of GDP.[ix] Disruptions in this sector can pose significant national security threats through economic, political, and social repercussions.[x] A major source of disruption is biological threats, which can be either natural or intentional.

a. Natural threats include invasive species and fungal, bacterial, and viral diseases.[xi] In the U.S., HPAI, FMD, and African swine fever pose the most serious threats to livestock and poultry.[xii] Meanwhile, rust and blight are among the threats to plants.[xiii]

b. Intentional threats include the deliberate introduction of natural threats or the use of chemicals or toxins to damage agricultural production and the food supply.[xiv]

4. Bioterrorism After 9/11

The post-9/11 anthrax attacks exposed strategic vulnerability to bioweapons, driving a new federal preparedness framework.

- *2001 Anthrax Attacks:* These killed five civilians, worsening an already strained threat environment.[xv]
- *Strategic Signal:* This demonstrated more severe consequences, if rogue states or state sponsored networks acquired such tools.
- *Policy Response:* The Public Health Security and Bioterrorism Preparedness and Response Act of 2002 set preparedness procedures, working with the PATRIOT Act to restrict access to select agents.[xvi]

Around the same time, a cluster of outbreaks revealed how exposed global food markets are to biological shocks.

- *1997 – Classic Swine Fever:* In 1997, an outbreak of classic swine fever cost the Netherlands billions of dollars.[xvii]
- *2003 – Bovine Spongiform Encephalopathy:* In 2003, an appearance of bovine spongiform encephalopathy cost multiple North American countries billions in forgone trade revenue.[xviii]
- *2003 – Avian Influenza:* This returned a threat many had dismissed as rare to the policy agenda, with human-facilitated pathogen transfer a leading cause.[xix]

5. Current Policy Landscape

a. Due to the wide-ranging and complex nature of the U.S. food supply chain, all parts of the supply chain are vulnerable to biological threats.[xx]

b. Various government agencies, including the Department of Health and Human Services, the Department of Agriculture, and the Department of Homeland Security, have all passed guidelines, rules, and further recommendations surrounding food safety and security from both natural and intentional threats.

c. The FDA Food Safety Modernization Act of 2011 implemented rules that currently still govern food safety and security procedures with respect to transportation, storage, and mitigation strategies against potential intentional tampering.[xxi]

d. National Security Memorandum 16 (NSM-16), Strengthening the Security and Resilience of United States Food and Agriculture, was implemented in 2022. This memorandum directly addressed the risk of chemical, biological, radiological, and nuclear (CBRN) threats to the United States' food supply. It mandated increased coordination between agencies, the private sector, and state, local, tribal, and territorial governments to identify potential threats to food supply, address gaps in threat prevention, and conduct risk mitigation assessments.[xxii]

e. As directed by NSM-16, the Department of Agriculture, the Department of Health and Human Services, and the Department of Homeland Security conducted a review on risk mitigation strategies. One recommendation, particularly for preventing intentional tampering with parts of the food supply chain, was for increased protection measures through physical security, which involves physically securing important infrastructure for food production, and administrative control, which involves restricting who has access to food production facilities.[xxiii]

f. The Department of Agriculture under the current Trump administration has implemented the National Farm Security Action Plan, which seeks to secure the food supply chain by identifying gaps and "protecting critical infrastructure." The plan also reflects the administration's growing concern for U.S. farmland owned by foreign entities, especially by companies from China. The plan thus enacts reforms to the Agricultural Foreign Investment Disclosure Act of 1978 (AFIDA), requiring the implementation of greater monitoring and tracking of purchases of farmland, particularly of those from adversarial nations.[xxiv]

6. Expert recommendations

a. Various Congressional committees and non-government experts have asked government entities to conduct further research into biological threats.

b. In the 2026 Senate Appropriations Bill on Agriculture, Rural Development, Food and Drug Administration, and Related Agencies, the committee sought to direct the Agricultural Research Service (ARS) to conduct further research into invasive species.[xxv]

c. A report from the House Committee on Armed Services on the National Defense Authorization Act of 2023 explicitly expresses concern over agroterrorism, and directs the Secretary of Defense and the Secretary of Agriculture to conduct further research into government capabilities to protect against animal disease outbreak, particularly outbreaks of Foot and Mouth Disease and African Swine Fever.[xxvi]

d. In a 2025 congressional hearing before the House Subcommittee on Emergency Management and Technology, expert witnesses expressed the need for increased funding for research into agroterrorism prevention. Such research included greater technology for biosurveillance and supply chain monitoring, and studying the threat posed by animal diseases such as plague, anthrax, tularemia, and brucellosis. Some witnesses also expressed concern over current funding cuts to research.[xxvii]

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