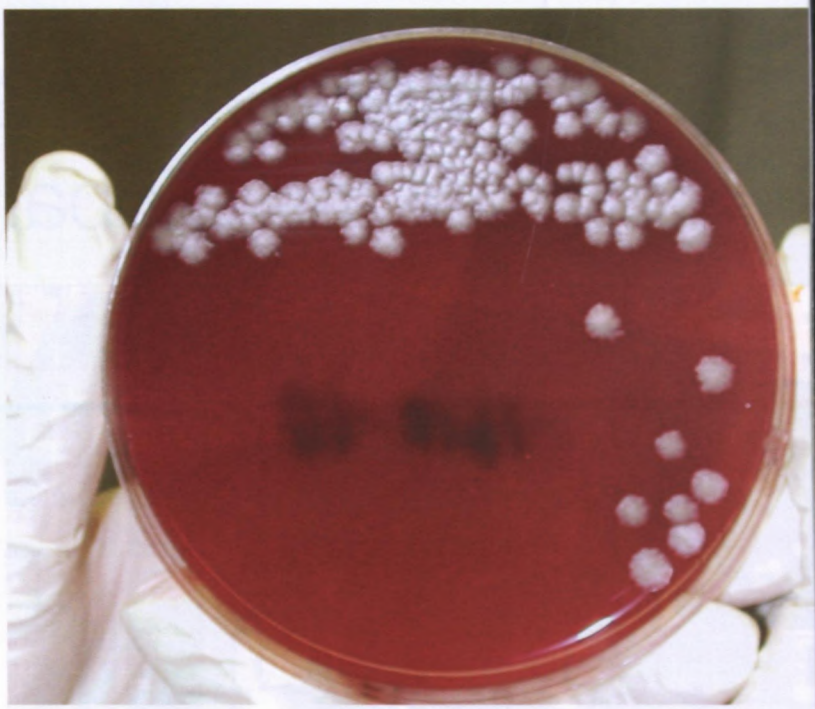
Biological Agents

Although many dangerous biological agents (e.g. bacteria, viruses, fungi and toxins) are found in natural environments, only a relatively small number of pathogens can be adapted for use as biological weapons (BW). The potential for dispersion, lethality and durability are key characteristics of efficient BW. Anthrax bacterium is considered one of the most likely agents to be used by terrorists because of the stable and hardy nature of its spores, its high rate of infectivity and the relative ease of growing it in large quantities. Other dangerous pathogens that could be used in BW include those that cause Marburg haemorrhagic fever (MHF), brucellosis, plague and cholera.

The threat posed by biological agents is compounded when the pathogen for a contagious disease is used. Highly contagious diseases can spread very rapidly and could precipitate a global pandemic within a few days. Some 90 years ago, in a much slower and more insulated world, the "Spanish flu"—a natural influenza pandemic—caused the deaths of between 50 and 100 million people in less than two years. The virus even reached the most remote areas of the Arctic and the Pacific archipelagos.

Humans are not the only targets for biological weapons. During the last century, a number of states researched and developed BW against crops (such as wheat blast and rice blast) and livestock (such as foot-and-mouth disease and African swine fever). A biological attack by terrorists against a nation's plants or animals would have significant disruptive effects on that country's economy.



Anthrax spores can survive for many years in a dormant state.
Photo: Public Health Agency of Canada (PHAC)

Biological weapons can also target crops and livestock with the aim of disrupting food supply and the economy.
Photo: BrandCanada.