

Agricultural Marketing Service (AMS), National Marine Fisheries Service (NMFS)  
and Food and Nutrition Service (FNS) Industry Guidelines for

Preparation of Quality Control Program for

Meat, Poultry, Seafood, and Non-meat CN Labeled Products

The Child Nutrition (CN) Labeling Program aids foodservice operators in determining the contribution commercial products make towards meal pattern requirements for the National School Lunch Program, School Breakfast Program, Summer Food Service Program, and the Child and Adult Care Food Program. A CN label on a product provides school food authorities with a guarantee that the product contributes to the meal pattern requirements as printed on the label. The purpose of this document is to provide industry with guidelines for preparing a Quality Control (QC) program for CN labeled products. The QC program is a document identifying procedures used by manufacturers to monitor and control the production of their CN products, to ensure products meet claims as stated in the CN logo. This document will not replace the manufacturer's responsibility to adhere to all other federal policies and safety regulations (e.g., FSIS- HACCP and FDA Standard of Identity, etc.).

All manufacturers who participate in the CN Labeling Program are required to have an approved QC program prior to production. The manufacturer is responsible for developing a QC program in accordance with the guidelines established by AMS, NMFS, and FNS. An acceptable QC program is one that establishes effective controls for each product produced following the guidelines in this document. If manufacturers need assistance with developing a program, AMS and NMFS representatives are available to assist with clarification of guidelines. However, it is the manufacturer's responsibility to write their QC program and ensure that CN labeled products are produced following procedures described in their approved QC program. CN labeled juice and juice drink products are not covered in this document as they are always produced under AMS regular in-plant inspection.

The QC program shall be submitted to an AMS supervisor or a NMFS Consumer Safety Officer (CSO) applicable to your commodity. The AMS supervisor or NMFS CSO will

review and comment on the QC program. The AMS/NFMS reviewer will verify that all CN labeled products listed in the QC programs are approved for production. Based on the AMS supervisor or NMFS CSO review, the manufacturer will be notified in writing of approval or the changes necessary for approval. After approval of the QC program the appropriate AMS supervisor or NMFS CSO will perform a review in accordance with that agency's inspection services, to assure CN products are being manufactured according to the QC program and FNS requirements. All Manufacturers are required to give seven days advance notice of CN production schedules to the appropriate AMS agency or NMFS.

At a minimum, the CN labeling QC program must include each of the following sections. If a section does not apply, indicate under the section why that section is not applicable.

**I. Cover Page**

The cover page must contain the following information:

- A) Name of company.
- B) Full address of the plant location where CN products are manufactured.
- C) Establishment number.
- D) Objective of the program.
- E) Record Retention – State how long data will be maintained  
Ex: QC records for CN labeled products must be retained for a minimum of one year.
- F) Commitment to make all records and information generated as a result of the program available to USDA and/or U.S. Department of Commerce's (USDC) officials.
- G) Signature of the establishment's official responsible for the program (e.g., President or Quality Control Manager).
- H) A statement that QC personnel have the authority to halt production and restrict shipment of product if standards established in this program are not met.

## II. Detailed Information Guidelines

### A) Products covered:

1. List the name(s), including any qualifying statements, of all the CN labeled products produced under this QC program. Include: CN identification number, FSIS approval number (if applicable) date label was approved, expiration date, and the product codes used by the plant.

Ex: Breakfast patties made with soy protein concentrate, codes 100A and 100B, CN# 0XXXXXX, FSIS # XXXXXXXX, approved by FNS in final 10/21/2007, expires 10/21/2012.

- a) When labels are approved or labels become obsolete, update the list to reflect the changes.
  - b) Each time the list is amended, a copy of the revised list shall be submitted to an AMS supervisor or a NMFS CSO for approval.
  - c) An AMS supervisor or a NMFS CSO shall notify AMS Headquarters when labels become obsolete before their expiration date. Obsolete labels will be removed from FNS/NMFS files and the CN identification numbers may not be reactivated.
2. Provide an estimated amount and frequency of production for each CN labeled product.

Ex: Breakfast patties made with soy protein concentrate – 20,000lbs/week.

3. Briefly describe the process and quality control points as applicable to your production. A flow chart of the process may be used to describe operations.

B) Calibration Checks:

All equipment used to test for product control such as, but not limited to, scales and meters, shall be checked for accuracy each day CN product is produced.

The program shall:

- a) Identify each piece of equipment that will be utilized for product control.
- b) Describe the method used for calibrating each piece of the testing equipment. Include a statement about traceability to a national standard.
- c) State the frequency of checks.
- d) Identify the corrective action taken when the testing/measuring device(s) are out of calibration.

C) Donated Commodities:

When donated commodities (such as, meat, poultry, cheese, tomato paste, etc.) are used, the QC program will include a section on the accountability of the donated commodities. If donated commodities are not used, the QC program should state that no donated commodities are used at this establishment.

D) Fat Control of the Meat Portion (i.e., ground beef, ground pork):

This section applies to ground meat ingredients having a specific percent fat as declared on the transmittal form and label matching a description in the *Food Buying Guide for Child Nutrition Programs* (FBG), Program Aid Number 1331, November 2001, updated in 2008, or the most current version available from FNS. This section does not apply to poultry, non-meat ingredients, or cuts/roasts/whole pieces of meat.

The QC program shall:

1. State that each batch or lot of ground meat used will be analyzed for fat content according to the fat standard declared on the approved transmittal form and label.

Ex: “Ground beef (not more than 20% fat)” is indicated on the transmittal form and label. The QC program will monitor the ground beef to ensure that the average percent of fat per batch does not exceed 20 percent.

2. Identify the method of analysis used. Whenever rapid methods of analysis are used, results will be verified monthly against an outside laboratory using an AOAC approved method, see **D.5**.
3. Describe how sampling is done, at what point the product is sampled, the sample size, and the frequency of sampling per batch or lot.
  - a) Meat must be analyzed for fat content prior to the addition of any other ingredients.

- b) For each single sub-lot sample, the fat may not exceed 1.6 percent variation over the fat standard. The standard is the amount as declared on the approved label transmittal form and label.

Ex: If the label claim is 24 percent fat, a single sample will not exceed 25.6 percent fat.

- c) The lot average of all samples pertaining to one batch or lot of ground meat may not exceed the fat standard as declared on the approved label transmittal form and label.

- 4. Describe the control processes in place to take corrective action when product exceeds the fat standard as stated on the label transmittal form and label.

- a) Product may be diverted into another product other than CN product.
- b) Adjust the fat content downwards by adding lean meat only. Once corrective action is taken, product will be retested for fat content to verify correction prior to the addition of any other ingredients.

- 5. State the name of the outside laboratory used for confirmation analysis. If in-house analytical results differ from official AOAC procedure results by more than 2 percent, the in-house analytical procedure will be re-evaluated and another companion sample will be taken and sent to the outside laboratory to confirm that the problem has been corrected. All results and actions taken shall be recorded.

- 6. Commodity ground meat.

This section only applies to commodity meat that arrives already ground. If ground meat is made from commodity meat that arrives in chunks, cuts, roasts, etc, all fat testing procedures under section **D.1** to **D.5.**, must be followed.

The testing of fat content for commodity ground meat depends on two factors, the tolerance for maximum fat content according to USDA commodity specifications and the percent fat declared on the transmittal form and label.

- a) When the transmittal form and label indicate the maximum tolerance for fat content allowed in the USDA commodity specification, the QC program may include all of the fat testing procedures in section **D.1** to **D.5.**, but must include at minimum verification following official AOAC procedures to confirm that the fat content of each batch of meat is not more than the maximum allowed by the specification. If the fat content of each batch is confirmed to be higher than the maximum amount, corrective action will be taken. If corrective action is needed, the company must ensure that the actions comply with rules and restrictions for processing commodity foods.

Ex: If the USDA commodity specification for ground beef allows a maximum fat tolerance of 18 percent fat (even though the target fat is lower) and the transmittal form and label declare ground beef not more than 18 percent fat, the QC program may include all of the fat testing procedures in section **D.1** to **D.5.**, but must include at minimum verification of each batch of meat following AOAC methods. If results from AOAC testing indicate that the fat content is higher than 18 percent fat, corrective action (following rules and restrictions for processing commodity foods) will be taken to ensure that the average fat content of the ground beef used is not more than 18 percent.

- b) When the transmittal form and label indicate the target fat content stated in the USDA commodity specification, the QC program must include all of the fat testing procedures under section **D.1** to **D.5**.

Ex: If the USDA commodity specification for ground beef has a target fat content of 15 percent fat (and allows a maximum fat tolerance of 18 percent fat) and the transmittal form and label declare ground beef not more than 15 percent fat, all of the fat testing procedures under section **D.1** to **D.5**., must be followed. If corrective action is needed, the company must ensure that the actions comply with rules and restrictions for processing commodity foods.

### **III. Formulation Control**

- A) As applicable to your product, include an example of a batch formulation.
  
- B) State that the formulation used for production will match the formula percentage or weight as presented on the approved transmittal form.
  
- C) State that the weight of each ingredient, except those mentioned in Section **III. D.**, will not vary more than 0.5 percent from the required weight designated in the formula.

Ex: If the formula calls for 40.0 pounds of mozzarella cheese, the allowable minimum amount for that formula is 39.8 pounds.



D) Mention that the weight of restricted ingredients, such as phosphates, nitrites, erythorbates, etc., will not differ from the approved formulation.

E) State that before formulation begins, all ingredients contributing towards CN label credit will be verified to match the description on the transmittal form exactly. Creditable ingredients are described in the *Food Buying Guide for Child Nutrition Programs* (FBG), Program Aid Number 1331, November 2001, updated in 2008, or the most current version available from FNS.

Ex: If the transmittal calls for “beef, fresh, chuck roast (without bone)” then “beef” is not an acceptable ingredient. If the transmittal calls for “ground pork (no more than 24% fat)” then “ground pork (no more than 25% fat)” is not acceptable. If the transmittal calls for “green beans, frozen, cut” then “canned green beans” are not acceptable. If the transmittal calls for “garbanzo beans, canned, drained” then “garbanzo beans, canned, with liquid” is not acceptable. In each example, only the ingredient matching the description on the approved transmittal form is acceptable.

F) State that no ingredient in the formulation may be substituted for another. The ingredient name and ingredient sub-listing (if applicable) must match the transmittal and label.

Ex: If the transmittal calls for “cheddar cheese (milk, enzymes, salt)” then “mozzarella cheese (milk, enzymes, salt)” is not acceptable. Only “cheddar cheese (milk, enzymes, salt)” is acceptable

G) All products must meet the applicable product regulations (e.g., FSIS or FDA Standard of Identity) and applicable FNS requirements.

Ex: Breaded products may not exceed 30 percent batter/breading of the finished batter/breaded weight prior to freezing, blanching, or cooking.

- H) State that whenever an FNS alternate food product (alternate protein product or enriched macaroni with fortified protein) is used, the alternate food product used must match the manufacturer's name, product name, code, and ingredient statement specified on the label transmittal form. No substitutions are allowed.

Ex: If the transmittal form calls for "unfortified, uncolored, soy protein concentrate, company ABC, code 123 – no substitutions allowed" then "soy protein concentrate, company XYZ, code 123" is not allowed. Only "unfortified, uncolored, soy protein concentrate, company ABC, code 123" may be used.

- I) State the following when source labeled CN products are used:

1. When processed products used in the formulation contribute to the meal pattern, are made by another manufacturer or made and stored at the same manufacturer (i.e., source product), the product must have a prior approved CN label. The product used must match the CN label and CN number specified on the label transmittal form. No substitutions are allowed.

Ex: A pizza formulation calls for 0.50 oz. of pepperoni (CN # 0XXXXX). The product used must be CN #0XXXXX. No substitutions may be made (without prior approval).

Ex: A CN labeled burrito filling formula calls for 1.20 oz of seasoned cooked chicken (CN# 0XXXXX). The seasoned cooked chicken is made at the same establishment, but will be stored in the freezer until the manufacturer is ready to make the filling. The seasoned cooked chicken used must be CN# 0XXXXX. No substitutions may be made either from this or another establishment (without prior approval).

J) State the following when multi-ingredient components are formulated in-house:

1. In-house made components may not be substituted for purchased products.
2. The formula weights of the ingredients of the in-house made component must meet the requirements in **III.C.**

Ex: A pizza formulation calls for 1.20 oz. of tomato sauce (water 50%, tomato paste 48%, and spices 2%). The transmittal form indicates that the establishment is making the sauce according to the formula provided. The ingredients of the tomato sauce formula must meet the requirements in **III. C.**, while the 1.20 oz. component weight must meet the requirements in **IV.A.** Purchased tomato sauce may not be used as a substitute.

K) For tomato paste, if a specified percentage of natural tomato soluble solids (NTSS) is declared on the label, and then state that the NTSS of the tomato paste used in the formulation must meet the minimum NTSS of the tomato paste concentration declared on the label. The following states the percent NTSS in the four recognized degrees of concentration.

-Light concentration	24 percent or more, but less than 28 percent NTSS.
-Medium concentration	28 percent or more, but less than 32 percent NTSS.
-Heavy concentration	32 percent or more, but less than 39.3 percent NTSS.
-Extra heavy concentration	39.3 percent NTSS or more.

L) Indicate that QC will verify compliance with formulas. In addition, the QC program should mention the number of ingredients that will be checked and how often a QC person will check the weights of these ingredients. The QC program will also mention that the formulation will be checked on a random basis to assure that each ingredient has an equal chance of being selected.

1. Any check revealing an incorrect weight will require:
  - a) An evaluation of the problem with appropriate corrective measures.
  - b) Checking every ingredient of each batch until five consecutive batches are in compliance.
  
2. Mention that whenever a formulation error is found in excess of the tolerance the following will be done:
  - a) Immediate corrective and preventive action will be taken for the remaining product run.
  - b) The formulated product will be corrected immediately.

- c) If correction is not possible for the formulated product, that batch will be used in other than CN product.

#### **IV. Component Weight Control**

This section applies to individual portioned items.

A) The raw weights and cooked weights (if product is cooked) must be monitored according to sections **V.** and **VI.** This applies to products such as: unbreaded patties, links, unbreaded nuggets, and many others.

1. Raw Weights - The raw weight is checked on all portions and/or components, whether the finished product is raw or cooked.
  
2. Cooked Weights - Cooked weights are checked and compared with the portion size stated on the transmittal and on the CN label statement. Weights are also checked for precooked components of products against information on the label transmittal.

Ex: A grilled chicken patty would be specified as follows:

Raw weight 2.35 oz/patty; cooked weight 2.25 oz/patty

The QC program will monitor the raw weight per patty and the finished cooked patty weight identified on the transmittal form each according to the lot, subgroup size, frequency, and weight tolerances established in sections **V.** and **VI.**

B) Fill specifications per portion are required for products that consist of two or more components such as pizzas, burritos, eggrolls, corndogs, breaded or glazed patties, and many others. The weight controls apply to each component weight in addition to the finished weight and must be monitored according to sections **V.** and **VI.**

Ex: A pizza would be specified as followed:

<u>Component</u>	<u>Weight (oz)</u>
Crust (bread alternate component)	1.90
Cheese (meat alternate component)	1.22
Cooked Meat Topping – CN # 000000 (meat/meat alternate component)	1.20
Tomato Sauce (vegetable component)	1.18
Total	5.50 oz. portion

Each component weight and the finished weight will be monitored according to the lot, subgroup size, frequency, and weight tolerances established in sections **V.** and **VI.**

**V. Lotting**

A) The QC program shall address:

1. Lot Definition – A lot shall be defined for each CN ID number separately. Combining CN numbers within one lot is not acceptable. A lot may be defined as one shift's production of product.
2. Identification - Lots and sub lots of product are fully identified throughout the process and the QC program should include a description of how this is done.

**VI. Subgroup Size (weighing)**

A) The QC program shall state the subgroup size and the frequency that samples will be verified. The subgroup sample size should be a minimum of 5 or 10 servings as stated in the CN logo. Samples are generally pulled every 30 minutes. However, the sample size and frequency should be based on rate of plant production.

B) The QC program shall state the subgroup tolerance weight range. The total weight of any single subgroup of five may vary a maximum of plus or minus 0.25 ounce. The total weight of any single subgroup of ten servings may vary no more than plus or minus 0.18 ounce.

Ex: A label states that a serving is four 0.6 oz chicken nuggets. Therefore, a subgroup of five servings would total 20 nuggets weighing 12.0 oz. This subgroup will have a tolerance weight range of 11.75 oz to 12.25 oz.

- C) Indicate that the average of all subgroups taken from one shift of production (one production lot) must meet or exceed the label and label transmittal requirement. Also indicate that this applies to raw, cooked, and breaded products, and that each CN product will have its own shift average since combining products is not allowed.
  
- D) State that when a subgroup weight falls above or below the predetermined weight tolerance, all product produced since the last acceptable check will be retained and diverted as non-CN labeled product.
  
- E) Mention that whenever the shift average (average of all subgroups) of any product fails to meet the required minimum weight, the entire shift's production of that product will be diverted as non-CN labeled product or held pending negotiation for acceptance by FNS according to **VI.F.** (see below).
  
- F) Indicate that whenever the cooked weight of any product fails the weight shown on the approved label transmittal form, but the raw weight is acceptable, FNS will be contacted for negotiation. This negotiation will be used only in an emergency situation, and review will be based on available staff priorities.
  
- G) For items that have special regulatory requirements; such as breaded items, fritters, PFF products, meats with marinade or solutions, etc.; include how these requirements will be monitored in the QC program.

Ex: Breaded products are limited to 30 percent batter/breading of the finished batter/breaded weight prior to blanching, freezing, or cooking. The QC program would specify that if the subgroup average of the



breaded product exceeds the regulatory limit by more than three percent per unit, all products back to the last acceptable check will be retained. If the regulatory limit is 30 percent, the program would call for the retention of any product that exceeds 33 percent breading. In addition, the QC program would state that if the shift's average of all subgroups exceeds the regulatory limit of 30 percent, the entire shift's production of that product will be retained and reworked or relabeled as appropriate

## **VII. Maximum Cooking Yield (Bulk Products)**

The maximum cooking yield applies to bulk products, (which are not preportioned into individual raw portions) such as burrito fillings, pizza topping, egg roll fillings, marinated meat pieces of random weights, or any other product that is cooked in a batch. This maximum cooking yield is critical to the crediting of meat and meat alternates in the CN statement.

- A) The maximum cooking yield must be clearly stated on the label transmittal and it should be closely controlled.
- B) The verification of a maximum cook yield should be based on a minimum of five batches of product.
- C) The QC program should identify and describe the method used to determine the maximum cooking yield.
  - 1. The maximum cooking yield is the percentage of finished (cooked) weight compared to raw weight. Only weight loss due to cooking may be used to calculate a maximum cook yield – the weight due to production losses (such as product falling on the floor or stuck in the machine) must be added (on paper) to the weight of the cooked batch or subtracted (on paper) from the raw batch weight when calculating the cooking yield.

2. For crumbles, in addition to the method used to determine the maximum cooking yield, the QC program should describe the procedure used to make the crumbles. This description should coincide with the procedure mentioned on the label transmittal form.

D) Include an example of how the maximum cooked weight is determined.

Ex: 94 lbs. cooked filling = 94% Maximum Cook Yield  
100 lbs. raw filling

- E) State the action taken whenever the maximum cooking yield (as stated on the label transmittal) is exceeded. The actual cooking yield may be less than what is stated on the label application form, however, it may not exceed the stated cooking yield. The QC program should also mention that if this cooking yield cannot be made lower than the declared maximum cooking yield, the product will not bear the CN statement.

Ex: The stated yield on the label application for burrito filling is 85 percent. An actual yield of 83 percent is acceptable, but a yield of 85.4 percent is not acceptable.

### **VIII. Non-Conforming Product (Retained and Reworked Control)**

- A) The QC program shall state when and how product is retained due to short weights or an error in formulation.

Ex: All retained products are tagged with a company tag and placed in the area designated for retained product. The AMS supervisor or NMFS CSO is notified.

- B) CN product produced incorrectly, i.e. the ingredients used do not match the formula or ingredients statement of the approved CN label, must be diverted as non-CN labeled product. FNS will not grant temporary approval for such QC failures.
  
- C) The QC program should state the maximum percentage of rework to be added to a new product. A maximum rate of 2 percent of the product formulation (same CN number) may be reworked into the same type of product provided it is not a breaded product or there are no formulation errors.
  
- D) If breaded product, or any other multi-component product, is to be reworked into a CN labeled product, the CN label application must include the percent of breaded rework as a separate ingredient in the approved patty formulation without breading. A maximum rate of 2 percent of breading or multi-component product may be reworked. Only like product (same CN number or same formulation) may be used. The amount of breaded rework may not provide credit towards meal pattern requirements.

Ex: Breaded like beef patties (having the same CN number or ingredients statement) may be reworked into the patty mix (prior to breading) only if the amount of breaded rework is approved as a separate ingredient of the CN patty formula before it is breaded.

**IX. Label Control**

A) The QC program shall:

1. List on a separate page the name of every CN labeled product produced (see section **II.A.1**).
2. State that CN product will only be produced after valid final or temporary approval is granted. CN products may not be produced with rejected, drafted, or expired labels.
3. Mention that whenever any new label is added or any existing label is discontinued the program will be amended to reflect the change (see section **II.A.1**).
4. State that failure to amend the program for incorporation of new labels will preclude the production of products designated on such labels.
5. State that whenever the specifications for new products are not addressed in the program, the company will submit a letter requesting to amend the program with the new controls and the approved label application form and attached label.
6. State the title of the person responsible for:
  - a) Keeping labels and formulas updated;

- b) Verifying that the formulas used match those shown on the label application form; and
- c) Purging the files of any obsolete labels or formulas.

7. State the title of the person responsible for:

- a) Diverting product; and
- b) Notifying the AMS supervisor or NMFS CSO prior to the relabeling of product.

**X. Monitoring Procedure**

A) For procedures such as, calibration checks; fat control; formulation control; component weight control and subgroup size include the following information:

1. Who (by title) is doing the procedure?
2. What is the sampling rate (how many and how often)?
3. What are the step-by-step procedures that are to be used?
4. How and where the results are to be recorded?

5. What to do if the product does not meet set target?

**XI. Record Keeping Procedure**

- A) Identify person responsible for keeping QC records.
  
- B) All information and data generated by this program should be clearly and accurately recorded. A sample of copies of all forms, tags, and charts used must be included as part of the program.

Ex: Scale Calibration Form

Component (s) Weight Form

Formulation Control Form

Rework Form

Hold Tag

- C) All records should be stored in a convenient place and available to AMS/NMFS Supervisor upon request.

**XII. General Information**

- A) For program updates, labeling information, and contact information, visit the FNS website at <http://www.fns.usda.gov/cnd/CNlabeling/>
- B) The CN QC program or amendments to an existing CN program are submitted to the AMS supervisor or NMFS CSO upon request. Final approved label application forms and the approved labels must be part of the materials submitted to the AMS supervisor or NMFS CSO. The AMS supervisor or NMFS CSO will review and forward all these materials to the Regional office through the appropriate channels.