PCR-C-058
24 September 2004
W/CHANGE 01 11 MAR 05

SECTION C

This document covers shelf stable cobbler packaged in a flexible pouch for use by the Department of Defense as a component of operational rations.

C-1 ITEM DESCRIPTION

PCR-C-058, COBBLER, PACKAGED IN A FLEXIBLE POUCH, SHELF STABLE

Flavors.

Flavor 1 - Cherry blueberry

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 food shall meet the minimum shelf life requirement of 36 months at 80ºF.

D. Appearance.

(1) General. The cherry blueberry cobbler is a dessert of cooked/stewed cherries and blueberries, and a cookie/crust containing chopped pecans. The product shall show no signs of excessive heating (materially darkened or scorched). The product shall be free from foreign materials.

(2) Fruit. The cherries and blueberries shall be dark red/purple and shall be distinct pieces.

a. Cherries, dark, sweet, pitted, individually quick frozen (IQF). The IQF cherries shall be unsweetened and of the latest season's pack. The packaged IQF cherries shall be free flowing from the package and shall show no evidence of thawing and refreezing.

b. Blueberries, individually quick frozen (IQF). The IQF blueberries shall be unsweetened and of the latest season's pack. The packaged IQF blueberries shall be free flowing from the package and shall show no evidence of thawing and refreezing.

(3) Sauce. The sauce shall be dark red/purple, slightly to moderately thick, and glossy.

(4) Cookie/crust. The baked cookie/crust with chopped pecans shall be intact. The cookie/crust will be tinted dark red/purple from contact with the sauce.

E. Odor and flavor. The cobbler shall have a cooked cherry blueberry odor and flavor and shall be sweet and slightly tart. The baked cookie/crust shall be sweet slightly nutty. The packaged food shall be free from foreign odors and flavors.

F. Texture.

(1) Fruit. The cherries and blueberries shall be slightly firm to slightly soft.

(2) Sauce. The sauce shall be smooth and slightly to moderately thick.

(3) Cookie/crust. The baked cookie/crust shall be moist with firm and slightly crunchy pecans.

G. Weight.

(1) Net weight. The average net weight shall be not less than 5.0 ounces. No individual pouch shall have a net weight of less than 4.5 ounces.

(2) Fruit and sauce. The average net weight of the fruit and sauce shall be not less 3.25 ounces and not greater than 4 ounces.

(3) Cookie/crust. The net weight of cookie/crust shall be not less than 0.75 ounces and
not greater than 1.0 ounce.

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

I. Analytical requirements.

(1) Fat content. The fat content shall be not greater than 8.0 percent

(2) Salt content. The salt content shall be not less than 0.1 percent and not greater than 0.8 percent.

C-3 MISCELLANEOUS INFORMATION

THE FOLLOWING INGREDIENTS AND FORMULATION ARE FOR INFORMATION ONLY. THIS IS NOT A MANDATORY CONTRACT REQUIREMENT.

A. Ingredients. Ingredients may be as follows: cherries, blueberries, granulated sugar, cake mix (sugar, bleached enriched flour (bleached flour, niacin, iron, thiamin mononitrate, riboflavin, folic acid), partially hydrogenated vegetable oil (soybean, cottonseed), corn starch, dextrose, modified tapioca starch, baking powder (baking soda, sodium aluminum phosphate, monocalcium phosphate), propylene glycol mono – and diesters of fatty acids, mono – and diglycerides, salt, sodium pyrophosphate, calcium acetate, artificial flavor, cellulose gum,
xanthan gum, polysorbate 60, soy lecithin, colored with yellow 5 and red 40), unsalted butter, lemon juice (filtered water, lemon juice concentrate, sodium bisulfite (preservative), sodium benzoate (preservative) and lemon oil), pecans, modified food starch,
almond extract (water, alcohol and benzaldehyde).

B. Formulation: Formulation may be as follows:

Ingredient	Percentage	Description/Product Number /Source
Cake Mix	12.09	Yellow, pudding in the mix, The Pillsbury Co.
Pecans	1.85	Raw, medium chopped, fancy
Butter, melted	3.71	Fresh, Grade AA, sweet cream, unsalted
Modified Food Starch	1.65	NATIONAL 465, National Starch & Chemical
Lemon juice, from concentrate, natural strength	2.80	
Cherries	40.60	IQF, Grade A, dark, sweet, no sugar added
Sugar, extra fine, granulated	10.38	
Almond extract, pure or imitation	0.91	
Blueberries	26.01	IQF, Grade A, no sugar added
	100.00	

C. Product preparation. Product preparation may be as follows:

(1) Dough preparation.

(a) Preheat oven to 350°F. (Cake/bread molds have been successfully used to bake cookies.)

(b) Combine cake mix, chopped pecans and melted butter, blend until moist dough is formed.

(c) Portion dough onto prepared pans.

(d) Bake for 8-10 minutes, until golden brown. Cooking time may be adjusted depending on ovens used.

(e) Cool. Yield: approximately 3/4 to 1 ounce (21-28 grams) baked cookie.

(2) Fruit filling preparation.

(a) Combine food starch and lemon juice to make a slurry, mix well.

(b) Heat cherries until thawed, stirring occasionally. Add sugar to cherries, mix well. Heat to 170°F, stirring occasionally.

(c) Add the starch slurry to the cooked cherry mixture, stir. Cook until temperature reaches 170°F and turns from opaque to translucent. Turn off heat.

(d) Add the almond extract and mix well. Check filling for consistency, a Bostwick reading of 2.0 $\pm$ 0.5 cm at 165°F for 15 seconds.

(e) Add the blueberries, mix until combined.

(f) Follow MIL-PRF 44073 for filling, sealing and thermal processing procedures. Use 5 ounce pouch. Add: 3/4 to 1 ounce (21-28 grams) cookie to pouch. Add: 3.25 to 4 ounces (92 to113 grams) cooked fruit to pouch.

SECTION D

D-1 PACKAGING

Product shall be filled into pouches and each pouch shall be packed in a carton in accordance with MIL-PRF-44073, Packaging of Food in Flexible Pouches.

D-2 LABELING

A. Pouches. Each pouch shall be clearly printed or stamped, in a manner that does not damage the pouch, with permanent black ink or any other contrasting color, which is free of carcinogenic elements. Prior to thermal processing of the pouches, the product name, lot number and filling equipment number shall be applied. All other marking may be applied before or after thermal processing.

(1) Product name (not less than 1/8 inch high). Commonly used abbreviations may be used when authorized by the inspection agency.

(2) Pouch code includes: 1/

Lot Number
Filling equipment identification number
Official establishment number (for example, EST-38)
Retort identification number
Retort cook number

1/ 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, 24 September 2004 would be coded as 4268). The Julian code shall represent the day the product was packaged into the pouch and processed. Sub-lotting (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. Cartons.

(1) The cartons shall be clearly printed on one of the largest panels with permanent black ink as follows:

Product name (7/32 to 9/32 inch block letters)
Ingredients
Net weight
Name and address of packer
Code (same as pouch code, see pouches) 1/ 2/
"Nutrition Facts" label in accordance with the Nutrition Labeling and

Education Act (NLEA) and all applicable FDA/USDA regulations

1/ Code may be ink printed on any outside carton panel. Code may be embossed on any outside carton panel except the largest panels of the carton.

2/ Official establishment number not required in carton code.

(2) Military nutrition information entitled "Nutrition: A Force Multiplier" shall be printed on the entrée cartons large panel opposite to the panel printed with the data in D-2, B,(1) above. The information, provided by the contracting officer, shall be clearly printed with permanent black ink in an area no smaller than 3-3/4 inches by 5-3/4 inches.

D-3 PACKING

A. Packing for shipment to ration assembler. Seventy-two pouches (of the same product) in cartons shall be packed flat or on edge in a snug-fitting fiberboard shipping container conforming to style RSC, type CF, class domestic, grade 200 of ASTM D 5118/D 5118M-95 (2001), Standard Practice for Fabrication of Fiberboard Shipping Boxes. Each container shall be securely closed in accordance with ASTM D1974-98 (2003), Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes.

D-4 MARKING

A. Shipping containers. Shipping containers shall be marked in accordance with 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/ASQC Z1.4-1993, Sampling Procedures and Tables for Inspection by Attributes, are required. Unless otherwise specified, Single Sampling Plans indicated in ANSI/ASQC Z1.4-1993 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 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 product examination 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/ASQC Z1.4 - 1993. The lot size shall be expressed in pouches. The sample unit shall be the contents of one pouch. The inspection level shall be S-3 and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 1.5 for major defects and 4.0 for minor defects. Defects and defect classifications are listed in table I.

TABLE I. Product defects 1/ 2/ 3/ 4/

Category		Defect
Major	Minor	
		Appearance
101		Product not cherry blueberry cobbler, a dessert of cooked/stewed cherries and blueberries, and a cookie/crust containing chopped pecans.
102		Evidence of excessive heating (materially darkened or scorched).
	201	Cherries and blueberries not dark red/purple color.
	202	Cherries and blueberries not distinct pieces.
	203	Sauce not dark red/purple color or not slightly to moderately thick or not glossy.
	204	Baked cookie/crust with chopped pecans not intact. 5/
		Odor and flavor
103		Product not cooked cherry blueberry odor or flavor or not sweet and not slightly tart.
	205	Odor or flavor of baked cookie/crust not sweet or not slightly nutty.
		Texture
	206	Fruit not slightly firm to slightly soft.
	207	Sauce not smooth or not slightly to moderately thick.
	208	Baked cookie/crust not moist.
	209	Pecans not firm or not slightly crunchy.
		Weight
	210	Net weight of an individual pouch less than 4.5 ounces. 6/

1/ Presence of any foreign materials such as, but not limited to dirt, insect parts, hair, glass, wood, or metal, 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/ ~~Grade of fruits shall be verified by USDA Grade certificate~~. The type of fruit shall be verified by a certificate of conformance.

4/ The weight of fruit and sauce, and baked cookie/crust shall be verified with a certificate of conformance from the manufacturer based on the formula.

5/ More than four broken pieces per cookie/crust.

6/ Sample average net weight less than 5.0 ounces shall be cause for rejection of the lot.

B. Methods of inspection

(1) Commercial sterility. Commercial sterility shall be verified in accordance with MIL-PRF-44073.

(2) Shelf life. The contractor shall provide a certificate of conformance that the product has a 3 year 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 pouches shall be determined by weighing each sample on a suitable scale tared with a representative empty pouch. Results shall be reported to the nearest 0.1 ounce.

(4) Analytical. The sample to be analyzed shall be a composite of eight filled and sealed pouches which have been selected at random from the lot. The composite sample shall be prepared and analyzed in accordance with the following Official Methods of Analysis of AOAC International (OMA).

Test	Method Number
Fat	922.06
Salt	935.47

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

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

A. Packaging and labeling.

(1) Pouch material testing. The pouch material shall be examined for the characteristics listed in table I of MIL-PRF-44073. The lot size, sample unit, and inspection level criteria for each of the test characteristics are listed below. Any test failure shall be classified as a major defect and shall be cause for rejection of the lot.

Characteristic	Lot size expressed in	Sample unit	Inspection level
Oxygen transmission rate	yards	1/2 yard	S-1
Water vapor transmission rate	yards	1/2 yard	S-1
Camouflage	yards	1/2 yard	S-1
Thermal processing	pouches	1 pouch	S-2
Environmental conditions	pouches	1 pouch	S-2

(2) Pouch examination. The pouches shall be examined for the defects listed in table II of MIL-PRF-44073. The lot size shall be expressed in pouches. The sample unit shall be one thermal processed pouch. 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.

(3) Examination of pouch and carton assembly. The completed pouch and carton assemblies shall be examined for the defects listed in table III of MIL-PRF-44073. The lot size shall be expressed in units of completed assemblies. The sample unit shall be one pouch and carton assembly. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 0.65 for major defects and 2.5 for minor defects. Fifty sample pouch and carton assemblies shall be examined for critical defects. The finding of any critical defect shall be cause for rejection of the lot.

B. Packing.

(1) Shipping container and marking examination. The filled and sealed shipping containers shall be examined for the defects listed in table II 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 II. Shipping container and marking defects

Category		Defect
Major	Minor	
101		Marking omitted, incorrect, illegible, or improper size, location sequence or method of application.
102		Inadequate workmanship. 1/
	201	Contents more or less than 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.

SECTION J REFERENCE DOCUMENTS

DSCP FORMS

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

MILITARY SPECIFICATIONS

MIL-PRF-44073 Packaging of Food in Flexible Pouches

FEDERAL STANDARD

FED-STD-595 Colors Used in Government Procurement

NON-GOVERNMENTAL STANDARDS

AMERICAN SOCIETY FOR QUALITY (ASQ)

ANSI/ASQCZ1.4-1993 Sampling Procedures and Tables for Inspection by Attributes

ASTM INTERNATIONAL

B479-00	Standard Specification for Annealed Aluminum and Aluminum-Alloy Foil For Flexible Barrier, Food Contact, and Other Applications
D1238-04	Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer
D1505-03	Standard Test Method for Density of Plastics by Density-Gradient Technique
D1974-98 (2003)	Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes
D2103-03	Standard Specification for Polyethylene Film and Sheeting
D5118/D5118M-95 (2001)	Standard Practice for Fabrication of Fiberboard Shipping Boxes
F88-00	Standard Test Method for Seal Strength of Flexible Barrier Materials

AOAC INTERNATIONAL

Official Methods of Analysis of the AOAC International (OMA)

PCR-C-058
24 September 2004
W/CHANGE 01 11 MAR 05

SUBJECT: ES05-068; DSCP-SS-05-18038; Technical Inquiry; PCR-C-058, Cobbler, Packaged in a Flexible Pouch; Clarify grade verification

Date received: 23 Feb 05
Date due: 1 March 05
Date extended: Open
Date replied: 11 Mar 05

1. The USDA requested a clarification on the fruit grade certification footnote that was referenced in regard to the cherries utilized in the MRE Cobbler. Since there is no reference to the fruit having any grade standard assigned, they wanted to know what was the purpose of the footnote.

2. Natick reviewed the document and researched the concerns with USDA personnel. Natick proposed changes to USDA for review with regard to the product defect footnote 3 be removed and replaced with the fruit certification by a certificate of conformance and to specify that individually quick frozen (IQF) unsweetened cherries and blueberries be utilized in this product as a fruit requirement.

3. After USDA reviewed the proposals, they had a concern in regard to possible pits in the cherry ingredient. Natick informed USDA that the IQF cherries by nature are grade A or better and has a limited, if any, amount of pits in them. Natick also stated that in the future, if there are any cited production problems with this cobbler product, it will be addressed it at that time. Natick would not be inserting any pit defects at this time. USDA agreed with Natick's position and the recommended changes on this issue.

4. Natick recommends that DSCP implement the changes with a contract modification for the current, pending and future procurements until the subject document is formally amended or revised.

(a) Sec C-2,D,(2) insert the following new fruit requirements:

a. Cherries, dark, sweet, pitted, individually quick frozen (IQF). The IQF cherries shall be unsweetened and of the latest season's pack. The packaged IQF cherries shall be free flowing from the package and shall show no evidence of thawing and refreezing.

b. Blueberries, individually quick frozen (IQF). The IQF blueberries shall be unsweetened and of the latest season's pack. The packaged IQF blueberries shall be free flowing from the package and shall show no evidence of thawing and refreezing.

(b) Sec E-5,A, Table I, Footnote 3, delete and replace with:

The type of fruit shall be verified by a certificate of conformance.

5. The attached file contains the highlighted changes. POC for this action is Jeanette Kennedy, DSN 256-5998.

1 Encl

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