APPROVED
USA, AMS, LS, STDZ/Rm. 2603-S 6/23/00
(SUPERSEDES TDS-136 6/26/99)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK AND SEED PROGRAM

TECHNICAL DATA SUPPLEMENT (TDS) FOR THE PROCUREMENT OF FROZEN GROUND BEEF ITEMS
TDS-136 – JUNE 2000

I. SCOPE

This technical data supplement is for use by USDA for the procurement of frozen fresh and cooked ground beef products in accordance with the applicable Institutional Meat Purchase Specifications (IMPS).

II. APPLICABLE DOCUMENTS

The following documents will be incorporated as part of this USDA, TDS-136:

- IMPS General Requirements, effective June 1996.
- IMPS For Fresh Beef Products, Series 100, effective June 1996.
- IMPS Quality Assurance Provisions Revised effective June 1997.
- Meat Grading and Certification (MGC) Branch Instruction Manual, Series 600.

III. ORDERING DATA: T0 BE SPECIFIED BY THE PURCHASER (Section in the IMPS 100 Series.)

A. ITEM NUMBERS

1. BULK/PATTIES

a) BULK:

IMPS Item No.136 Ground Beef (10 pound chubs) ---------- A608
IMPS Item No.136 Ground Beef, one pound packages ---------- A609
IMPS Item No.136 Coarse Ground Beef ---------- A594

b) PATTIES:

IMPS Item No.1136 Ground Beef Patties ---------- A626
IMPS Item No.1136A Ground Beef and Vegetable Protein Product Patties --------- A616
IMPS Item No.1136C Beef Patties, Not to exceed (NTE) 10 percent fat ---------- A627
---------- Contains added carrageenan; or
---------- Contains added oat bran and isolated oat product
Ground Beef Patties, Fully Cooked ---------- A629
Beef Patties Fully Cooked with Vegetable Protein Product ---------- A628

2. MATERIAL

The contractor will assure that product is in compliance with the **Material** section of IMPS Item No. 136 - Ground Beef, and the following additional criteria:

- Contractors are responsible for providing sufficient product traceability and must have records to verify the source of raw materials used in each lot of product.
- Beef must originate from U.S. produced livestock and will be verified in accordance with MGC Instruction 606 for Domestic Origin Verification.
- Beef must originate from slaughter establishments whose operating policy does not allow processing of nonambulatory cattle commonly referred to as “downers” into meat products.
- Beef must originate from slaughter establishments that include an FSIS recognized pathogen intervention or anti-microbial step as a critical control point in their slaughter process HACCP plan (e.g., steam pasteurization, acid spray, hot water rinses).
- Beef from processing establishments other than slaughterers must meet all the above requirements and the processing establishments must also (1) include a FSIS recognized intervention or anti-microbial step as a critical control point in their HACCP plan; or (2) test and certify with a Certificate of Conformance (COC) (See Exhibit C) that production lots of boneless beef meet the microbial standards for ground beef stated in section **I. USDA CERTIFICATION, 3. MICROBIOLOGICAL REQUIREMENTS**. (If the processing establishment also receives product from establishments that do not meet the requirements for slaughterers they must have an AMS approved segregation plan to assure that only approved products are supplied to AMS contractors.).
- Grinding facilities must comply with the Guiding Principles described in FSIS “Guidance for Beef Grinders to Better Protect Public Health,” December 1998.
- Irradiation of raw materials or finished products will not be allowed as an intervention step.
- Detached cutaneous muscles will not exceed 10 percent of total weight of the finished product.
- Desinewed beef from approved processes, including Lean Finely Textured Beef (LFTB), will not exceed 10 percent of the total weight of the finished product (no desinewed beef which is not in discernible pieces, will be allowed for coarse ground).

    a) Desinewed Beef - Desinewing processes must have been approved according to protocols reviewed and approved by the Standardization Branch prior to producing product for the USDA purchase program. These processes must demonstrate the removal of connective tissue in boneless beef to meet all boning and trimming requirements for IMPS 136. Boneless beef which will be desinewed by such a process will not be subject to examination for Defect Classification Table for TDS136 (See Appendix G) defects 01, 02, 03, 04, 05, 08, and 09 or for cartilage in defect 01 prior to desinewing. Except for LFTB, desinewed beef must be used as part of a continuous process of ground beef production (cannot be stored for later use).

b) Lean Finely Textured Beef (LFTB)

(1) LFTB must be produced from raw materials, which comply with the requirements of the Material section of this TDS that apply to desinewed beef. Manufacturers of LFTB must have in place, a QC plan reviewed and approved by the Standardization Branch (SB) prior to the production of LFTB. The requirements for LFTB that are listed below must be part of this quality control (QC) plan:

(a) Maximum product temperature of 108^{o}F during processing

(b) Maximum processing time of 30 minutes

(c) Minimum protein content of 14.00 percent

(d) 2.5 minimum protein efficiency ratio or minimum essential amino acid content of 33 percent

(e) Color a - value of at least 14.00 on a Hunterlab 45/0 L,a,b Spectrocolorimeter.

(2) **Monitoring of Manufacturer's Quality Control Procedures.** The AMS agent will monitor the various steps in the QC plan as appropriate, to determine all stated procedures are followed. In addition, the AMS agent will have access to all records, hard copies, computer files, etc., kept by the manufacturer for the same purpose. Failure of manufacturers to follow their QC plans will disqualify them from eligibility to produce LFTB for use in USDA purchase programs.

(3) **Certification of LFTB.** LFTB will be certified by AMS at the point of production, and must be accompanied by a MGC Branch certificate stating that it complies with the requirements of this TDS. The shipping containers will be labeled "LFTB for TDS-136" on the principle display panel.

(4) **Substitution Level and Procedure.** Except for Coarse Ground Beef, LFTB may be used provided it does not exceed 10 percent by weight of the combined finished product. The LFTB must be used within 60 days of the date of production. LFTB not intended for immediate use (within 15 days of production) must be frozen to, and maintained at 0^{o}F or below until it is removed from the freezer for tempering prior to production of fine ground beef products (not more than seven days prior to use). The LFTB may be tempered in a refrigerated room prior to use, and must be added directly to, and blended with, other boneless beef between initial and final grinding of the finished product. The temperature of the LFTB must not exceed 28^{0}F at any time prior to its addition to the other beef.

c) Vegetable Protein Product (VPP) - IMPS Item No. 1136A - Ground Beef Patties with Vegetable Protein Product and Beef Patties Fully Cooked with Vegetable Protein Product. The VPP will be as described in Item No. 136A, except for the following additional requirements:

(1) The source of VPP will be soy.

(2) The physical characteristics of VPP, in the dry form, must be either granular or textured and comply with the following sieve size requirements and combination rate as illustrated in Table 1.

Table 1. Sieve Size and Combination Rates

Types of Soy	Sieve Size Requirements		Maximum Percent of Hydrated VPP in the Combined Finished Product
	At least 95 percent will pass through:	Not more than 10 percent will pass through:	
Textured Flour	U.S. Standard No. 3 sieve	U.S. Standard No. 18 sieve	15.0
Granular Concentrate	U.S. Standard No. 14 sieve	U.S. Standard No. 60 sieve	20.0
Flaked Textured Concentrate	U.S. Standard No. 3 sieve	U.S. Standard No. 18 sieve	25.0
Textured Isolate	N/A	N/A	25.0

NOTE: VPP (of any texture) which has been hydrated by the VPP manufacturer may be used provided that: (1) the product is frozen; and (2) the protein content (as is basis) of the hydrated VPP is stated on the manufacturer's label.

d) **Formulation of Added Ingredients for IMPS Item No. - 1136C**

IMPS Item No. 1136C - Beef Patties, NTE, 10% Fat, will be as described in the IMPS and meet the requirements listed in Table 2.

Table 2. Formulation of Added Ingredients for IMPS No. - 1136C

Appendix	Ingredient	Percent		
		Carrageenan	Oat Bran and Isolated Oat Product	
	Beef	93.25	91.80	91.70
	Water 1/	5.50	5.10	5.10
A	Carrageenan 2/	0.50	----	----
B	Oat Bran	----	1.50	1.50
C	Isolated Oat Product	----	1.10	1.10
D	Encapsulated Salt	0.40	----	0.25
E	Beef Flavoring	0.35	0.50	----
E	Beef Stock			0.35
	TOTAL	100.00	100.00	100.00

1/ Must come from a potable supply approved by FSIS.

2/ Iota extract carrageenan meeting the requirements specified in Appendix A must be used. Prior to final grinding the meat will be blended with the other ingredients, including water, for three (3) minutes for both types of IMPS Item No.1136C patties.

e) Formulation of Added Ingredients for Ground Beef Patties, Fully Cooked and Beef Patties, Fully Cooked with Vegetable Protein Product

(1) Seasonings shall be added at rate of 1.4 percent of the weight of the finished product. Seasonings shall include salt, sodium phosphate, ground white pepper, onion powder, garlic powder, and beef flavoring. The specific mixture shall be as shown in Appendix F.

(2) Antioxidants and oxygen interceptors. These shall be used to retard rancidity in accordance with FSIS Regulations.

3. PROCESSING

Product will be processed in accordance with the **Processing** section of IMPS Item No. 136 and the following additional requirements:

a) Initial grind will be through a plate having holes not larger than 0.75 inch (19.1 mm).

b) Except for Coarse Ground Beef, a Bone Collector/Extruder System must be in operation on the final grind of all products.

c) Raw beef patties must be perforated (scored or waffled) on at least one side, in accordance with IMPS 1136 requirements**.**

d) For fully cooked patties, cooking shall be in accordance with FSIS regulations by a cooking method selected by the contractor. Placement of grill marks on the finished product shall be at the option of the contractor.

e) Metal Detection is required (Refer to IMPS General Requirements, Meat Handling). All beef patties will be tested for the presence of metal after formation into patties. Patties will be tested at the 1.5 mm sensitivity level with a 440 stainless steel test standard. Bulk ground beef will be tested for metal after final grinding and immediately before, or after, packaging. At the discretion of the AMS agent, the contractor's HACCP or other pertinent records may be used to supplement the AMS agent's tests to assure that the metal detection equipment is functioning properly.

B. GRADE – No grade requirement**.**

C. STATE OF REFRIGERATION -

Frozen, Refer to **I. MEAT HANDLING, A. STATE OF REFRIGERATION** section of the IMPS General Requirements.
IMPS Item 136 - IMPS FREEZING OPTION 1.
IMPS Items 1136, 1136A, 1136C, and cooked patties will be individually quick frozen (IQF) to not greater than 10^{o}F prior to packaging and then frozen in accordance with IMPS FREEZING OPTION 2 after packing. However, patties, which are 0^{o}F or lower prior to packaging, and maintained at 0^{o}F, will not be subject to the 24-hour temperature examination and, if shipped within 72 hours of the time of production, may not exceed 5^{o}F at the time of shipment. Patties shipped more than 72 hours from the time of production must not exceed 0^{o}F at the time of shipment.

D. FAT LIMITATIONS

The contractor will be required to target their production in accordance with the specified Target Average Fat Content Level. At the option of the contractor, fat content will be verified by **1. FAT CONTENT VERIFIED BY AMS LABORATORIES or 2. CONTRACTOR TESTING, STATISICAL PROCESS CONTROL**.

1. FAT CONTENT VERIFIED BY AMS LABORATORIES

AMS will certify the fat content results. Finished ground product from lots will be rejected if results do not comply with any of the FAT CONTENT REQUIREMENTS and will be discounted from contractual price if results are within the ranges illustrated within the DISCOUNT PROVISIONS of the following table.

FAT CONTENT REQUIREMENTS

IMPS Item No.	Item	Target Average Fat Content Level (% average). 1/	Maximum acceptable deviation of average fat content from target	Maximum deviation of median from the average 2/	Maximum acceptable range. 3/
136	Ground Beef	16.0	+/- 3.00	2.00	8.00
136	Coarse Ground Beef	16.0	+/- 4.00	3.00	9.00
1136	Ground Beef Patties	17.0	+/- 3.00	2.00	8.00
1136A	Ground Beef and VPP Patties	15.0	+/- 3.00	2.00	8.00
1136C	Beef Patties (NTE 10 percent fat)	Less than 10.0	Not Applicable	3.00	6.00
	Ground Beef Patties, Fully Cooked	17.0	+/- 3.00	2.00	8.00
	Beef Patties Fully Cooked with VPP	15.0	+/- 3.00	2.00	8.00

DISCOUNT PROVISIONS

IMPS Item No.	Item	Average fat content for 8.0% discount 1/	Deviation of median from average for 8.0% discount. 2/	8.0% discount for range. 3/
136	Ground Beef	13.0 – 13.99 or 18.01 – 19.00	1.01 to 2.00	7.01 to 8.00
136	Coarse Ground Beef	12.0 – 12.99 or 19.01 – 20.00	2.01 to 3.00	8.01 to 9.00
1136	Ground Beef Patties	14.0 – 14.99 or 19.01- 20.00	1.01 to 2.00	7.01 to 8.00
1136A	Ground Beef and VPP Patties	12.0 – 12.99 or 17.01– 18.00	1.01 to 2.00	7.01 to 8.00
1136C	Beef Patties (NTE 10 percent fat)	No Discount Provision	2.01 to 3.00	5.01 to 6.00
	Ground Beef Patties, Fully Cooked	14.0 – 14.99 or 19.01 – 20.00	1.01 to 2.00	7.01 to 8.00
	Beef Patties Fully Cooked with VPP	12.0 – 12.99 or 17.01 – 18.00	1.01 to 2.00	7.01 to 8.00

1/ Average - fat content analysis results of 4 sample units selected in accordance with IMPS QAPs.
2/ Median - the average of the middle two fat content analysis results.
3/ Range - the difference of highest – lowest fat content analysis individual results.
(For calculation, individual fat results shall be put into ascending order. (e.g.,If the fat results of four samples are 10, 13, 17, and 25, Range = 15 (25-10), Median = 15 (Average of 13 and 17), Average = 16.25)

2. CONTRACTOR TESTING, STATISTICAL PROCESS CONTROL

Contractors participating in this program may analyze their own samples for fat content. The contractor shall have a process that is in statistical control and is capable of meeting the following fat content requirements.

IMPS Item No.	Item	Target average fat content level (% average).	Upper and Lower Specification Limits
			UPPER - LOWER
136	Ground Beef	16.00	18.00 – 14.00
136	Coarse Ground Beef	16.00	19.00 – 13.00
1136	Ground Beef Patties	17.00	19.00 – 15.00
1136A	Ground Beef and VPP Patties	15.00	17.00 – 13.00
1136C	Beef Patties (NTE 10 percent fat)	Less than 10.00	10.00 - NO LOWER LIMIT
	Ground Beef Patties, Fully Cooked	17.00	19.00 – 15.00
	Beef Patties Fully Cooked with VPP	15.00	17.00 – 13.00

(1) Eligibility. To become eligible for this program, the contractor shall maintain statistical process control procedures for fat content that is made available for process capability assessment by the AMS agent. The contractor shall maintain control charts for each specification type with statistically derived upper and lower control limits (+/- 3 standard deviations of the process). Control charts will be used to determine if the process is in statistical control.

(2) Start up.

(a) From the time the contractor declares intention of participating, AMS will verify the fat content for the first 20 production lots in accordance with 1. FAT CONTENT VERIFIED BY AMS LABORATORIES. The contractor will randomly select and conduct fat analysis on at least 4 sample units from the same production lots and plot the results on control charts featuring average and range. The sample units shall be independent from the sample units selected by AMS. The available (minimum of 15), AMS laboratory results will be plotted on separate control charts featuring average and range for comparison.

(b) Both the AMS and the contractor's control charts will be used to determine eligibility for contractor testing. The contractor becomes eligible when:

average control charts are compared, the process average of the contractor's 20 production lots is within +/- 0.5 percent of the process average of the available AMS lab results;

the process average for both AMS and contractor's lab results are within +/- 1 percent of the specified target average (see table above); and

the process range average of the contractor's 20 production lots is within +/-1 percent of the available AMS lab results.

If the contractor's results do not comply with all of the above, an additional 20 consecutive contractor's production lot results will need to be compared to additional available AMS results as described in "start

up." Such lots will continue to be verified by AMS. If the results do comply with all of the above, then the contractor will be considered in contractor testing status.

(3) Contractor testing. While producing under contract for AMS, the contractor will continue to conduct analysis of at least 4 sample units from each production lot and plot the results on control charts featuring average and range. On a weekly basis, the AMS agent will randomly select independent samples (each consisting of four sample units) from two production lots that are sent to the AMS laboratory for fat analysis. The results will be plotted on the same AMS control charts used for start up for comparison. The AMS agent shall supervise all sampling and analysis of fat samples as deemed necessary.

(4) Lot verification. Using the contractor's control charts, production lots shall be rejected and not allowed to be shipped to AMS when either:

the contractor's production lot results for either average or range are outside the control chart's upper and lower control limits, or

the contractor's production lot average results are outside the upper and lower specification limit from the target average (see following table).

(5) Statistical process control. Analysis of control charts of the fat content results will determine if a process is in control and if any changes have occurred that may have an impact on quality. To remain in contractor testing status, both contractor's and AMS control charts must indicate the process is in control. The contractor will act (make changes to the process) when results are outside the specification limits or control limits. Such changes must be declared to the AMS agent.

(6) Process capability assessment. The AMS agent will evaluate controls chart with at least 20 consecutive lots (including the last production lot analysis results). The AMS agent will measure the relationship between: (1) the process average and specification requirements for target average; and (2) the contractor's control charts and AMS control charts. The processor is no longer eligible to participate and will have, upon notification from the purchaser, to have fat content immediately verified by AMS when:

the process average of the contractor's average control chart deviates more than +/- 1 percent of the specified target average;

the upper or lower control limits within the contractor's average or range control charts deviates more than +/- 1 percent from the upper and lower limits within the AMS average or range control charts; or

the process average of the contractor's average control chart deviates more than +/- 1 percent from the process average of the AMS average control chart.

E. PORTION-CUT WEIGHT, THICKNESS, AND SHAPE

The patty thickness, weight, count, and acceptable quality level (AQL) will be as specified in Table 5.

Table 5. Patty thickness, weight, and count requirements 1/

IMPS Item No.	Patty Thickness		Target patty weight 2/	Acceptable weight tolerance range for sample unit 2/	AQL Level
	Not less than	Not more than			
1136	1/4 inch	7/16 inch	3.0 oz.	2.9 – 3.1	10
1136A	1/4 inch	7/16 inch	3.0 oz.	2.9 – 3.1	10
1136C with Carrageenan	1/4 inch	7/16 inch	3.1 oz.	3.0 – 3.2	10
1136C with Oat Bran and Isolated Oat Product	1/4 inch	7/16 inch	3.1 oz.	3.0 – 3.2	10
Ground Beef Patties, Fully Cooked 3/	1/4 inch	7/16 inch	3.1 oz. (Raw)	3.0 – 3.2 (Raw)	10
Beef Patties Fully Cooked with Vegetable Protein Product 3/	1/4 inch	7/16 inch	3.1 oz. (Raw)	3.0 – 3.2 (Raw)	10

1/ Verification will be in accordance with IMPS QAPS. For raw patties, Defect Classification Table 100R shall be used. For cooked patties, Defect Classification Table 600E shall be used to examine the finished product.

2/ Defect number 260 (Table 100R) shall be scored when sample unit weighs outside weight tolerance range.

3/ Contractor will declare to AMS agent the cooked portion weight and item count per 40-pound container. Cooked patties with a cooked portion weight less than 2.0 are not permitted.

F. WEIGHT RANGE - Refer to Table 5.

G. NETTING AND TYING - Not Applicable.

H. PACKAGING AND PACKING

Refer to **II. PACKAGING AND PACKING** section of the IMPS General Requirements and the following additional requirements:

1. Packaging

a) All bulk packaged, fine ground beef will be mechanically stuffed into bags or casings and closed by metal clips or a heat sealing method.

b) Bulk packaged ground beef will be packaged in four 10-pound filled bags or casings and placed into a 40-pound net weight shipping container.

c) Forty, 1-pound packages of ground beef will be placed into a 40 pound net weight shipping container and will be either:

(1) mechanically packaged into casings, each having a circumference between 7.5 - 8.75 inches; or

(2) vacuum packaged in accordance with the thermoforming method as defined in the IMPS General Requirements.

d) Patties will be packaged into primary containers and placed into a 40-pound net weight shipping container. The primary containers may be either flexible (plastic) or fiberboard (boxes). Separation material between patties is not required. Patties will be examined for evidence of thawing and refreezing (sticking together, etc.) at the time of shipment.

(1) Flexible containers. Either four 10-pound or eight 5-pound flexible containers will be placed into each shipping container. Flexible containers shall be mechanically sealed (hand twisting or tying is not acceptable).

(2) Fiberboard containers. Either four 10-pound or two 20-pound fiberboard containers will be placed into each shipping container. Fiberboard containers will be lined with plastic so that the product is completely covered.

2. Packing

a) The net weight for all products, except coarse ground beef, will be 40 pounds per shipping container.

b) Coarse ground beef will be packed in leakproof shipping containers to a net weight of 60 pounds.

c) Only one style and size of shipping container may be used in any one delivery unit.

3. Closure

a) When the strapping method is used for final closure of slotted containers that have not been assembled using a tuck lock method, the initial closure will be secured in accordance with the gluing or taping method.

4. Marking of Shipping Containers

a) Shipping Containers will be marked in accordance with Table 6 and Exhibit A.

b) Table 6 - Shipping Container Marking Requirements Table. 1/

IMPS Item No.	Product Name	Product Code
136	Ground Beef	A608
136	Ground Beef, 1- Pound Packages 2/	A609
136	Coarse Ground Beef	A594
1136	Ground Beef Patties	A626
1136A	Ground Beef and VPP Patties 3/	A616
1136C	Beef Patties NTE 10 percent fat 3/	A627
	Ground Beef Patties, Fully Cooked 3/	A629
	Beef Patties Fully Cooked with Vegetable Protein Product 3/	A628

1/ Previously certified boneless beef for further processing (chilled-frozen) will be labeled as: "Boneless Beef for TDS-136."
2/ UPC Shipping Container Code Required.
3/ The ingredient statement must include the identification of added ingredients and nutrients.

c) The specific marking requirements for beef items produced under this TDS are provided in the attached Exhibit A and the above Table. Lot and box numbers will be sequential. Contractors may vary the placement of the required information from the Exhibit and the applicable IMPS information. Additional markings (e.g., bar codes, company names, etc.), that are consistent with all other IMPS requirements and their normal commercial labels, may be included. Information may be printed or stenciled directly on the shipping containers or mechanically printed, pressure sensitive labels may be applied. These labels must be applied in a manner that prevents their removal in an intact form. Primary containers may be labeled with the product name and commodity code only.

d) Marking of Shipping Containers will comply with 9 CFR 317.4 and 317.5. Prior approved labels need not be resubmitted. Contractors that do not have approved labels on file must submit labels in sketch form only to the appropriate FSIS or State agency.

e) Product produced in State-inspected plants operating under Section 301 of the Federal Meat Inspection Act must comply with State regulations and be equal to USDA, FSIS, applicable regulations.

f) Item No. 136 Ground Beef, 1- Pound Package Labels will have:

(1) A Best-if-used-by date (180 calendar days from the date of production) will appear as illustrated in Exhibit B,

(2) A UPC Code. The Universal Product Code (UPC) code and symbol will be required on each 1-pound package and a UPC shipping container code, called Interleaved 2 of 5 (I 2/5) bar code, will appear on each shipping container. In accordance with the UPC guidelines published by the Uniform Code Council (UCC), a 12-digit UPC code and symbol, which consists of the number 715001015983, must appear on each 1-pound package. A 14 digit I 2/5 bar code, which consists of the number 10715001015980, must appear on each shipping container that contains the 1-pound beef packages. The code for the primary

package (1-pound package) must be placed in a position which precludes interference with other required markings. The code for the shipping container should be placed in the lower corner of one side panel. For contrast in scanning, a white block will be used as background for bar codes applied directly to the 1-pound package label. The UPC guidelines describe the requirements for the proper placement, printing, readability, and scanability for the bar coding. The complete code must be printed in machine and human readable form. The start and stop indicators must be included in the bar code symbols. Package manufacturers, printers, and film master suppliers are familiar with this symbology. Further information may be obtained from the Uniform Code Council, Inc.; 8163 Old Yankee Road, Suite J; Dayton, Ohio 45458. Telephone: 513/435-3870. The Department of Agriculture has acquired a unique manufacturer's identification number for this application. Contractors need not join the UCC.

5. Palletized Unit Loads

Required, see IMPS General Requirements.

I. USDA CERTIFICATION

1. PRODUCT WILL BE CERTIFIED BY USDA, AMS, MGC

AMS agents will perform examinations in accordance with IMPS General Requirements, IMPS QAPS, MGC Branch Instructions, and as specified below:

a) Product Examinations

(1) For excellent condition and detailed item description, refer to APPENDIX G, PROCESS CONTROL FOR ATTRIBUTES.

(2) Patties - Refer to **LOT ACCEPTANCE CRITERIA** section for portion cuts within QAPS. Purchaser specified AQL – 15 for raw patties and AQL-10 for cooked patties.

b) Condition of Container - Final examination of condition of shipping containers will be limited to scanning (without destructive sampling) the delivery unit for defects which may have occurred during handling and storage (e.g., crushed, torn, dirty, stained, etc.). All defective containers must be replaced or corrected.

c) Net Weight will be in accordance with QAPS only. Meat and Poultry Inspection Regulations will control individual weight verification on the 1-pound package.

d) Temperature Examination - To verify state of refrigeration requirements. Patties will be examined for evidence of thawing and refreezing (sticking together, etc.) at the time of shipment. The findings of such evidence will cause rejection of the lot.

e) Item Count - To verify number of specified 1-pound packages.

2. THE AMS AGENT WILL:

a) Certify and issue an official certificate indicating the status of each lot as required by MGC Branch Instructions. Lot size and purchase unit size are defined as follows:

(1) For raw materials, the size of a lot will be specified by the contractor, but will only consist of product produced in a single production day.

(2) For finished product, the lot size will not exceed the amount specified by the purchaser as a purchase unit.

(3) The purchase unit size for fine ground beef is 40,000 pounds net weight (1,000 shipping containers) plus the amount for use in making box fills at the time of laboratory sample withdrawal.

(4) The purchase unit size for all types of beef patties is 38,000 pounds net weight (950 shipping containers) plus the amount for use in making box fills at the time of laboratory sample withdrawal.

(5) The purchase unit size for coarse ground beef is 42,000 pounds net weight (700 shipping containers) plus the amount for use in making box fills at the time of laboratory sample withdrawal.

b) Supervise the loading and sealing of each truck.

c) Contract number.

d) Notice-to-Deliver number.

e) Name of product.

f) Six Digit Commodity Code.

g) Production lot number(s) and the date each lot was produced.

h) Count of shipping containers and total projected net weight in each production lot.

i) Total projected net weights per delivery unit.

j) Identity of conveyance (numbers and letters, seals, license, etc.) as applicable.

k) Destination(s).

l) Sample average, median, and range of fat content analysis results of each production lot for Option 1 and average for Option 2(calculated to 2 decimal places, e.g., 17.25).

3. MICROBIOLOGICAL REQUIREMENTS

a) Requirements - Ground beef will be analyzed for bacteria levels in accordance with the appropriate method for the bacteria levels specified in the Compendium of Methods for the Microbiological Examination of Foods (third edition), published by the American Public Health Association, and the "USDA/FSIS Microbiological Laboratory Guidebook, 3rd Edition/1998, Chapter 5" for E. coli 0157:H7 requirements. The finished product sampled

will be analyzed and rejected when product exceeds the microbial limits illustrated in the following table.

AMS GROUND BEEF MICROBIAL REQUIREMENTS	
Standard Plate Count	<500,000/gram
Total Coliforms	<500/gram
E. coli	<100/gram
E. coli O157:H7	Negative/325 grams
Salmonella	Negative/25 grams
Coagulase Positive Staphylococci	<500/gram

Sampling protocol – The AMS agent will sample each lot. For the purpose of this section, a lot will be defined as production of finished product between "clean ups". The AMS agent will prepare and handle samples in accordance with MGC Instruction 613 for Examination and Sampling Procedures for Microbiological Requirements. Vendors will be responsible for costs of microbial testing.

APPENDIX A

REQUIREMENTS FOR CARRAGEENAN IN BEEF PATTIES NTE 10 PERCENT FAT

As described in the Third Edition of *Food Chemicals Codex*, carrageenan is obtained by extraction with water or aqueous alkali from certain members of the class Rhodophyceae. It is a hydrocolloid consisting mainly of the potassium, sodium, magnesium, calcium, and ammonium sulfate esters of galactose and 3,6-anhydrogalactose copolymers. Those hexoses are alternately linked α-1,3 and ß-1, 4 in the polymer. The relative proportion of cations existing in carrageenan may be changed to the extent that one may become predominant.

Iota extract carrageenan is required. Iota carrageenan contains approximately 30% 3,6 anhydrogalactose and 32% ester sulfate by weight. Upon cooling, iota carrageenan forms elastic, syneresis-free thermally reversible gels at concentrations as low as 0.3%. Iota carrageenan gels and sols are freeze-thaw stable. Iota carrageenan used for beef patties NTE 10 percent fat should swell as a function of the concentration and type of cations present, as well as water temperature and conditions of dispersion.

In addition, the carrageenan must meet all minimum standards specified for carrageenan in the Food Chemicals Codex.

Also, to ensure that it is iota carrageenan, a gel should be prepared using 2% carrageenan and 0.2% KCl in water heated to 180^{o}F and poured into a test tube. The test tube should be placed in a canted position (approximately 60^{o} off vertical) in a 10^{o}C water bath for 1 hour. After the gel has set, the test tube should be placed upright in a 50^{o}C water bath. An iota gel will melt within 10 minutes. If the gel does not melt within 10 minutes, it is not iota carrageenan.

The manufacturer's label for the carrageenan must state that the product meets all of these requirements or the manufacturer must provide a separate statement of such fact.

APPENDIX B

REQUIREMENTS FOR OAT BRAN IN BEEF PATTIES NTE 10 PERCENT FAT

Oat bran will be milled from sound, scientifically cleaned oats by a dry milling process that results in a natural product, which meets the oat bran definition, developed by the American Association of Cereal Chemists and the American Oat Association. The oat bran will meet the following set of requirements:

Chemical Analysis

	Percent
Protein*	19.0 - 23.0
Fat*	7.0 - 9.5
Crude Fiber*	1.7 - 3.6
Ash*	2.5 - 3.5
Moisture	6.2 - 11.5
Enzyme activity	Negative

Granulation

	Percent
On U.S. # 10 Sieve	1 - 2
On U.S. # 20 Sieve	70 minimum
On U.S. # 40 Sieve	10 - 25
Through U.S. # 40 Sieve	5 maximum

Standards

	Percent
Beta Glucan *	7.5 minimum
Total Dietary Fiber *	16.0 minimum
Soluble Fiber as a % of Total Dietary Fiber	40.0 minimum
Extraction Rate	40.0 maximum

* Calculated on a dry matter basis.

Compliance with these requirements will be determined through the manufacturer's label or letter of compliance.

APPENDIX C

REQUIREMENTS FOR ISOLATED OAT PRODUCT IN BEEF PATTIES
NTE 10 PERCENT FAT

Isolated oat product will be produced from oat hulls using the USDA patented process (Patent Number 4,774,098) which details the use of hydrogen peroxide in the modification of plant fiber substances. A manufacturer licensed to use this process will produce the isolated oat product. The isolated oat product will meet the following set of requirements:

Water Absorption	
By Centrifugation Method *	3.0 mls/g minimum
Chemical Properties	
Total Dietary Fiber (As Is) *	88 - 92 percent
Calories *	0.15 Kcal/g maximum
Moisture *	5.0 percent maximum
pH *	5.5 - 6.5
Enzyme Activity (Peroxidase) *	Negative
Physical Properties	
Color	Creamy White
Odor	Neutral
Foreign Material	Meets Federal Requirements
Infestation	" " "
Pesticides	" " "
Granulations (Particle Size) **	
On U.S. # 100 Sieve	5.0 percent maximum
On U.S. # 200 Sieve	55.0 percent maximum

* Determined according to official test methods of the American Association of Cereal Chemists.

** Measured by Alpine Airjet Sieve using U.S. Standard Mesh Sieves.

Isolated oat product manufacturer's will assure compliance with these requirements through their product label or separate letter of compliance.

APPENDIX D

REQUIREMENTS FOR ENCAPSULATED SALT IN BEEF PATTIES NTE 10 PERCENT FAT

Encapsulated salt must meet the following set of requirements for use in beef patties NTE 10 percent fat:

SPECIFICATIONS

Substrate Composition:	Sodium Chloride
Substrate Content:	68 - 87 percent
Coating Composition:	Partially hydrogenated cottonseed or soybean oils.
Coating Content:	13 - 32 percent
Coating Melting Point:	140 - 155 ^{o} F
Appearance:	White free flowing granules.
Particle Size:	2% maximum on #10 mesh screen.

Manufacturers of encapsulated salt should certify through product labels or letter of compliance that these requirements are met, and provide labeling information necessary for the finished product using the ingredient.

APPENDIX E

REQUIREMENTS FOR BEEF FLAVORINGS AND BEEF STOCK IN BEEF PATTIES, NTE 10 PERCENT FAT

Flavorings and stock must meet the requirements for labeling as “Beef Flavor” and “Beef Stock”. They may not contain hydrolyzed vegetable protein or monosodium glutamate. Flavorings and stock must provide a flavor profile in the finished product that has been demonstrated to be acceptable in beef patties NTE 10 percent fat products. The following flavors and stock have been demonstrated to be acceptable for use in these products.

Flavors

Company	Identification
Firmenich, Inc. Princeton, NJ	Natural Flavor, Beef Type 588.207/SPM
F & C Wild Flavors Cincinnati, OH	Natural Beef Flavor, Fried Hamburger Type, # 101266
Milwaukee Seasonings, Inc. Milwaukee, WI	Beef Flavor S-48500

Stock

Hormel Foods Corp. Austin, MN	Hormel Beef Stock

The manufacturers will furnish ingredient labeling requirements for products that include these flavors and stock.

Other ingredients, which provide equal beef flavor profiles in the finished product and complies with the above requirements may also be used, provided they are approved for use by the Standardization Branch. The flavor company will submit, to the following address, data that was collected through independent studies demonstrating that the flavors are equal to the above approved flavors.

USDA, AMS, Livestock and Seed Program
Standardization Branch
Stop 0254, Room 2603 S-Bldg.
1400 Independence Ave. SW
Washington, D.C. 20250-0254

Phone: (202) 720-4486
FAX: (202) 720-1112

APPENDIX F

SEASONING MIXTURE FOR COOKED BEEF PATTIES

INGREDIENT	PERCENT OF TOTAL SEASONINGS
Salt	45 – 50
Sodium Phosphates	18 – 27
Ground White Pepper	2.3 – 4.5
Onion Powder	2.3 – 4.5
Garlic Powder	1.2 – 2.3
Beef Flavoring	13 - 23

MICROBIOLOGICAL STANDARDS FOR SEASONINGS BLEND

Standard Plate Count	Less than	50,000/gram
Yeast/Mold	Less than	100/gram
Coliform	Less than	10/gram
E. Coli	negative	
Salmonella	negative	

Manufacturers of seasonings or packagers or premixed seasonings shall provide certification to the contractor that the ingredients provided meet the above requirements and are approved by FSIS for beef patties, and that they are good commercial quality products. Appropriate, expiration dates for use of batches of seasonings should also be provided. Certification may be in the form of labeling of seasoning packages, or a separate letter stating that the seasonings meet the requirements of this appendix.

Alternatively, contractors may provide other evidence that the seasonings used meet the above requirements, and that they are the same as they are using in a significant volume of commercial products. These verifications shall be provided to the AMS agent.

Questions on the acceptability of particular ingredients or certifications should be referred to the Livestock and Seed Program, Standardization Branch (202) 720-4486.

APPENDIX G

PROCESS CONTROL FOR ATTRIBUTES

The AMS agent shall examine fresh-chilled boneless meat for excellent condition and detailed item description MATERIAL requirements of IMPS 136 using the following process control for attributes examination procedure or the stationary lot procedure for examination as defined within the IMPS Quality Assurance Provisions – Effective June 1, 1997 (AQL – 25). The attached defect classification table (**DEFECT CLASSIFICATION TABLE FOR TDS136)** shall be used to determine sample unit size and applicable defects for either procedure. The procedure shall be specified by the contractor and agreed to by the AMS agent.

Process Control for Attributes – This procedure is intended for production line quality assurance. In order for this program to be implemented properly, prior to production the contractor shall declare and demonstrate to the AMS agent the methods and procedures to be used to assure conformance with all specification requirements. The AMS agent will monitor the process to verify that these methods and procedures are followed.

At the beginning of the production day, the AMS agent will establish and adhere to the sampling of 60-minute production segments. The AMS agent will randomly select 5 individual sample units to examine for defects from each 60-minute production segment. The attached defect classification table shall be used to determine sample unit size and applicable defects. The finding of product in less than excellent condition will cause rejection of the production segment. At the beginning of each workday, the procedure shall start out in the Production Phase.

Production phase - If there are less than three (3) defects in any of the 5 sample units, the product is accepted, and normal production continues. Product is accepted and may be ground until the finding of 3 or more defects in any sample unit (Go to **Notification phase)**.

Notification phase - If 3 or more defects are found in any sample unit, the contractor shall be immediately notified that the remaining portion of the production segment is subject to rejection or acceptance based on the results of examining the 5 sample units during the next 60 minute segment of production (note: If this occurs during the last 60 minute production segment of the work day, the contractor shall offer the remaining portion of the production segment for IMPS stationary lot examination). When notification occurs before all sample units have been examined, subsequent sample units shall be examined and the findings shall be reported to the contractor. The contractor will declare to the AMS agent what steps will be taken to correct the occurrence of the defects.

The AMS agent may designate any portion of production as a lot if in the agent's opinion there is excessive recurrence of sample units with three or more defects and perform a stationary lot examination.

Corrective Action - If 3 or more defects are found in any of the 5 sample units during the next 60 minutes of production, all designated product from the previous production segment and product produced during the entire 60 minute production segment will be rejected (including product which may have been ground). The AMS agent will continue sampling under the notification phase. If less than 3 defects are found in all of the individual sample units within the next production segment, all product from the previous production segment and the entire 60 minute production segment will be accepted and the AMS agent will continue sampling under the production phase.

Rejected product, if reoffered and unground, must be reworked and offered in accordance with the IMPS, QAPS Stationary Lot Examination procedures and AQL of 25. However, any product in less than excellent condition will be rejected and cannot be reworked and reoffered.

DEFECT CLASSIFICATION TABLE FOR TDS136

The following defects are applicable to fresh-chilled boneless beef prior to production of **ground beef** for TDS-136 June 2000. Sample unit shall consist of a minimum of 10 pounds of adjacent meat. Evidence of beef after final grinding appearing abnormally light in color (i.e., light grayish pink) shall cause rejection of the lot.

01 Scratchy periosteum, bone or cartilage measuring 1.0 inch or more in one dimension and 0.2 inch or more in a second dimension.

02 Backstrap measuring 1.0 inch or more in one dimension and 0.5 inch or more in a second dimension.

03 Presence of tendons on elbow end of clod of the shoulder clod protruding more than 0.3 inch from the surface of the lean.

04 The tendinous ends of shanks, knuckles, and bottom rounds to a point where a cross-sectional cut exposes less than 75 percent lean tissue.

05 The membranous covering from skirts, flanks, hanging tenders, abdominal section of short plates; the membranous portion of the diaphragm; abdominal tunic; or sacrosiatic ligament measuring 5.0 square inches or more.

06 Popliteal, prescapular, prefemoral and/or any exposed lymph glands measuring 1.0 inch or more in one dimension and 0.5 inch or more in a second dimension.

07 Non Carcass components, cod, udder, kidney, pelvic, or heart fat having a surface area measuring 2.0 square inches or more and 0.5 inch or more in depth at any point.

08 Presence of 2 or more pieces of any size which more than 50 percent of its surface area is composed of heavy opaque connective tissue, bone, or cartilage, (do not score if defects 01, 02, 03, 05, or 09 are scored for those pieces).

09 Presence of heavy opaque connective tissue measuring 3.0 square inches or more.

10 Blood clot measuring 1.0 inch or more in one dimension and 0.5 inch in a second dimension.

11 Presence of any portion of the spinal cord measuring 0.5 inch or more in one dimension and 0.2 inch in a second dimension.

EXHIBIT A

SHIPPING CONTAINER MARKINGS: SHIPPING CONTAINERS SHALL BE MARKED SUBSTANTIALLY AS SHOWN BELOW. BAR CODES MAY BE ADDED AS LONG AS THEY DO NOT INTERFERE WITH REQUIRED MARKINGS. MANUFACTURERS NAME AND ADDRESS MAY APPEAR. NO OTHER MARKINGS WILL BE ALLOWED. MARKINGS SHALL BE BLACK, FLAT, WATERFAST, AND NONSMEARING. THE USDA SYMBOL SHALL BE AT LEAST THREE AND ONE-HALF (3 1/2) INCHES (8.9 CM) HIGH. ALL OTHER PRINTING OR STENCILING SHALL BE OF A SIZE TO STAND OUT PROMINENTLY AND COMPLY WITH THE USDA-FSIS REGULATIONS OR STATE REGULATIONS.

USDA
U.S. DEPARTMENT OF AGRICULTURE
FOOD

DONATED BY THE U.S. DEPARTMENT OF AGRICULTURE
FOR FOOD HELP PROGRAMS
NOT TO BE SOLD OR EXCHANGED

Manufacturer's Name and Address. (optional)

PERISHABLE
FROZEN - STORE AT 0°F (-17.8°C) OR BELOW

IMPS Number
Product Name
Product Code

CONTRACT NO._____

KEEP FROZEN

DATE PACKED_____
LOT_____
BOX_____
COUNT/PORTION SIZE _____

NET WT. LBS. (. KG)

U.S. INSPECTED AND PASSED BY DEPARTMENT OF AGRICULTURE EST.

NOTES: DATE PACKED SHALL BE THE MONTH, DAY, AND YEAR OF PACKING.
BOX NUMBERS ARE ASSIGNED IN THE SPECIFICATION.
SERIAL CONTRACT NUMBER WILL BE FURNISHED BY USDA.
LOT NO. AND BOX NO. MAY BE PLACED ON THE SAME LINE OR AS SHOWN ABOVE.

PER 9 CFR 317.4 & 317.5, PRIOR APPROVED LABELS NEED NOT BE RESUBMITTED. CONTRACTORS THAT DO NOT HAVE APPROVED LABELS ON FILE MUST SUBMIT LABELS IN SKETCH FORM ONLY TO THE APPROPRIATE USDA, FSIS OR STATE AGENCY.

Boxes must include Safe Handling instructions in accordance with FSIS Mandatory Safe Handling Statements on Labeling of Raw Meat and Poultry Products as stated in 9 CFR Part 317, Section 317.2, Paragraph l.

EXHIBIT B

<u>ONE</u> <u>POUND</u> <u>PACKAGE</u> <u>LABEL:</u> In conjunction with other markings that may be required by the Food Safety and Inspection Service Regulations, each package shall be labeled essentially as shown below. A mechanical layout of the label will be supplied to contractor as requested. The labels must be approved by USDA, FSIS prior to use in the program. Only the following markings shown will be permitted:

KEEP FROZEN

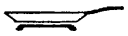
Ingredients: Beef--100%

Safe Handling Instructions

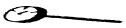
This product was prepared from inspected and passed meat and/ or poultry. Some food products may contain bacteria that could cause illness if the product is mishandled or cooked improperly. For your protection, follow these safe handling instructions.

Keep refrigerated or frozen.
Thaw in refrigerator or microwave.

Keep raw meat and poultry separate from other foods. Wash working surfaces (including cutting boards), utensils, and hands after touching raw meat or poultry.



Cook thoroughly.

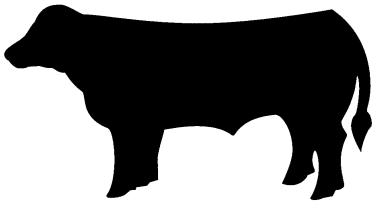


Keep hot foods hot. Refrigerate leftovers immediately or discard.

May be stored for 3 days in refrigerator.

* UPC Code

FROZEN GROUND
BEEF



U.S. INSPECTED AND PASSED BY DEPARTMENT OF AGRICULTURE

Donated by the people of the United States of America for domestic Food Assistance Programs
NOT TO BE SOLD OR EXCHANGED
NET WEIGHT—16 OUNCES (1 LB.)
(453 GRAMS)

USDA FOOD

Best if used by:

NOTE: Insert proper number in bottom of Inspection Legend on label.
*** UPC Code See Page 11 for <u>Universal Product Code Requirement for 1-pound package.</u>**

Safe Handling instructions must comply with FSIS Mandatory Safe Handling Statements on Labeling of Raw Meat and Poultry Products as stated in 9 CFR Part 317, Section 317.2, Paragraph *l*.

PER 9 CFR 317.4 & 317.5, PRIOR APPROVED LABELS NEED NOT BE RESUBMITTED, EXCEPT FOR CHANGES TO THE "NUTRITION FACTS" SERVING SIZE. CONTRACTORS THAT DO NOT HAVE APPROVED LABELS ON FILE MUST SUBMIT LABELS IN SKETCH FORM ONLY TO THE APPROPRIATE USDA, FSIS OR STATE AGENCY.

EXHIBIT C

CERTIFICATE OF CONFORMANCE

CERTIFICATE OF CONFORMANCE

I certify the following:

(1) On [shipping date], [subcontractor's name] furnished raw materials to [Contractor's name] for Contract Number/Purchase Order via [Carrier].

(2) The raw materials are of the quality specified and conforms in all respects with the requirements specified TDS-136.

(3) Product identification (i.e. lot number(s)) and quantities are shown on the attached document.

Date: _____

Signature: _____
(Signed by an officer or representative authorized by the company.)

Title: _____