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USDA COMMODITY REQUIREMENTS

CM6

CORNMEAL FOR USE IN INTERNATIONAL FOOD ASSISTANCE PROGRAMS

Effective Date: December 20, 2013

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Part 1 COMMODITY SPECIFICATIONS

Section 1.1 COMMODITIES

Quality of Cornmeal

- A. Corn shall be tested for aflatoxin in accordance with procedures approved by Federal Grain Inspection Service (FGIS). If the aflatoxin test proves positive, a quantitative test shall be performed. If the result of the quantitative test exceeds 20 ppb, the corn shall not be used in the production of the commodity.
- B. The degermed cornmeal delivered shall meet Type III, Class B, Granulation c, Color 2 requirements from the latest revisions and amendments for Commercial Item Description A-A-20066B (June 13, 2008) at

<u>http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELDEV30065</u> <u>38</u>, except chemical and physical requirements listed in the table 1 below take precedence where they are different from those contained in the Commercial Item Description.

Table 1: Physical and Chemical Requirement ¹		
Moisture	13.0% (maximum)	
Fat ²	1.5% (<i>maximum</i>)	
Ash	0.7% (<i>maximum</i>)	
Material Through a U.S. Standard	99.0% (<i>minimum</i>)	
No. 20 Woven-Wire-Cloth Sieve		
Material Through a U.S. Standard	90.0% (<i>minimum</i>)	
No. 25 Woven-Wire-Cloth Sieve		
Material Through a U.S. Standard	30.0% (<i>minimum</i>)	
No. 45 Woven-Wire-Cloth Sieve		

C. In addition to meeting the Commercial Item Description enrichment requirements, the cornmeal shall be fortified with a micronutrient premix containing the following levels of Vitamin A, Vitamins B1, B2, B3, B6, B9 (folic acid), B12, Vitamin D3, Iron and Zinc (see table 2). The contractor will obtain a certificate of analysis from their micronutrient supplier that indicates the level and chemical form for each micronutrient in the premix.

¹ All percentages are on the basis of weight.

² Moisture-free basis.

Table 2: Micronutrient premix levels			
Nutrient	Required Level* mg/100g	Required Level* mg/100g	Fortificant Form
Vitamin A**	0.11 (366 IU)	0.50 (1662 IU)	Vitamin A Palmitate 250. ³
Vitamin B1 (thiamin)	0.4	1.82	Thiamin Mononitrate
Vitamin B2 (riboflavin)	0.4	1.82	Riboflavin
Vitamin B3 (niacin)	4	18.16	Niacinamide Pyridoxine
Vitamin B6 Vitamin B9 (folic	0.4	1.82	hydrochloride
acid)	0.154	0.70	Folic Acid Vitamin B12
Vitamin B12	0.011	0.05	0.1% (water soluble)
Vitamin D3	0.002	0.009	Vitamin D3 100,000 IU/g
Iron (EDTA)** Zinc	4 2.4	18.2 10.9	NaFeEDTA Zinc Oxide

* COA for premix should state expected amounts. The permitted variation in premix content is -10 to +15% for added vitamins and +/-10% for added minerals for acceptance.

** Vitamin A and iron permitted variations in the finished product (i.e., including intrinsic and premix contributions) are:

Table 3: Cornmeal (finished product) Vitamin A and Iron		
ranges		
	Minimum	Maximum
Vitamin A	1662 IU/lb	None
Iron	20mg/lb	30mg/lb

- D. The product shall be not less than 95 percent of the all-trans isomer as determined by the USP assay procedure. The Vitamin A Palmitate shall have storage stability such that not more than 20 percent of its original activity will be lost when stored for 21 days at 45° C in a sealed container at a level of **1662 IU/lb** in cornmeal having moisture content in the range of 13.5 to 14.5 percent.
- E. When used for fortifying cornmeal at the level of **1662 IU/lb**, the Vitamin A Palmitate shall contribute no off-flavor or odor to the dry mix, or to the cooked products prepared from the fortified cornmeal.

³ Vitamin A Palmitate shall be added in spray-dried, encapsulated form containing 250,000 IU Vitamin A Palmitate/g. Particle size must comply with the requirement that at least 98 percent will pass through a U.S. Standard No. 50 sieve, at least 90 percent through a U.S. Standard No. 60 sieve and at least 45 percent through a U.S. Standard No. 100 sieve.

- F. The Vitamin A Palmitate shall have been tested by the vitamin manufacturers in cornmeal having moisture content in the range of 13.5 to 14.0 percent to assure stability of the vitamin.
- G. The cornneal used for the stability test shall be enriched degermed yellow cornneal, fine granulation, conforming to requirements of the latest revisions and amendments for Commercial Item Description A-A-20066B (June 13, 2008) for Type III, Class B, Granulation c.
- H. The cornmeal shall be fortified with the Vitamin A Palmitate to be tested to the level of **1662 IU/lb**, first preparing a premix with the cornmeal to contain about 500,000 IU/lb, blending this thoroughly, then mixing into the balance of the cornmeal and blending thoroughly. The fortified cornmeal will be stored in an 8 ounce, round glass bottles approximately 2 $\frac{1}{4} \times 5$ inches tall provided with plastic screw caps having polyvinyl liners with pulp packing. Between 110 and 120 grams of fortified cornmeal are placed in each bottle, leaving about one inch head space, the lids are tightened, and the upper portion of the bottle and the complete lid are coated with paraffin by inverting and dipping in a bath of melted wax to prevent moisture loss.
- I. Bottles are stored at 45° C for 21 days, and assayed for Vitamin A, using minimum sample size of 25 grams for each determination. Loss is determined by assaying in duplicate three bottles of cornmeal before and after storage.
- J. Analysis of concentrates and of original and stored blends will be carried out by the following method: Carr-Price blue color method, "Methods of Vitamin Assay, Association of Vitamin Chemists, Inc.," Interscience Publishers, Inc., New York, (1951).
- K. A given lot of Vitamin A does not require retesting unless its potency as determined by the USP XVII analytical procedure has fallen below the manufacturer's label claim for the product.

Section 1.2 QUALITY ASSURANCE

- A. The contractor shall perform the product testing and quality analysis to ensure that the product meets the commodity specifications. The results shall be evidenced by a Certificate of Analysis (COA). Copies of the original COA must be submitted as part of the invoice package. The COA shall provide the results of all tests specified.
- B. As a minimum, the contractor will test each production lot for Vitamin A and Iron (as long as the COA from the micronutrient pre-blend supplier indicates the appropriate amount of each nutrient is present in the pre-blend); moisture; and aflatoxin.

- C. Micronutrient premixes must be delivered to the processor of cornmeal with a complete Certificate of Analysis. COA for the premix should state expected amounts. Copies of the original COA must be submitted as part of the invoice package.
- D. The government reserves the right to perform verification testing for all requirements specified in 1.1.A. but will routinely test for only Vitamin A; Iron; moisture; and aflatoxin. If quality discounts are provided in the contract, and the product to be delivered by the contractor falls within the quality discount table, those factors shall be identified by an asterisk on the copies of the COA.
- E. Contractors shall notify the Government immediately of lots that fail to meet contract requirements.
- F. Unless otherwise specified, test methods for the finished product, and any ingredients therein, shall be those of the AOAC INTERNATIONAL, the American Association of Cereal Chemists (AACC), or the American Oil Chemists' Society (AOCS), as applicable and in effect on the date of issuance of the solicitation, or in accordance with methods that give equivalent results.

Section 1.3 QUALITY DISCOUNTS

If the product to be delivered by the contractor does not meet the quality specifications, but falls within the discounts listed, the product may be delivered to the Government, but the purchase price shall be reduced in accordance with the following schedule of discounts for each 100 pounds of commodity delivered:

Cornmeal Discounts			
Excess Moisture		Excess Fat	
13.01% - 13.29%	\$0.10	1.51% - 1.79%	\$0.10
13.30% - 13.49%	\$0.20	1.80% - 1.99%	\$0.20
13.5%	\$0.35	2.0%	\$0.35
Deficient Granulation Through No. 20 Sieve		Deficient Granulation	Through No. 25 Sieve
98.0% - 98.99%	\$0.10	89.0% - 89.99%	\$0.10
97.0% - 97.99%	\$0.20	88.0% - 88.99%	\$0.20
96.0% - 96.99%	\$0.35	87.0% - 87.99%	\$0.35
Excess Granulation Through No. 80 Sieve		Deficient Granulation	Through No. 45 Sieve
20.01% thru 24.99%	\$0.10	29.99% thru 26.0%	\$0.10
25.0% thru 27.99%	\$0.20	25.99% thru 23.0%	\$0.20
28.0% thru 30.0%	\$0.35	22.99% thru 20.0%	\$0.35

Part 2 CONTAINER AND PACKAGING REQUIREMENTS

Section 2.1 GENERAL

This part provides the container specifications and packaging materials requirements used under this contract.

Section 2.2 CONTAINERS AND MATERIALS

- A. All containers and packaging materials shall be constructed to meet the requirements of the Food and Drug Administration (FDA) for safe contact with the packaged product. The contractor shall obtain and maintain documentation from the container or packaging material manufacturer to verify that the containers and packaging materials used in this contract were in compliance with the Government's regulatory requirements for safe contact with food products as required in the Master Solicitation, Part 3, Section A, Number 3.
- B. Questions concerning the containers and materials should be directed to: USDA/FSA/DACO Room 5755 – South Bldg, STOP 0551 1400 Independence Avenue SW Washington, DC 20250-0551 ATTN: Packaging
- C. If the contractor purchases packaging and container ingredients from a foreign country and/or the package and container is manufactured in a foreign country, the package and container SHALL NOT display country of origin labeling. Phrases similar, but not limited to "Made in [Name of Foreign Country]" or "Product of [Name of Foreign Country]" are strictly prohibited.

Section 2.3 PACKAGING

- A. Twenty-five kilograms of product shall be packed per bag. The use of recycled materials is not required if performance or food safety is jeopardized.
- B. Any bags constructed of paper utilizing a film liner shall:
 - (1) Have a sufficient amount of anti-block. It shall be free from any blocking at 50 degrees C and not subject to reblock at 70 degrees C.
 - (2) Not exceed a maximum average water vapor permeability of 0.65 grams per 100 square inches in 24 hours at 90 percent relative humidity and a temperature of 100 degrees F plus or minus 5 degrees.
 - (3) Be manufactured to meet Food and Drug Administration requirements for food products (21 CFR 177.1520, as amended).
- C. The bottom and top of the 25-kilogram bag shall be closed to provide a tight seal.

Section 2.4 25-KILOGRAM HIGH PERFORMANCE PACKAGING

- A. Contractors are not limited to, but may utilize one of the following constructions when the solicitation requires the use of high performance packaging: Multiwall paper bag constructed of: One (1) ply inner film liner guaranteed 2.5 mil. minimum thickness linear low density polyethylene, four (4) plies of 50-pound natural multiwall kraft (NMK) paper, and one (1) outer ply of 60-pound wet strength natural multiwall kraft (WSNMK) paper; or
- B. Multiwall paper bag constructed of: 3.1 mil. (70 grams per square meter) film consisting of two or more layers of co-extruded polyolefin film with alternating angles of orientation, laminated together and biaxially oriented, two (2) plies of 50-pound NMK paper, and one (1) outer ply of 60-pound WSNMK paper. The bag shall be heat-sealed at the bottom, by the bag manufacturer. The top of the liner shall be heat-sealed by the packer once the bag has been filled with products.
- C. Both bag constructions shall:
 - (1) be uniquely marked with a one (1) inch blue stripe located approximately three (3) inches above the letters "USA" and extending around the width of each bag;
 - (2) meet the specifications and testing requirements outlined in these commodity requirements.

Section 2.5 PERFORMANCE TEST PROCEDURES

- A. All bags shall be capable of withstanding the following performance test for impact resistance:
 - (1) Ten filled and sealed bags shall each survive a single drop test on the butt and side on a shock machine that produces for each test a velocity change of 195 inches per second using a shock duration of .002 seconds without loss of product.
 - (2) Testing shall be conducted under standard temperature (73.4°F plus or minus 1.8°F) and relative humidity (50% plus or minus 2%) conditions.
 - (3) Filled bags shall be placed in the conditioned atmosphere for sufficient time before the tests are conducted for the bag materials to reach equilibrium.
 - (4) Bags submitted under this performance specification shall conform to all other applicable material, construction, and performance specifications.

B. <u>Test Laboratories</u>

Independent or private laboratories known to be capable of conducting the shock machine test described above are as follows:

Michigan State University	Lansmont Corporation	
School of Packaging	17 Mandeville Court	
130 Packaging Building	Monterey, CA 93940	
East Lansing, MI 48824-1223	(831) 655-6600	
(517) 355-9580	www.lansmont.com	
http://www.packaging.msu.edu/research/te		
sting_services/		
Rutgers University	Ten-E Packaging	
Center for Packaging Science and	Services, Inc.	
Engineering	1666 County Road 74	
Busch Campus	Newport, MN 55055	
137 Winchester Road,	(651) 459-0671	
Piscataway, NJ 08854-8029	http://www.ten-	
(732) 445-3224	e.com/index.php/packag	
http://catalogs.rutgers.edu/generated/nb-	<u>e-testing/</u>	
grad_0810/pg24361.html		

PART 3 MARKING REQUIREMENTS

Section 3.1 MARKINGS

- A. The bags shall be marked in the color specified in the markings exhibits. Any markings not shown on the exhibits shall be printed in blue. When printed on the bag, the colors blue and red shall match the Pantone Matching System (PMS) chart numbers 280 and 200, respectively, to the extent practicable.
- B. All dimensions are approximate. Unless otherwise specified, all characters shall be in normal block print.
- C. The US flag shall be 5 inches high and 9 inches in total width on the front and back of the applicable bag, see exhibits.
- D. The letters USA shall be Univers black (75) oblique, or Helvetica extra bold with 70% scaling and -70 tracking or equivalent to match the style as shown in the exhibits. The letters USA shall be 4 3/4 inches high and 9 3/4 inches in total width. The three stripes adjacent USA shall be 1 inch high and must extend to the edge of the panel.

- E. The USAID vertical identity, including the logo, brand name, and tagline, shall be printed in the same style as shown in the markings exhibits sized approximately 7 ¹/₂ inches high and 9 3/8 inches in total width. The USAID logo shall be 4 ¹/₄ inches in diameter. The USAID brand name shall be 2 inches in height. The tagline "FROM THE AMERICAN PEOPLE" shall be ¹/₂ inch in height, see exhibits. The USAID vertical logo is available to download at http://usaid.gov/branding.
- F. The USDA logo shall be $4\frac{1}{2}$ inches high and $6\frac{1}{2}$ inches in total width, see exhibits.
- G. The commodity name shall be 1 1/4 inch print. Immediately below the commodity name on the front and back panels, insert additional commodity description in 5/8 inch print, if applicable.
- H. The contract number and the statement "NOT TO BE SOLD OR EXCHANGED" shall be 3/4 inch print. The net weight, bag dimensions, and the Standard Marking Requirements (SMR) or Language Marking Requirements (LMR) number shall be centered at the bottom of the bag in 1/2 inch print. See exhibits. The contractor shall obtain a waiver, in writing, from the Government to print the contract number using on-line printing on filled bags.
- I. The letters or symbols used in the language markings for LMR-1, LMR-3 and LMR-4, LMR-5, LMR-7, and LMR-8 should be sized approximately 1 5/8 inches. The language markings for LMR-2 and LMR-6 should be sized to fit, see exhibits.
- J. Lot numbers, production codes or any other means of identification required to meet the traceability requirement shall be printed as small as possible, yet legible.
- K. Gussets. The geometric symbols shall appear in both gussets, adjacent to USAID. The USAID identity shall be a total of 2 ³/₄ inches in height and 8 ¹/₂ inches in total width and printed in both gussets. The letters 'USAID' shall be 1 ³/₄ inches high and the tagline 'FROM THE AMERICAN PEOPLE' shall be 3/8 inch high, as shown in the applicable exhibits.
- L. Gussets. The geometric symbols shall appear in both gussets, adjacent to USAID. The letters USA shall be 3 inches high and printed in both gussets, as shown in the applicable exhibits

M. Bag Closure Guide Location Bars (BCGL) shall be printed on the front panel of all multi-wall paper bags, as shown in the exhibits. The BCGL bars shall be plainly visible, approximately one inch in length, printed in blue in two parallel rows evenly spaced over the entire width of the bag. The BCGL bars are to be used as visual quality control verification. Visually identifying two bars or no bars on the bag would indicate a bag closure failure. Visually identifying one bar would indicate a proper bag closure. (Exhibits A and B)

Section 3.2 MARKING DESCRIPTIONS

The Government shall furnish required markings within two business days after the date of the contract. The procurement of containers should be deferred for at least two business days after the date of the contract.

The following standard marking requirements may be requested under the contract:

Standard Marking Requirement #1 (SMR-1)

USAID – **Distribution**

Front: US Flag, the commodity name, the words "NOT TO BE SOLD OR EXCHANGED," USAID logo, contract number, net weight, dimensions, "SMR-1". See exhibit SMR-1, front.

Back: Identical to front. See exhibit SMR-1, back.

Standard Marking Requirement #2 (SMR-2)

FAS - Distribution

Front: USA with stripes, the commodity name, the words "NOT TO BE SOLD OR EXCHANGED," USDA logo, contract number, net weight, dimensions, "SMR-2". See exhibit SMR-2, front. Back: Identical. See exhibit SMR-2, back.

Standard Marking Requirement #3 (SMR-3)

USAID – Monetization

Front: US Flag, the commodity name, USAID logo, contract number, net weight, dimensions, "SMR-3". See exhibit SMR-3, front. Back: Identical to front. See exhibit SMR-3, back.

Standard Marking Requirement #4 (SMR-4)

FAS or USAID - Monetization

Front: USA with stripes, the commodity name, contract number, net weight. dimensions, "SMR-4". See exhibit SMR-4, front. Back: Identical. See exhibit SMR-4, back.

Language Marking Requirement #1 (LMR-1)

USAID – Distribution for North Korea

Front: US Flag, the commodity name, the words "NOT TO BE SOLD OR EXCHANGED," USAID logo, contract number, net weight, dimensions, and "LMR-1.". See exhibit LMR-1, front.

Back: US Flag, the commodity name, North Korean language panel, and "LMR-1" only. See exhibit LMR-1, back.

Language Marking Requirement #2 (LMR-2)

USAID - Distribution for Afghanistan, with Pashtu and Dari

Front: US Flag, the commodity name, the words "NOT TO BE SOLD OR EXCHANGED," USAID logo, contract number, net weight, dimensions, and "LMR-2." See exhibit LMR-2, front.

Back: US Flag, the commodity name, Pashtu and Dari language panel, and "LMR-2" only. See exhibit LMR-2, back.

Language Marking Requirement #3 (LMR-3)

USAID – Distribution for South Africa Region

Front: US Flag, the commodity name, the words "NOT TO BE SOLD OR EXCHANGED," USAID logo, contract number, net weight, dimensions, and "LMR-3." See exhibit LMR-3, front.

Back: US Flag, the commodity name, English language panel, and "LMR-3" only. See exhibit LMR-3, back.

Language Marking Requirement #4 (LMR-4)

USAID – Distribution for Iraq with Arabic

Front: US Flag, the commodity name, the words "NOT TO BE SOLD OR EXCHANGED," USAID logo, contract number, net weight, dimensions, and "LMR-4." See exhibit LMR-4, front.

Back: US Flag, the commodity name, Arabic language panel, and "LMR-4" only. See exhibit LMR-4, back.

Language Marking Requirement #5 (LMR-5)

FAS – Distribution for North Korea

Front: USA with stripes, the commodity name, the words "NOT TO BE SOLD OR EXCHANGED," USDA logo, contract number, net weight, dimensions, and "LMR-5." See exhibit LMR-5, front.

Back: USA with stripes, the commodity name, North Korean language panel, and "LMR-5" only. See exhibit LMR-5, back.

Language Marking Requirement #6 (LMR-6)

FAS – Distribution for Afghanistan, with Pashtu and Dari

Front: USA with stripes, the commodity name, the words "NOT TO BE SOLD OR EXCHANGED," USDA logo, contract number, net weight, dimensions, and "LMR-6." See exhibit LMR-6, front.

Back: USA with stripes, the commodity name, Pashtu and Dari language panel, and "LMR-6" only. See exhibit LMR-6, back.

Language Marking Requirement #7 (LMR-7)

FAS – Distribution for South Africa Region

Front: USA with stripes, the commodity name, the words "NOT TO BE SOLD OR EXCHANGED," USDA logo, contract number, net weight, dimensions, and "LMR-7." See exhibit LMR-7, front.

Back: USA with stripes, the commodity name, English language panel, and "LMR-7" only. See exhibit LMR-7, back.

Language Marking Requirement #8 (LMR-8)

FAS – Distribution for Iraq with Arabic

Front: USA with stripes, the commodity name, the words "NOT TO BE SOLD OR EXCHANGED," USDA logo, contract number, net weight, dimensions, and "LMR-8." See exhibit LMR-8, front

Back: USA with stripes, the commodity name, Arabic language panel, and "LMR-8" only. See exhibit LMR-8, back.

Section 3.3 EMPTY BAG DIMENSIONS

A. All bags shall be marked with the empty dimensions as follows:

Gussete	d Bags	Face Width X Gusseted Width X Finished Length
Flat Tub	e Bags	Face Width X Finished Length

B. The bag dimensions shall be centered at the bottom of the bag, as small as possible, yet legible.

Section 3.4 CONTAINERS WITH INCORRECT MARKINGS

A. Any labels, bags, cans, can lids, cases, or any other type of packaging (hereinafter referred to as "containers") displaying incorrect markings may be used under a Government contract provided that the incorrect markings are obliterated and correct markings are applied in a permanent manner with approval of the contracting officer.

B. The appearance of containers in commercial or other channels either filled or unfilled bearing markings identifying the containers as part of a Government contract may cause the Government expense in determining whether commodities have been diverted from authorized use and in answering inquiries. The contractor shall take all necessary action to prevent the appearance in commercial or other channels of containers and container materials bearing any markings required under a Government contract, including those held by the contractor or others; e.g., overruns, misprints, etc. The contractor shall ensure that any container from a Government contract that appears in commercial or other channels shall have all markings required under this contract permanently obliterated.

Marking Exhibits











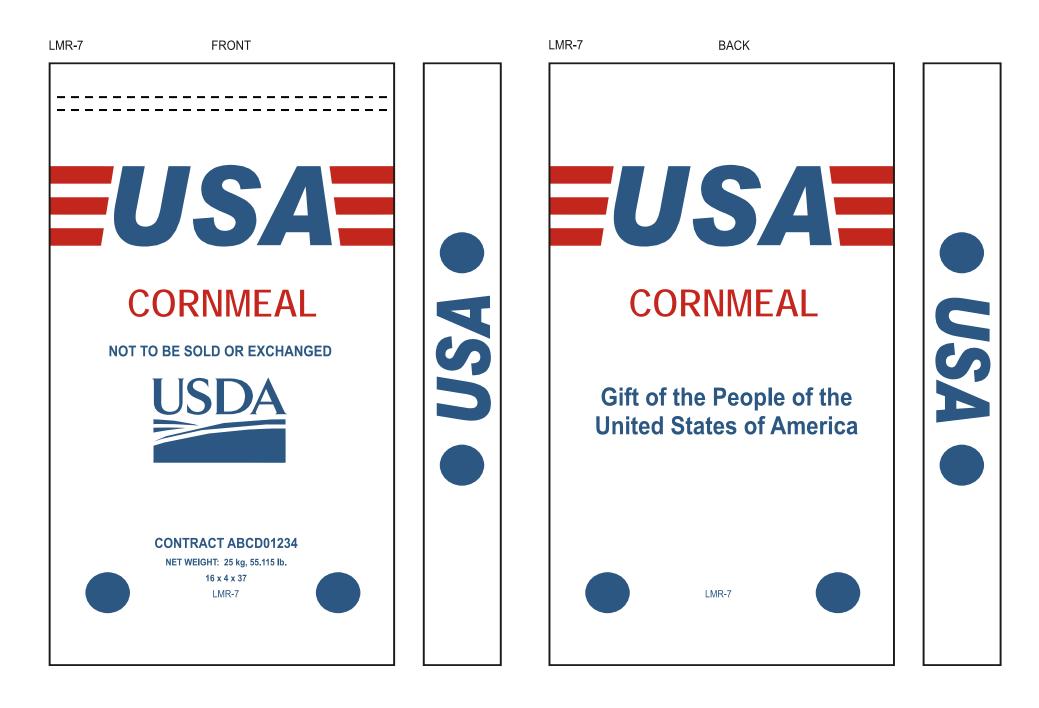












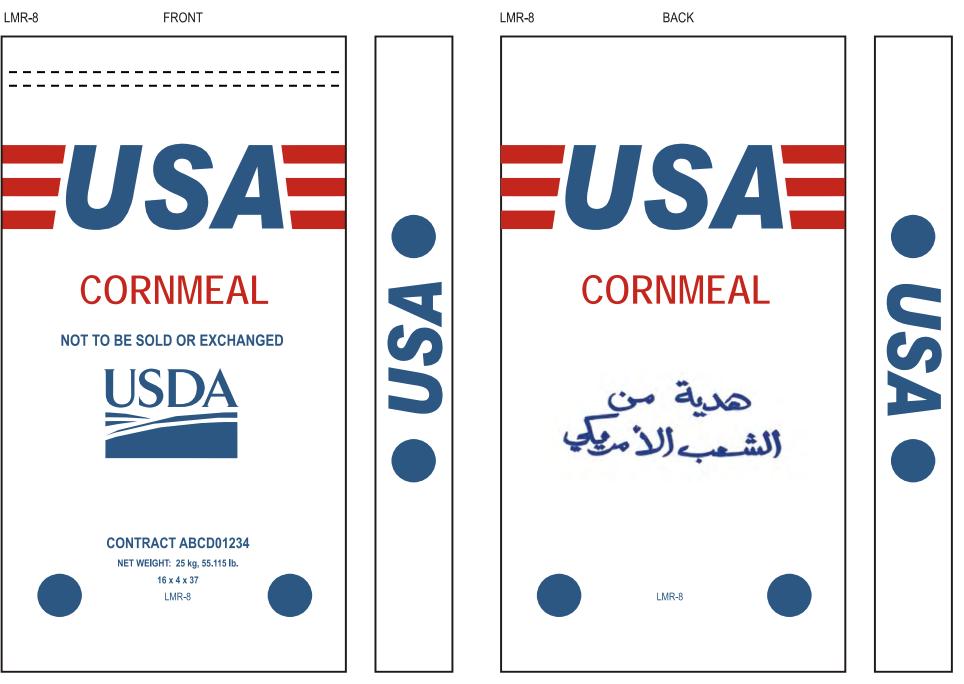
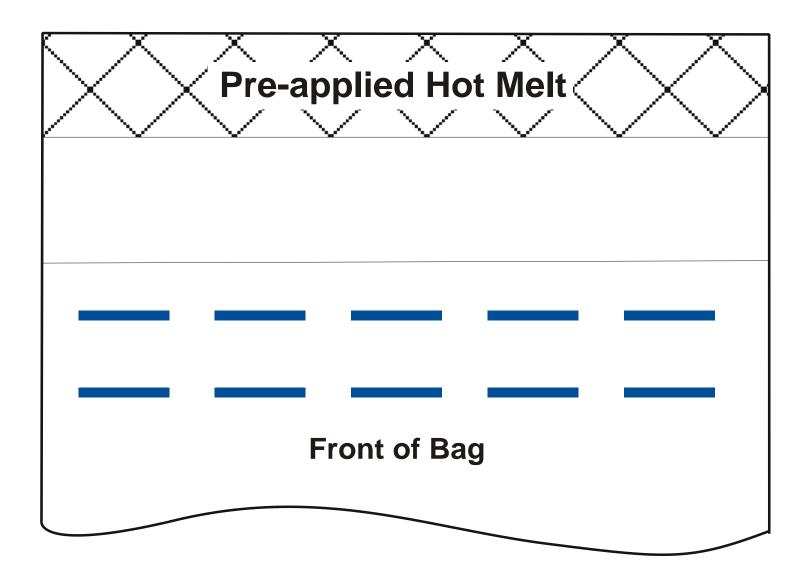


Exhibit A

Bag Closure Guide Location



High Performance Bags:

1 inch blue stripe

