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Specialty Crops Program

Specialty Crops Inspection Division

AIM Inspection Series

Quality Assurance Program (QAP) Manual

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Quality Assurance Program Manual
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INTRODUCTION

This document is designed to give guidance to personnel of the United States Department of Agriculture (USDA), Agricultural Marketing Service (AMS), Specialty Crops Inspection (SCI) Division in the implementation of the Quality Assurance Program.

Compliance with the AMS guidelines does not excuse failure to comply with the Food, Drug, and Cosmetic Act or any other applicable Federal or State laws or regulations. The SCI Division is responsible for grading/inspection, audit, and standardization programs for fresh and/or processed fruits and vegetables and related products. The Agricultural Marketing Acts of 1936 and 1946, as amended, provide legal authority for the Division's grading, auditing, and standardization activities.

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GENERAL

The SCI Division's Quality Assurance Program (QAP) helps processing plants develop and implement complete or partial quality control (QC) programs that facilitate the consistent production of safe, wholesome, and uniformly high quality processed products to enhance their marketability and acceptance by consumers.

The Quality Assurance Program is a voluntary program that is based on the ongoing evaluation of the adequacy and effectiveness of a contracting plant's QC program. Under the QAP, SCI verifies and audits the plant's QC program and, as necessary, corrective measures. The program provides assurance that the plant's QC program is reliable**,** effective**,** and capable of producing a sound and wholesome product of the desired quality level under sanitary conditions.

SCI relies on the inspection results of approved QC programs, so plants may be able to reduce direct USDA inspection services in proportion to the QC efficacy achieved by the processing plant.

In the initial stages of the program, there is an evaluation period during which SCI personnel determine the reliability of the plant's QC program. During this evaluation period, certification will be available on lots verified by SCI personnel. Once a plant meets the plant survey requirements of the Regulations Governing Inspection and Certification of Processed Fruits and Vegetables and Related Products found in the Code of Federal Regulations (CFR), 7 CFR 52.81 (http://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR), SCI inspectors will be assigned to processing facilities under year-round, in-plant contracts to verify that the processors' QC programs comply with the QAP.

Plants using the QAP assign quality levels to all lots produced, and record and evaluate all other procedures used within the specified plant using SCI in-plant inspection procedures, sampling plans, instructions, and acceptance and rejection criteria. Plants also may use designated grade marks and the "OFFICIALLY SAMPLED" stamp under QAP.

DEFINITIONS

Quality Control (QC) - The process of establishing, securing, and maintaining a level of quality of a product that is satisfactory, adequate, dependable, and economical. The overall system involves integrating the quality aspects of several related steps, including the proper specification of what is wanted, production to meet the full intent of the specification, and inspection to determine whether the resulting product or service is in accordance with the specification.

Quality Assurance Program (QAP) - A program that provides assurance that the overall QC function is being performed properly and is effective. This involves an ongoing evaluation of the adequacy and effectiveness of the overall QC program and, as necessary, corrective measures initiated. The program includes verifications, audits, and evaluation of all factors that affect the specification, production, inspection, and use of the product or service.

Deviations - Differences in inspection results between QC and QAP evaluations for the same lot, process, or procedure. (See Deviation Classification)

GUIDELINES FOR DEVELOPING A QAP PROGRAM

Elements of the QAP

A QAP program must include the following elements:

A. Effectively established controls.

B. Objective evidence showing that the controls are reliable and effective, including a written program.

C. A QAP manual that contains procedures, quality levels, sanitation requirements, areas of responsibility, and the designation of responsible individuals. SCI instructions, procedures, and quality levels may be used as part of the program. SCI will help set up guidelines for the plant's QAP manual.

   Guidance for QAP manual development is contained in Appendix I.

D. Procedures for detecting production which does not meet acceptable levels in the appropriate standards and specifications.

For QAP to be effective, the QC organization must operate independently and objectively. It should not be subject to pressure by plant management or other company personnel to make determinations based on the impact (economic or otherwise) to the company.

Summary of Responsibilities

Contracting party's responsibilities after official approval of QC program:

A. Assign key individual (contact person) for each shift who will be responsible for carrying out the plant's responsibilities under QAP.

B. Train and supervise all plant personnel assigned to make quality, wholesomeness, and other evaluations.

C. Evaluate all lots for acceptance or rejection of quality, wholesomeness, or other factors in accordance with SCI criteria, or criteria providing equivalent results and assurance. SCI notification is required on all lots exceeding wholesomeness guidelines due to the different tolerances, guides and other limiting factors listed and established in the AIM Inspection Series, Foreign Material Manual.

D. Assign individual(s) to evaluate and record sanitation in accordance with SCI instructions.

E. Perform all inspection duties in accordance with SCI procedures, or use approved written procedures that will give equivalent results.

F. Maintain records of inspection and make them available to SCI inspector(s) for verification or review.

G. Provide personnel to assist in SCI verification determination, case stamping, checkloading, condition of food container examinations, certification, or other inspection procedures.

SCI Responsibilities after Official Approval of QC Program:

A. Assign one or more SCI inspectors to the plant on a resident basis.

B. Provide certification forms and certify all products produced under QAP.

C. Review inspection records, verify results, and provide management with verification results.

D. Monitor sanitation program, and provide suggestions for improvement to management.

E. Continually evaluate the plant for compliance with Food and Drug "Good Manufacturing Practice Regulations" and conduct annual USDA Plant Surveys.

F. Provide interpretation of SCI regulations and procedures.

G. Provide interpretation of the U.S. Standards for Grades, and on-site evaluation of proposed standard changes.

H. Provide interpretation of requirements contained in specifications, such as State purchases, USDA-purchased commodities, and private buyer specifications.

I. Provide processor with all necessary SCI instructions and regulations.

J. Complete an annual review of the facility Quality Assurance Program manual and Verification Work Plan. (Located in Appendix III, and Appendix IV respectively)

K. Provide formal training during the off-season for QC plant personnel as requested through the area Officer-in-Charge (OIC).

L. Follow SCI Division Employee Rotation Policy (intranet link).

M. Assigned SCI inspector(s) will complete and submit Appendix IX Anticipated Work Schedule or equivalent to responsible area office.

USDA Documents Available for Use under QAP

A. U.S. standards and grading instructions for applicable products.

B. Fill weight procedures for those products where fill weights have been established.

C. Rules and regulations for on-line sampling rate for quality evaluations and verification.

D. SCI technical procedures and instructions for determination of applicable commodity verification factors such as Brix, Drained Weight, Count, etc.

E. Micro-Analytical methods, analytical methods, and acceptability criteria for applicable products such as light filth, heavy filth, and mold determinations.

F. Technical Inspection Procedures for Foreign Material (AIM Inspection Series, Foreign Material Manual), including the FDA Defect Levels Handbook

Implementation of the QAP

There are many decisions that must be made by the processor to accomplish the implementation of QAP.

- What type of responsibilities is the facility able to perform?
- Which of these responsibilities is the facility fully capable of assuming?
- What functions would the facility prefer to postpone until personnel gain more training and/or experience?

It is up to the processor to determine the appropriate timeline necessary to implement the QAP, and demonstrate that it can assume the responsibilities. SCI role is to evaluate the

implementation and performance of the program. See the Stages of Implementation Table contained in this manual for further details.

To assure that the submitted QC program is adequate in all respects, and performance of the system is consistently reliable, it is SCI responsibility to perform verification inspections by examination or testing or both.

Assessment Criteria

SCI will:

A. Evaluate the QC program manual submitted by the contracting party for completeness, appropriateness, and clarity. The program must include written procedures detailing the corrective actions that will be implemented on program deviations.

B. Conduct a Plant Survey.

C. Through on-site evaluations, verify the performance of the sanitation program of the plant. Sanitation affects the wholesomeness of products being produced.

D. Through on-site evaluations, verify the performance of QC personnel in carrying out their duties.

E. Select and sample certain lots of production for verification. Test such lots for compliance with appropriate documents as specified in the QC program and/or QA procedures.

F. Develop verification procedures applicable to contracting plant.

Temporary Approval

Upon completion of the evaluations and Plant Survey, SCI will consider the QC program for approval on an interim basis. The QC program will continue to be monitored to provide a thorough evaluation, including working with variables that might affect consistent reliability. The Pack Certification - Quality Assurance Contract may be signed if the processor understands and agrees that inspection and certification is based on this “temporary approval” section.

To establish reliability of the contracting party’s QC program, SCI will use recognized methods to determine if there are significant differences between QC results furnished by the contracting party, and the results of SCI verification inspection on the same lot(s). The amount of verification inspection performed by SCI may equal the amount of inspection performed by the contracting party.

Official Approval

Official approval will be granted when the following documents and data are submitted for evaluation and approved:

A. SCI Plant Survey;

B. Processors QAP Manual (guide for the creation of a QAP Manual is located in Appendix I, and an example of an acceptable QAP Manual is located in Appendix II);

C. USDA verification plan for Groups I, II, III, and optional group IV; and

D. USDA verification records and plant QC records for:

1. Ten (10) Group I verifications indicating reliable status. These verifications are to include each product produced during "temporary approval" with a representative sampling of each production shift's reliability;

2. Seven (7) consecutive days of verifications for Group II sanitation with no unsatisfactory verifications. These verifications must indicate that each production shift is reliable; and

3. Seven (7) Group III on-site verifications. Each production shift must be represented.

All of the above records must validate that responsible plant personnel fully understand and are proficient at performing assigned task under the QAP. Appropriate personnel must also be capable of providing proper written responses to deviations noted on Form SC-148.

Through submission and approval of this material, SCI will determine that the contracting party's QC program is capable of producing consistent, reliable results. The processor will be notified in writing of the approval of their QC program. Subsequently, the level of activity of SCI inspection personnel will be reduced as agreed upon by USDA and plant management.

Program Verification Groups

In order to provide assurance that a QC program is functioning properly, SCI will perform verification testing upon all phases of plant responsibility. Actual verification procedures are determined to some degree by a plant's operating characteristics.

The types of verification that may be performed are:

Group I All quality, non-quality, analyses, or any verification which can be performed on randomly selected sample units of predetermined sample size on the finished product.

Group II All sanitation verifications.

Group III All on-site verification (except sanitation) for procedures or techniques. SCI inspectors will perform these verifications in the processing facility during production.

Group IV USDA procedures assumed under a complete QC program, such as case stamping, checkloading, certificate preparation, up-to-date inspection, condition of food container, and other similar types of USDA procedures.

QA Verification Sampling

Product Verification - For use with Group I Verification

The processor's QC program is subject to Group I verification on a daily basis by the random selection and sampling of product(s). SCI will determine the number and frequency of verifications according to these instructions. The number of verifications will be at least the minimum necessary to assure continued reliability of the processor's QC program.

The reliability and similarity of products will be a factor in determining frequency and rate. Products which are similar in appearance and scoring factors may be considered one product for determining product rate.

Product Rate

Samples will be drawn from all product groups packed with random selection made for the lot(s) to be verified, provided that once a product is verified and considered reliable, it may be removed from the random selection until all other products are verified, except in those instances where Group 3 (on-site) verification indicates non-compliance with program responsibilities.

Minimum Number of Verification Lots per Number of Product Groups Packed

Number of Product Groups Packed[1]	Minimum Number of Lots to Verify
1	1
2 to 4	2
5 to 7	3
8 or more	4

Sampling Rates - Lot Procedures

The applicable standard sample unit size will apply to these product grade verifications. Determine all sampling rates from Table XI through XIV (part 52.38c) of 7 CFR 52 in the Regulations, which may be found at the following internet address: http://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR. These lot

[1] The USDA inspector can apply this table when only one product (i.e., different styles, can size, etc.) is being packed.

sampling rates will result in either 6 or 13 sample units, 13 samples being the maximum. However, when products under attributes standards are verified, the sampling rate for large (institutional) size containers may be reduced to 3, as outlined in the AIM Inspection Series, Sampling Manual.

The number of sample units used for a particular verification factor may be increased or reduced depending on the testing procedure and objectivity involved in the verification. See Verification Work Plan Section - Group I Sampling Rate Summary.

Selection of Lots for Verification of Each Product

A. Random selection of lots; or

B. Random selection of lots using the volume types below:

TYPE 1 - lots requiring a sample size of three (3) sample units for inspection. Refer to Sampling rates - Lot procedures;

TYPE 2 - lots requiring a sample size of six (6) sample units for inspection; and

TYPE 3 - lots requiring a sample size of 13 or more sample units for inspection.

For those products being verified, select the lots from the various volume types described above. Consider the time needed to complete the verification in addition to daily inspection responsibilities, and prioritize accordingly. Product rates and lot verification procedures are only minimum criteria. Additional verifications can be performed if verification results indicate the need, the processor requests additional verification data, or at the discretion of the supervisor.

Group Verification Procedures

Group I - Sample Units of Finished Product

A. Procedure

A verification inspection consists of a review of the finished product sample units and all associated plant QC records covering the item selected for verification. Each numbered factor is considered a verification. Only one deviation will be counted in a factor when applying Acceptance Numbers, see Group I Deviations Verification Acceptance table. Once a product is selected for verification, a complete examination is made for all factors which can be determined on the finished product. Factors of verification for which reliability cannot be estimated will be based on Group III verification procedures. The deviations noted between SCI verification and plant generated results will be the primary basis for determining continued reliability of a processor's QC program. Procedure for determining significant deviations is located in Appendix VI. Consideration will be given to the type of deviation**,** the severity**,** and their frequency, in making decisions on the processor's continued reliability.

B. Factors and rate

Below is a table of the types of factors which can be determined on a finished product selected for verification. The rate at which the factors should be examined is also included.

Factors	Verification Sampling Rate
QUALITY:	
Lot Evaluation	All Sample Units
Grade Factor or Classification Evaluation (including flavor/odor)	All Sample Units
NON-QUALITY:	
Style Determination	All Sample Units
Net Weight - Volume	All Sample Units
Vacuum	All Sample Units
Headspace	Sample Units with Low Net Weights
Drained Weight - Fill Weight	All Sample Units
Sample Unit Count	All Sample Units
Brix	All Sample Units - One lot per day
Solids	Two Sample Units
Proportions	One Sample Unit
Condition of Container (Codes)	All Sample Units
ANALYSES:	
Enzyme Inactivation	One Sample Unit or Determination per Verification Lot
Mold Determination	One Sample Unit or Determination per Verification Lot
Light Filth	One Determination per Week
Heavy Filth	One Determination per Week
OTHER ANALYSES:	
Foreign Material (Visual)	All Sample Units

C. Deviation classification

Deviations are classified into two categories: Minor and Major.

Deviation	MINOR	MAJOR
QUALITY:		
QC evaluation one or more quality level(s) above verification.		**X**
QC evaluation one or more quality level(s) below verification.[2]	**X**	
QC evaluation for individual factors or classification for grade deviate from verification sample units.	**X**	
Inaccurate record keeping.	**X**	
NON-QUALITY:		
Verification(s) indicate QC evaluation or records inaccurate as to meeting requirements or specifications.		**X**
Verification(s) deviate somewhat from evaluation, but not to the point of incorrect lot assessment.	**X**	
Verification(s) indicate significant deviation from QC evaluations for measurable factors. (Averages only)[3]		**X**
Verifications of QC records show incorrect procedure.	**X**	
Inaccurate record keeping.	**X**	
ANALYSES:		
Verification(s) of QC records show incorrect procedure.	**X**	
Verification results indicate incorrect assessment of acceptability or disposition of lots.		**X**
Inaccurate record keeping.	**X**	

D. Unreliable status

The QC program for Group I verifications will be considered "unreliable" when any one of the following occurs:

1. No corrective action is initiated on program deviations.

2. Deviations occur in the same factor, for the same product grouping, for three (3) consecutive verification evaluations.

[2] This criteria does not apply to products that meet QC's designated grade (attribute standards).
Example: QC designates (or targets) the grade at "B" using the appropriate CuSum T&L values, and the SCI inspector determines the lot to be grade "A" using lot inspection procedures.
[3] Significant deviations are defined as, "USDA/Plant results do not agree."

3. Minor deviations exceed acceptance number(s) contained in Group I Deviations Verification Acceptance table during three (3) out of five (5) consecutive verification evaluations.

4. Major deviations exceed acceptance number(s) contained in Group I Deviations Verification Acceptance table during two (2) out of five (5) consecutive verification evaluations.

E. Procedures during "Unreliable" status

Certification will no longer be based on contractor results. Certification will be available for those lots verified or inspected by SCI inspection personnel. Reliability will be re-established when SCI considers that corrective measures initiated by plant management will prevent reoccurrence of similar deviations.

Group II - Sanitation Verification

A. Procedures

During the temporary approval period, a processor's sanitation program, capabilities and reliability have been established. A plant that has gained official approval will be under a verification procedure, which may consist of:

1. Daily on-site verification of entire plant; or

2. Daily on-site verification of specific areas or zones, as outlined in the Verification Work Plan, such as:

   a. Premises - receiving, dumping, garbage, and waste areas;

   b. Preparation and processing areas;

   c. Warehouse and shop areas, restrooms, lunchroom, and freezer facilities;

   d. Personal hygiene; and

3. At minimum, a weekly sanitation verification will be conducted on those shifts not covered by a daily SCI on-site verification.

   The combination of methods which the SCI inspector may use will depend on the size and complexity of a plant's operation. SCI verification inspection procedures are typically elevated during the initial period after the plant is approved to implement QAP. If the program continues to be reliable, the level of verification may be reduced, at the discretion of the inspector, while still maintaining a level sufficient to confirm continued effective performance of program responsibilities.

B. Unsatisfactory sanitation program

Verifications performed by the SCI inspector will be classified either satisfactory or unsatisfactory. The processor's sanitation program will be considered "unsatisfactory" when verifications indicate any one of the following occurs:

1. In a seven day period, a second occurrence of the same repeated "minor" sanitation deficiency that is not reported or is inaccurately reported on plant records; or in a thirty day period, the occurrence of a second different "minor" sanitation deficiency that is not reported or is inaccurately reported on plant records. In both instances, the verification with the first occurrence would be assessed as "satisfactory". The "unsatisfactory" would be assessed to the verification report covering the time period of the second occurrence.

2. "Major" sanitation deficiencies not reported on plant records (incomplete inspection).

3. "Major" sanitation deficiencies inaccurately reported on plant records.

4. "Minor" and/or "major" sanitation deficiencies reported on plant records, but records do not indicate the results of follow up inspection.

5. "Critical" sanitation deficiencies.

C. Action on "Unsatisfactory" sanitation program verification

The following action will be taken when a processor's sanitation program verification is found to be "Unsatisfactory":

1. Review of deviation(s) by SCI inspector with plant management and notification of SCI field office.

2. Written report by plant management to SCI inspector as to the corrective action implemented to prevent reoccurrence of a sanitation program deviation, and if applicable, placing a "Hold" on all products which are affected by critical sanitation deviations.

   If a plant's QC has accurately reported sanitation deficiencies and has found sanitation "Unsatisfactory," the SCI inspector will follow the guidelines as outlined in the AIM Inspection Series, Sanitation and Safety Manual.

D. "Unreliable" sanitation program

The number of verifications indicating an "unsatisfactory" program will be limited. A processor's QC program for sanitation under the QAP will be "unreliable" when:

1. Two verifications performed by a SCI inspector are "unsatisfactory" within seven production days; or

2. Three successive days or three days within seven production days of "unsatisfactory" sanitation reports as reported by the QC system within the plant.

E. Procedures during "Unreliable" period

When the contractor's verification is unreliable, the contractor will not be permitted to remain on a verification procedure for sanitation. SCI will increase the number of sanitation inspections, and may increase personnel if necessary during the unreliable period. If manpower limitations do not permit increased staffing, the QA procedures will apply only to those shifts where sanitation is satisfactory, as determined by on-site procedures.

During this period of unreliable status, all SCI and plant records pertaining to sanitation are to be sent to the Regional Branch Chief (RBC), the area office, and the National office on a daily basis.

On-site inspection and the results of corrective action initiated by plant management will be the determining factors in regaining reliability. With concurrence of the OIC, the QAP inspector will determine when reliability may be re-established. A written confirmation of this should then be sent to the RBC, with a copy sent to the National office.

Group III - On-site Verifications except Sanitation

A. Procedures

On-site verifications performed by SCI inspectors are used by the QC department to make program adjustments. Deviations will be recorded and discussed with designated plant officials. These verifications are performed during the production of an item and should cover all QAP program operations. A verification of the performance of each factor or task completed under the QAP will be performed at a frequency as determined applicable by responsible field office supervision.

B. Verification types - deviation types

QUALITY Grade Factor Evaluation	**MINOR DEVIATIONS** Inaccurate scoring/recording Improper Technique Procedural Errors Improper interpretation of instructional material and record-keeping **or** Any other type of deviation in which the USDA inspector finds significant differences between his/her observations and plant generated results.
NON-QUALITY Style Determination Net Weight - Volume Vacuum Headspace Drained Weight – Fill Weight Sample Unit Count Brix Solids Proportions Fruit-Sugar Ratio Condition of Container Sampling (verification samples) Other Analyses as appropriate	
ANALYSES Enzyme Inactivation Mold Determination Light Filth Heavy Filth Foreign Material (visual) Other Analyses	

C. Action on “Minor” deviations

SCI inspector(s) will report and review deviations with designated plant officials. In the event that:

1. No corrective action is initiated on deviations, and/or

2. Two successive deviations of the same type, assignable to the same cause occur; the following action should be taken:

   SCI inspector(s) will increase Group I type verifications to determine the extent of the specific deviation(s). Factors for which reliability cannot be maintained on the finished product must be verified through on-site procedures.

D. Group IV - USDA procedures - verification

1. Implementation procedures

Group IV procedures are optional under this program. They must have official approval prior to implementation of verification procedures. During this period of evaluation, SCI will assist in the training and supervision of designated plant personnel performing the procedure.

Reliability can be established through a sufficient number of verification evaluations to assure that the processor has the ability to perform the USDA procedure effectively and accurately.

2. Considerations

Under a complete QAP, USDA procedures may be assumed by the processor. The plant size, personnel available, and desires of the plant to assume these functions will be the determining factors in granting approval. SCI ability to continue full responsibilities for these procedures will be affected by the minimum staffing possible under the QAP. Amount of Groups I, II, and III verifications during processing, and length of the processing season are prime considerations in determining if SCI can continue minimum staffing and carry out USDA procedures.

3. Types

a. Case stamping

b. Checkloading

c. Condition of food container

d. DSCP Inspection

e. Certification (preparing certificates)

f. Up-to-date inspection

g. Re-inspection

4. Verification rate

Verification rates can be developed for each type of assumed USDA procedure. The rate itself may depend on the processor’s capability and reliability. The verification rate may be reduced to one fourth of the lots produced, or to a skip lot rate specified for a particular type of procedure.

E. Deviations

All deviations are considered “major.” Major deviations affecting the acceptability of a lot will cause the processor’s evaluation to be “unreliable.”

F. Unreliable status

Verification(s) with deviations (major) which affect acceptability of lot, item, or procedures result in unreliable status.

G. Action during “Unreliable” period

SCI will not resume responsibility for procedure, but may perform verification testing on all lots produced. If this is necessary, SCI may elect to increase inspection personnel so that an accurate evaluation is determined on the acceptability of all lots, or until reliable status is established.

Action by Contractor on QA Verification Report, SC-148

Contractors will report corrective action for deviations from the QAP on the QA Verification Report. This report will be submitted to the SCI inspector for review following the contractor's review of the SCI deviation report.

A. Designated plant official will review the QA Verification Report of deviations issued by SCI inspector.

B. Designated plant official will determine cause of deviation and initiate corrective action necessary to prevent any reoccurrence of the deviation. The designated plant official will record the corrective action(s) on the QA Verification Report and return it to the SCI inspector for review. See the QA Verification report, SC-148.

C. The SCI inspector will be responsible for accepting or rejecting the plant’s response to each deviation. Acceptance of the response will be indicated by the inspector’s signature and date next to the signature and date of the plant official, for each deviation.

GROUP I DEVIATION VERIFICATION ACCEPTANCE TABLE

VERIFICATION ACCEPTANCE PLAN FOR GROUP I DEVIATIONS (Per Verification Lot)[4]	
MINOR	
NUMBER OF VERIFICATIONS	**ACCEPTANCE NUMBER**
1 - 2	**1**
3 - 4	**2**
5 - 7	**3**
8 - 10	**4**
11 - 14	**5**
15 - 17	**6**
MAJOR	
NUMBER OF VERIFICATIONS	**ACCEPTANCE NUMBER**
1 - 7	**1**
8 - 16	**2**

[4] Do not total verification factors when more than one lot is verified in a single day.

STAGES OF IMPLEMENTATION TABLE

STAGES OF IMPLEMENTATION
Stage 1: 1. Plant develops a QAP Manual with SCI inspector's assistance. 2. Plant assigns key individuals (contact persons) for each shift who will be responsible for carrying out plant's responsibility under the QAP. 3. Plant assigns personnel to perform quality, non-quality, and other QC procedures. 4. Plant assigns personnel on all shifts to perform sanitation inspections and monitor procedures. 5. SCI provides inspection personnel necessary to carry out complete inspection procedures. 6. SCI trains key plant personnel in all phases of work which the plant will assume under this program. 7. SCI inspector develops the USDA Verification Work Plan.
Stage 2: 1. Plant QC personnel, trained by SCI, assume responsibility for: a. On-line and finished product examination. b. Sanitation inspection and monitoring on all shifts. c. Supervision and training of personnel doing quality, non-quality and other evaluations. d. Evaluation of all lots for acceptance or rejection of quality, non-quality or other factors in accordance with SCI criteria, and maintain records of inspection and all other documents. e. Maintaining all records of inspection, including all supporting documents. 2. SCI retains responsibility for technical supervision of grading personnel and quality level determination, but with increased participation of plant personnel. 3. Limited verification procedures will be conducted by inspectors for any procedures and evaluations for which plant has assumed responsibility.
Stage 3: 1. Plant responsible for all items listed under "Contracting Plants Responsibilities." 2. SCI implements verification procedures to evaluate plant's ability to perform under QAP.

QAP - PRODUCT VERIFICATION PLANS

This section contains instructions for product grouping, verification factors, and the minimum sampling rates for of verifying lot grades for plants under the SCI, QAP.

QAP Product Verification Plan Background

Procedure

The product grouping is based on similarity of evaluation and product relationship. Each product verification plan indicates whether the products are to be considered as one product, or treated individually for determining the number of products to verify. See the General section of this manual for additional information. The verification factors and the minimum rates remain constant for each product or group of products. Depending on the individual plant situation, the IIC may consider products within a group as individual products for verification.

Product Grouping

This section includes separate product verification plans for each product group. Similar product verification plans should be included with each QAP verification work plan, indicating the products that will be verified at that plant. The IIC may add or delete products or procedures from the established product grouping list by revising the verification work plan including a statement to cover the reason(s) for the modification. The revised product grouping list will become effective only upon final approval of the work plan.

The sampling rates established in each product verification plan must be tailored to meet the needs of that plant as well as SCI Division. In some plants it may be necessary to increase the rate of examination for certain factors because of their importance in buyer specifications. It may also be necessary to list and establish rates for additional factors.

Product Plans are located in Appendix VII.

A. Canned products

Plan Number	Canned (C) Products
1C	Apricots, Sweet Cherries, Clingstone Peaches, Freestone Peaches, Pears, Grapes, and Plums.
2C	Fruit Cocktail, Fruits for Salad, and Fruit Mix
3C	Tomatoes and Stewed Tomatoes (Whole, Halves, Sliced, Wedges, Diced)
4C	Tomato Paste and Tomato Puree
5C	Tomato Juice, Single Strength and Concentrated
6C	Tomato Catsup, Chili Sauce, and Tomato Sauce
7C	All other tomato products and other products which have no applicable grade and which are not covered by separate verification outlines. Examples: Zucchini & Tomatoes, Tomato Juice Mixes, Vegetable Juices, Pizza Sauce, Spaghetti Sauce, All Purpose Sauces, Crushed Tomatoes, Creole Sauce, Tomato Soup, Seafood Cocktail Sauce.
8C	Leafy Greens (All Types)
9C	Non-Standardized Fruit Concentrates, Purees, and Nectars (Apple, Apricot, Peach, Pear)
10C	Green Beans and Wax Beans
11C	Sweet Peppers
12C	Corn, Cream and Whole Kernel
13C	Apples, and Applesauce
14C	Canned Ripe Olives
15C	Citrus Juices (Single Strength/Concentrate)
16C	All other citrus products and other products which have no applicable grade and which are not covered by separate verification outlines.

B. Frozen products

Plan Number	Frozen (F) Products
1F	Asparagus, Green Beans
2F	Broccoli, Leafy Greens (All Types), and Squash (Summer Type)
3F	Brussels Sprouts, Cauliflower
4F	Lima Beans, Peas
5F	Carrots, Sweet Peppers
6F	Melon Balls
7F	Apricots, Apples, Peaches, and Strawberries
8F	Potatoes, French Fried Type
9F	Potatoes, Hash Brown and Preformed Types
10F	Whole Kernel Corn, Corn-on-the-Cob
11F	Mixed Vegetables, Peas and Carrots, and Succotash
15C	Frozen Orange Juice

C. Dehydrated products

Plan Number	Dehydrated (D) Products
1D	Tomatoes, Dried, Crystals = Powder (Nag Item)
2D	Orange Juice, Dehydrated

GUIDE FOR QAP VERIFICATION WORK PLAN

A QA verification work plan must be written so that an inspector familiar with the facility's QA procedures or plant operation could function adequately by following it. An effective work plan is comprehensive in its scope. This section includes an outline for preparing a work plan and an acceptable example of one is attached as Appendix IV.

Process

Approval Procedure

The OIC is responsible for preliminary approval of the work plan. If acceptable, the work plan is forwarded with a cover sheet documenting dates and appropriate signatures to the RBC for final approval. If the work plan fails to meet the criteria established, it will be returned to the field office for revision. The RBC may send a copy of the proposed work plan to the Division Director for review and comment before granting final approval. In-plant inspectors are responsible for up-dating the verification work plan through-out the year as applicable. In addition a complete review of the verification work plan will be performed and documented on an annual basis to ensure continued applicability. The required certification document is located in Appendix III. Division operational management will perform an annual compliance review per Division Quality Management System.

Distribution

Upon final approval, the work plan accompanied with the cover sheet will be forwarded to the OIC to replicate and distribute as follows:

A. Original to inspector in the plant,

B. One copy at the Field office (or more if needed),

C. One copy to the Regional office,

D. One copy to the National office.

A copy of the required annual certification of the QAP manual review will be distributed no later than pay period two of the current year as follows:

A. Original copy to in-plant QAP manual

B. One copy to Area Office

Guidelines - Verification Work Plan

Following is a suggested format for a verification work plan:

A. Cover page

1. Name of company and address
2. Official approval signatures

B. List management personnel

1. Executive management
2. Plant personnel
3. QAP contact person(s)

C. Products packed - groups

List all products by product groups

D. Basic grading period

State basic grading periods for all products

E. Plant QC procedure

1. State who grades all lots
2. State grading procedures
3. State non-quality procedures
4. State other specification requirements
5. State where records are filed
6. State how records may be obtained

F. Selection of Group I verification lots

1. State sampling plan and rate
2. State how to obtain production schedule
3. State how lots are selected, and note any exceptions to normal lot selection

4. List sampling procedure

    a. State how sampling instruction is given to plant

    b. State method of selecting lots for verification

    c. If applicable, state how selected lots are tracked to ensure all products are selected for verification

5. State how and where samples are collected and taken to the laboratory

G. Group I verification - finished product

1. State procedure

2. State quality and non-quality factors and analyses evaluations

3. State finished product deviations

    a. State how to compare results

    b. State how to report deviations

H. Group II verification - sanitation

1. Sanitation verification areas - divide plant into areas

    a. Processing areas

    b. Non-processing areas

2. Plant sanitation procedure

3. USDA verification of the plant sanitation program

    a. Explain random selection of areas

    b. Explain auditing of plant’s sanitation report

    c. If applicable, state how selected areas/zones are tracked to ensure all areas are selected for verification.

I. Group III verification - on-site observations

Explain procedure, deviations, and actions to be taken

Group III verification factors should be tracked to ensure all factors are reviewed as appropriate to confirm continued program effectiveness.

J. Group IV verification - USDA procedures

List procedures and contact person

Example request for Group IV verification form is located in Appendix X.

K. Reports and files

1. Quality assurance verification report SC-148
2. Audits by USDA supervisors
3. Plant QAP manual
4. USDA verification work plan
5. USDA verification summary and analysis report
6. Records and procedures for handling a foreign material or sanitation HOLD
7. Plant QC and sanitation files
8. USDA files

QAP - VERIFICATION REPORT FORM (SC-148)

This report is to be used for reporting all deviations and observations detected during verification inspection procedures under the QAP. This verification report form serves as the daily record of plant program reliability.

Process

Procedure

This report is completed for each verification period that is a basic grading period, and distributed immediately to the designated plant official. This may include plant manager and corporate QC. The designated plant official's response outlining the correction or explanation to the deviations will be one of the indicators important in the overall evaluation of the QC Program's reliability. The completed SC-148 will be filed with the QAP records after the review and acceptance by the SCI inspector. Acceptance of the response will be indicated by the inspector's signature and date directly next to the signature of the plant representative.

A. Designated plant official will draft appropriate response(s) to each deviation reported.

B. Each response will be dated and signed by the designated plant official.

C. Acceptance of each correction or explanation will be indicated by the inspector's signature and date.

D. Designated plant official and the inspector will initial and date in the appropriate block on the bottom of the form when all responses are accepted.

Completion Guidance for days an inspector is not on duty:

Please use the following procedure when the plant processes seven days and the inspector works five days - 40 hours per week:

- Prepare an SC-148 for each day that the plant worked and the inspector was not on duty. A day is a 24-hour period.

- List item and verification factors, and, under the deviation section of the form, state, "No verifications made this date. USDA inspector off duty."

- In addition, report any other appropriate statements in this section of the form, e.g., reporting regulatory visit when inspector not on duty.

QA Verification Report, SC-148

Information to be included on this report should include the following: (See Example A, QA Verification Report SC 148, located in Appendix X.)

A. Enter all required information needed in the upper right hand corner, plant, plant address, date of pack, and program status.

B. Shift - Should be stated as shifts 1, 2, or 3.

C. Item and Group - Enter the verification groups that the plant is using to meet their requirements for their QAP Program. Some plants DO NOT participate in the Group IV. These may be put in any order. Group II may be first, then III, and then I. This is up to the inspector.

D. Verification factor - Enter the commodities or factors being verified. See below.

GROUP I CATEGORY: FOR FINISHED PRODUCT	 CLINGSTONE PEACHES FRUIT COCKTAIL
GROUP II CATEGORY: SANITATION	PREMISES PREPARATION CANNING (ETC.)
GROUP III CATEGORY: ON-SITE	 NET WEIGHTS FILL WEIGHTS (ETC.)
GROUP IV CATEGORY:	CHECKLOADING THIS CATEGORY IS NOT USED BY ALL PLANTS. CHECK VERIFICATION WORK PLANS.

E. Number of verification - The number entered in this column represents the factors being verified under the plan used for that commodity (QAP Product Verification Plans section of this manual).

Example:

Plan number 1C has 12 factors. If the plant runs other commodities, the inspector may only have completed 11 factors, Brix may have been done on the other commodity packed. At the bottom of this column is an area for a total; when only one lot is verified, enter the number of the factors completed. Do not total verification factors when more than one lot is verified in a single day, leave blank.

F. S/U/M/m columns

S = Satisfactory
U = Unsatisfactory
M = Major Deficiency
m = Minor Deficiency

Enter an X next to the deficiency in the correct column indicating if it is major, minor, satisfactory, or unsatisfactory. Total the number of major or minor deficiencies in the boxes at the end of those columns.

G. Deviations and/or deficiencies-Quality corrections - Enter all deficiencies noted for each/all verification factors. Leave room under each deficiency for any needed response from the contact person. The contact person and the inspector will sign and date under each response. The USDA inspector will sign and date each acceptable response next to the contact person’s signature and date.

H. Inspector's signature

I. Date - (To left of inspector's signature). The correct date will be the date that the form is issued.

J. Initials of plant official - After the inspector has reviewed the form, the plant official will initial this box.

K. Date - this date will be the date the plant contact person completes all responses and the responses have been accepted by the USDA inspector.

Examples of completed SC-148 forms are located in Appendix X. The individual plant needs will determine whether Groups 1, 2, 3, and 4 need to be issued on separate sheets or whether combining the groups is possible.

Group I - Finished Product Verifications

Group II - Sanitation Verifications (Satisfactory)

Group II - Sanitation Verifications (Unsatisfactory)

Group III - On-Site Verifications

Group IV - USDA Procedures/Verifications

Group I - Finished Product Verification

The primary purpose of this verification is to document all deviations. Example F of a completed SC-148 is located in Appendix X – Quality Assurance Verification Report Examples. List the deviations in a concise manner. Plant responses to all deviations should indicate:

- What caused the deviations, if possible?
- What action was taken to correct the deviation?

Do not accept plant responses that are vague or that indicate that the corrective action will only temporarily correct the deviation. The primary strength of this program is related to accurate documentation of deviations and their immediate correction within the QC system.

Group II - Sanitation Verifications

The primary purpose of sanitation verification is to determine the on-going capabilities and reliability of the processor. Verifications are performed to assess the sanitarian's ability to recognize, classify, and record sanitation deficiencies; the processor's capabilities to correct deficiencies and to keep plant management informed on the overall reliability of their sanitation program.

Verifications performed by the USDA inspector are recorded on the official sanitation scoresheet. "USDA Group I Verification" should be recorded in the title block. Example G, located in Appendix X – Quality Assurance Verification Report Examples, is an example of a

completed sanitation scoresheet. This scoresheet is used for comparing verification findings with the plant sanitation scoresheets to determine whether the verification is "satisfactory" or "unsatisfactory."

If the verifications indicate a "satisfactory" status, the SC-148 need only indicate this fact.

If the verifications indicate an "unsatisfactory" status, the SC-148 should indicate the types of deficiencies and area within the plant causing this status.

The form used to record deficiencies found in the verification inspection is not distributed to the plant. It is used only by USDA as a supporting document for SC-148. It must **NOT** be used as an additional checklist for plant personnel.

Two examples of completed SC-148s illustrating the type of information needed under "satisfactory" and "unsatisfactory" situations are located in Appendix X – Quality Assurance Verification Report Examples. Example C shows a "satisfactory" report. Example D shows an "unsatisfactory" report, listing the deviations in the program which may be used to show reasons for "unsatisfactory." If the actual deficiencies are listed on the SC-148, show only general types and/or areas. The primary purpose of the verifications is to alert the processor to a breakdown of their sanitation program, and to have them respond with corrective measures to prevent reoccurrences of similar deviations incomplete inspections, inaccurate reporting, incomplete follow-up inspections or failure to prevent "critical" conditions from occurring.

Responses to "unsatisfactory" verifications are outlined in the General Section of this manual.

Group III - On-Site Verifications

While Group III - On-site verifications are performed during production, and involve direct observation of the performance of assumed responsibilities. Verifications of this type are used by the plant to make immediate corrections of program deviations. Since the designated plant individual is responsible for the training and supervision of plant personnel, this type of verification gives plant management information concerning the effectiveness of this phase of their operation.

Since these verifications are random and of short duration, they are not used to establish "reliable" or "unreliable" status. They are used as a basis for increasing Group I type verifications. All deviations are minor, but do not enter (X) in the "m" column.

The SCI inspector will record all on-site observations on Form SC-148 whether or not deviations are found. Only by accurate and timely documentation by the SCI inspector can plant management measure the effectiveness of the QAP and their own areas of responsibility.

Group III On-Site Verification, Example E, located in Appendix X, is an example of a completed SC-148 for on-sites. List the deviations in a concise manner. Plant responses to all deviations should indicate:

- What caused the deviations, if possible?
- What action was taken to correct the deviation?

Do not accept plant responses that are vague, or that indicate that the corrective action will only temporarily correct the deviation. The primary strength of this program is related to accurate documentation of deviations and their immediate correction within the QC system.

Group IV - USDA Procedures/Verifications

This group of procedures are optional under the program, and must have official approval prior to implementation of a verification procedure.

Verification procedures must be developed for each type of USDA procedure being assumed by the processor, and being included in the USDA verification work plan for each plant. Verifications for Group IV are directed toward deviations which affect acceptability of the lot, item, or procedures. Any verification which indicates nonconformance requires verification on a lot by lot basis until reliability is reestablished.

All deviations are considered “major” and those affecting lot acceptability cause the status to be “unreliable.”

Any deviations found by the USDA inspector during verifications will be listed on Form SC-148, "Quality Assurance Verification Report", and will require the designated contact person to indicate what caused the deviation and what action was taken to correct it. The USDA inspector will be responsible for accepting or rejecting the plant’s response to each deviation. Acceptance of the response will be indicated by their signature and date next to the signature and date of the plant representative for each deviation.

Example F: Group IV – USDA Procedures Verifications is located in Appendix X – Quality Assurance Verification Report Examples.

VERIFICATION SUMMARY AND ANALYSIS - QAP PLANTS

The verification summary report is intended to provide information to the company’s top management on how well the plant’s QC program is working. This report should cover verification deviations in Groups I, II, III, and IV, the causes of the deviations, and the plant’s responses and corrective actions taken for each deviation.

The verification summary and analysis report is to be completed by October 31st each year. The report should cover the prior fiscal year and be submitted to the appropriate Regional office. Verification deviations must be tracked throughout the year for verification summary reporting purposes and to assist in identify potential trends or opportunities for improvement. Example verification deviation tracking form are located in Appendix IIX.

Format

Group I, Finished Product Deviations

A. Frequent or common general deviations occurring in most products, (vacuum, Brix, sampling procedures, etc.). Include general discussion on cause, response, and corrective action, as applicable.
B. Deviations by product

1. Insert a recap of total deviations along with the narrative.

2. Discuss cause, response, and corrective action as applicable.

3. Relate to Group III, if appropriate.

Group II, Sanitation Deviations

A. Insert a recap of total unsatisfactory verifications.

B. Discuss cause, response, and corrective action(s).

C. Discuss reason and length of any periods of unreliable status, if applicable.

Group III - On-Site Verifications

A. Insert a recap of total deviations.

B. Discuss cause, response, and corrective action(s).

C. Relate to Group I if applicable.

Group IV - USDA Procedure Deviations

A. Insert recap of total deviations.

B. Discuss cause, response, and corrective action for each applicable procedure.

Summary of Analysis

A. Discuss effectiveness of the QAP.

B. Discuss main problem areas.

C. Discuss problem areas per shift.

REFERENCE LINKS	**Version Date (Printed for distribution)**
☐ **7 CFR 52.38c, 52.81:** http://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR	_____
☐ **AIM Inspection Series, Foreign Material Manual** https://origin-edit.ams.usda.gov/sites/default/files/media/Foreign_Material_Manual%5B1%5D.pdf	_____
☐ **FDA Defect Levels Handbook** http://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/SanitationTransportation/ucm056174.htm	_____
☐ **Form SC-148, Quality Assurance Verification Report:** https://ems-team.usda.gov/sites/AMS/AMSFormsCatalog/Forms/AllItems.aspx	_____
☐ **SCI Division Employee Rotation Policy** \\usda.net\ams\SCSCI\SCI-AIM\Management\FieldOfficeManagement\SCIDivisionEmployeeRotationPolicy.pdf	_____

Checked Materials have been printed from the links in this manual and included for reference.

APPENDIX I – GUIDE FOR THE QAP MANUAL

This section provides guidance for any processing plant to develop a QAP manual in accordance with Division policy that is concise and tailor-made for their QC program. Areas of interest include:

- Guidelines for the QAP Manual;
- Example of an acceptable QAP Manual; and
- Specific USDA procedures (Group IV).

Responsibility

In-plant inspectors are responsible for monitoring and up-dating the manual as applicable through-out the year. In addition a complete review of the plant's approved QAP manual should be performed and documented on an annual basis to ensure continued applicability. The required certification document is located in Appendix III. Division operational management will perform an annual compliance review per Division Quality Management System. The manual should contain current publications, and the QC procedures referenced in the manual should coincide with the actual methods used. The inspector should assist the processor in the maintenance of the manual by providing all applicable Division instructional materials and U.S. Standards.

Distribution

A copy of the plant's QAP manual and revisions to the manual must be distributed as follows:

1. One copy to Officer-in-Charge;
2. One copy to RBC; and
3. One copy to National office

A copy of the required annual certification of the QAP manual review will be distributed no later than pay period two of the current year as follows:

1. Original copy to in-plant QAP manual
2. One copy to Area Office

Guidelines – QAP Manual

The following is a suggested format for compiling a QAP manual. Contractors may use this format or any similar format which will coincide with the actual procedures and methods used by the quality control staff.

Cover page

Name of company and address

Introduction

A. Purpose

B. Products

C. Group verifications

D. Procedure implementation

1. Implementation

2. List of all USDA materials and revisions needed by the plant.

E. Maintenance of the QAP manual

Organization

A. Chart relating to lines of communication

B. Responsibilities – general

C. Responsibilities of individuals (Titles only)

Quality assurance program

A. General program

B. QA responsibilities

C. Quality factors, non-quality factors, analysis (Group I)

1. USDA standards and procedures

a. Sample grade sheet

b. Standard sample size

2. Hold lots

3. Product segregation - recalls

D. Sanitation (Group II)

1. General policy

a. Intent

b. Major laws and regulations

2. Management responsibilities

a. Plant manager

b. Supervisors

c. Sanitarians

d. QC Director

3. Plant sanitation regulations

a. Housekeeping

4. Sanitation program for QA

a. Daily sanitation inspection record

b. Classification of deficiencies

c. Recording deficiencies

E. On-site verification (Group III)

Daily on-site observations are performed by the USDA inspector and plant. These are part of the QAP and are important in making program adjustments. If deviations are found, they will be recorded and discussed with the USDA contact person and the plant. The corrective action will then be initiated by the plant. On-site observations will vary from day to day and will include every part of the program.

F. USDA procedures (Group IV)

1. General policy

2. Responsibilities (General)

3. Responsibilities of individuals

4. Specific procedures

a. Condition of food container

b. Case stamping

c. Checkloading

d. DPSC inspection

e. Certification (preparing certificates)

f. Update inspection

g. Re-inspection

Appendix II is an example of an acceptable QAP Manual

APPENDIX II – EXAMPLE OF AN ACCEPTABLE QAP MANUAL

Electronic version of Acceptable QAP Manual (intranet link)

United States Department of Agriculture

Appendix II – Example of an Acceptable QAP Manual

ABC Processing Company

712 Sycamore Road
Anytown, USA 98765
(555) 555-0542

Quality Assurance Program Manual

APPENDIX III – ANNUAL CERTIFICATION OF QUALITY ASSURANCE PROGRAM REVIEW

Electronic version of Annual Certification of Quality Assurance Program Review (intranet link)

USDA United States Department of Agriculture

SPECIALTY CROPS INSPECTION DIVISION
ANNUAL CERTIFICATION OF QUALITY ASSURANCE PROGRAM REVIEW

As part of the Quality Assurance Program (QAP), the QAP manual and Verification Work Plan should be updated throughout the year with applicable changes, and a copy of any changes sent to your supervisor. To ensure uniformity and proper monitoring of the QAP program, the Inspector in Charge is required to perform an annual review of the current QAP work plan, manual, and verify required approvals have been documented. To document completion of this annual review, sign below certifying that you have reviewed the documents referenced above and the information in each document is current. Place the original in the QAP manual. Send a copy to the Area Office no later than the end of Pay Period Two of the current year.

Name of Facility:
Address:

I certify that I have reviewed the Plant's QAP manual and USDA Verification Work Plan and that the information, references and publications contained in both are current, approved, and the procedures coincide with the actual methods used.

Inspector-in-Charge's Signature and Printed Name	Date

APPENDIX IV – SAMPLE VERIFICATION WORK PLAN

Electronic version of Sample Verification Work Plan (intranet link)

USDA United States Department of Agriculture

Appendix IV – Example of a Sample Verification Work Plan

ABC Processing Company

712 Sycamore Road
Anytown, USA 98765
(555) 555-0542

Verification Work Plan
April 2017

Submitted By:_____ Date: _____
Inspector in Charge

Approved By: _____ Date: _____
Officer in Charge

_____ Date: _____
Regional Branch Chief

APPENDIX V – PROCEDURES FOR DETERMINING SIGNIFICANT DEVIATIONS

This procedure provides a statistical test for use when verifying a plant's results on inspections by variables (i.e. net weight, Brix, etc.). It is not applicable to quality factors which are inspected on an attribute basis, or which are assigned score points. In addition, at the discretion of SCI supervision, analytical deviant ranges may be used to determine USDA and plant result agreement of applicable verification factors.

For a given factor, the test compares the sample average value obtained by plant personnel with the sample average value obtained independently by the USDA inspector. The test comparison of these two averages will indicate whether USDA and plant results agree or disagree. Agreement means that the two results are not significantly different. Disagreement means that the two results are significantly different, and that any existing difference cannot be attributed solely to chance. Typical applications of this variables verification procedure will be illustrated with examples.

When the range(s) and average(s) of the data being compared are close, this procedure does not have to be applied. It is most useful when there are extreme values in the data.

Procedure

1. Designate the factor and the lot or portion of production (e.g., shift) for which variables verification will be conducted,

2. Obtain a random sample of size 3, 6, or 13 from this production as required.

3. For each sample unit, determine and record the factor value.

4. Obtain the results of plant personnel for this same quality factor and production. A maximum of 21 plant results will be used for verification purposes even though many more might be recorded. In those instances where more than 21 results are recorded, obtain a random sample of 21 results. (Select one from each subgroup).

5. Calculate the average value of the USDA results ($\bar{X}u$) and of the plant results ($\bar{X}p$).

6. Determine the range of the USDA results (Ru) and of the plant results (Rp). (The range is the largest value minus the smallest value.)

7. Calculate the value of the test statistic, T, as shown below. Disregard any minus sign from the difference of the two averages.

$$T = \frac{\bar{X}u - \bar{X}p}{Ru + Rp}$$

8. From the table on the following page, find the value of C which corresponds to the USDA and plant sample sizes.

9. Determine agreement or disagreement between USDA and plant results as follows:

   a. Results agree if T is less than or equal to C.

   b. Results disagree if T is greater than C.

Table of Values of C for Variables Verification Procedure

Plant Sample Size	USDA Sample Size		
	3	6	13
2	0.980	0.549	0.382
3	0.639	0.391	0.279
4	0.506	0.319	0.228
5	0.435	0.277	0.198
6	0.391	0.250	0.178
7	0.360	0.231	0.163
8	0.338	0.217	0.152
9	0.321	0.206	0.143
10	0.307	0.197	0.136
11	0.296	0.189	0.131
12	0.287	0.183	0.126
13	0.279	0.178	0.121
14	0.272	0.173	0.118
15	0.266	0.169	0.115
16	0.261	0.166	0.112
17	0.256	0.163	0.109
18	0.252	0.160	0.107
19	0.248	0.157	0.105
20	0.245	0.155	0.103
21	0.241	0.153	0.102

1. Results agree if T is less than or equal to C.

$$T = \frac{\bar{X}u - \bar{X}p}{Ru + Rp}$$

2. Results disagree if T is greater than C.

Examples

The following examples follow the procedure described in part A of QAP - Procedure for determining significant deviations in the beginning of this section on a step-by-step basis.

Example 1

A lot of canned peaches has been sampled and inspected by plant personnel. The USDA inspector decides to verify the plant's Brix determinations.

1. Lot as described above. Factor is Brix.

2. USDA inspector obtains a random sample size of 13.

3. The Brix for each of the 13 sample units is:

18.9	24.0	25.5	27.9	24.0
18.6	23.6	21.2	23.2	
20.0	21.4	23.6	25.9	

4. There are 16 plant results:

20.8	22.4	25.4	25.0
21.2	22.2	22.0	23.2
22.8	23.0	24.2	22.4
25.6	25.3	25.4	25.2

5. $\bar{X}u$= 22.91 and $\bar{X}p$ = 23.51

6. Ru = 27.9 - 18.6 = 9.3 and Rp = 25.6 - 20.8 = 4.8

7. $T = \dfrac{22.91 - 23.51}{9.3 + 4.8} \quad \dfrac{0.60}{14.1} = 0.043$ (disregarding minus sign)

8. From table on page 48, for sample sizes 13 and 16, we find that C = 0.112.

9. Since T (0.043) is less than C (0.112), the USDA and plant results agree.

Example 2

The day shift has just completed its production of canned peaches. Plant personnel have sampled and inspected the product and have recorded their data on control chart forms. The USDA inspector decides to verify the plant's net weight determinations.

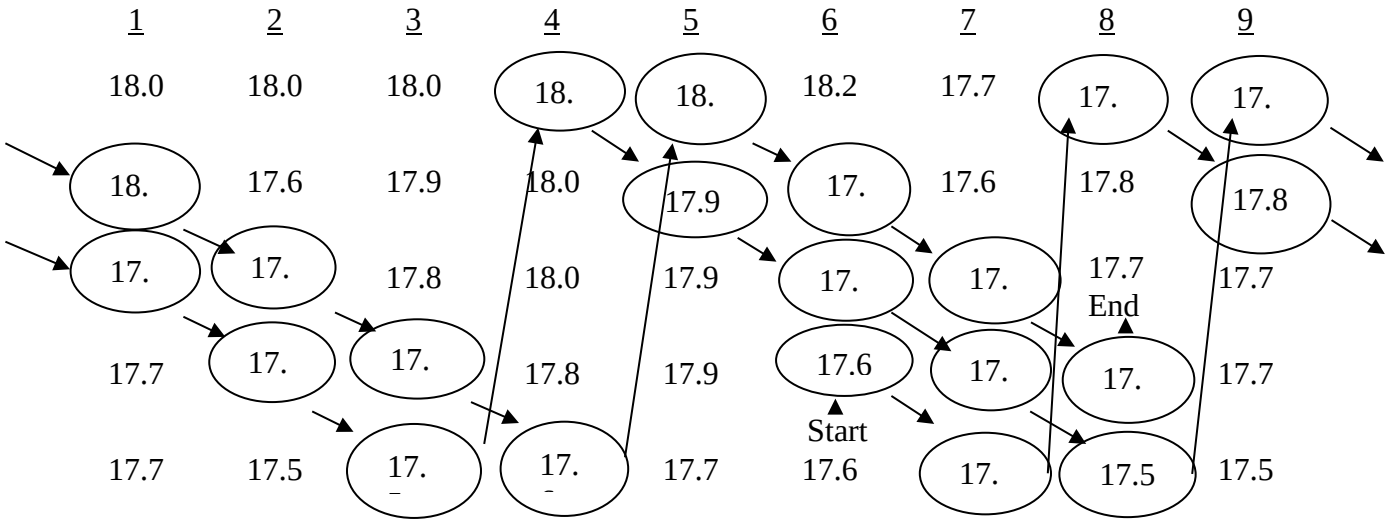
1. Verification for net weight will be conducted on the day shift's production.

2. USDA inspector obtains a random sample size of 6.

3. The net weight of each of the six cans is:

17.1	16.8	17.0
16.7	16.9	16.9

4. The plant results for each of the nine sampling periods during the day are (as read off of the control chart from highest to lowest value):



There are a total of 45 plant values but only 21 values are needed for verification purposes. A recommended way of obtaining a random sample of 21 values is as follows:

a. Randomly select a sampling period to start with, e.g., period 6.

b. Mentally number the first value in period 6 as 1 and so on down the column until the last number is designated as 5. Randomly select a number from 1 to 5, e.g., 4.

c. Select the 4th value from period 6 as the first sample value. Then go to the 5th value from period 7; then the 1st value of period 8; then the 2nd value of period 9; then the 3rd value of period 1; and so on until 21 values are obtained.

The random start and subsequent "cycling" through the plant control chart values helps to spread the selected plant values over the entire shift's production. If during the "cycling" process, a column position (i.e., 1 through 5) is selected which has already been chosen for the sample, take the value of the next lower position and continue on from that point.

5. $\bar{X}u$ = 16.90 and $\bar{X}p$ = 17.71

6. Ru = 17.1 - 16.7 = 0.4 and Rp = 18.0 - 17.5 = 0.5

7. $T = \frac{16.90 - 17.71}{0.4 + 0.5} = \frac{0.81}{0.9} = 0.900$ (disregarding minus sign).

8. From the Table of Values of C for Variables Verification Procedure, for sample sizes 6 and 21, we find that C = 0.153.

9. Since T (0.900) is greater than C (0.153), the USDA and plant results disagree.

10. Because the verification samples and the plant results disagree, this is considered a Group I major significant deviation for the factor that was compared.

APPENDIX VI – PRODUCT PLANS

Plan numbers - Canned products

Plan Number 1C: Canned Apricots, Cherries, Peaches, Pears, Plums, Grapes

Canned Products: Apricots, Sweet Cherries, Clingstone Peaches, Freestone Peaches, Pears, Plums, and Grapes.

Verification Plan: These products considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:		**Minimum Sample Units to Examine**
1.	Lot Evaluation	All Sample Units
2.	Grade Factor Evaluation[5]	
	a. Color	All Sample Units
	b. Uniformity of Size & Symmetry	All Sample Units
	c. Absence of Defects	All Sample Units
	d. Character	All Sample Units
	e. Flavor & Odor	All Sample Units
3.	Style	All Sample Units
4.	Net Weight	All Sample Units
5.	Vacuum	All Sample Units
6.	Headspace	Sample Units with Low Net Weight
7.	Drained/Fill Weight	All Sample Units
8.	Sample Unit Count[6]	All Sample Units
9.	Brix	All Sample Units - One Lot Per Day
10.	Condition of Container	All Sample Units
11.	Coding	All Sample Units
12.	Foreign Material (Visual)	All Sample Units

[5] Products graded on the Cumulative Sum Sampling Plan (CuSum). Verify the prerequisites and classified defects as the grade factor evaluation
[6] Applies only to products have count criteria.

Plan Number 2C: Canned Fruits

Canned Products: Fruit Cocktail, Fruits for Salad, Fruit Mix.

Verification Plan: These products considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:	**Minimum Sample Units to Examine**
1. Lot Evaluation	All Sample Units
2. Grade Factor Evaluation	
a. Clearness of Liquor	All Sample Units (Fruit Cocktail only)
b. Color	All Sample Units
c. Uniformity of Size & Symmetry	All Sample Units
d. Absence of Defects	All Sample Units
e. Character	All Sample Units
f. Flavor & Odor	All Sample Units
3. Style (Fruit & Forms)	All Sample Units (Fruits for Salad only)
4. Net Weight	All Sample Units
5. Vacuum	All Sample Units
6. Headspace	Sample Units with Low Net Weight
7. Drained/Fill Weight	All Sample Units
8. Sample Unit Count[7]	All Sample Units
9. Brix	All Sample Units - One Lot Per Day
10. Fruit Proportions	Random Sample, 1 Minimum
11. Condition of Container	All Sample Units
12. Coding	All Sample Units
13. Foreign Material (Visual)	All Sample Units

[7] Fruit Cocktail (Cherry and Pineapple Count) Fruits for Salad (Count all Units in Sample Unit)

Plan Number 3C: Canned Tomatoes

Canned Products: Tomatoes, Stewed Tomatoes (Whole, Halves, Sliced, Wedges, Diced).

Verification Plan: These products considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:	**Minimum Sample Units to Examine**
1. Lot Evaluation	All Sample Units
2. Grade Factor Evaluation	
a. Drained Weight	All Sample Units
b. Character[8]	All Sample Units
c. Color	All Sample Units
d. Wholeness[9]	All Sample Units
e. Flavor/Odor	All Sample Units
f. Absence of Defects	All Sample Units
3. Net Weight	All Sample Units
4. Vacuum	All Sample Units
5. Headspace	Sample Units with Low Net Weight
6. Style	All Sample Units
7. Sample Unit Count[10]	All Sample Units
8. Condition of Container	All Sample Units
9. Coding	All Sample Units
10. Mold Determination	One Determination
11. Heavy Filth[11]	One Determination (per week)
12. Foreign Material (Visual)	All Sample Units

[8] Diced style by weight, all other styles by count.
[9] Applicable to whole style only.
[10] Refers only to products having count criteria.
[11] One determination and one complete on-site (Group III) per week.

Plan Number 4C: Canned Tomato Paste and Puree

Canned Products: Tomato Paste, Tomato Puree.

Verification Plan: These products considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:	**Minimum Sample Units to Examine**
1. Lot Evaluation	All Sample Units
2. Grade Factor Evaluation	
a. Color (Visually)[12]	All Sample Units
b. Defects	All Sample Units
c. Consistency	All Sample Units
d. Flavor/Odor	All Sample Units
3. Concentration (Solids)	Two Sample Units
4. Texture - Finish	All Sample Units
5. Net Weight	All Sample Units
6. Vacuum	All Sample Units
7. Headspace	Sample Units with Low Net Weight
8. Condition of Container	All Sample Units
9. Coding	All Sample Units
10. Heavy Filth[13]	One Determination (Per Week)
11. Mold Determination	One Determination
12. Foreign Material (Visual)	All Sample Units

[12] Products for which colorimeter is used for evaluation – two sample units, one from each half of the basic grading period.
[13] One determination and one complete on-site (Group III) per week.

Plan Number 5C: Canned Tomato Juice

Canned Products: Tomato Juice, Single Strength and Concentrated.

Verification Plan: These products considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:		**Minimum Sample Units to Examine**
1.	Lot Evaluation	All Sample Units
2.	Grade Factor Evaluation	
	a. Color (Visually)[14]	All Sample Units
	b. Defects	All Sample Units
	c. Consistency	All Sample Units
	d. Flavor/Odor	All Sample Units
3.	Refractive Indexes or Solids	Two Sample Units All Sample Units
4.	Volume and Net Weight	All Sample Units
5.	Vacuum	All Sample Units
6.	Headspace	Sample Units with Low Net Weight
7.	Condition of Container	All Sample Units
8.	Coding	All Sample Units
9.	Mold Determination	One Determination
10.	Heavy Filth[15]	One Determination (Per Week)
11.	Foreign Material (Visual)	All Sample Units

[14] Products for which colorimeter is used for evaluation – two sample units, one from each half of the basic grading period.
[15] One determination and one complete on-site (Group III) per week.

Plan Number 6C: Tomato Catsup, Chili Sause, Tomato Sauce

Canned Products: Tomato Catsup, Chili Sauce, and Tomato Sauce.

Verification Plan: These products considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:			**Minimum Sample Units to Examine**
1.	Lot Evaluation		All Sample Units
2.	Grade Factor Evaluation		
	a.	Color (Visually)[16]	All Sample Units
	b.	Consistency	One Sample Unit
	c.	Character[17]	All Sample Units
	d.	Defects	All Sample Units
	e.	Flavor/Odor	All Sample Units
	f.	Finish[18]	All Sample Units
3.	Concentration (Solids)		Two Sample Units
4.	Net Weight		All Sample Units
5.	Vacuum		All Sample Units
6.	Headspace		Sample Units with Low Net Weight
7.	Condition of Container		All Sample Units
8.	Coding		All Sample Units
9.	Mold Determination		One Determination
10.	Heavy Filth[19]		One Determination (Per Week)
11.	Foreign Material (Visual)		All Sample Units

[16] Products for which colorimeter is used for evaluation – two sample units, one from each half of the basic grading period
[17] Applicable to Chili Sauce only
[18] Applicable to Tomato Catsup and Tomato Sauce only
[19] One determination and one complete on-site (Group III) per week.

Plan Number 7C: Canned Other Tomato Products and NAGs

Canned Products: All other tomato products and other products which have no applicable grade and which are not covered by separate verification outlines.

Examples: Zucchini & Tomatoes, Tomato Juice Mixes, Vegetable Juices, Pizza Sauce, Spaghetti Sauce, All Purpose Sauces, Crushed Tomatoes, Salsa, Creole Sauce, Tomato Soup, and Seafood Cocktail Sauce.

Verification Plan: These products considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Sampling: Products which are packed for short durations should be sampled and verified during the beginning of each production period.

Verification Factors:	**Minimum Sample Units to Examine**
1. Rate: As established in the USDA Verification Plan for each plant. The factors and rate will follow the general outline contained in this manual.	

Plan Number 8C: Canned Leafy Greens

Canned Products: Leafy Greens (All Types).

Verification Plan: These products considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:	**Minimum Sample Units to Examine**
1. Lot Evaluation	All Sample Units
2. Grade Factor Evaluation	
a. Color	All Sample Units
b. Character	All Sample Units
c. Damage	All Sample Units
d. Harmless Ext. Material	All Sample Units
e. Stem Material	One (1) Determination
f. Flavor and Odor	All Sample Units
3. Style	All Sample Units
4. Vacuum	All Sample Units
5. Headspace	Sample Units with Low Net Weight
6. Net Weight	All Sample Units
7. Drained Weight	All Sample Units
8. Condition of Container	All Sample Units
9. Coding	All Sample Units
10. Heavy Filth	One (1) Determination (Rapid Jar Method)
11. Foreign Material (Visual)	All Sample Units

Plan Number 9C: Canned Non-Standardized Fruit Products

Canned Products: Non-Standardized Fruit Products - Concentrates, Purees, Nectars (Apple, Apricot, Peach and Pear).

Verification Plan: These products considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:	**Minimum Sample Units to Examine**
1. Lot Evaluation	All Sample Units
2. Grade Factor Evaluation	
a. Color	All Sample Units
b. Absence of Defects	All Sample Units
c. Flavor and Odor	All Sample Units
3. Net Weights	All Sample Units
4. Vacuum Readings	All Sample Units
5. Headspace Measurement	Sample Units with Low Net Weight
6. Solids Determination (Brix)	Two (2) Sample Units
7. Analysis (pH, Total Acidity)	One (1) Sample Unit
8. Foreign Material (Visual)	All Sample Units
9. Condition of Container	All Sample Units
10. Coding	All Sample Units
11. Mold Determination	One (1) Determination
12. Light Filth	As Necessary to Verify Wholesomeness
13. Heavy Filth	As Necessary to Verify Wholesomeness

Plan Number 10C: Canned Green Beans, Wax Beans

Canned Products: Green Beans, Wax Beans.

Verification Plan: These products are considered as one product for verification when processing during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:		**Minimum Sample Units to Examine**
1.	Lot Evaluation	All Sample Units
2.	Grade Factor Evaluation	
	a. Clearness of Liquor	All Sample Units
	b. Color	All Sample Units
	c. Absence of Defects	All Sample Units
	d. Character	All Sample Units
	e. Flavor and Odor	All Sample Units
3.	Net Weight	All Sample Units
4.	Vacuum	All Sample Units
5.	Headspace	Sample Units with Low Net Weight
6.	Drained Weight	All Sample Units
7.	Type	All Sample Units
8.	Style	All Sample Units
9.	Sieve Size[20]	All Sample Units
10.	Length of Cut[21]	All Sample Units
11.	Condition of Container	All Sample Units
12.	Coding	All Sample Units
13.	Foreign Material (Visual)	All Sample Units

[20] Not Applicable to sliced lengthwise style
[21] Not applicable to whole and sliced lengthwise style

Plan Number 11C: Canned Sweet Peppers

Canned Products: Sweet Peppers.

Verification Plan: This product is considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:		**Minimum Sample Units to Examine**
1.	Lot Evaluation	All Sample Units
2.	Style Determination	All Sample Units
3.	Grade Factor Evaluation	
	a. Color	All Sample Units
	b. Size	All Sample Units
	c. Absence of Defects	All Sample Units
	d. Character	All Sample Units
	e. Flavor and Odor	All Sample Units
4.	Net Weight	All Sample Units
5.	Vacuum	All Sample Units
6.	Headspace	Sample Units with Low Net Weight
7.	pH	All Sample Units
8.	Drained Weight	All Sample Units
9.	Foreign Material (Visual)	All Sample Units
10.	Condition of Container	All Sample Units
11.	Coding	All Sample Units

Plan Number 12C: Canned Corn

Canned Products: Corn - Cream and Whole Kernel.

Verification Plan: This product is considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:	**Minimum Sample Units to Examine**
1. Lot Evaluation	All Sample Units
2. Grade Factor Evaluation	
a. Color	All Sample Units
b. Consistency[22]	All Sample Units
c. Absence of Defects	All Sample Units
d. Tenderness and Maturity	All Sample Units
e. Flavor and Odor	All Sample Units
3. Net Weight	All Sample Units
4. Vacuum	All Sample Units
5. Headspace	Sample Units with Low Net Weight
6. Drained Weight	All Sample Units
7. Type	All Sample Units
8. Style/Varietal Type	All Sample Units
9. Length of Cut[23]	All Sample Units
10. Condition of Container	All Sample Units
11. Coding	All Sample Units
12. Foreign Material (Visual)	All Sample Units

[22] Cream style only
[23] Whole Kernel style only

Plan Number 13C: Canned Apples, Applesauce

Canned Products: Apples, Applesauce.

Verification Plan: These products considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:[24]			**Minimum Sample Units to Examine**
1.	Lot Evaluation		All Sample Units
2.	Grade Factor Evaluation		
	a.	Consistency	All Sample Units
	b.	Color	All Sample Units
	c.	Uniformity of Size	All Sample Units
	d.	Absence of Defects	All Sample Units
	e.	Character/Finish	All Sample Units
	f.	Flavor & Odor	All Sample Units
3.	Type		All Sample Units
4.	Style		All Sample Units
5.	Net Weight		All Sample Units
6.	Vacuum		All Sample Units
7.	Headspace		Sample Units with Low Net Weight
8.	Drained Weight		All Sample Units
9.	Sample Unit Count		All Sample Units
10.	Brix		All Sample Units - One Lot Per Day
11.	Condition of Container		All Sample Units
12.	Coding		All Sample Units
13.	Foreign Material (Visual)		All Sample Units

[24] Verify factors applicable to product graded

Plan Number 14C: Canned Ripe Olives

Canned Products: Canned Ripe Olives.

Verification Plan: This product is considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:		**Minimum Sample Units to Examine**
1.	Lot Evaluation	All Sample Units
2.	Grade Factor Evaluation	
	a. Color	All Sample Units
	b. Uniformity of Size[25]	All Sample Units
	c. Absence of Defects	All Sample Units
	d. Character	All Sample Units
	e. Flavor	All Sample Units
3.	Type	All Sample Units
4.	Style	All Sample Units
5.	Size Designation(Average Count or Diameter)[25]	All Sample Units
6.	Vacuum	All Sample Units
7.	Head Space	Sample Units with Low Volume
8.	Net Drained Weights	All Sample Units
9.	Salt (Salometer Readings)	All Sample Units
10.	Condition of Container	All Sample Units
11.	Coding	All Sample Units
12.	Foreign Material (Visual)	All Sample Units

[25] Applies to whole and pitted styles

Plan Number 15C: Canned/Frozen Citrus Juice

Citrus Juice Canned/Frozen:	Orange, Grapefruit, Tangerine, Lemon, Beverage Base Products, Orange Products with Calcium/Vitamin C, Citrus Sections, and Sugar Added products. (See next page for products and abbreviations)
Verification Plan:	These products are considered as one product for verification when processed during the same basic grading period.
Sampling Rate:	Lot sampling plan up to thirteen (13) sample units.

Verification Factors:[26]	**Minimum Sample Units to Examine**
1. Lot Evaluation	All Sample Units
2. Grade Factor Evaluation	
a. Color	All Sample Units
b. Defects	All Sample Units
c. Flavor (and Odor for Sections)	All Sample Units
d. Wholeness (Sections)	All Sample Units
e. Character (Sections)	All Sample Units
3. Count (Sections)	One
4. Packing Media (Sections)	One
3. Appearance[27]	One
4. Reconstitution[28]	One
5. Coagulation[29]	One
6. Separation[30]	One
7. Style	All Sample Units
8. Net Weight	All Sample Units
9. Drained Weight	All Sample Units
10. Vacuum[31]	All Sample Units
11. Temperature (Frozen Retail) &[32]	One
12. Brix	All Sample Units
13. Acid	All Sample Units
14. Ratio	All Sample Units
15. Recoverable Oil[33]	One
16. Suspended Pulp[34]	One
17. Floating Pulp	One
18. Vitamin C (Ascorbic Acid)	One
19. Calcium Analysis	One
20. Condition of Container	All Sample Units
21. Coding	All Sample Units
22. Mold Determination	One
23. Foreign Material	One

[26] Acronyms are defined on following page.

[27] FCOJ, RAFCOJ, CCOJ, POJ, OJFC, FCBGJ&OJ, POJwCAL, OJ, OJFM, CCOJwVITc, FCOJwCAL

[28] FCOJ, RAFCOJ, OM, CCOJ, TM, FCBGJ&OJ, LM, FCLJ, CCOJwVITc, FCOJwCAL

[29] COJ, POJ, OJFC, GJ & OJ, POJwCAL, OJ, OJFM, CTJ

[30] POJ, OJFC, OJ, OJFM

[31] Canned Products only

[32] FCC requirement: One sample - On-line product packed in cans.

[33] All products except: OM, GM, LM

[34] GJ, FCGJ, GM, GJFC, CTJ, GJ & OJ, FCBGJ&OJ

Citrus Juices Canned/Frozen Product Names:

FCOJ:	Frozen Concentrated Orange Juice
FCOJwCAl:	Frozen Concentrated Orange Juice with Calcium Added
RAFCOJ:	Reduced Acid Frozen Concentrated Orange Juice
CCOJ:	Canned Concentrated Orange Juice
CCOJwVITC:	Canned Concentrated Orange Juice with Vitamin C Added
OM:	Concentrated Orange Juice for Manufacturing
POJ:	Pasteurized Orange Juice
POJwCAL:	Pasteurized Orange Juice with Calcium Added
COJ:	Canned Orange Juice
OJFC:	Orange Juice from Concentrate
OJ:	Orange Juice
OJFM:	Orange Juice for Manufacturing
GJ:	Grapefruit Juice
GJFC:	Grapefruit Juice from Concentrate
FCGJ:	Frozen Concentrated Grapefruit Juice
GM:	Concentrated Grapefruit Juice for Manufacturing
CTJ:	Canned Tangerine Juice
TJ:	Tangerine Juice
TM:	Concentrated Tangerine Juice for Manufacturing
GJ & OJ:	Grapefruit Juice and Orange Juice
FCBGJ&OJ:	Frozen Concentrated Blended Grapefruit Juice and Orange Juice
LM:	Concentrated Lemon Juice for Manufacturing
FCLJ:	Frozen Concentrate for Lemonade
GBB:	Grapefruit Beverage Base
OBB:	Orange Beverage Base

Citrus Sections:

Canned Grapefruit
Canned Grapefruit and Orange for Salad
Chilled Citrus Salad

Plan Number 16C: Other Citrus Products

Canned Citrus Product:	All other Citrus Products and other products that have no applicable grade and which are not covered by separate verification outlines.
Examples:	Water Extracted Soluble Fruit Solids, Fruit Pulp Cells
Verification Plan:	These products are considered as one product for verification when processed during the same basic grading period.
Sampling Rate:	Lot sampling plan up to thirteen (13) sample units.
Sampling:	Products which are packed for short durations should be sampled and verified during the beginning of each production period.

Verification Factors		**Minimum Sample Units to Examine**
1.	Rate:	As established in the USDA Verification Plan for each plant. The factors and rate will follow the general outline contained in this manual.

Plan Numbers - Frozen Products

Plan Number 1F: Frozen Asparagus, Green Beans

Frozen Products: Asparagus, Green Beans.

Verification Plan: These products are considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:[35]			**Minimum Sample Units to Examine**
1.	Lot Evaluation		All Sample Units
2.	Grade Factor Evaluation		
	a.	Color	All Sample Units
	b.	Uniformity of Length	All Sample Units
	c.	Character	All Sample Units
	d.	Damage	All Sample Units
	e.	Harmless Extraneous Material	All Sample Units
	f.	Flavor & Odor	All Sample Units
3.	Type and Style		All Sample Units
4.	Size		All Sample Units
5.	Net Weight		All Sample Units
6.	Condition of Container		All Sample Units
7.	Coding		All Sample Units
8.	Enzyme Inactivation		One Determination
9.	Light Filth (Asparagus)		One Determination
	Light Filth (Green Beans) (Visual)		All Sample Units
10.	Foreign Material (Visual)		All Sample Units
11.	Finished Product Temperature		Two Per Day

[35] Verify factors applicable to product graded

Plan Number 2F: Frozen Broccoli, Leafy Greens, Squash

Frozen Products: Broccoli, Leafy Greens (All Types), Squash (Summer Type).

Verification Plan: These products are considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:[36]		**Minimum Sample Units to Examine**
l.	Lot Evaluation	All Sample Units
2.	Grade Factor Evaluation	
	a. Color	All Sample Units
	b. Defects	All Sample Units
	c. Character/Development	All Sample Units
	d. Flavor/Odor	All Sample Units
3.	Style	All Sample Units
4.	Net Weight	All Sample Units
5.	Condition of Container	All Sample Units
6.	Coding	All Sample Units
7.	Enzyme Inactivation	One Determination
8.	Foreign Material (Visual)	All Sample Units
9.	Light Filth (Broccoli, and Leafy Greens only)	One Determination
10.	Finished Product Temperature	Two Per Day

[36] Verify factors applicable to product graded

Plan Number 3F: Frozen Brussel Sprouts, Cauliflower

Frozen Products: Brussels Sprouts, Cauliflower.

Verification Plan: These products are considered as one product for verification when processing during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:	**Minimum Sample Units to Examine**
1. Lot Evaluation	All Sample Units
2. Grade Factor Evaluation	
a. Color	All Sample Units
b. Defects	All Sample Units
c. Character	All Sample Units
d. Flavor/Odor	All Sample Units
3. Net Weight	All Sample Units
4. Count (Brussels Sprouts only)	All Sample Units
5. Condition of Container	All Sample Units
6. Coding	All Sample Units
7. Enzyme Inactivation	One Determination
8. Foreign Material (Visual)	All Sample Units
9. Light Filth[37]	One Determination
10. Finished Product Temperature	Two Per Day

[37] Brussel Sprouts only

Plan Number 4F: Frozen Lima Beans, Peas

Frozen Products: Lima Beans, Peas.

Verification Plan: These products are considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:	**Minimum Sample Units to Examine**
1. Lot Evaluation	All Sample Units
2. Grade Factor Evaluation	
a. Color	All Sample Units
b. Defects	All Sample Units
c. Tenderness and Maturity	All Sample Units
d. Flavor and Odor	All Sample Units
3. Types (Lima Beans Only)	All Sample Units
4. Size (Frozen Peas)	Two Sample Units per Verification Lot
5. Net Weight	All Sample Units
6. Count[38]	All Sample Units
7. Condition of Container	All Sample Units
8. Coding	All Sample Units
9. Enzyme Inactivation	One Determination
10. Foreign Material (Visual)	All Sample Units
11. Finished Product Temperature	Two Per Day

[38] Count lima beans every sixth sample only

Plan Number 5F: Frozen Carrots, Sweet Peppers

Frozen Products: Carrots, Sweet Peppers.

Verification Plan: These products are considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:		**Minimum Sample Units to Examine**
1.	Lot Evaluation	All Sample Units
2.	Grade Factor Evaluation	
	a. Color	All Sample Units
	b. Size	All Sample Units
	c. Defects	All Sample Units
	d. Character/Texture	All Sample Units
	e. Flavor and Odor	All Sample Units
3.	Style and Types (Sweet Peppers)	All Sample Units
	Style (Carrots)	All Sample Units
4.	Net Weight	All Sample Units
5.	Condition of Container	All Sample Units
6.	Coding	All Sample Units
7.	Enzyme Inactivation	One Determination
8.	Foreign Material (Visual)	All Sample Units
9.	Finished Product Temperature	Two Per Day

Plan Number 6F: Frozen Melon Balls

Frozen Products: Melon Balls.

Verification Plan: This product is considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:	**Minimum Sample Units to Examine**
1. Lot Evaluation	All Sample Units
2. Grade Factor Evaluation	
a. Color	All Sample Units
b. Uniformity of Size and Shape	All Sample Units
c. Absence of Defects	All Sample Units
d. Character	All Sample Units
e. Flavor and Odor	All Sample Units
3. Style	All Sample Units
4. Net Weight	All Sample Units
5. Condition of Container	All Sample Units
6. Coding	All Sample Units
7. Foreign Material (Visual)	All Sample Units
8. Finished Product Temperature	Two Per Day

Plan Number 7F: Frozen Apricots, Apples, Peaches, Strawberries

Frozen Products: Apricots, Apples, Peaches, and Strawberries.

Verification Plan: These products are considered as one product for verification when processing during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:[39]	**Minimum Sample Units to Examine**
1. Lot Evaluation	All Sample Units
2. Grade Factor Evaluation	
a. Color	All Sample Units
b. Uniformity of Size and Symmetry	All Sample Units
c. Absence of Defects	All Sample Units
d. Character	All Sample Units
e. Flavor and Odor	All Sample Units
3. Style/Similar Variety	All Sample Units
4. Net Weight	All Sample Units
5. Drained Weight	All Sample Units
6. Sample Unit Count	All Sample Units
7. Brix	Two Sample Units -One Lot Per Day
8. Condition of Container	All Sample Units
9. Coding	All Sample Units
10. Foreign Material (Visual)	All Sample Units
11. Mold Determination	One (1) Determination
12. Finished Product Temperature	Two Per Day

[39] Verify the factors applicable to the product graded.

Plan Number 8F: Frozen French Fried Potatoes

Frozen Products: Potatoes, French Fried Type (any style cut from the potato, whole, slice, dice, etc.).

Verification Plan: These products are considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:[40]	**Minimum Sample Units to Examine**
1. Lot Evaluation	All Sample Units
2. Grade Factor Evaluation	
a. Uniformity of Size and Shape	All Sample Units
b. Absence of Defects	All Sample Units
c. Color	All Sample Units
d. Texture	All Sample Units
e. Flavor and Odor	All Sample Units
3. Net Weight	All Sample Units
4. Condition of Container	Two Per Day
5. Coding	All Sample Units
6. Finish Product Temperature	Two Sample Units
7. Style	All Sample Units
8. Length Designation	$\frac{1}{3}$ Sample Units
9. Cut Size	All Sample Units
10. Color Designation	All Sample Units
11. Foreign Material (Visual)	All Sample Units

[40] As applicable to style graded.

Plan Number 9F: Frozen Preformed and Hash Brown Potatoes

Frozen Products: Potatoes, Preformed and Hash Brown Types (any style shredded, diced or chopped from the potato and machine formed or used in hash browns).

Verification Plan: These products are considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:[41]	**Minimum Sample Units to Examine**
1. Lot Evaluation	All Sample Units
2. Grade Factor Evaluation	
a. Uniformity of Size and Shape	All Sample Units
b. Absence of Defects	All Sample Units
c. Color	All Sample Units
d. Texture	All Sample Units
e. Flavor and Odor	All Sample Units
3. Net Weights	All Sample Units
4. Condition of Container	Two Per Day
5. Coding	All Sample Units
6. Finished Product Temperature	Two Sample Units
7. Style	All Sample Units
8. Size/Count	All Sample Units
9. Cut Size	All Sample Units
10. Color Designation	All Sample Units
11. Foreign Material (Visual)	All Sample Units
12. Peroxidase Test	One Determination

[41] As applicable to type or style graded.

Plan Number 10F: Frozen Corn

Frozen Products: Whole Kernel Corn, Corn-on-the-Cob.

Verification Plan: These products are considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:[42]	**Minimum Sample Units to Examine**
l. Lot Evaluation	All Sample Units
2. Grade Factor Evaluation	
a. Color	All Sample Units
b. Uniformity of Size[43]	All Sample Units
c. Development[43]	All Sample Units
d. Defects	All Sample Units
e. Tenderness and Maturity	All Sample Units
f. Flavor/Odor	All Sample Units
3. Color Designation	All Sample Units
4. Style[43]	All Sample Units
5. Net Weight[44]	All Sample Units
6. Length[43]	All Sample Units
7. Condition of Container	All Sample Units
8. Coding	All Sample Units
9. Enzyme Inactivation	One Determination
10. Foreign Material (Visual)	All Sample Units
11. Finished Product Temperature	Two Per Day

[42] Verify the factors applicable to the product graded
[43] Corn-on-the-Cob
[44] Whole Kernel Corn

Plan Number 11F: Frozen Mixed Vegetables, Peas and Carrots, Succotash

Frozen Products: Mixed Vegetables, Peas and Carrots, Succotash.

Verification Plan: These products are considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:[45]	**Minimum Sample Units to Examine**
l. Lot Evaluation	All Sample Units
2. Grade Factor Evaluation	All Sample Units
a. Color	All Sample Units
b. Defects	All Sample Units
c. Character/Tenderness	All Sample Units
d. Flavor/Odor	All Sample Units
3. Style (2, 3, 4, or 5-way)[46]	All Sample Units
4. Ratio (Proportion of Ingredients)	All Sample Units
5. Net Weight	All Sample Units
6. Composite Grade of each Ingredient	All Sample Units All Sample Units
7. Brine Test (Pea Maturity)	All Sample Units
8. Condition of Container	All Sample Units
9. Coding	All Sample Units
10. Enzyme Inactivation	One Determination
11. Foreign Material (Visual)	All Sample Units
12. Finished Product Temperature	Two Per Day

[45] Verify the factors applicable to the product graded.
[46] Mixed vegetables.

Plan Numbers – Dehydrated Products

Plan Number 1D: Dehydrated Tomatoes

Dehydrated Products: Tomatoes, Dried, Crystals - Powder (NAG Item).

Verification Plan: This product is considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:	**Minimum Sample Units to Examine**
1. Lot Evaluation	All Sample Units
2. Grade Factor Evaluation	
a. Color	All Sample Units
b. Defects	All Sample Units
c. Moisture	Two Sample Units
d. Consistency (Lamb & Lewis)	Two Sample Units
e. Flavor and Odor	All Sample Units
3. Total Acid	Two Sample Units
4. Mold	One Sample Unit
5. Foreign Material (Visual)	All Sample Units
6. Condition of Container	All Sample Units
7. Coding	All Sample Units

Plan Number 2D: Dehydrated Orange Juice

Dehydrated Products: Orange Juice, Dehydrated

Verification Plan: This product is considered as one product for verification when processed during the same basic grading period.

Sampling Rate: Lot sampling plan up to thirteen (13) sample units.

Verification Factors:	**Minimum Sample Units to Examine**
1. Lot Evaluation	All Sample Units
2. Grade Factor Evaluation	
a. Color	All Sample Units
b. Defects	All Sample Units
c. Flavor	All Sample Units
3. Appearance	All Sample Units
4. Reconstitution	All Sample Units
5. Style	All Sample Units
6. Net Weight	All Sample Units
7. Vacuum	All Sample Units
8. Brix	All Sample Units
9. Acid	All Sample Units
10. Ratio	All Sample Units
11. Recoverable Oil	All Sample Units
12. Condition of Container	All Sample Units
13. Coding	All Sample Units
14. Mold Determination	One Sample Unit
15. Foreign Material	One Sample Unit

APPENDIX VII – REQUEST FOR GROUP IV VERIFICATION

The following is an example of a request for Group IV Verification. Use Current approved SCI Division letterhead (intranet link) to submit request.

REQUEST FOR GROUP IV VERIFICATION

USDA Agricultural Marketing Service

TO: _____

THRU: _____

FROM: _____

Official Approval is hereby requested for _____under Group IV procedures.

Fairway Packing Company has designated a plant individual to perform this function. This individual has been trained by the USDA inspector assigned to the plant, and also by the plant.

The USDA inspector assigned to this plant has verified the capability of this company to handle this function. This was done through on-site verifications.

Enclosed is the necessary paperwork covering _____ Verifications.

Official approval for _____is requested.

The USDA inspector's verification work plan for the_____ is attached.

Official approval for the plant to assume the_____ Group IV function is requested.

Submitted by:

_____ _____
USDA Inspector-in-Charge Date

_____ _____
Officer-in-Charge Date

_____ _____
Regional Branch Chief Date

APPENDIX IIX – VERIFICATION DEVIATION TRACKING FORM

Electronic version of Verification Deviation Tracking Form (intranet link)

USDA United States Department of Agriculture

SPECIALTY CROPS INSPECTION DIVISION
VERIFICATION DEVIATION TRACKING FORM

Group:

☐ I ☐ II ☐ III

Deviation	Dates							MN	MJ

Remarks

APPENDIX IX – QAP PLANT ANTICIPATED WORK SCHEDULE

Electronic version of Anticipated Work Schedule Form (intranet link)

USDA United States Department of Agriculture

SPECIALTY CROPS INSPECTION DIVISION
QAP PLANT ANTICIPATED WORK SCHEDULE

To:	Date:
From:	Plant:
Week of:	

Day of Week	Date	Hours Scheduled

Remarks

APPENDIX X – QUALITY ASSURANCE VERIFICATION REPORT EXAMPLES

Quality Assurance Verification Report

REPRODUCE LOCALLY. *Include form number and date on all reproductions.*

UNITED STATES DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SPECIALTY CROPS PROGRAM QUALITY ASSURANCE VERIFICATION REPORT				PROGRAM STATUS: ☐ RELIABLE ☐ UNRELIABLE	PLANT LOCATION (1) DATE OF PACK		
Shift	Item & Group*	Verification Factor	Number of Verif.	S U M m (See codes below)	DEVIATIONS AND/OR DEFICIENCIES – QUALITY CONTROL CORRECTIONS		
(2)	(3)	(4)	(5)	(6)	(7)		
* GROUP CODES 1- Finished Product 2-Sanitation 3- On Site 4-USDA Production				TOTALS ← →	DATE (11)	INTIALS OF PLANT OFFICIAL (10)	DATE (9)	SIGNATURE OF USDA INSPECTOR (8)

SC-148 ***(Example A)***

S = Satisfactory, U = Unsatisfactory, M = Major, m = minor

Group I - Finished Product Verification

REPRODUCE LOCALLY. *Include form number and date on all reproductions.*

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SPECIALTY CROPS PROGRAM

QUALITY ASSURANCE VERIFICATION REPORT

PROGRAM STATUS:
☒ RELIABLE
☐ UNRELIABLE

PLANT: ABC Canning Company
LOCATION: Anywhere, State
DATE OF PACK: January 5, 2017

Shift	Item & Group*	Verification Factor	Number of Verif.	S	U	M	m	DEVIATIONS AND/OR DEFICIENCIES – QUALITY CONTROL CORRECTIONS
				(See codes below)				
Day	I	Clingstone Peaches – 2 1/2 Halves	11					
		(2) Grade Factor					X	Color score points assigned by plant personnel one point above verifications for the same number of lower grade units present. Defects score points assigned by plant personnel two points above verifications for the same number of defects.
		(5) Vacuum				X		Verification sample units with "0" vacuums – none indicated on plant records.
		(13) Condition of Container					X	Eight out of 13 verification sample units with illegible codes. Plant records show all codes are legible. **PLANT RESPONSES** FACTOR (2) – Additional training & reviewing of grading for line grade personnel for color scoring. Defect scoring caused by the use of wrong scoring guide. Use of applicable scoring guide reviewed with all graders. 01/06/17 *K. Smith* 01/06/17 *B. Jones* FACTOR (5) – No "Zero" vacuum on the Q.C. records due only to inadequate sample size. Placed in Q.C. Hold status for re-evaluation. Increased sample size. 01/06/17 *K. Smith* 01/06/17 *B. Jones* FACTOR (13) – Personnel unaware of the significance of proper coding. Instructed them to record as illegible any code that is not distinct. Cookroom has replaced worn die in seamer. 01/06/17 *K. Smith* 01/06/17 *B. Jones*
				TOTALS				
				←	→	1	3	

* GROUP CODES		DATE	INITIALS OF PLANT OFFICIAL	DATE	SIGNATURE OF USDA INSPECTOR
1- Finished Product	3- On Site	01/07/17	*KS*	01/07/17	*B. Jones* B. Jones
2-Sanitation	4-USDA Production				

SC-148 **(Example B)** S = Satisfactory, U = Unsatisfactory, M = Major, m = minor

Group II - Sanitation Verification (Satisfactory)

REPRODUCE LOCALLY. *Include form number and date on all reproductions.*

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SPECIALTY CROPS PROGRAM

QUALITY ASSURANCE VERIFICATION REPORT

PROGRAM STATUS:
☒ RELIABLE
☐ UNRELIABLE

PLANT: ABC Canning Company
LOCATION: Anywhere, State
DATE OF PACK: January 5, 2017

Shift	Item & Group*	Verification Factor	Number of Verif.	S	U	M	m	DEVIATIONS AND/OR DEFICIENCIES – QUALITY CONTROL CORRECTIONS
				(See codes below)				
1 Day	2	SANITATION NP – 1 PREMISES		X				Verification indicates satisfactory program
		P-4 PEACH CANNING		X				
			TOTALS ← →					

DATE: 01/05/17

INTIALS OF PLANT OFFICIAL: *AS*

DATE: 01/05/17

SIGNATURE OF USDA INSPECTOR: *B. Jones* B. Jones

* GROUP CODES
1- Finished Product 3- On Site
2-Sanitation 4-USDA Production

S = Satisfactory, U = Unsatisfactory, M = Major, m = minor

SC-148 ***(Example C)***

Group II - Sanitation Verification (Unsatisfactory - Prior to Plant Response)

REPRODUCE LOCALLY. *Include form number and date on all reproductions.*

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SPECIALTY CROPS PROGRAM

QUALITY ASSURANCE VERIFICATION REPORT

PROGRAM STATUS:
☒ RELIABLE
UNSATISFACTORY
☐ UNRELIABLE

PLANT: ABC Canning Company
LOCATION: Anywhere, State
DATE OF PACK: January 5, 2017

Shift	Item & Group*	Verification Factor	Number of Verif.	S	U	M	m	DEVIATIONS AND/OR DEFICIENCIES – QUALITY CONTROL CORRECTIONS
				(See codes below)				
1 Day	2	SANITATION NP – 1 PREMISES						
		P-4 PEACH CANNING			X	X		Major (slime) deficiencies found on canning lines, not reported on plant records – and/or Plant records indicate major deficiencies on fillers which were not corrected. Plant records failed to indicate a corrected condition – and/or Minor deficiencies reported as 'major" on plant sanitation records – and/or Plant records indicated major deficiencies but failed to note the deficiencies were corrected – and/or Critical deficiency noted on filler.
				TOTALS ←		→		First "Unsatisfactory" Verification

* GROUP CODES			DATE	INITIALS OF PLANT OFFICIAL	DATE	SIGNATURE OF USDA INSPECTOR
1- Finished Product	3- On Site					
2-Sanitation	4-USDA Production					

SC-148 ***(Example D)*** S = Satisfactory, U = Unsatisfactory, M = Major, m = minor

Group III – On-Site Verifications

REPRODUCE LOCALLY. *Include form number and date on all reproductions.*

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SPECIALTY CROPS PROGRAM

QUALITY ASSURANCE VERIFICATION REPORT

PROGRAM STATUS:
☒ RELIABLE
☐ UNRELIABLE

PLANT: ABC Canning Company
LOCATION: Anywhere, State
DATE OF PACK: January 5, 2017

Shift	Item & Group*	Verification Factor	Number of Verif.	S (See codes below)	U (See codes below)	M (See codes below)	m (See codes below)	DEVIATIONS AND/OR DEFICIENCIES – QUALITY CONTROL CORRECTIONS
1 Day	3	ON-SITE						
		Fill Weight						Sample containers on lines 1 and 2 are not being dried prior to weighing. Plant Response Line technician forgot to dry off sample containers prior to weighing. Reminded employee of the proper procedure of weighing cans and informed all contact personnel of the deviation. 01/05/17 *K. Smith* 01/05/17 *B. Jones*
		Brix						No deviations.
		Mold Counting						No deviations.
		Peach Grader						Line grader not scoring color correctly. Plant Response The line grader had the wrong interpretation of scoring guide. Explained correct usage of guide immediately and informed other shift personnel of correct usage. 01/06/11 *K. Smith* 01/06/11 *B. Jones*
				TOTALS ←				

* GROUP CODES		DATE	INITIALS OF PLANT OFFICIAL	DATE	SIGNATURE OF USDA INSPECTOR
1- Finished Product	3- On Site	01/05/17	*HS*	01/05/17	*B. Jones*
2-Sanitation	4-USDA Production				B. Jones

S = Satisfactory, U = Unsatisfactory, M = Major, m = minor

SC-148 ***(Example E)***

Group IV – USDA Procedures - Verifications

REPRODUCE LOCALLY. *Include form number and date on all reproductions.*

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SPECIALTY CROPS PROGRAM

QUALITY ASSURANCE VERIFICATION REPORT

PROGRAM STATUS:
☒ RELIABLE
☐ UNRELIABLE

PLANT: ABC Canning Company
LOCATION: Anywhere, State
DATE OF PACK: January 5, 2017

Shift	Item & Group*	Verification Factor	Number of Verif.	S	U	M	m	DEVIATIONS AND/OR DEFICIENCIES – QUALITY CONTROL CORRECTIONS
				(See codes below)				
1 Day	4	**Condition of Container Procedures**						
		5. Worksheet filled out correctly						
		6. Correct sample size			X			Using sample code CB-CA is correct code. Plant Response The previous lot was marginal for acceptance so the sample size was increased to CB as a precaution. 01/05/17 *K. Smith* 01/05/17 *B. Jones*
		7. Proper selection of sample units						
		8. Correct classification of defects			X			10 of the 13 "minor" defects classified by plant personnel were "insignificant" Plant Response Can condition person scoring insignificant dents incorrectly as minors. Reviewed classifications of defects using actual examples of dents with plant personnel. 01/05/17 *K. Smith* 01/05/17 *B. Jones*
		9. Proper acceptance of defects						
		10. Proper acceptance or rejection of lot						
			TOTALS →					

* GROUP CODES		DATE	INITIALS OF PLANT OFFICIAL	DATE	SIGNATURE OF USDA INSPECTOR
1- Finished Product 3- On Site 2-Sanitation 4-USDA Production		01/05/17	*KS*	01/05/17	*B. Jones* B. Jones

SC-148 ***(Example F)*** S = Satisfactory, U = Unsatisfactory, M = Major, m = minor

Example G

Pg. 1 of 1

SANITATION SCORE SHEET
FOR CANNED FOOD PROCESSING PLANTS
USDA Group II Verification

NAME OF PLANT	PLANT ADDRESS	DATE
ABC Processing Company	712 Sycamore Road Anytown, USA	September 28, 2016

RATING SYMBOLS	SIGNATURE OF INPLANT TECHNICIAN	D.I.R. No.
√ - Satisfactory MN - Minor MJ - Major CR - Critical U - unsatisfactory	Conner Tibbetts Conner Tibbetts	N/A

	TIME	0700
A	**PREMISES**	
	1. Outside Areas	√
	2. Waste Disposal	√
	3.	-
B	**RECEIVING DEPARTMENT**	
	1. Boxes	√
	2. Storage	√
	3. Dumpers and Conveyors	√
	4. Floors, Gutters, and Walls	√
	5.	-
C	**PREPERATION DEPARTMENT**	
	1. Washers and Flumes	MJ
	2. Belts and Elevators	√
	3. Graders and Snippers	√
	4. Cutters and Slicers	√
	5. Blanchers and Hoppers	√
	6. Pulpers and Finishers	√
	7. Floors, Gutters, and Walls	√
	8. De-Waters and Tanks	√
	9.	-
D	**CANNING DEPARTMENT**	
	1. Belts	√
	2. Fillers and Can Tables	√
	3. Floors, Gutters and Walls	√
	4.	-
	5.	-

	TIME	0700
E	**COOK ROOM**	
	1. Exhaust Box	√
	2. Syrupers	√
	3. Seamers	√
	4. Floors, Gutters and Walls	√
	5.	-
F	**SYRUP AND EVAPORATION DEPARTMENT**	
	1. Tanks and Pipes	√
	2. Vacuum Pans	√
	3. Floors, Gutters, and Walls	√
	4.	-
G	**WAREHOUSE**	
	1. General Housekeeping	√
	2. Stacks	√
	3.	-
H	**REST ROOMS**	
	1. Supplies	√
	2. Wash Basins	√
	3. Toilets and Urinals	√
	4. Floors and Walls	√
	5.	-
I	**PERSONNEL**	
	1. Cleanliness	√
	2. Head Covering	√
	3. Smoking	√
	4.	-

ITEM NO.	TIME	RATING SYMBOL	SANITATION DEFICIENCIES SHOW RATING, ITEM NO. AND DESCRIBE	TIME LIMIT	TIME CORR.
C1	0700	MJ	Slime on underside of long wire grate on whole peel line		
			Verification of plant sanitation scoresheet indicates		
			deficiency was not identified and recorded during		
			plant sanitation tour.		
			"Unsatisfactory" 1st Day		

APPENDIX XI – FILL WEIGHT VERIFICATION GUIDE: PEARS

This procedure provides an inspection guide for use when verifying that a plant's fill weight control for pears is reasonable, based on 24-hour drained weights obtained by the USDA inspector. It is applicable for all types of pear styles and syrups.

For a given production period (i.e., shift, day, etc.), the sample average value of 24-hour drained weights obtained by the USDA inspector is used to determine a tolerance interval for the plant's final average fill weight value, as read directly from the plant's fill weight control forms. The verification status of the plant's fill weight control is determined by use of this tolerance interval.

Procedure

1. Designate the production period (i.e., shift, day, etc.) and can size for which the plant's fill weight control is to be checked.

2. Obtain a random sample of size 3, 6, or 13 from this production as required. This sampling should be spread out as much as possible over the designated production period.

3. For each sample unit, determine and record the 24-hour drained weight.

4. Calculate the average value of these drained weights.

5. Obtain the plant's fill weight control forms for this production period. From the forms, obtain the plant's final average fill weight value. This value is usually recorded as $\bar{\bar{X}}$. If $\bar{\bar{X}}$ is not designated, the average median value, $\bar{\bar{M}}i$ for that production period may be used.

6. Select the appropriate graph for the designated can size. Three lines are shown on each graph - an upper and lower tolerance interval limit line, and a line which shows the midpoint of the intervals.

7. Enter the graph along the horizontal axis with the USDA 24-hour average drained weight value calculated in Step 4 above. Proceed vertically from the point and intersect each of the three lines. The average fill weight value on the vertical axis corresponding to the intersection with the lowest, middle, and upper line represents the lower limit, midpoint, and upper limit, respectively, of the tolerance interval.

8. Compare the plant's final average fill weight from Step 5 with the lower and upper tolerance interval limits from Step 7 above. The verification status of the plant's fill weight control is determined as follows:

    a. Control is reasonable if the plant's final average fill weight is on or between the lower and upper tolerance interval limits.

    b. If the plant's final average fill weight is outside the lower and upper tolerance

interval limits, the USDA inspector should thoroughly review the plant's fill weight control forms and procedures for the production period in order to determine why the plant's value did not fall within the tolerance interval. Accuracy of any numerical computations should be one of the first factors to be checked.

Note: Over a long period of time, the plant's result should cluster around the midpoint of the tolerance intervals and approximately one out of every one hundred results should fall outside the intervals, even though the plant has good fill weight control.

Example

The night shift completed production of pear halves in heavy syrup in #300 cans. The USDA inspector decides to verify the plant's fill weight control for that shift. The following examples follows the procedure described above in Part II on a step-by-step basis.

1. Production period is the night shift. Can size is #300.

2. USDA inspector obtains a random sample of 13 cans from the night shift production.

3. The 24-hour drained weights (in ounces) for these cans are:

6.0	7.7	6.5	6.8	6.1
6.0	6.0	6.4	7.1	
6.0	7.6	5.7	7.3	

4. Twenty-four hour drained weight average is 6.55 ounces.

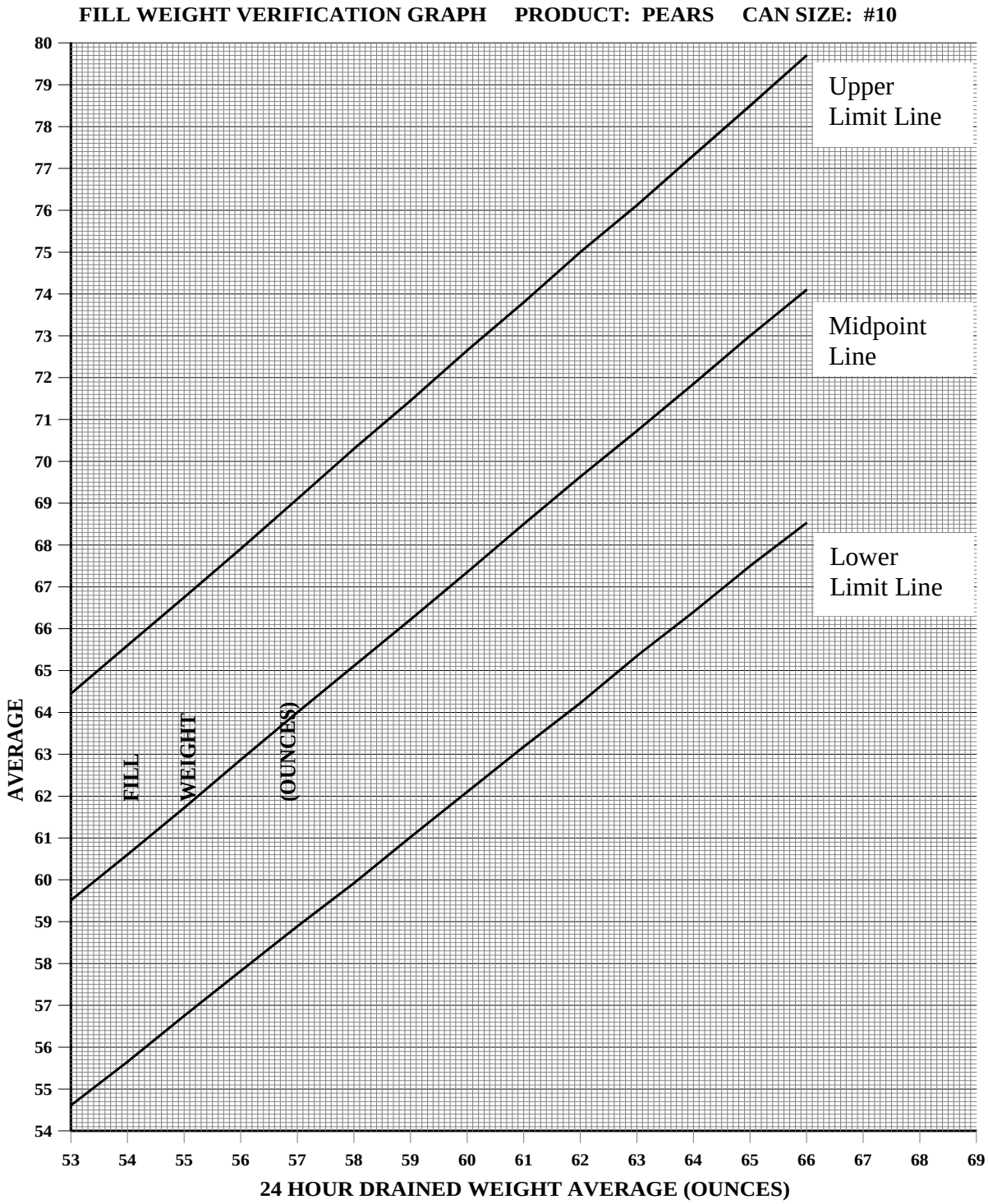
5. From the plant's fill weight control forms for the night shift we obtain $\bar{\bar{M}}i$ = 9.9 ounces.

6. The graph for #300 can size is selected.

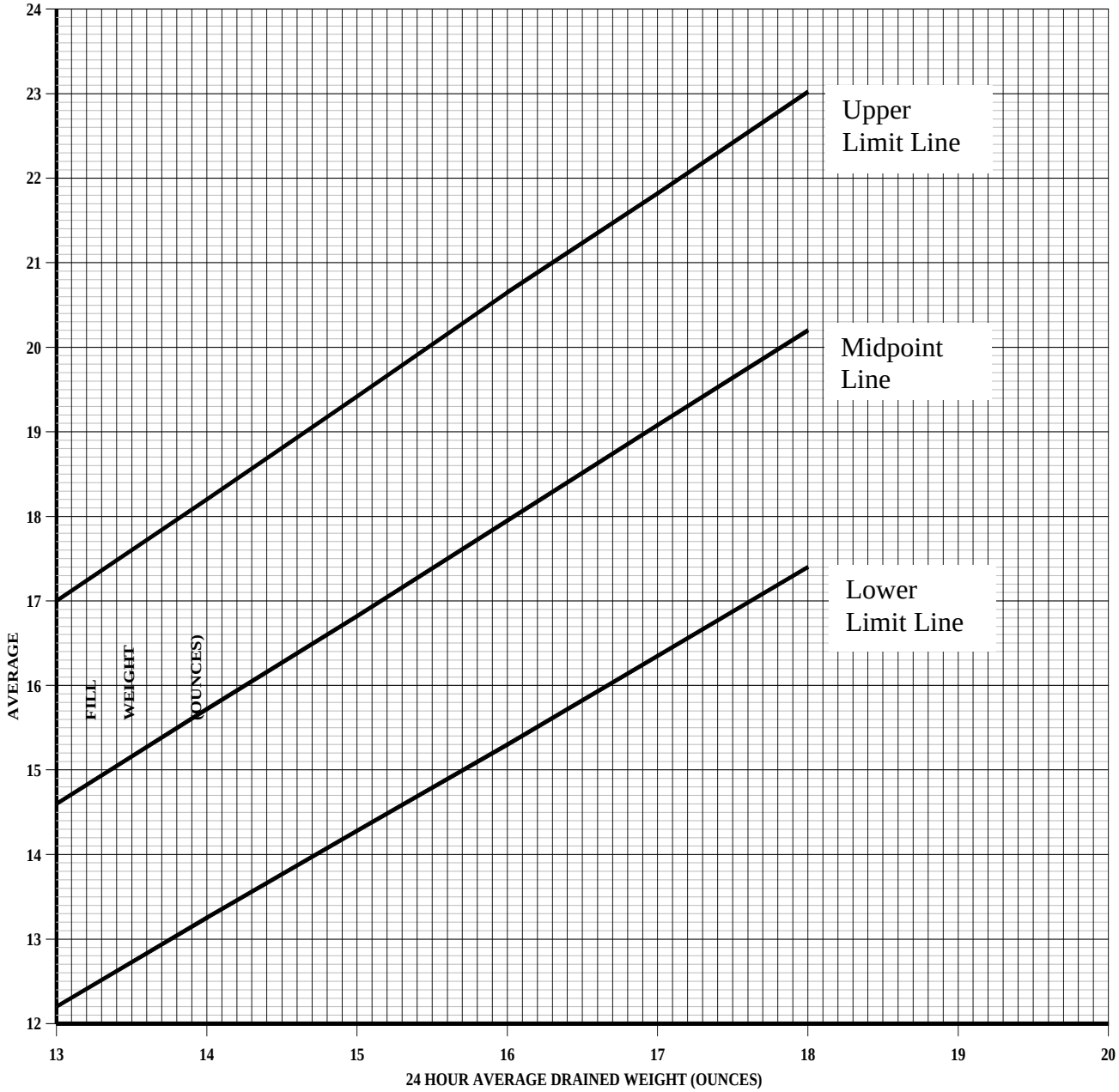
7. From this graph we can obtain the following average fill weight values corresponding to the 24-hour drained weight average of 6.55 ounces:

   Lower Tolerance Interval Limit = 5.65 ounces
   Tolerance Interval Midpoint = 7.35 ounces
   Upper Tolerance Interval Limit = 9.05 ounces

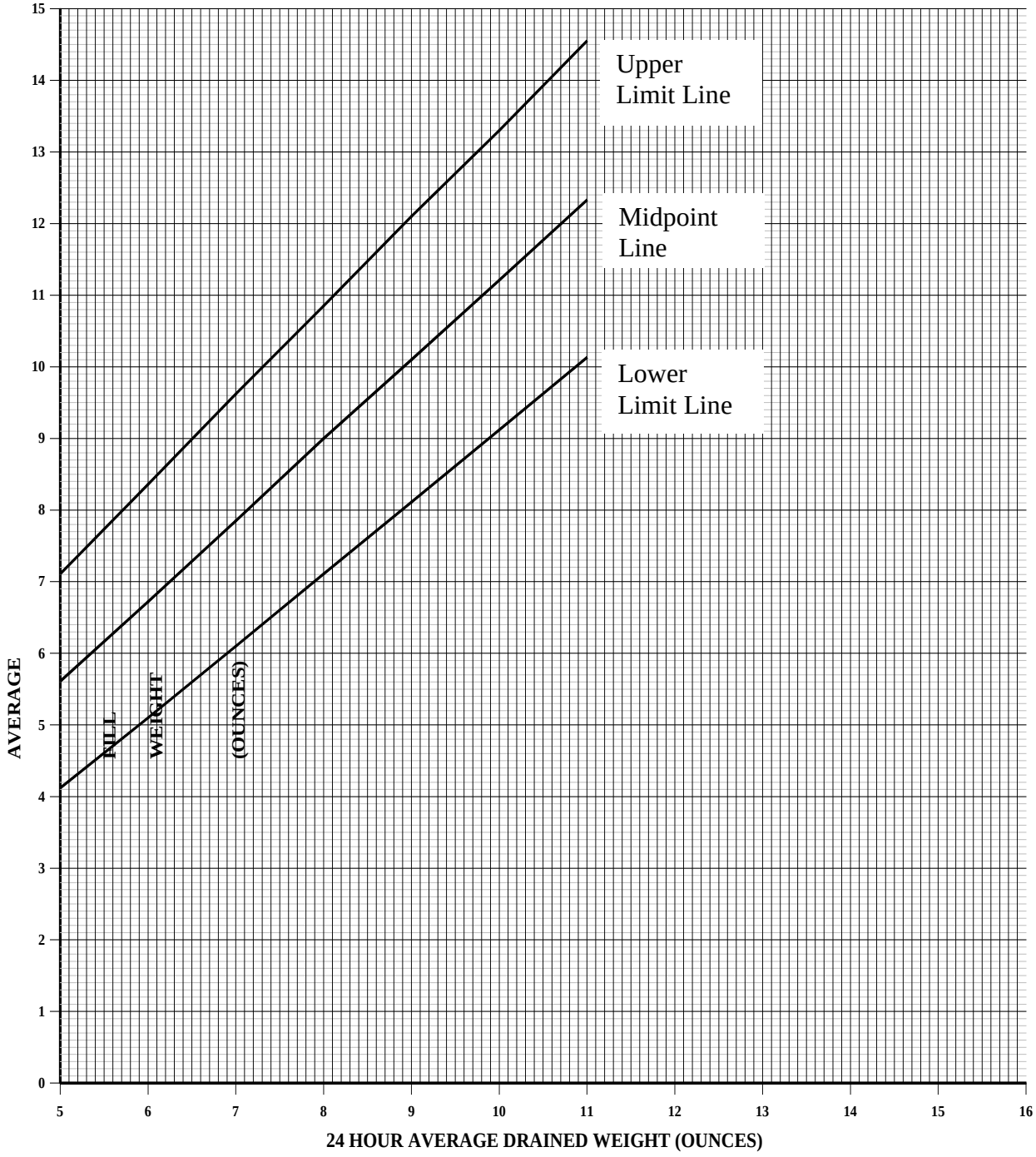
8. Since the plant's final average fill weight (9.9) exceeds the upper tolerance interval; limit (9.05), the USDA inspector should conduct a thorough review as discussed in Procedure portion of this section.


FILL WEIGHT VERIFICATION GRAPH PRODUCT: PEARS CAN SIZE: #10
Upper Limit Line
Midpoint Line
Lower Limit Line
AVERAGE FILL WEIGHT (OUNCES)
80 79 78 77 76 75 74 73 72 71 70 69 68 67 66 65 64 63 62 61 60 59 58 57 56 55 54
53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69
24 HOUR DRAINED WEIGHT AVERAGE (OUNCES)

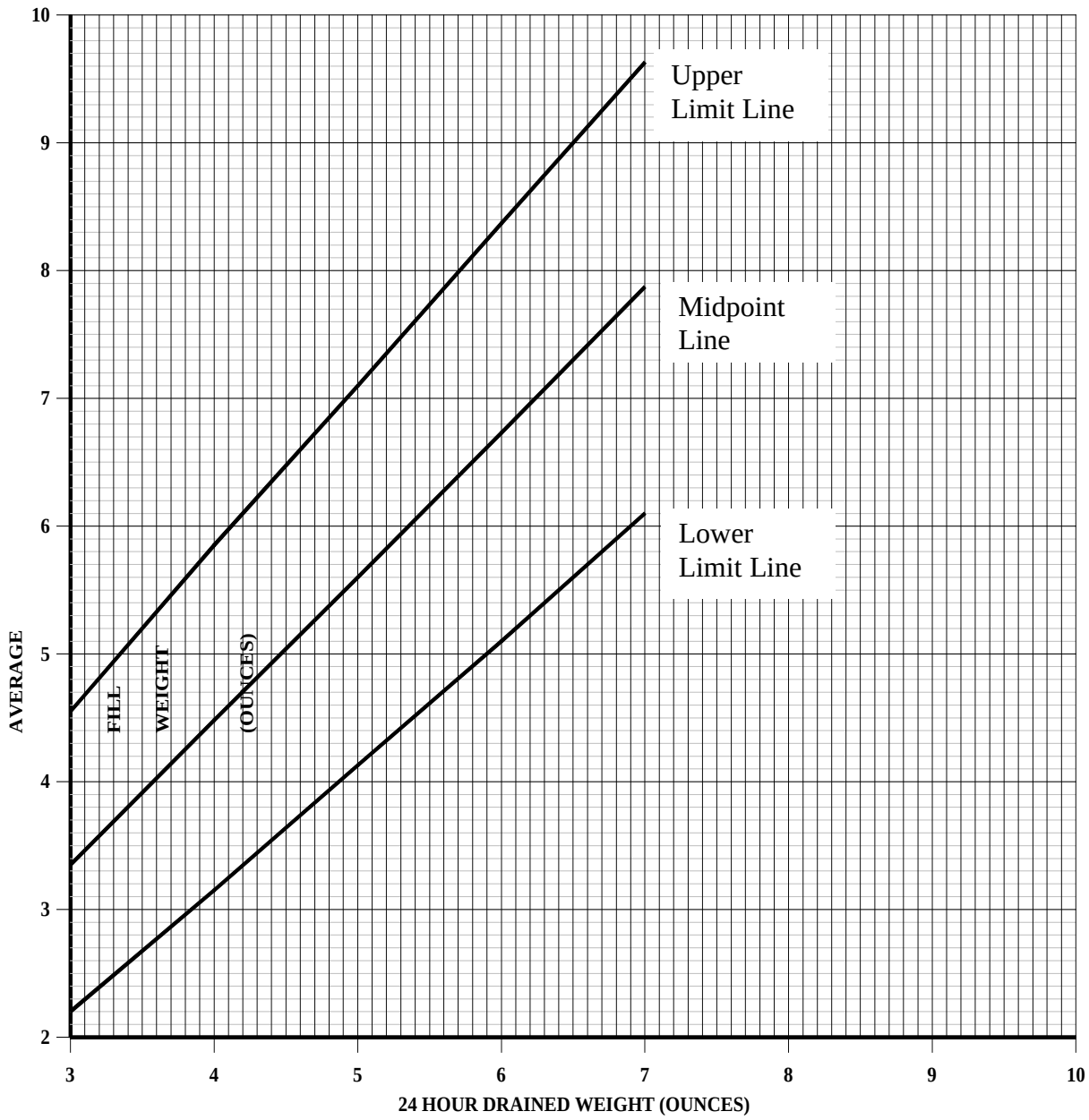
FILL WEIGHT VERIFICATION GRAPH PRODUCT: PEARS CAN SIZE: #2 1/2



FILL WEIGHT VERIFICATION GRAPH PRODUCT: PEARS CAN SIZE: #300



FILL WEIGHT VERIFICATION GRAPH PRODUCT: PEARS CAN SIZE: 8 OUNCES



APPENDIX XII – FILL WEIGHT VERIFICATION GUIDE: PEACHES

This procedure provides an inspection guide for use when verifying that a plant's fill weight control for Clingstone Peaches is reasonable, based on 24-hour drained weights obtained by the USDA inspector. It is applicable for various can sizes, styles, and syrups.

For a given production period (i.e., shift, day, etc.), the sample average value of 24-hours drained weight obtained by the USDA inspector is used to determine a tolerance interval for the plant's final average fill weight value, as read directly from the plant's fill weight control forms. The verification status of the plant's fill weight control is determined by use of this tolerance interval.

Procedure

1. Designate the production period (i.e., shift, day, etc.) and item for which the plants fill weight control is to be checked.

2. Obtain a random sample of size 3, 6 or 13 from this production, as required. This sampling should be spread out as much as possible over the designated production period.

3. For each sample unit, determine and record the 24-hour drained weight.

4. Calculate the average value of these drained weights.

5. Obtain the plant's fill weight control forms for this production period. From the forms, obtain the plant's final average fill weight value. This value is usually recorded as $\bar{\bar{X}}$. If $\bar{\bar{X}}$ is not designated, the average median value, $\bar{\bar{M}}i$, for that production period may be used.

6. Select the appropriate graph for the designated item. Three lines are shown on each graph - an upper and lower tolerance interval limit line and a line which shows the midpoint of the intervals.

7. Enter on the graph along the vertical axis the USDA 24-hour average drained weight value calculated in Step A4 above. Proceed horizontally from the point and intersect each of the three lines. The average fill weight value on the horizontal axis corresponding to the intersection with the lowest, middle, and upper line represent the lower limit, midpoint, and upper limit, respectively, of the tolerance interval.

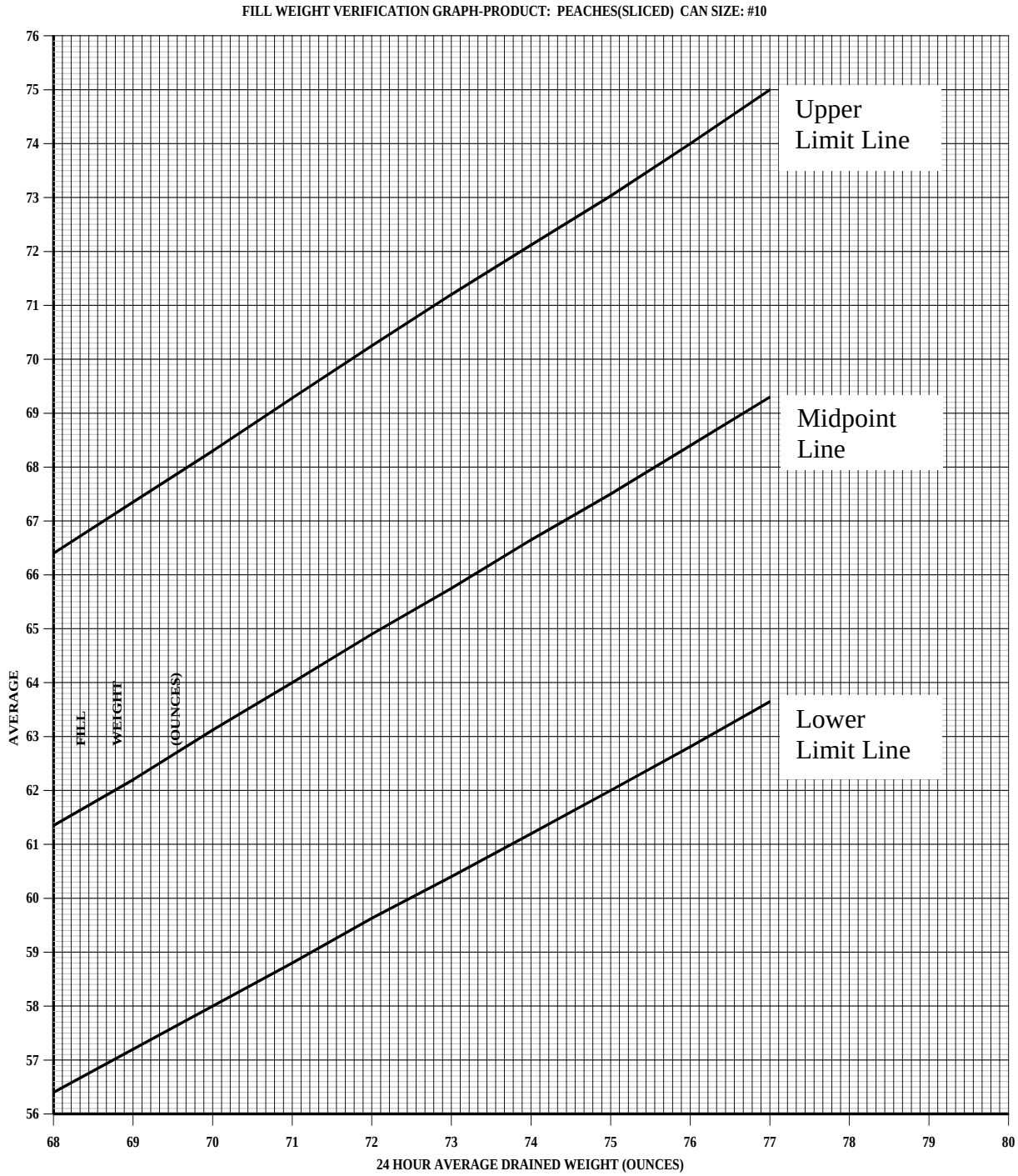
8. Compare the plant's final average fill weight with the lower and upper tolerance interval limits. The verification status of the plant's fill weight control is determined as follows:

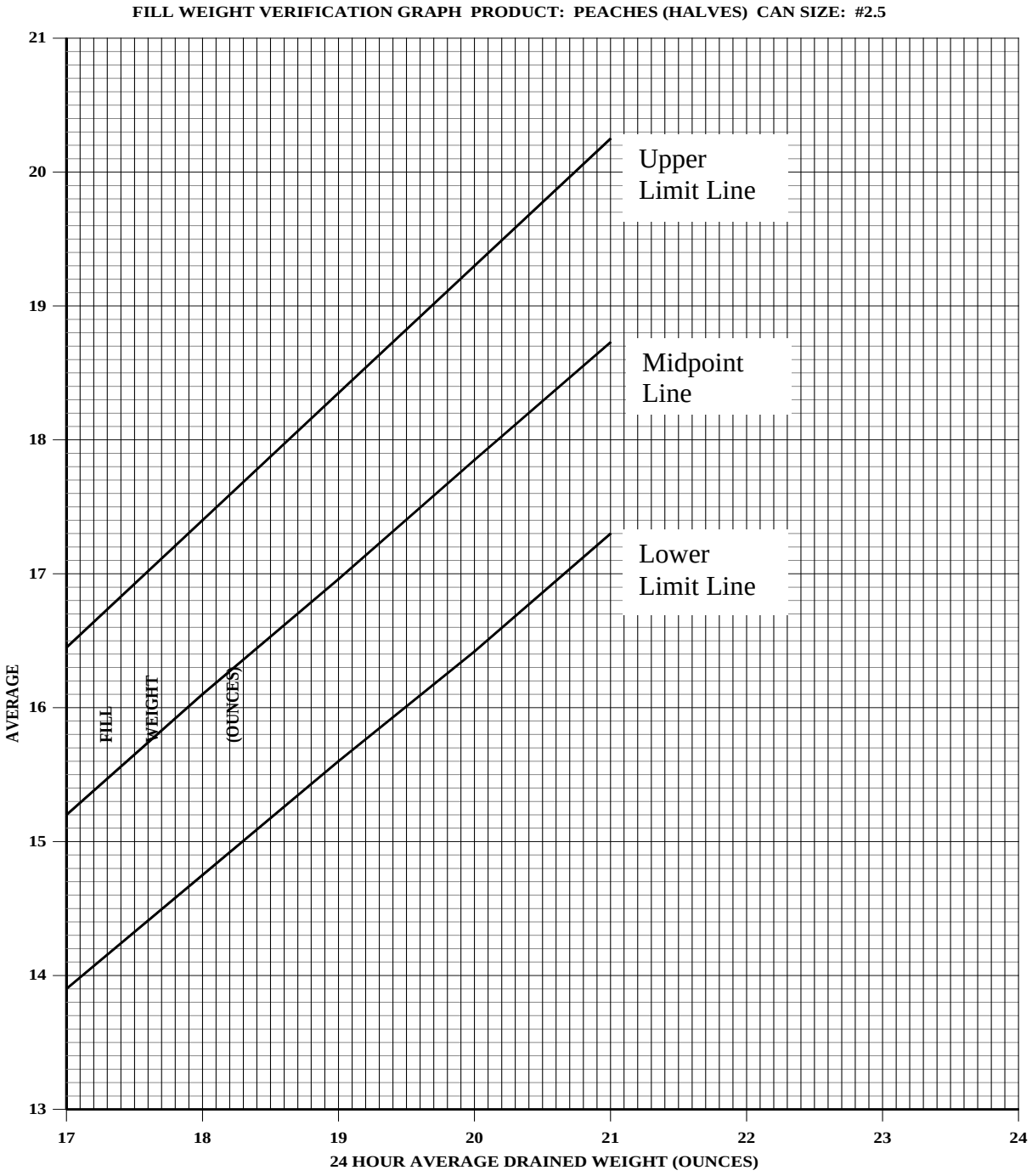
    a. Control is reasonable if the plant's final average fill weight is on or between the lower and upper tolerance interval limits.

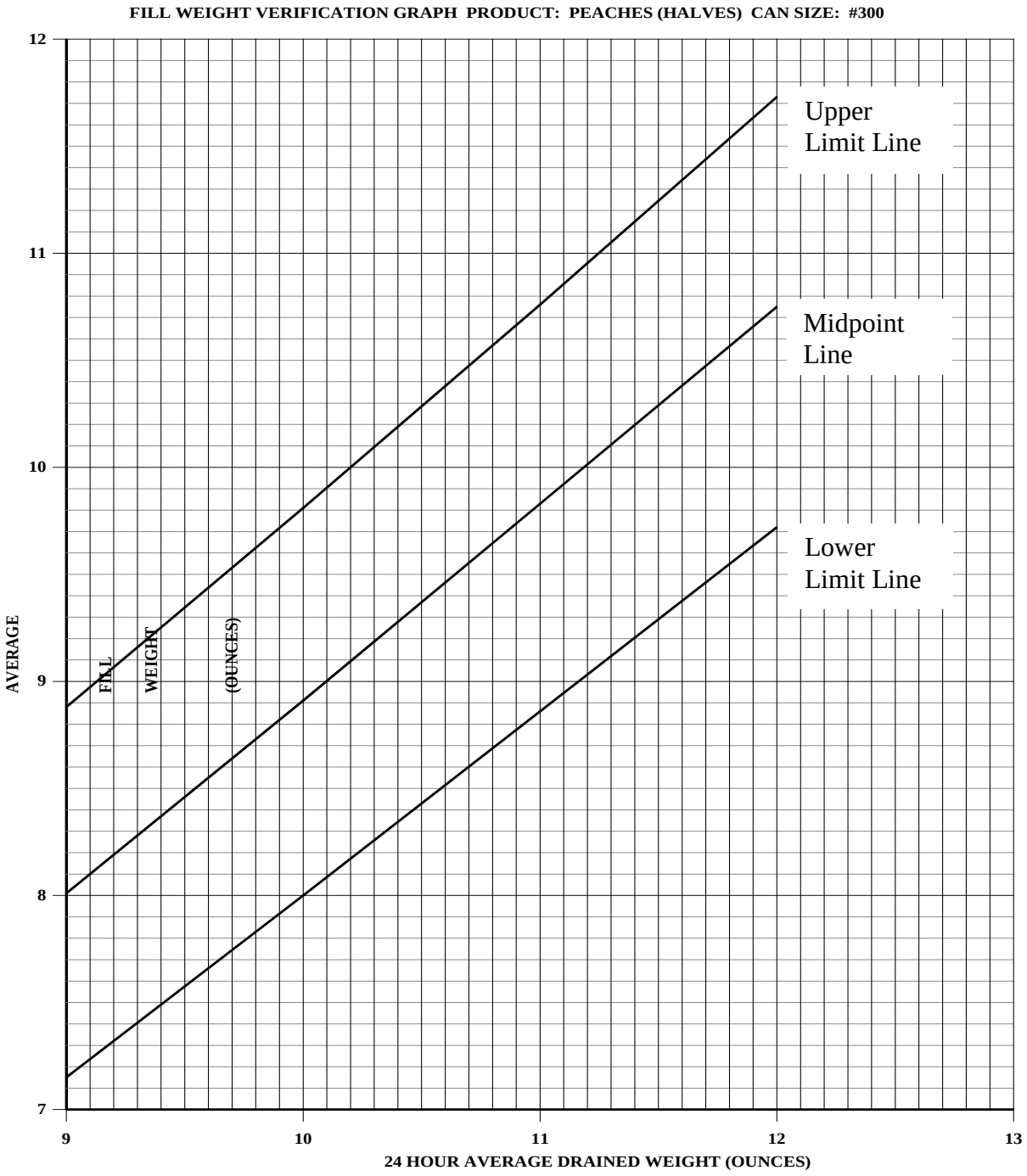
    b. If the plant's final average fill weight is outside the lower and upper tolerance interval limits, the USDA inspector should thoroughly review the plant's fill

weight control forms and procedures for the production period in order to determine why the plant's value did not fall within the tolerance interval. Accuracy of any numerical computations should be one of the first factors to be checked.

Note: Over a long period of time, the plant's result should cluster around the midpoint of the tolerance intervals and approximately one out of every one hundred results should fall outside the intervals, even though the plant has good fill weight control.


FILL WEIGHT VERIFICATION GRAPH-PRODUCT: PEACHES(SLICED) CAN SIZE: #10
AVERAGE FILL WEIGHT (OUNCES)
76
75
74
73
72
71
70
69
68
67
66
65
64
63
62
61
60
59
58
57
56
68
69
70
71
72
73
74
75
76
77
78
79
80
24 HOUR AVERAGE DRAINED WEIGHT (OUNCES)
Upper Limit Line
Midpoint Line
Lower Limit Line


FILL WEIGHT VERIFICATION GRAPH PRODUCT: PEACHES (HALVES) CAN SIZE: #2.5
21
20
19
18
17
16
15
14
13
AVERAGE FILL WEIGHT (OUNCES)
Upper Limit Line
Midpoint Line
Lower Limit Line
17
18
19
20
21
22
23
24
24 HOUR AVERAGE DRAINED WEIGHT (OUNCES)


FILL WEIGHT VERIFICATION GRAPH PRODUCT: PEACHES (HALVES) CAN SIZE: #300
12
11
10
9
8
7
AVERAGE FILL WEIGHT (OUNCES)
Upper Limit Line
Midpoint Line
Lower Limit Line
9
10
11
12
13
24 HOUR AVERAGE DRAINED WEIGHT (OUNCES)

FILL WEIGHT VERIFICATION GRAPH PRODUCT: PEACHES (HALVES) CAN SIZE: 8 OUNCE