SECTION C

This document covers thermostabilized Hoppin' John (seasoned blackeye peas with bacon), packaged in a polymeric tray for use by the Department of Defense as a component of operational rations.

C-1 ITEM DESCRIPTION

PCR-H-014, HOPPIN' JOHN (SEASONED BLACKEYE PEAS WITH BACON), PACKAGED IN A POLYMERIC TRAY, SHELF STABLE

C-2 PERFORMANCE REQUIREMENTS

A. Product standard. A sample shall be subjected to first article (FA) or product demonstration model (PDM) inspection as applicable, in accordance with the tests and inspections of Section E of this Performance-based Contract Requirements (PCR) document. The approved sample shall serve as the product standard. Should the contractor at any time plan to, or actually produce the product using different raw material or process methodologies from the approved Product Standard, which result in a product non comparable to the Product Standard, the contractor shall arrange for a new or alternate FA or PDM approval. In any event, all product produced must meet all requirements of this document including Product Standard comparability.

B. Commercial sterility. The packaged food shall be processed until commercially sterile.

C. Shelf life. The packaged product shall meet the minimum shelf life requirement of 36 months at 80°F.

D. Grade standards. The blackeye peas shall meet the grade standards for U.S. No. 1 of the United States Standards for Beans including appearance, odor, and texture requirements.

E. Appearance.

(1) General. The finished product (Hoppin'John) shall be blackeye peas, bacon, onion, green bell peppers, and celery in a seasoned sauce. The finished product shall be free from foreign materials.

(2) Blackeye peas. The blackeye peas shall be cooked and practically free from broken beans, mashed beans, and beans with loose skins.

(3) Bacon. The bacon shall be cooked and shall be 1/4 to 1/2 inch pieces and shall have a reddish brown cooked bacon color.

(4) Onions. The onions shall be 1/4 inch dices and shall have a slight translucent off white color.

(5) Green bell peppers. The green bell peppers shall be 3/8 inch dices and shall have a cooked green bell pepper color.

(6) Celery. The celery shall be 1/8 inch crosscut pieces and shall have a light to medium green celery color.

(7) Sauce. The sauce shall be smooth, glossy and moderately thick. The sauce shall be golden brown and may have a green tinge from the vegetables.

F. Odor and flavor. The packaged food shall have an odor and flavor of cooked blackeye peas, slightly smoky bacon, green bell pepper, and onion with mildly spicy savory seasonings. The packaged food shall be free from foreign odors and flavors.

G. Texture.

(1) Blackeye peas. The peas shall have a slightly firm, tender, mealy bean texture.

(2) Bacon. The bacon shall have a slightly tender chew (bite).

(3) Vegetables. The vegetables shall be tender.

(4) Sauce. The sauce shall be smooth and moderately thick.

H. Net weight. The average net weight shall be not less than 92 ounces (2608 grams). No individual polymeric tray shall have a net weight less than 90 ounces (2552 grams).

I. Palatability and overall appearance. The finished product shall be equal to or better than the approved product standard in palatability and overall appearance.

J. Analytical requirements.

(1) Protein content. The protein content shall be not less than 6.0 percent.

(2) Fat content. The fat content shall be not greater than 5.0 percent.

(3) Salt content. The salt content shall be not less than 0.5 percent and not greater than 1.3 percent.

C-3 MISCELLANEOUS INFORMATION

THE FOLLOWING IS INFORMATION ONLY TO PROVIDE THE BENEFIT OF PAST GOVERNMENT EXPERIENCE. THIS IS NOT A MANDATORY CONTRACT REQUIREMENT.

A. Ingredients and formulation. Ingredients and formulation percentages may be as follows:

Ingredients	Percent by weight
Water 1/	58.62
Blackeye peas, US No. 1, soaked, cooked (1.5 hours) 1/	22.25
Bacon pieces, cooked	9.13
Onion, dehydrated, diced	3.79
Starch, waxy maize, modified (Col Flo)	1.88
Green bell peppers, dehydrated, diced	1.77
Hot pepper sauce, such as Frank's Red Hot or Texas Pete	0.84
Celery, dehydrated, crosscut	0.71
Goya Sazon without annatto	0.59
Salt	0.36
Pepper, black, ground	0.06

1/ The percent by weight of blackeye peas and the percent by weight of water may be adjusted if necessary to ensure compliance with finished product requirements.

SECTION D

D-1 PACKAGING

A. Preservation. Product shall be filled into polymeric trays and the trays with protective sleeves shall conform to the requirements of section 3 of MIL-PRF-32004, Packaging of Food in Polymeric Trays. Verification testing and inspection of trays, lids and sleeves shall be in accordance with Section 4 of MIL-PRF-32004 and the Quality Assurance Provisions of Section E of this Performance-based Contract Requirements document.

B. Polymeric tray closure. The filled, sealed, and processed tray shall be securely closed.

D-2 LABELING

A. Polymeric tray body. The polymeric tray body shall be clearly printed or stamped, in a manner that does not damage the tray, with permanent ink of any contrasting color, which is free of carcinogenic elements. One end of the polymeric tray (see figure 1 of MIL-PRF-

32004) shall be marked with the product name and number of portions. If the tray body end markings are not readily legible in low light conditions, a small, easily legible label shall be applied, but not over any existing tray markings. All other markings may be applied along the tray body side. To avoid erroneous marking of trays, the product name, lot number and filling equipment number shall be applied prior to processing. Additional tray marking may be applied before or after processing. 1/

Tray body markings shall include:

(1) Product name. Commonly used abbreviations may be used.

(2) Tray code includes: 2/
Lot Number
Filling equipment identification number
Retort identification number
Retort cook number

1/ As an alternate method, tray body markings may be clearly printed or stamped onto the polymeric tray lid prior to processing, in a manner that does not damage the lid, with permanent ink of any contrasting color, which is free of carcinogenic elements, provided that the required markings are applied onto the tray body after processing.

2/ The lot number shall be expressed as a four digit Julian code. The first digit shall indicate the year of production and the next three digits shall indicate the day of the year (Example, 14 February 2007 would be coded as 7045). The Julian code shall represent the day the product was packaged into the tray and processed. Sublotting (when used) shall be represented by an alpha character immediately following the four digit Julian code. Following the four digit Julian code and the alpha character (when used), the other required code information shall be printed in the sequence as listed above.

B. Polymeric tray lid. The lid shall be clearly printed or stamped, in a manner that does not cause damage. Permanent ink of any contrasting color, which is free of carcinogenic elements, shall be used. As an alternate labeling method, a pre-printed self-adhering 0.002 inch thick clear polyester label printed with indelible contrasting color ink may be used.

Note: The font tested by Natick was Microsoft Helvetica. The font used shall be similarly clear/easy to read as Helvetica. The recommended font sizes are as follows: 22 for the product name, 14 for “yield” and “to heat in water.” If an additional note is required on the label, such as “fluff before serving,” it should also be in font size 14. All other information should be in font size 9.

(1) Lid labeling shall include:
Product name
Ingredients
Net weight
Name and address of packer
USDA Official Inspection Legend
"Nutrition Facts" label in accordance with the Nutrition Labeling and Education Act (NLEA) and all applicable USDA regulations

(2) Lid labeling shall also show the following statements:

YIELD: Serves 18 portions of approximately 2/3 cup each of Hoppin' John.

TO HEAT IN WATER: Submerge unopened tray in boiling water. Simmer gently 30 - 35 minutes. Avoid overheating (tray shows evidence of bulging).

WARNING: Do not heat tray in oven.

TO TRANSPORT AFTER HEATING: Insert tray back into protective sleeve to protect during transport. If sleeve is unavailable, stack trays lid-to-lid with fiberboard pads in between.

CAUTION: Use care when opening as pressure may have been generated within the tray.

TO OPEN: Using a clean knife, cut the lidding around the inside perimeter of the tray seals.

SUGGESTION: Cut lid along 3 sides and fold over uncut portion. Fold back to keep unused portions protected.

D-3 PACKING

A. Packing for shipment to ration assembler. Four filled, sealed, processed and sleeved polymeric trays shall be packed in a snug fitting fiberboard box conforming to style RSC-L, type CF, grade 275 of ASTM D 5118/D 5118M, Standard Practice for Fabrication of Fiberboard Shipping Boxes. The sleeved trays shall be placed flat with the first two trays placed with the lids together and the next two trays with the lids together. The box shall be closed in accordance with ASTM D 1974, Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes.

D-4 UNITIZATION

A. Unit loads. Unit loads shall be as specified in DSCP FORM 3507, Loads, Unit: Preparation of Semiperishable Subsistence Items.

D-5 MARKING

A. Shipping containers and unit loads. Marking of shipping containers and unit loads shall be as specified in DSCP FORM 3556 Marking Instructions for Boxes, Sacks, and Unit Loads of Perishable and Semiperishable Subsistence.

SECTION E INSPECTION AND ACCEPTANCE

The following quality assurance criteria, utilizing ANSI/ASQ Z1.4, Sampling Procedures and Tables for Inspection by Attributes, are required. Unless otherwise specified, Single Sampling Plans indicated in ANSI/ASQ Z1.4 will be utilized. When required, the manufacturer shall provide the Certificate(s) of Conformance to the appropriate inspection activity. Certificate(s) of Conformance not provided shall be cause for rejection of the lot.

A. Definitions.

(1) Critical defect. A critical defect is a defect that judgment and experience indicate would result in hazardous or unsafe conditions for individuals using, maintaining, or depending on the item; or a defect that judgment and experience indicate is likely to prevent the performance of the major end item, i.e., the consumption of the ration.

(2) Major defect. A major defect is a defect, other than critical, that is likely to result in failure, or to reduce materially the usability of the unit of product for its intended purpose.

(3) Minor defect. A minor defect is a defect that is not likely to reduce materially the usability of the unit of product for its intended purpose, or is a departure from established standards having little bearing on the effective use or operation of the unit.

B. Classification of inspections. The inspection requirements specified herein are classified as follows:

(1) Product standard inspection. The first article or product demonstration model shall be inspected in accordance with the provisions of this document and evaluated for overall appearance and palatability. Any failure to conform to the performance requirements or any appearance or palatability failure shall be cause for rejection of the lot. The approved first article or product demonstration model shall be used as the product standard for periodic review evaluations. All food components that are inspected by the USDA shall be subject to periodic review sampling and evaluation. The USDA shall select sample units during production of contracts and submit them to the following address for evaluation:

US Army Research, Development, and Engineering Command
Natick Soldier Research, Development, and Engineering Center
AMSRD-NSC-CF-F
15 Kansas Street
Natick, MA 01760-5018

One lot shall be randomly selected during each calendar month of production. Six (6) sample units of each item produced shall be randomly selected from that one production lot. The six (6) sample units shall be shipped to Natick within five working days from the end of the production month and upon completion of all USDA inspection requirements. The sample units will be evaluated for the characteristics of appearance, odor, flavor, texture, and overall quality.

(2) Conformance inspection. Conformance inspection shall include the examinations and the methods of inspection cited in this section.

E-5 QUALITY ASSURANCE PROVISIONS (PRODUCT)

A. Product examination. The finished product shall be examined for compliance with the performance requirements specified in Section C of this Performance-based Contract Requirements document utilizing the double sampling plans indicated in ANSI/ASQ Z1.4. The lot size shall be expressed in trays. The sample unit shall be the contents of one tray. The inspection level shall be S-3 and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 4.0 for major defects and 6.5 for minor defects. Defects and defect classifications are listed in table I below. The trays shall be heated in accordance with the heating instructions from the tray label prior to conducting any portion of the product examination.

TABLE I. Product defects 1/ 2/ 3/

Category		Defect
Major	Minor	
		General
101		Product not Hoppin' John (seasoned blackeye peas with bacon, onion, green bell peppers, or celery in a seasoned sauce). 4/
		Appearance
	201	Sauce not smooth or not glossy or not moderately thick or not golden brown. 5/
	202	Bacon not cooked or not reddish brown.
	203	Onions not a slightly translucent off white color.
	204	Green bell peppers not a cooked green bell pepper color.
	205	Celery not light to medium green in color.
		Odor and flavor
102		Product not odor or flavor of cooked blackeye peas or slightly smoky bacon or green bell peppers or onions, with a mildly spicy savory seasoned sauce.
		Texture
	206	Blackeye peas not slightly firm or not tender or not a mealy bean texture.
	207	Bacon does not have a slight tender chew (bite).
	208	Vegetables not tender.
	209	Sauce not smooth or not moderately thick.
		Net weight
	210	Net weight of an individual polymeric tray less than 90 ounces (2552 grams). 6/

1/ Presence of any foreign materials such as, but not limited to dirt, insect parts, hair, wood, glass, metal, or mold, or any foreign odors or flavors such as, but not limited to burnt, scorched, rancid, sour, stale, musty or moldy shall be cause for rejection of the lot.

2/ Finished product not equal to or better than the approved product standard in palatability and overall appearance shall be cause for rejection of the lot.

3/ Size requirements for bacon, onions, green bell peppers, and celery shall be verified by Certificate of Conformance (CoC).

4/ The U.S. No. 1 grade of Beans shall be verified by USDA certificate from the Grain Inspection, Packers and Stockyards Administration.

5/ Sauce may have a green tinge from the vegetables.

6/ Sample average net weight less than 92 ounces (2608 grams) shall be cause for rejection of the lot.

B. Methods of inspection.

(1) Commercial sterility. Commercial sterility shall be verified in accordance with USDA/FSIS regulations.

(2) Shelf life. The contractor shall provide a Certificate of Conformance that the product has a 36 month shelf life when stored at 80°F. Government verification may include storage for 6 months at 100°F or 36 months at 80°F. Upon completion of either storage period, the product will be subjected to a sensory evaluation panel for appearance and palatability and must receive an overall score of 5 or higher based on a 9 point hedonic scale to be considered acceptable.

(3) Net weight. The net weight of the filled and sealed polymeric tray shall be determined by weighing each sample unit on a suitable scale tared with a representative polymeric empty tray and lid. Results shall be reported to the nearest 1 ounce or the nearest 1 gram.

(4) Analytical. The sample to be analyzed shall be a one-pound composite of three filled and sealed polymeric trays which have been selected at random from one production lot. The composite sample shall be prepared and analyzed in accordance with the following methods of the Official Methods of Analysis (OMA) of AOAC International.

Test	Method Number
Protein	984.13, 988.05, 992.15
Fat	985.15
Salt	971.27

Test results shall be reported to the nearest 0.1 percent. Verification will be conducted through actual testing by a Government laboratory. Any results not conforming to the analytical requirements shall be cause for rejection of the lot.

E-6 QUALITY ASSURANCE PROVISIONS (PACKAGING AND PACKING MATERIALS, POLYMERIC TRAY)

A. Packaging and labeling.

(1) Polymeric tray testing. For purposes of clarification, the polymeric tray without the lid will be referred to as the "tray" and the polymeric tray with the lid shall be referred to as the "container". The polymeric tray with protective sleeve and polymeric tray material shall be examined for the characteristics listed in table I of MIL-PRF-32004, Packaging of Food in Polymeric Trays. The lot size, sample unit, and inspection level criteria are provided in table II below for each of the test characteristics. Any test failure shall be classified as a major defect and shall be cause for rejection of the lot. For rough handling survivability at frozen temperature, polymeric tray survival rate shall be at least 85 percent.

TABLE II. Polymeric tray quality assurance criteria
Prior to processing

Characteristic	Lot size expressed in	Sample unit	Inspection level
Tray configurations and dimensions	Trays	1 tray	S-1
Oxygen gas transmission rate of tray	Trays	1 tray	S-1
Oxygen gas transmission rate of lid	Yards	1/2 yard	S-1
Water vapor transmission rate of tray	Trays	1 tray	S-1
Water vapor transmission rate of lid	Yards	1/2 yard	S-1
Camouflage	Containers	1 container	S-1

After processing

Characteristic	Lot size expressed in	Sample unit	Inspection level
Processing	Trays	1 tray	S-2
Rough handling survivability	Test containers	1 container	S-2
Protective sleeve	Containers	1 container	S-1
Residual gas	Containers	1 container	S-1
Closure seal	Containers	1 container	S-1
Internal pressure	Containers	1 container	S-1
Lid opening	Containers	1 container	S-1

(2) Examination of container. The container with protective sleeve removed shall be examined for the defects listed in table II of MIL-PRF-32004 and the labeling defects listed in table III below. The lot size shall be expressed in containers. The sample unit shall be one processed and labeled container. The inspection level shall be I and the AQL, expressed in terms of defects per hundred units, shall be 0.65 for major A defects, 2.5 for major B defects and 4.0 for minor defects. Two hundred sample units shall be examined for critical defects. The finding of any critical defect shall be cause for rejection of the lot.

TABLE III. Container labeling defects

Category		Defect
Major A	Minor	
101		Polymeric tray lid or body labeling or missing or incorrect or illegible.
	201	When a pre-printed self adhering label is used, the label not adhering to tray lid (for example, label raised or peeled back from edge to corner) or presence of any areas of gaps along the perimeter of the label where the label is not properly adhered.

(3) Label adhesive examination. When self-adhering labels are used, the adhesive shall be tested in accordance with ASTM D 3330/D 3330M, Standard Test Method for Peel Adhesion of Pressure-Sensitive Tape. In lieu of testing, a CoC shall be provided.

B. Packing.

(1) Shipping container and marking examination. The filled and sealed shipping containers shall be examined for the defects listed in table IV below. The lot size shall be expressed in shipping containers. The sample unit shall be one shipping container fully packed. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 4.0 for major defects and 10.0 for total defects.

TABLE IV. Shipping container and marking defects

Category		Defect
Major	Minor	
101		Marking missing or incorrect or illegible.
102		Inadequate workmanship. 1/
	201	Arrangement or number of polymeric trays not as specified.

1/ Inadequate workmanship is defined as, but not limited to, incomplete closure of container flaps, loose strapping, inadequate stapling, improper taping, or bulged or distorted container.

C. Unitization.

(1) Unit load examination. The unit load shall be examined in accordance with the requirements of DSCP FORM 3507, Loads, Unit: Preparation of Semiperishable Subsistence Items. Any nonconformance shall be classified as a major defect.

SECTION J REFERENCE DOCUMENTS

U.S. STANDARDS FOR GRADES

U.S. Standards for Grades of Beans

DSCP FORMS

DSCP FORM 3507 — Loads, Unit: Preparation of Semiperishable Subsistence Items

DSCP FORM 3556 — Marking Instructions for Boxes, Sacks, and Unit Loads of Perishable and Semiperishable Subsistence

MILITARY SPECIFICATIONS

MIL-PRF-32004F — Packaging of Food in Polymeric Trays

GOVERNMENT PUBLICATIONS

Federal Food, Drug, and Cosmetic Act and regulations promulgated thereunder (21 CFR Parts 1-199) and (9 CFR Parts 1-391)

NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY (ASQ)

ANSI/ASQ Z1.4-2003	Sampling Procedures and Tables for Inspection by Attributes

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

D 1974-98 (2003)	Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes
D 3330/D 3330M-04	Standard Test Method for Peel Adhesion of Pressure-Sensitive Tape
D 5118/D 5118M-05ae1	Standard Practice for Fabrication of Fiberboard Shipping Boxes

AOAC INTERNATIONAL

Official Methods of Analysis (OMA) of the AOAC International