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MIL-STD-904B
10 MARCH 2000

SUPERSEDING
MIL-STD-904A
13 JAN 1984

DEPARTMENT OF DEFENSE STANDARD PRACTICE

DETECTION, IDENTIFICATION, AND PREVENTION OF PEST INFESTATION OF SUBSISTENCE

AMSC N/A

FSC 89GP

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited

FOREWORD

1. This Military Standard is approved for use by all Departments and Agencies of the Department of Defense (DoD).

2. This Military Standard specifies technical requirements for inspection of subsistence and food service functions to ensure clean, wholesome food products that are free from chemical, microbiological, and physical contaminants and to prevent the transmission of food-borne disease to members of the Armed Forces. While the U.S. Code contains the regulations pertaining to these matters, the purpose of this standard is to select and compile the particular requirements and verification provisions, which have uniquely military applications.

3. This standard is applicable in all elements within the DoD involved in the inspection of subsistence items purchased with either appropriated or non-appropriated funds. The standard will not be used to determine the capability of an establishment to produce or furnish products or services that are in compliance with specifications or other purchase documents.

4. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to Director, DoD Veterinary Service Activity, Office of the Surgeon General/HQDA, 5109 Leesburg Pike, Falls Church, VA 22041-3258 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

1. SCOPE

1.1 Purpose. This standard describes a set of practices that enable DoD personnel to effectively detect and prevent the infestation or contamination of subsistence items from exposure to insects, rodents, birds, or other animals, and to reduce the impact of infestation or contamination. These practices can be used to prevent, detect, and evaluate damage to subsistence items. The practices described in this standard delineate inspection procedures, evidence collection techniques and equipment, sampling methods, and disposition procedures.

1.2 Application. This standard is applicable to elements within the Department of Defense involved in the purchase, transportation, receipt, storage, and issuance of subsistence items.

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3, 4, and 5 of this standard. This section does not include documents cited in other sections or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 4 and 5 of this standard, whether or not they are listed.

2.2 Government documents.

2.2.1 Other Government documents. The following Government document forms a part of this document to the extent specified herein. Unless otherwise specified, the issue is that cited in the solicitation.

Armed Forces Pest Management Board (AFPMB) Technical Information Memorandum (TIM) 11, Hydrogen Phosphide Fumigation with Aluminum Phosphide.

(Copies are available from the Armed Forces Pest Management Board, Forest Glen Section, Walter Reed Army Medical Center, Washington, DC 20307-5001; or download from web site: http://www.afpmb.org/.)

3. DEFINITIONS

3.1 Blacklight. An ultraviolet light used to detect rodent urine by virtue of its fluorescing properties, in order to validate other evidence of such contamination. (Since many substances fluoresce, this test should be used only for presumptive evidence.)

3.2 Contamination. The act or process of exposing a product to an adulterant or unwholesome material whether it be food pests, parts thereof, or their filth.

3.3 Dermestid. Any beetle belonging to the family Dermestidae.

3.4 Entomologist. An individual with a bachelor's or higher degree in entomology (the science dealing with insects and related animals) who may be employed or contracted by the Department of Defense (as a military officer or civilian) or a Federal/State Agency.

3.5 Food inspection personnel. Individuals from the Army Veterinary Service, Air Force Public Health, or Navy Preventive Medicine agencies whose duties include the inspection of food at depots, installations, or aboard ships.

3.6 Government-owned subsistence. Subsistence owned by either appropriated or nonappropriated Department of Defense activities/instrumentalities.

3.7 Infestation. The presence of insects, rodents, birds, other animals or parts thereof, and/or their wastes in or around subsistence such that the subsistence may be rendered unwholesome for human consumption.

3.8 Infestable subsistence. Items whose nature and method of packaging make them subject to actual or potential pest infestation (see Appendix).

3.9 Insect. All life stages of arthropods belonging to the class Insecta.

3.10 Insect-free. No insects, alive, dead, or parts thereof, able to be seen during inspection of the subsistence.

3.11 Intermediate package. A wrap, box, or bundle (that is, a container) that contains two or more unit packages of identical items (also called a secondary package). (See ASTM-D-996.)

3.12 Medical authority. Air Force Public Health personnel or Army Veterinary Service Officer whose duties include authorization to dispose of subsistence determined to be unfit for human consumption and approval of procedures for reconditioning subsistence.

3.13 Package, primary, or unit. A container providing means of protection and handling to a product. (See ASTM-D-996.)

3.14 Packaging. (1) The technique of preparing goods for distribution; (2) the design criteria, processes, and procedures used to protect material from deterioration and damage from the time manufacturing is completed until ultimate use or disposal; it includes cleaning, drying, preserving, packing, unitization, and marking; (3) the processes and procedures used to protect an item in a unit package. (See ASTM-D-996.)

3.15 Packing. The selection or construction of the shipping container and assembling of items or packages therein, including any necessary blocking, bracing, or cushioning, weatherproofing, exterior strapping, and marking of shipping container for identification of contents. (Compare packaging). (See ASTM-D-996.)

3.16 Pest. Any insect, rodent, bird, or other animal that may render subsistence partially or wholly unwholesome for human consumption through infestation or contamination.

3.17 Pest management personnel. Military or civilian personnel trained to manage undesirable pests and certified (licensed) to use or apply pesticide chemicals.

3.18 Recondition. Elimination of contaminated packaging by cleaning and sanitizing the container, as needed, and repackaging in order to permit the product to be issued.

3.19 Surveillance inspection. Inspections made to determine if Government-owned foods are wholesome and suitable for further storage, shipment, issue, sale, and consumption.

3.20 Unit package. The first tie, wrap, or container applied to a single item, a quantity of the same item, a set, or an item with all its components parts, that constitutes a complete and identifiable package containing the unit of issue of a product for ultimate use (also called a primary package). (See ASTM-D-996.)

3.21 Warranty action. Administrative steps taken by the responsible contracting officer to recover losses from a contractor for subsistence products which were accepted but for which evidence indicates infestation or contamination occurred prior to Government acceptance.

4. GENERAL REQUIREMENTS

4.1 Acceptance or rejection of contractor-owned subsistence. Any shipment of subsistence from a commercial source found to be infested/contaminated upon receipt shall be rejected, except under the conditions described in 4.1.1 and 4.1.2.

4.1.1 Packaging not breached. When food inspection personnel determine that the infestation/contamination has not breached the packaging of the product, and if the infestation/contamination is minimal, the accountable officer, with the concurrence of the medical authority, shall accept the shipment under the following conditions:

a. There is an immediate urgent need for this particular shipment that cannot be met if the delivery is rejected.

b. If food pest insects are found, the subsistence shall be fumigated at the contractor's expense prior to unloading or placement in the warehouse.

4.1.2 Contamination on packing. When contamination is detected on packing, the shipment shall be accepted under the following conditions:

a. The package or intermediate package can be removed in an uncontaminated condition.

b. It is possible to decontaminate packaging of contaminated units. Decontamination shall be done at the contractor's expense with prior approval of the proposed decontamination method from the medical authority and contracting officer.

4.2 Acceptance/rejection of Government-owned subsistence. Government-owned subsistence acquired from a commercial source shall be rejected and disposed of, condemned and disposed of, or accepted, under the conditions described in 4.2.1 through 4.2.2.4.

4.2.1 Infestation prior to receipt. If, within six months of receipt, Government-owned subsistence is found to be infested/contaminated, and the condition is determined to have existed at the time of receipt, the accountable officer shall initiate warranty action and immediately arrange with the contractor for disposition of the subsistence.

4.2.2 Infestation after receipt. If infestation/contamination of Government-owned subsistence is determined to have occurred after receipt, the requirements in 4.2.2.1 through 4.2.2.4 shall apply.

4.2.2.1 Insect infestation. The lot shall be condemned under the following conditions (see 5.4.3):

a. When at least one living or dead larval stage of an insect species belonging to the genus *Trogoderma,* or to other dermestid genera, is found within the product itself (not external).

b. When an average of three or more living or dead insects belonging to the genus *Tribolium* per pound of products is found within the packages inspected.

c. When an average of seven or more living or dead insects per pound of product is found involving insects other than those belonging to the genus *Trogoderma* (or other dermestid genera) or the genus *Tribolium.*

4.2.2.2 Rodent contamination. Contaminated units (boxes, cases, bags, bales) shall be condemned under the following conditions (see 5.4.4):

a. When any evidence of rodent infestation/contamination is found within product packaging.

b. When penetration of packaging by rodent feces/urine is detected by the presence of urine stains and/or feces visible under normal light or blacklight.

c. When the existence of one or more holes gnawed through the innermost layer of packaging is detected.

d. When external contamination of waterproof containers (e.g., cans) containing product is detected, unless it is possible to sanitize the container by cleaning, disinfecting, and rinsing it under the direction of the medical authority. The entire pallet shall be condemned when rework cost is estimated to exceed the value of the product salvaged.

4.2.2.3 Bird contamination. Any unit of product contaminated by bird parts/excreta shall be condemned unless the package has not been penetrated and can be cleaned and disinfected or repackaged.

4.2.2.4 Miscellaneous animal contamination. Any unit of product contaminated by the feces and/or urine, or penetrated by the teeth and/or claws, of dogs, cats, raccoons, or other animals shall be condemned. If the package has not been penetrated, the appropriate medical authority shall determine the wholesomeness of the product.

5. DETAILED REQUIREMENTS

5.1 Inspection of highly infestible subsistence. Inspection of subsistence items listed in the Appendix shall be performed before off-loading at arrival, before being reshipped, and at predetermined intervals during storage, as described in 5.1.1 through 5.1.2.3.

5.1.1 Sampling during inspection. During inspection, sampling for detection of infestation/contamination shall be conducted. The following documents provide guidance on determining sample size: Appendix S of DLAR 4155.37/AR 702-18/NAVSUPINST 4410.56/AFR 69-10/MCO 4450.13, AR 40-656, or AFI 48-116 as appropriate (see 6.6). Samples shall be taken as follows:

a. From products that have a history of frequent infestation/contamination (see Appendix).

b. From areas most likely to be infested/contaminated, such as the outermost containers on the top and bottom of a stack, or the areas closest to an established problem area.

c. From subsistence that has been stored near infested/contaminated products.

5.1.2 Inspection methods. Closed and open-package inspections shall be conducted, as appropriate, as described in 5.1.2.1 through 5.1.2.3.

5.1.2.1 Closed-package inspection. All seams, tucks, and open areas of all samples shall be examined for the presence of insects using a focused light source. The samples shall be scrutinized for small insect penetration holes and rodent, bird, or animal contamination or damage.

5.1.2.2 Open-package inspection. If insects or other infestation/contamination problems are suspected or discovered, an open-package inspection shall be performed to ascertain the nature of the problem, to determine the number of insects per pound inspected, and to obtain samples for laboratory identification.

5.1.2.2.1 Open-package method for units of 10 pounds or less. The entire contents of package units that weigh 10 pounds or less shall be opened and examined for infestation or damage.

5.1.2.2.2 Open-package method for units greater than 10 pounds. A three-pound sample shall be taken in an aseptic manner from the following package locations when package units weight 10 pounds or more:

a. Top of unit next to the opening.

b. Bottom of unit next to the seal or seam.

c. Adjacent to the tears or holes.

5.1.2.3 Screening products after open-package inspection. When an open-package examination method is used, the resulting sample shall be screened for insects and the insects prepared for laboratory identification as follows:

a. Spread the sample thinly on an examination table covered with light-colored disposable paper. Alternatively, shake the product through the proper size sieve (see 6.3) onto the paper.

b. Using a high-intensity light source, isolate any live or dead insects with forceps or a brush dipped in alcohol. Pick up immature or adult insects other than moths with the brush or forceps and place them in screw-top vials filled with alcohol. Place adult moths, and any other suspected contaminants, in screw-top containers, pillboxes, or petri dishes of an appropriate size, without alcohol. Use tissue paper to protect dry specimens. Additional information is available in DPSCM 4155.6, Subsection 218.2 (see 6.6.1).

5.2 Surveillance inspections of subsistence. Surveillance inspections shall be performed on Government-owned foods to determine suitability for further storage, shipment, issue, sale, and/or consumption. The classes of surveillance inspection as specified in 5.2.1 through 5.2.4 are defined in AR 40-657/NAVSUPINST 4355.4F/MCO P10110.31G.

5.2.1 Receipt of product, except purchase (Class 5). The conveyance, and the subsistence it contains, shall be closely examined to detect infestation/contamination which may have occurred during transport. Subsistence shipped long distances to or from tropical climates shall be subjected to especially thorough inspection. During warm periods of the year, subsistence shipped via rail car shall be fumigated while in transit if permitted by the label. The fumigation procedures contained in AFPMB TIM No.11, shall be followed. Upon arrival of fumigated rail cars, the receiving officer shall notify pest management personnel who shall ensure that the conveyance is detoxified prior to unloading.

5.2.2 Prior to shipment of product (Class 6). Government-owned subsistence that is to be shipped and the conveyance in which it will be shipped shall be inspected for infestation/ contamination before loading, prior inspection at receipt and during storage not withstanding. Guidance for naval vessels can be found in the US Navy Shipboard Pest Control Manual (see 6.6).

5.2.3 At issue or sale (Class 7). Subsistence shall be examined for infestation/contamination at time of sale or issue, prior inspection at receipt and during storage not withstanding.

5.2.4 During storage (Class 9). Subsistence in storage shall be examined for infestation/ contamination on a cyclical basis, giving special attention to the subsistence items listed in the Appendix. Inspection frequency may be determined by the local authority (Pest Management Professional) based on specific and/or changing environmental conditions, infestation history, and status of facility sanitation. General guidance follows:

a. Cool temperatures, negative findings for pests, and good sanitation practices are justification to reduce the frequency of inspection.

b. Warm storage temperatures shorten insect developmental time and are justification for more frequent inspection of infestible items.

c. Poor sanitation/facility maintenance and/or any recent pest infestation/activity either in subsistence, or the storage area, is justification to increase inspection frequency to monthly or shorter interval.

5.3 Inspection of storage areas. DLAM 4145.12 (see 6.6) provides guidelines for an effective stored products pest management program.

5.3.1 Frequency of inspection. Subsistence dry storage areas shall be routinely inspected at least monthly by Medical/Veterinary Service representatives and accompanied by pest management personnel at least quarterly. A log of inspections shall be maintained.

5.3.2 Detection of insects in storage areas. Since most insects have a very high reproductive potential and a relatively short life cycle, all shipments of subsistence items carry the potential to infest storage areas, even though there is no apparent evidence of insects. Inspections shall be performed as follows:

a. Warehouse windows shall be checked for flying insects.

b. Floors, walls, and pallets shall be examined for insects that have emerged from subsistence items.

c. Insect pheromone traps shall be utilized in the surveillance program where practical.

d. Sacked and boxed farinaceous items shall be checked around the end seals and stitching.

e. Grain-based rodent bait boxes shall be checked for infestation.

f. If insects are discovered, specimens shall be collected and prepared in accordance with paragraph 5.1.2.3.

g. If certain types of subsistence items are frequently infested, samples may be taken and incubated at higher temperatures in order to speed insect development and early detection.

5.3.3 Detection of rodents in storage areas. Storage areas shall be monitored for signs of rodent infestation, such as droppings (type and age), runways (along walls, steps, and rafters), rub marks (fresh or aged), burrows (fresh or old), gnawing (recent or weathered), and tracks (sharp and distinct or dust-covered).

5.3.4 Detection of birds in storage areas. Storage areas shall be monitored for the presence of birds. Even if birds are not seen, the topmost stacks of subsistence shall be routinely inspected for bird droppings.

5.3.5 Detection of other animals in storage areas. Signs of the presence of other animals in a subsistence warehouse include seeing the animals or finding droppings, hair, or damaged products. The animals shall be located and removed by the appropriate animal control activity. Potential animal entrances shall be located and sealed.

5.4 Procedures following detection of infested/contaminated Government-owned subsistence. When infested/contaminated Government-owned subsistence is detected, the procedures in paragraphs 5.4.1 through 5.4.4 shall be followed.

5.4.1 Identification and reporting of infestation. To enable DoD to accurately assess and manage stored subsistence losses, all insect infestations shall be identified and reported. The submission of specimens to a military or other laboratory for identification should be accompanied by a DD Form 1222 (see 6.8).

5.4.2 Fumigation. Infested subsistence that is not immediately destroyed, frozen, or removed shall be promptly fumigated by local pest management personnel in accordance with AFPMB TIM No. 11. Meal, Ready-to-Eat (MRE) rations and other operational rations packaged in foil or laminated pouches shall not be fumigated without prior approval by the command entomologist or the cognizant procurement office (see 6.7).

5.4.2.1 Procedures after fumigation. Once the fumigated subsistence is aerated and the area declared safe by certified pest management personnel, the effectiveness of the fumigation and the fitness of the subsistence for consumption shall be determined so that a disposition recommendation can be made. A statistically sound estimate of the degree of infestation shall be made based on the following criteria:

Lot Size (Primary Container)	Sample Size
2 to 15	2
16 to 50	3
51 to150	5
151 to 500	8
501 to 3200	13
3201 to 35000	20
35001 to 500000	32
500001 and over	50

5.4.2.2 Shipboard infestation. Fumigation of subsistence onboard ships is not authorized. Freezing of infested subsistence at 0° F for a minimum of two weeks, which kills the insects and their eggs, is an acceptable alternative to fumigation. If the insect levels exceed those required in paragraph 4.2.2.1, or if the appropriate authority elects not to recoup the infested subsistence, immediate disposition shall be made to prevent further infestation.

5.4.3. Disposition procedures for insect infested products. After the infesting insect has been identified, the requirements of paragraph 4.2.2.1 shall be followed. If these requirements are not exceeded, the infested subsistence shall be subject to the following disposition actions:

a. Infested subsistence, whether in depots or installations, shall not be shipped to another potential user. If not suitable for local use, it shall be destroyed.

b. If inspection reveals the product is within safe tolerances after it has been fumigated or held at 0° F for a minimum of two weeks (see 4.2.2.1), a recommendation may be made by Medical/Veterinary Service personnel to the accountable officer that the product may be issued, if needed.

c. The exterior of the troop issue shipping containers shall be marked in the following manner to inform the final users of the product's condition:

"This product has been found to contain a few insects which were killed by fumigation or freezing. Medical/Veterinary Service personnel have examined this product, and having found it to be in conformance with approved health standards as specified in MIL-STD-904 have declared it fit for human consumption. It is recommended that the product be sifted before use."

d. Known infested product will not be sold in retail stores.

5.4.4 Disposition of rodent contaminated products. Care in handling rodent contaminated materials must be observed. (Note: The concern is for diseases associated with rodents, e.g. hantaviruses.)

a. Protective gloves shall be used to avoid direct contact with urine or feces.

b. Decontaminate the surface of infested packages with a household bleach solution (three tablespoons household bleach per gallon of water) or other sanitizer.

c. Seal any holes to prevent leakage or place damaged packages in a plastic bag.

d. If entire pallets are condemned, it is be desirable to seal them with plastic sheeting. Segregate damaged materials for reimbursement or dispose of them.

e. In warehouses where rodent infestations are extensive, it may be necessary to use a negative pressure respirator fitted with a High Efficiency Particulate Air (HEPA) filter. Issuance of this type of respirator mandates that the employee be included in a properly established respiratory protection program. Heavily contaminated areas should be treated with a 10% household bleach solution (one part bleach to nine parts water).

5.5 Preventing infestation/contamination in storage facilities. The control procedures in 5.5.1 through 5.5.3 shall be employed to decrease the incidence and severity of pest infestation of stored subsistence.

5.5.1 Sanitation procedures. Housekeeping and sanitation practices, such as immediate clean-up of spilled items, disposal or repair of damaged containers, daily sweeping of floors, and frequent cleaning of all shelving and equipment shall be routinely employed. Sanitary inspections shall be routinely performed.

5.5.2 Warehousing practices. Warehousing practices that reduce opportunities for infestation/contamination shall be employed, such as:

a. Subsistence items shall be stored off of the floor on pallets and/or shelves.

b. Pallets and shelves shall be located at least 18 inches from walls to allow access for cleaning and inspections and to reduce harborages.

c. Subsistence shall be stacked in a manner that minimizes crushing that may damage packages or packaging.

d. Subsistence items shall be rotated to prevent insects from completing enough life cycles to develop a heavy infestation.

e. New stocks of susceptible subsistence items shall be isolated, if possible from old stocks to prevent cross infestations.

f. Bagged animal foods shall be stored in a separate area from other subsistence items because of their propensity for infestation.

g. "First-In, First-Out" (FIFO) procedures shall be followed.

5.5.3 Pest-proofing storage facilities. All military subsistence storage facilities shall be constructed so that rodent, insect, and bird entry and harborage are minimized. All exterior openings larger than 1/4-inch shall be sealed with cement, 26-gauge or thicker sheet metal, or 1/4-inch hardware cloth. Structural harborages such as double walls, spaces between floors, drop ceilings, and boxed-in pipes or beams shall be completely sealed or eliminated.

6. NOTES
(This section contains information of a general or explanatory nature that may be helpful, but it is not mandatory.)

6.1 Intended use. This standard is intended to ensure that food products procured by DoD for use by Armed Forces personnel are safe and do not pose health risks.

6.2 Issue of DoDISS. When this standard is used in acquisition, the applicable issue of the DoDISS must be cited in the solicitation.

6.3 Equipment. The following equipment is recommended for pest surveillance by inspection personnel. Local supply personnel may be able to provide assistance in obtaining this or similar equipment:

a. A well-lighted (minimum 100 foot candles), 3-foot-by-6-foot work surface. This surface must be free of cracks or crevices and readily cleanable.

b. White or light-colored disposable paper in rolls at least 3 feet wide.

c. Flashlight, right angle (NSN 6230-00-264-826-1) or any portable high-intensity light source.

d. Magnifier (Reading Glass) (NSN 6650-00-252-6250).

e. Small brush to transfer insects (NSN 8020-00-503-0000).

f. Seventy percent ethyl or methyl alcohol to kill and preserve insects.

g. Screw cap vials, 9 ml (NSN 6640-00-408-2200) or 3 ml (NSN 664-000-408-2300).

h. Paperboard shipping containers (NSN 8115-00-511-5750).

i. Sieves (available through scientific products companies).

(1) For powdery products such as flour, use U.S. Standard Sieve Series Nos. 20, 30, 40, 50. The size of the sieve mesh should be large enough to allow the product to pass through while retaining the insects on the mesh.

(2) For granular products such as meals, use U.S. Standard Sieve Series Nos. 10, 20.

(3) For bulk products such as spaghetti, use U.S. Standard Sieve Series No. 5 and a ½-inch sieve. The product should be retained on the mesh while allowing the insects to fall.

j. Knife to open sample bags.

k. Tape to reseal sampled bags that are larger than 10 pounds.

l. Ultraviolet light, specimen examining (NSN 6530-00-663-2140), with two 45-volt batteries (NSN 6135-00-100-0464).

m. Balance, trip, 2000-grain capacity (NSN 6670-00-401-7195) and weight set, balance, 100 gram to 1000 gram (NSN 6670-00-401-8830).

6.4 Infested subsistence declared safe for use. There may be circumstances when infested subsistence declared safe by the medical authority can be used for issue by the accountable officer. These decisions must be mutually agreed to by the medical authority and the accountable officer and the subject subsistence must present no health threat to the consumer.

6.5 Entomological references. The references listed below are suggested for use by personnel involved in the inspection of subsistence. These references are for information only and should not be used as a substitute for qualified entomological guidance.

a. Buckle, A.P., and Smith, R.H. (Eds.). (1994). Rodent Pests And Their Control. CAB International, 10 East 40th Street, New York, NY 10016. Oxford University Press – USA. http://www.oup-USA.org/.

b. Timm, Robert M., (Ed.). Prevention and Control of Wildlife Damage. Cooperative Extension Service, University of Nebraska, Lincoln. Available from the Univ. of NE in print or CD-ROM format, approximate cost $40.00 each or $60 for both plus shipping and handling, http://www.ianr.unl.edu/pubs/wildlife/ or (402) 472-2188.

c. Gorham, J. Richard (Ed). Principles of Food Analysis For Filth, Decomposition, and Foreign Matter. FDA Technical Bulletin No. 1, Second Ed. (1981). Available from AOAC International, 481 North Fredrick Ave., Suite 500, Gaithersburg, MD 24486. http://www.aoac.org/.

d. Ecology And Management of Food-Industry Pests. (1991). 595 pages. Available from AOAC International, 481 North Fredrick Ave., Suite 500, Gaithersburg, MD 24486. http://www.aoac.org/.

e. Principal Storage Pests. (Illustrated guide, color). Available from Degesch America, Inc., P.O. Box 116, 275 Triangle Dr., Weyers Cave, VA 24486. (This is a large wall chart. There is also a fold guide available for a fee.)

f. Stored Grain Insects. (Agriculture Handbook No. 500). (1979). Available from Association of Operative Millers, 5001 College Blvd., Suite 104, Leawood, KS 66211, (903) 338-3377. http://www.trainingforum.com/ASN/AOM/index.html/.

g. U.S. Department of Agriculture. (1991). Insect and Mite Pests in Food: An Illustrated Key (USDA Agricultural Handbook No. 655). 767 pages. Out of print, copies may be available from BioQuip, (310) 324-0620.

h. Bennett, G., Corrigan, R., and Owens, J. (Eds.). (1997). Truman's Scientific Guide to Pest Control Operations. 5th Edition. Advantstar Communications, Inc., 522 pages. Available from numerous sources including Amazon.com.

i. Mallis, Arnold and Moreland, Dan (Eds.). (1997). Handbook of Pest Control: The Behavior, Life History, and Control of Household Pests, 8th Edition, Mallis Handbook & Technical Training Co. Can be ordered through most standard or on-line bookstores.

j. Military Pest Management Handbook, Chapter 8. Urban arthropods. Armed Forces Pest Management Board. (Available from the Armed Forces Pest Management Board, Forest Glen Section, Walter Reed Army Medical Center, Washington, DC 20307-5001; or download from web site: http://www.afpmb.org/.)

k. Military Pest Management Handbook, Chapter 10. Rodents, birds, bats and other nonarthropod pests. (Available from the Armed Forces Pest Management Board, Forest Glen Section, Walter Reed Army Medical Center, Washington, DC 20307-5001; or download from web site: http://www.afpmb.org/.)

6.6 Guidance documents. The documents in 6.6.1 and 6.6.2 are non-mandatory. These citations are provided for information only.

6.6.1 Guidance documents cited in text of this standard.

a. ASTM-D-996, Standard Terminology of Packaging and Distribution Environments. (Available from American Society for Testing and Material, 100 Bar Harbor Drive, West Conshohocken, PA 19428-2959; or from website: http://www.astm.org/sitemap.html/.)

b. AR 40-656, Veterinary Service Surveillance Inspection of Subsistence. (Document No. AR40-656 available from National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161; 1-800-553-6847; or download from internet at http://www.usapa.army.mil/.)

c. AR 40-657/NAVSUPINST 4355.4F/MCO P10110.31G, Veterinary/Medical Food Inspection and Laboratory Service. (Document No. AR40657 available from National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161; 1-800-553-6847; or download from web site: http://www.usapa.army.mil/.)

d. DPSCM 4155.6, Subsection 218.2, Defense Personnel Support Center, Subsistence Inspection Manual, Destination (Surveillance) Inspection, Entomological Laboratory Identification Services. (Available from Defense Supply Center Philadelphia, ATTN: DSCP-HS, 700 Robbins Avenue, Philadelphia, PA 19111-5092.)

e. US Navy Shipboard Pest Control Manual. (Available from Navy Disease Vector Ecology and Control Center, Bangor, 19950 Seventh Ave. NE, Suite 201, Poulsbo, WA 98370-7405; (360) 315-4450; or download from web site: http://164.221.226.57/.)

f. DLAR 4155.37/AR 702-18/NAVSUPINST 4410.56/AFR 69-10/MCO 4450.13, Defense Logistics Agency Material Quality Control Storage Standards. (Available from Defense Logistics Agency Publishing System, 8725 John J. Kingman Drive, Ft. Belvoir, VA 22060; (703) 767-3506.)

g. AFI 48-116, Food Safety Program. (Available only from website: http://afpubs.hq.af.mil/.)

h. DLAM 4145.12/TM 38-400/NAVSUP PUB 572/AF MAN 23-210/MCO 4450-14, Joint Service Manual (JSM) for Storage and Materials Handling. (Available from Defense Logistics Agency Publishing System, 8725 John J. Kingman Drive, Ft. Belvoir, VA 22060; (703) 767-3506.)

i. AFPMB Technical Information Manual (TIM) 11, Hydrogen Phosphide Fumigation of Subsistence with Aluminum Phosphide. (Available from the Armed Forces Pest Management Board, Forest Glen Section, Walter Reed Army Medical Center, Washington, DC 20307 - 5001; or download from web site: http://www.afpmb.org/.)

6.6.2 Guidance documents not cited in text of this standard.

a. Food Code 1999, Department of Health and Human Services, Food and Drug Administration, Food Service Sanitation Branch, Washington, DC 20204. (Document No. PB99-115925 available printed, on CD ROM, and on diskette from National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161; 1-800-553-6847; or download from web site: http://vm.cfsan.fda.gov/~dms/foodcode.html/.)

b. AFPMB Technical Information Memorandum (TIM) 27, Stored Product Pest Monitoring Methods. (Available from the Armed Forces Pest Management Board, Forest Glen Section, Walter Reed Army Medical Center, Washington, DC 20307 - 5001; or download from web site: http://www.afpmb.org/.)

c. AFPMB Technical Information Memorandum (TIM) 38, Protecting Meal, Ready-to-Eat Rations (MREs) and Other Subsistence during Storage. (Available from the Armed Forces Pest Management Board, Forest Glen Section, Walter Reed Army Medical Center, Washington, DC 20307 - 5001; or download from web site: http://www.afpmb.org/.)

d. AFPMB Technical Information Memorandum (TIM) 41, Protection from Rodent-borne Diseases with Special Emphasis on Occupational Exposure to Hanta Virus. (Available from the Armed Forces Pest Management Board, Forest Glen Section, Walter Reed Army Medical Center, Washington, DC 20307-5001; or download from web site: http://www.afpmb.org/.)

6.7 Cognizant procurement office. The DoD procuring activity for subsistence products is Defense Logistics Agency, Defense Supply Center Philadelphia, ATTN: DSCP-HROS, 700 Robbins Avenue, Philadelphia, PA 19111 - 5092.

6.8 Identification of specimens. Copies of DD Form 1222, Request For and Results of Tests, can be obtained from the point of contact identified on the following web site: http://web1.whs.osd.mil/icdhome/fman.htm/ or downloaded from the following web site: http://web1.whs.osd.mil/icdhome/FORMSPUBS.HTM/.

(DoD activities may obtain a copy of the form from the DoD Forms Points of Contact identified in web site: http:web1.whs.osd.mil/icdhome/fman.htm or download from web site: http://web1.whs.osd.mil/icdhome/FORMSPUBS.HTM/.)

6.9 Subject term (key word) listing.
Contamination
Food inspection
Entomologist
Insect
Rodent
Bird
Animal
Fumigation

6.10 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue because of the extent of the changes.

Custodians:
Army - MD2
Navy - SA
Air Force - 03

Review activities:
Navy - MS, MC
DLA - SS

Preparing Activity:
Army - MD2
Project No. 89GP-0002

APPENDIX

1. Scope. This appendix identifies items that have a high potential for infestation. Items packaged in glass or cans are not susceptible to infestation unless infested prior to or during packaging. This appendix is intended to provide useful information and does not contain mandatory requirements.

2. Subsistence items with high potential for infestation:

(1) Operational rations not packaged in cans, including assembled and unitized rations

(2) Dry pet food, including bird seed and laboratory animal food

(3) Grains (flour, cornmeal, grits, rice, barley, rolled oats, wheat base, popcorn, farina, and com starch)

(4) Pasta products (macaroni, spaghetti, noodles, & vermicelli)

(5) Bakery and fry mixes

(6) Coffee beans

(7) Dry beans and peas

(8) Dried fruits and nuts

(9) Cocoa & cocoa beverage powder

(10) Dry milk and powdered dairy drinks

(11) Spices

(12) Tea (especially herbal types)

(13) Yeast food

(14) Prepared breakfast cereals

(15) Bakery products

(16) Cookies and crackers

(17) Granola bars

(18) Prepared coconut

(19) Candy (especially chocolate and nuts)

(20) Dehydrated soups, vegetables, and gravy mixes

(21) Dried meats and fish

(22) Grated cheese

(23) Tobacco products

(24) Fresh fruits and vegetables

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.

2. The submitter of this form must complete blocks 4, 5, 6, and 7.

3. The preparing activity must provide a reply within 30 days from receipt of the form.

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I RECOMMEND A CHANGE:	1. DOCUMENT NUMBER MIL-STD-904B	2. DOCUMENT DATE *(YYMMDD)* 000310

3. DOCUMENT TITLE

Detection, Identification, and Prevention of Pest Infestation of Subsistence

4. NATURE OF CHANGE *(Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)*

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME *(Last, First, Middle Initial)*	b. ORGANIZATION	
c. ADDRESS *(Include Zip Code)*	d. TELEPHONE *(Include Area Code)* (1) Commercial (2) AUTOVON *(If applicable)*	7. DATE SUBMITTED *(YYMMDD)*

8. PREPARING ACTIVITY

a. NAME	b. TELEPHONE *(Include Area Code)* (1) Commercial (2) AUTOVON
LTC S. Severin	(703) 681-3056 761-3056
c. ADDRESS *(Include Zip Code)* Director, DoD Veterinary Service Activity Office of the Surgeon General/HQDA 5109 Leesburg Pike Falls Church, VA 22041-3258	IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT: Defense Standardization Program Office, DLSC-LM 8725 John J. Kingman Road, Suite 2533, Fort Belvoir, VA 22060-6221 Telephone (703) 767-6888 AUTOVON 427-6888