



FACT SHEET

Office of the
Assistant Secretary of Defense (Health Affairs)
Deployment Health Support Directorate

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Deseret Test Center Project SHAD

Autumn Gold (Update)

Project Shipboard Hazard and Defense (SHAD) was part of the joint service chemical and biological warfare test program conducted during the 1960s. Project SHAD encompassed tests designed to identify US warships' and ashore installations' vulnerabilities to attacks with chemical or biological warfare agents and to develop procedures to respond to such attacks while maintaining a war-fighting capability.

The purpose of Autumn Gold was to determine the degree of penetration of representative fleet ships, operating under three different material readiness conditions, by a simulant biological aerosol released from an operational weapon system. The test was also designed to estimate the magnitude and persistence of simulant biological aerosols retained after conducting air wash and hose down procedures. Additionally, Autumn Gold provided information on the performance of the Partichrome Selection Device and its components under the environmental conditions of the test and allowed for evaluation of the M17 and Mark V protective masks.

Autumn Gold was conducted in three phases, consisting of three trials each or nine trials total. In each trial, two A-4B aircraft, each equipped with two modified Aero 14B spray tanks, disseminated tracer *Bacillus globigii* (BG) along a release line. All trials were conducted in the Pacific Ocean, in an open sea area approximately 60 miles west-southwest of the island of Oahu, Hawaii. The land base operations were located at Pearl Harbor and the Marine Air Station, Kaneohe, Hawaii.

The Department of Defense (DoD) is providing this information, at the request of the Department of Veterans Affairs (VA), to assist the VA in providing healthcare services to qualified veterans and to assist veterans in establishing service connection for disability claims. The Deployment Health Support Directorate (DHSD) collected this information from multiple sources and requested that the military services declassify it to allow its public distribution. The VA accepts this information provided on location, dates, units and/or ships, and substances involved in this exercise, which DHSD extracted from classified DoD records, and will provide it to individual veterans as necessary, but the VA cannot verify its accuracy.

The target ships for the test were the USS *Navarro* (APA 215), the USS *Tioga County* (LST 1158), the USS *Carpenter* (DD 825), and the USS *Hoel* (DDG 13). Personnel on each ship were briefed on procedures for practical exercises and the need was stressed for attaining the three material readiness conditions during the pretrial training exercises and subsequent trials. Ship personnel conducted these exercises and inspections prior to the Autumn Gold trials to determine each ship's capability to attain these readiness conditions. Navy personnel from each ship were assigned to operate the various sampling equipment on the ship. These men were trained during the week prior to the first trial.

Autumn Gold trials took place on May 3, 6, 9, 13, 16, 20, 23, 27, and 31, 1963. All target ships participated in each trial with the exception of the USS *Hoel* which did not participate on May 27 and May 31, 1963.

Following publication of this fact sheet in September 2001, we received new information about from veterans who were present during the Autumn Gold test. As a result of this feedback, we have revised the fact sheet to incorporate that input.

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Test Name	Autumn Gold (DTC Test 63-2)
Testing Organization	US Army Deseret Test Center
Test Dates	May 3-31, 1963
Test Location	Pacific Ocean near the island of Oahu, Hawaii
Test Operations	To determine the degree of ship penetration under three different material readiness conditions, by a simulant biological aerosol released from an operational weapon system; to estimate the magnitude and persistence of simulant biological aerosols retained after conducting air wash and hose down procedures; to provide information on the performance of the Partichrome Selection Device and its components; and, to evaluate the M17 and Mark V protective masks.
Participating Services	US Navy, US Marine Corps, Deseret Test Center personnel
Units and Ships Involved	USS <i>Navarro</i> (APA 215) USS <i>Tioga County</i> (LST 1158) USS <i>Carpenter</i> (DD 825) USS <i>Hoel</i> (DDG 13) USS <i>Granville Hall</i> (YAG 40) Marine Air Group 13, 1 st Marine Brigade
Dissemination Procedures	In each trial, two A-4B aircraft, each equipped with two modified Aero 14B spray tanks, disseminated tracer <i>Bacillus globigii</i> (BG).
Agents, Simulants, Tracers	<i>Bacillus globigii</i> (BG)
Ancillary Testing	M17 and Mark V protective masks
Decontamination	Air wash and hose down decontamination procedures

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<p>Potential Health Risks Associated with Agents, Simulants, Tracers</p>	<p><u><i>Bacillus globigii</i> (BG)</u> Now considered to be <i>Bacillus subtilis</i> var. <i>niger</i>, a close relative of <i>Bacillus subtilis</i>, this bacterial species was used as a simulant and considered harmless to healthy individuals. <i>Bacillus subtilis</i> and similar <i>Bacillus</i> species are common in the environment, and are uncommon causes of disease. They have been associated with acute infections of the ear, meninges (brain lining), urinary tract, lung, heart valve, bloodstream, and other body sites, but always or nearly always in individuals whose health has already been compromised. Long-term or late-developing health effects would be very unlikely (except perhaps as a complication of the acute infection).</p> <p>(Sources: Tuazon CU, <i>Other Bacillus Species</i> (chap. 197), in <i>Principles and Practice of Infectious Diseases</i>, 5th edition (vol. 2), ed., Mandell GL, Bennett JE, Dolin R, Churchill Livingstone, Philadelphia, 2000, p. 2220-6; US Environmental Protection Agency, <i>Bacillus subtilis</i> Final Risk Assessment, February 1997, available at http://www.epa.gov as of October 4, 2002.)</p>
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