The Hazard Evaluation and Emergency Response (HEER) Office is part of the Hawai'i Department of Health Environmental Health Administration whose mission is to protect human health and the environment. The HEER Office provides leadership, support, and partnership in preventing, planning for, responding to, and enforcing environmental laws relating to releases or threats of releases of hazardous substances under Hawai'i Revised Statute (HRS) 128D, Hawai'i Environmental Response Law (HERL). For additional information on HRS 128D please reference: https://www.capitol.hawaii.gov/hrscurrent/Vol03_Ch0121-

Environmental *Bacillus anthracis* - Anthrax Fact Sheet

What is Anthrax?

Anthrax is a disease caused by the spore-forming bacteria *Bacillus anthracis*. People usually get anthrax from infected animals or contaminated animal products. Anthrax can be fully treated by a healthcare provider with appropriate antibiotics, especially if detected early. Anthrax is typically associated with the 2001 bioterrorism event that occurred in the U.S. through the mail. However, the spores used then were weaponized and engineered in a laboratory to have a more concentrated form.

Bacillus anthracis is a naturally occurring bacteria that is present in soil across the world, including the United States. The presence and persistence of *B. anthracis* in soil depends on many factors, such as soil types and weather conditions. *Bacillus anthracis* spores in soil generally do not pose a direct risk of infection in humans.

Has anthrax been found in Hawai'i before?

In 1917, there was an anthrax outbreak amongst livestock (mostly cattle, horses and mules) on Kaua'i, O'ahu, and Maui. Some of the impacted animals died from infection, while other livestock suspected to be infected were euthanized. Carcasses were reportedly either burnt or buried within their respective ranches. This outbreak was limited to livestock and no human cases were reported. There have been no human cases of anthrax documented in the state of Hawai'i, before or after this 1917 outbreak.

Is *B. anthracis* found in the environment elsewhere?

Bacillus anthracis is naturally occurring in the soil throughout the world and has been detected in many U.S. states. Anthrax in infected animals is common in agricultural regions in Central and South America, Southern and Eastern Europe, Africa, and Asia. Detection of *B. anthracis* in soil may not indicate the potential for animal outbreaks.

How long can *B. anthracis* survive in the soil?

Bacillus anthracis spores can remain dormant and survive in soil for multiple decades, but not forever. There are many factors that determine the survival period of the spores such as soil composition, temperature, and moisture.

Can we test for *B. anthracis* in the environment?

Testing for anthrax in the environment (soil, air or water) is limited. The ability for a laboratory to detect anthrax varies depending on sampling and testing methods. Since the bacteria can be unevenly distributed throughout any area of soil, negative test results do not mean absence of the bacteria. Additionally, since *B. anthracis* is a naturally occurring soil bacteria, positive results from environmental testing may not indicate a risk to human health.

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Nevertheless, there is minimal risk to human health associated with naturally occurring *B. anthracis* directly from the environment.

For information on signs and symptoms, diagnosis, treatment, and prevention, please reference the Hawai'i State Department of Health Disease Outbreak Control Division guidelines.

How can you protect yourself?

Most people in the United States are at minimal risk for encountering *B. anthracis*. Primary forms of prevention include avoiding touching or handling potentially infected animals, their carcasses, and products made from these animals. If you suspect exposure and are experiencing symptoms, contact your healthcare provider.

For more information on preventing general exposure to anthrax please reference CDC guidelines.

For more information on workplace exposure, please reference: Occupational Safety and Health Administration (OSHA) guidelines.

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