

## Potential Bioterrorism Agents in Environment

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### Commentary

Bioterrorism agents are pathogenic organisms or biological toxins used for terrorist purposes to cause death or illness in humans, animals, or plants. These drugs are usually found in nature, but can be modified to increase pathogenicity, make them resistant to common antibiotics and vaccines, and improve their ability to spread to the environment. I can. Terrorists may see biological weapons as an attractive alternative to traditional weapons. This is because biological weapons are relatively low cost, relatively accessible, and relatively easy to manufacture, deliver, and detect. Their use, or even threatened use, can cause widespread social turmoil. The concept of using biological weapons in war is not new [1]. Even as early as the 6th century BC, there are many examples throughout recorded history. When the Assyrians reportedly poisoned an enemy well with rye ergot. Blankets used by smallpox victims were given to Native Americans by the British in the 1700s during the French and Indian War, and are believed to have led to a decline in the native population [2]. The US Government has responded by expanding resources and efforts in biodefense research. Much of this work is overseen by the National Institute of Health Sciences and the National Institute of Allergic Infectious Diseases, a component of the Centers for Disease Control and Prevention, along with other agencies, including the US Department of Homeland Security. As the technology for genetically modifying organisms has advanced and become more accessible, it has become easier and cheaper to modify the genetic makeup of viruses and bacteria [3].

The potential for misuse of synthetic biology functions is increasing, and the threat of biological weapons is increasing. This tool can be used to create pathogenic microorganisms or modify existing microorganisms to make them more dangerous. Some of the areas of greatest concern are the possibility of reconstructing using information about the gene sequences of known pathogenic viruses (such as the 1918 pandemic influenza virus), or changing existing bacteria to more dangerous ones. There is a possibility of doing so (such as making it resistant Existing antibiotics). Another problem is the possibility of manipulating microorganisms that release harmful biochemical into the human body. Other possible risks are changes in the human host, such as changes in the human microbiota and the human immune system [4].

Category A consists of agents that are considered to be at the highest risk and much of the biodefense research effort is directed at these agents. Category B substances include substances that can pose a risk to water and food safety. Category C includes pathogens that are considered threats to emerging infectious diseases and can be manipulated for mass spread. To determine the risk of various pathogens, the CDC provides the impact on human health, the level or mode of transmission to humans, and the availability and effectiveness of vaccines and treatments to prevent and treat the disease. Consider. Threat levels from specific agents are regularly reviewed and revised [5].

The classification into Categories A, B, and C are based on:

1. The ability of the agent to be disseminated
2. The mortality rate of the agent

3. The actions required for public health preparedness
4. The capability of causing public panic

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### Conflicts of Interest

The author has no known conflicts of interested associated with this paper.

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