

# Thirteen

## Quantity Control

*Training for the  
Weights and Measures Official*



# TRAINING FOR THE WEIGHTS AND MEASURES OFFICIAL

## CURRICULUM

### **MODULE 13 - QUANTITY CONTROL**

- Module 1 - Introduction to Weights and Measures**
- Module 2 - Laws and Regulations**
- Module 3 - Enforcement Procedures**
- Module 4 - Legal Action**
- Module 5 - Legal Metrology**
- Module 6 - Field Standards and Test Equipment**
- Module 7 - Basic Weighing and Measuring Principles**
- Module 8 - Device Type Evaluation**
- Module 9 - Weighing Devices**
- Module 10 - Measuring Devices**
- Module 11 - Weighmaster Enforcement**
- Module 12 - Petroleum Products**
- Module 14 - Service Agencies and Agents**



# Acknowledgment

*Developing a training program for weights and measures officials is a challenging and ambitious project. It requires time, dedication, and expertise from many individuals.*

*It is impossible to list the names of the many people who contributed to the development of this course. However, gratitude is extended to the following groups whose dedication and commitment made this training module a reality.*

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# Module Thirteen

## Quantity Control

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## Introduction

**Welcome to** “Quantity Control”. This is the thirteenth module in the series “Training for the Weights and Measures Official”. It will introduce you to weights and measures responsibilities related to accurate quantities of packaged and unpackaged commodities, accuracy of price verification systems, and compliance with labeling laws. Some of the most common inspections and investigations within this program involve the determination that commodity labels are accurate and complete, and that sellers honor price representations upon which buyers rely in making their purchasing decisions.

At the end of each segment in this module you will find a series of self-evaluation questions to test your knowledge. Although you are not required to complete the self-evaluation, we encourage you to take a few minutes to read the questions before moving on to the next segment. Answers are provided at the end of the module. If you are unsure of a response, reread the training material and it will give you the information you need.

## Module Objectives

When you have completed this module you will be able to:

- Appreciate the importance of Quantity Control activities in protecting consumers and in assuring equity in the marketplace.
- Understand the three primary areas of responsibility of the Quantity Control Program.
- Know the meaning of technical terms that are commonly used in Quantity Control inspections and investigations.
- Know where to find information from a list of resources and manuals to assist you in understanding legal requirements and proper regulatory procedures.
- Gain a basic knowledge of inspection procedures to provide you with a framework upon which you can build to a higher level of expertise.
- Understand your role as a regulatory officer in your relationship with other public agencies, consumers and industry.

## Introduction and Background

### Program Description

With California spending \$136 billion annually on commodities sold by weight or measure, inspections and other regulatory activities by Quantity Control Inspectors are of great importance.

The primary function of weights and measures regulatory activities is to ensure that equity prevails in all commercial transactions involving quantity representations. Accurate quantity representations facilitate value comparison for the purchaser and promote fair competition for industry. Assurance of full weight and measure, and elimination of fraud and misrepresentation are fundamental objectives of accurate and legal quantity determinations.

The Quantity Control Program fulfills these objectives by monitoring commerce at all levels (retail, wholesale and manufacturing) in order to minimize measurement errors in representations for both packaged and over-the-counter sales, and to ensure accuracy of commodity pricing. Inspection and investigative activities are guided by and authorized by the California Business and Professions Code (B&P Code), Division 5 and the California Code of Regulations, Title 4.

#### Quantity Control Program Areas of Responsibilities

Evaluation of quantity representations in the marketplace

Assuring accuracy of pricing

Enforcement of the Fair Packaging and Labeling Act

***Evaluation of quantity representations*** is carried out by a variety of standardized surveys, inspections and investigations. Packaged commodities are inspected to verify the accuracy of the net content statement of both retail and wholesale packages. These items may be inspected at the point of packaging, distribution, wholesale, retail or door-to-door sales. Unpackaged or bulk commodities, sold via a scale or other weighing or measuring device, are also evaluated to assure that the transaction results in a charge based on the true net content of the commodity.

**Price Verification**, whether automatic or manual, determines charges at the point-of-sale found in many areas of the retail industry. These systems are inspected to assure that the consumer is charged accurately.



**Enforcement of the Fair Packaging and Labeling Act and the Uniform Packaging and Labeling Regulation** as it appears in the National Institute of Standards and Technology (NIST) Handbook 130 is another statutory responsibility of the Quantity Control Program. The purpose of this law and regulation is to provide accurate and adequate information on packages as to the identity and quantity of contents so that purchasers can make price and quantity comparisons.



Various Packages Labeled





## History

***Honest representations of weights and measures in the marketplace have been of concern to societies throughout time. The bible mentions the need for accurate weighing and measuring in the Book of Deuteronomy.***

***English Magna Carta of 1215 states:***

*“There shall be a standard measure of wine, ale and grain throughout the kingdom. There shall also be a standard width of dyed cloth, russett and haberject, namely two ells within the selvedges. Weights are to be standardized similarly.”*

**1832**

The United States Congress established standards of weights and measures used in commerce.

**1850**

The first session of the California Legislature passed an act to establish standard weights and measures in conformity with the standards established by Congress. This is the basis for the Quantity Control Program.

Through the years following this act, packaged commodities were inspected on a very limited basis. There were no sampling plans and all packages in a lot had to be individually weighed or measured, for the most part, this was time consuming and not cost effective. In an effort to increase effectiveness, several amendments were enacted which enhanced or repealed parts of the original weights and measures law.

*Testing Milk Bottles  
for Legal Capacity*



**1952** The National Conference on Weights and Measures (NCWM) adopted the Uniform Packaging and Labeling Regulations. These models established uniformity and guidance among those states authorized by provisions in their own weights and measures laws to adopt such regulations. It also established uniformity between the Federal Food and Drug Administration's regulations and the NCWM.

**1960** California adopted Sampling Procedures into the California Code of Regulations. The average net content of a large lot of packages could now be determined by checking a few samples from the entire lot leading to cost-effective inspections of large numbers of packages at production, in distribution, at wholesale, or at retail.



**1966** The Federal Fair Packaging and Labeling Act (FPLA) was passed. The passage of the FPLA brought about changes in the Uniform Packaging and Labeling Regulations. The need to keep the regulations compatible with the FPLA, the expansion of the packaging industry, and the need to keep it current with modern practices in the packaging field, require review and revisions of the regulations on a regular basis.



- 1966** California Fair Packaging and Labeling Act adopted into law.
- 1994** Adoption of National Institute of Standards and Technology (NIST) Handbook 130, Packaging and Labeling Regulation.
- 1996** California sampling and testing procedures were replaced with the adoption of procedures found in NIST Handbook 133.

1915 – 1919  
*Sealer of Riverside County Weights and Measures  
Shown destroying substandard size milk containers*



## Quantity Control and the Division of Measurement Standards



*Division of Measurement Standards Building  
8500 Fruitridge Road, Sacramento*

<b>12100</b>	Where not otherwise provided by law, the Department of Food and Agriculture has general supervision of the weights and measures and weighing and measuring devices sold or used in the State.
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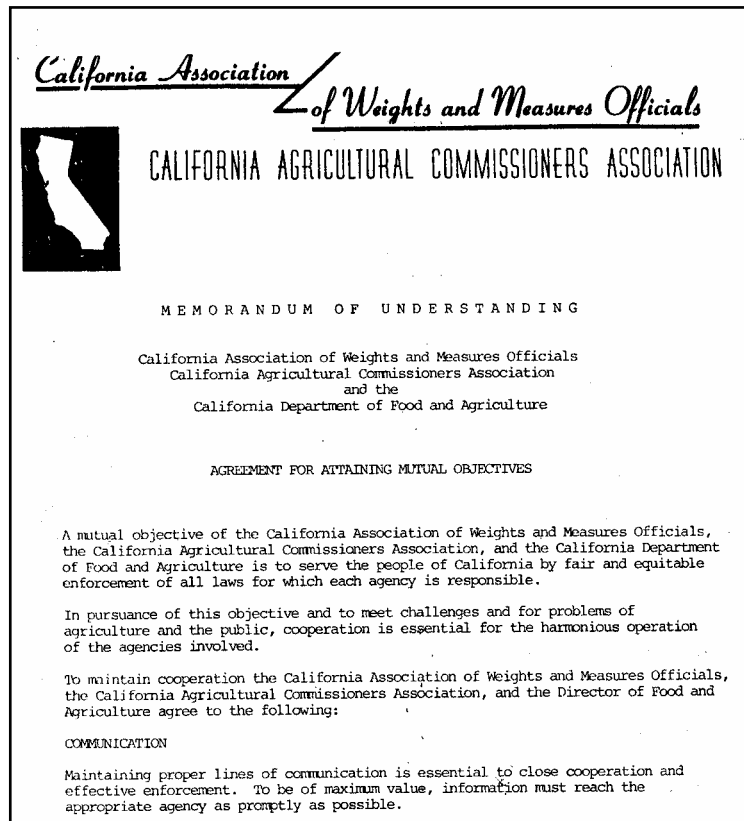
Within the California Department of Food and Agriculture and the Division of Measurement Standards (DMS), Quantity Control responsibilities fall within the Measurement Compliance Program which is part of the Compliance and Evaluation Branch. As an integral part of DMS, Quantity Control Specialists interact with all programs within the Division since an issue with commodity quantity or labeling may have shared responsibilities.

## Quantity Control and County Sealers

<b>12103.5</b>	The duty of enforcing this division and carrying out its provisions and requirements is vested in the director and in each sealer acting under the supervision and direction of the director.
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Interaction between the Division of Measurement Standards and County Sealers is well summarized in the Memorandum of Understanding signed by officials of the Department of Food and Agriculture and the California Agricultural Commissioners and Sealers Association, entitled "Agreement for Attaining Mutual Objectives". This document outlines ways in which Division of Measurement Standards and County Sealers cooperate to effectively carry out regulatory responsibilities as defined in the California Business and Professions Code.

### *Memorandum of Understanding*





DMS is staffed with Quantity Control (QC) Specialists who perform the following in their assigned geographic areas:

- Coordinate, assist and train county weights and measures staff in their quantity control duties.
- If a violation is found that may occur in other parts of the State, communicate with other specialists and counties to seek out and document the extent of the violations.
- Conduct occasional surveys within their region and statewide to determine baseline compliance levels within areas of the marketplace.
- Train county inspectors so that they can develop local cases.
- Take the lead on enforcement and case development when this responsibility is appropriate.



## Manuals and Resources

### Introduction

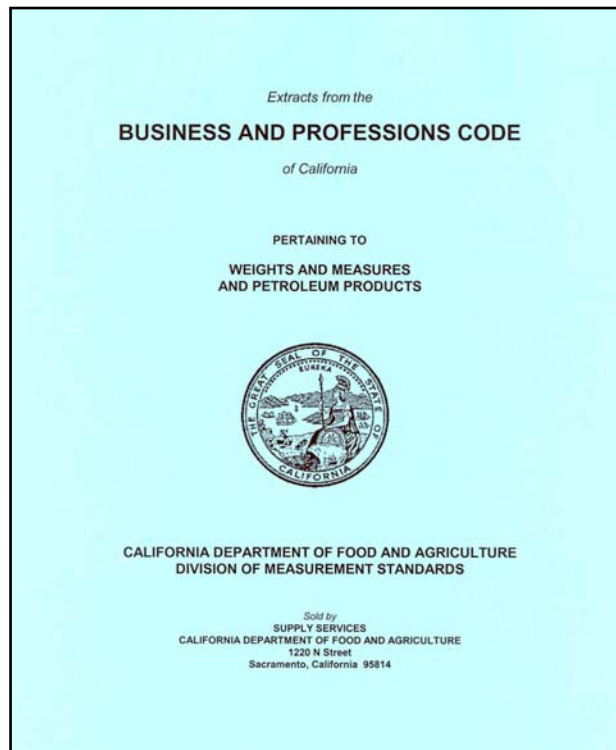
The success of any official relates to their ability to use the information designed to assist them in carrying out their duties. The following is a summary of resources that can be used by the inspector for Quantity Control (QC) related tasks.

### Manuals

There are several important codes and manuals that you will need to reference as you perform your duties as a quantity control inspector. Below is a brief description of each one.

#### **Business and Professions Code**

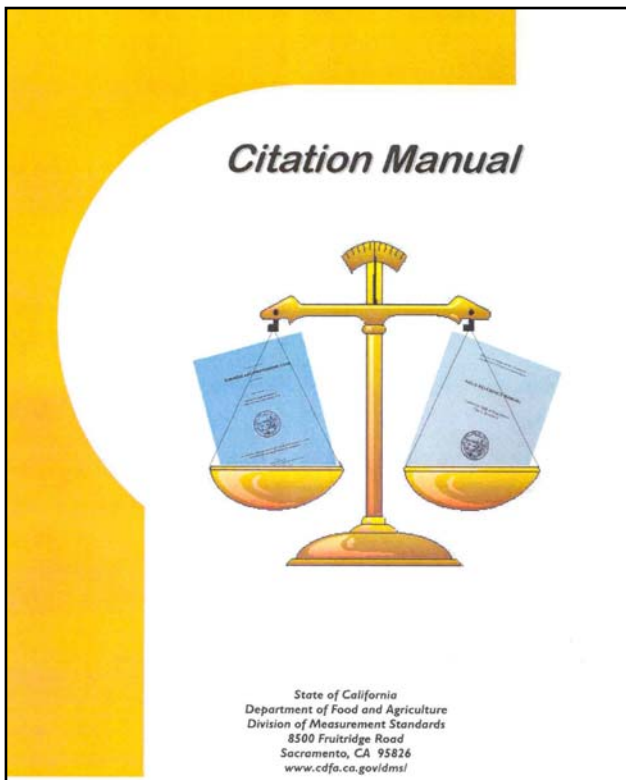
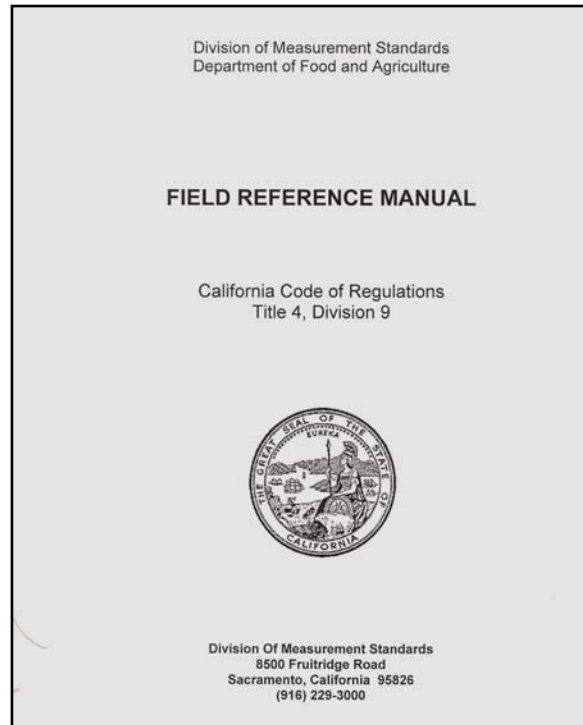
This code is law, enacted by the State Legislature and signed by the Governor. QC laws are found in Division 5, Chapters 1, 2, 6, 6.5 and 13.





**Field Reference Manual**

This is a field copy of the California Code of Regulations (CCR). The CCR contains the functional details of the Business and Professions (B&P) Code, adopted by the Secretary of the Department of Food and Agriculture with opportunities for public comment. When used in the documentation of an enforcement action, the supporting B&P Code section should always be included. It was written to clarify and make specific the application of the law. The sections that relate directly to QC are found in Chapters 2, 10, 11 and 12.

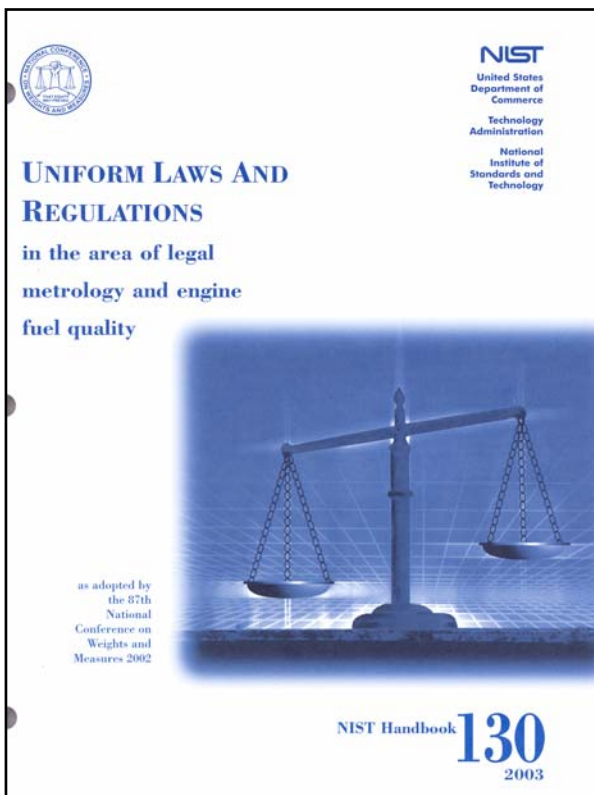
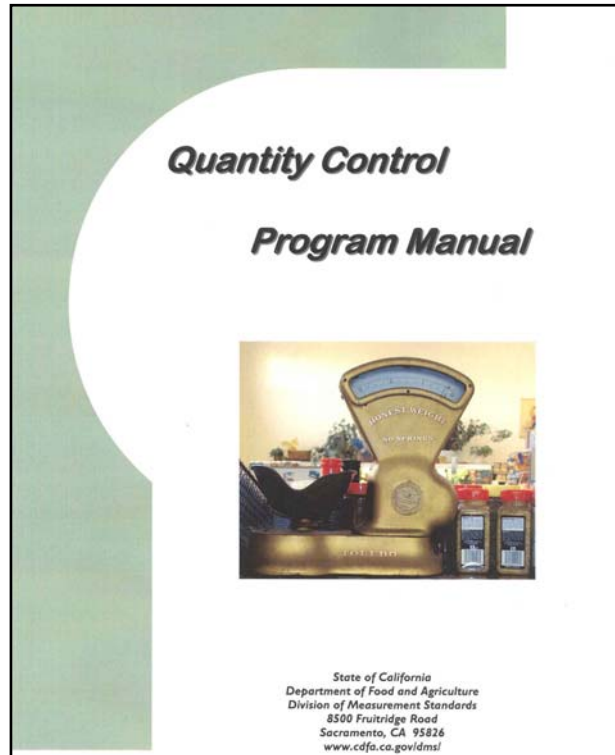


**Citation Manual**

This manual explains how to issue a "Notice to Appear" for a violation of the law. It also includes an overview of the California Judicial System, explains the Weights and Measures Officials' power to arrest as a public officer, and has several useful appendices such as one with action point guidelines for price verification inspections and suggested bail for the various violations of the B&P Code.

**Quantity Control Program Manual**

This manual is a procedural manual for carrying out the regulations of the CCR. There are detailed instructions on how to fill out the various forms used in performing the job. Much of the information contained within the QC Manual comes from NIST Handbook 133.

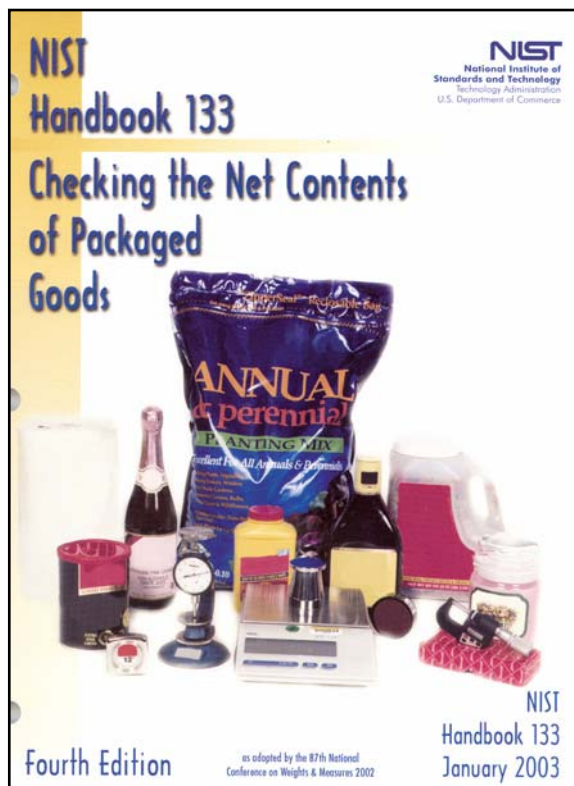


**NIST Handbook 130 – Uniform Laws and Regulations**

California has adopted by reference the “Uniform Packaging and Labeling Regulation” with amendments (see B&P Code Section 12609). This regulation can be found in the Field Reference Manual. Sections related to price verification and method of sale have not been adopted in California.

## NIST Handbook 133 – Checking the Net Contents of Packaged Goods

This Handbook has been adopted by reference into regulation through B&P Code Section 12211 and has the force of law. This manual outlines procedures on how to test various products to ensure they achieve their labeled quantity and to test/sample “lots” of packaged commodities to determine “lot compliance”.



## Other Resources

There are many useful resources for the inspector engaged in quantity control work. Here are just a few.

- **DMS, Quantity Control Specialists:** These individuals serve as resources for the county. They provide training and expertise in performing all of the QC related functions. The QC Specialists also help facilitate and coordinate statewide investigations that have a broad impact within the state.
- **Supervisor and Co-workers:** Whenever a problem is encountered in the field, an inspector's first line of information should be their supervisor or an experienced co-worker.
- **Related Web-sites:** The internet is a very useful tool to find out information on products, companies, and government or industry sites that carry related information. Some suggested sites include:

Division of Measurement Standards - [www.cdfa.ca.gov/DMS](http://www.cdfa.ca.gov/DMS)  
National Institute of Standards and Technology - [nist.gov](http://nist.gov)  
National Conference on Weights and Measures - [www.ncwm.net/main.html](http://www.ncwm.net/main.html)  
United States Department of Agriculture - <http://www.usda.gov/>  
Food and Drug Administration – [www.fda.gov](http://www.fda.gov)  
Federal Trade Commission - [www.ftc.gov](http://www.ftc.gov)  
Environmental Protection Agency - [www.epa.gov](http://www.epa.gov)  
Bureau of Alcohol, Tobacco and Firearms - [www.atf.treas.gov](http://www.atf.treas.gov)  
United States Department of Commerce [www.commerce.gov/](http://www.commerce.gov/)  
National Marine Fisheries - [www.nmfs.noaa.gov](http://www.nmfs.noaa.gov)

## Inspection Equipment

One of the primary functions of Quantity Control is the testing of packaged commodities to determine the accuracy of their net content statement. The quantity statement will determine the particular piece of testing equipment required. The quantity statement may be in terms of weight, dry or liquid volume, dimensions or count (or a combination of these) and may be in inch-pound and/or SI (metric) unit. The type of product being tested will also influence the choice of testing equipment. The equipment and standards that we use are calibrated for accuracy and traceable to NIST standards through comparisons made by the Division of Measurement Standards Metrology Laboratory and certified by the State Metrologist.



We will list the equipment, discuss its usage and name some of the commodities that could be tested.

Equipment	Usage	Commodity
<b>Scale</b>	Scales are used to test products labeled by weight. The weights used to check your scale must be traceable to NIST. Scales are checked for accuracy at each new location, and before and after filling out a PIR (Package Inspection Report).	Products labeled by weight. Homogeneous commodities labeled by liquid volume, etc.

*K-Tron Scale*



Equipment	Usage	Commodity
<b>Glassware</b>	Volumetric glassware is used to test products labeled by liquid volume. The glassware must be graduated in the units (inch-pound or SI) stated on the product label.	Juices, milk, hot sauce, water, etc.

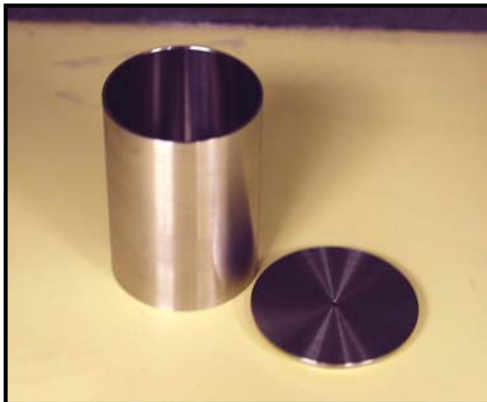


Equipment	Usage	Commodity
<b>Thermometers</b>	The volume of liquids or gases will vary with the temperature of the product. In order to accurately measure a liquid's volume, a temperature correction, determined by a thermometer, may need to be applied.	Fruit juices, liquid chemicals, engine coolant, compressed gases, etc.
<b>Dry Measure</b>	The quantity of some packaged products is stated in dry measure terms. The contents of these packages are emptied into a test measure appropriate for the package size. Some common sizes are cubic yard, 4 cubic foot, 1 cubic foot, cubic meter, and dry quarts.	Animal bedding, potting soil, mulch, etc.





Equipment	Usage	Commodity
<b>Tape Measure or Metal Ruler</b>	Any product labeled by dimensions is measured with a tape measure or ruler.	Rope, building materials, tarps, etc.
<b>Pressure Gauges</b>	A combination of pressure and temperature measurements is required to verify the contents of compressed gas in cylinders.	Compressed oxygen, argon, nitrogen, etc.
<b>Density Cup and Pycnometer</b>	These vessels hold a known volume for weighing semi-viscous fluids to determine their density and to convert volume calculation to weight.	Shampoo, hand cream, adhesives, paste, etc.
<b>Slicker Plates</b>	These are plastic or glass plates used in determining the headspace for water immiscible products without a level liquid surface. Headspace is the volume in a container that is not occupied by product.	Mayonnaise, salad dressings, etc.



*Density Cup*



*Pycnometer*





## SELF-EVALUATION QUESTIONS

1. Name a type of location where quantity control inspections may be conducted.
2. In which manual would you find the package or labeling regulation?
3. What manual is used to find out how to test a product?
4. What resource is used to fill out a notice to appear?
5. Other than your manuals, name two other sources that will help facilitate your work in the Quantity Control Program.
6. What section of the Business and Professions Code authorizes adoption of Handbook 133 as law?
7. What do the letters NIST mean?
8. Where would you find instructions to help fill out a Package Inspection Report form?
9. When should the inspector check the accuracy of his scale?
10. What type of inspection equipment is used to check the quantity of a container of milk?
11. Name two products whose quantity could be tested using a density cup?

## Label Compliance

Business and Professions Code Section 12601 states:

*This chapter is designed to protect purchasers of any commodity within its provisions against deception or misrepresentation. Packages and their labels should enable consumers to obtain accurate information as to the quantity of the contents and should facilitate value comparisons.*

The purpose of this segment is to gain familiarity with labeling laws so Weights and Measures Officials can inspect packages for label compliance.

Label compliance inspections are an integral part of the QC Program. Proper label information will include the **Identity** of the commodity; a **Responsibility** statement with the name and address of the manufacturer, packer or distributor; and the **Quantity** of contents. This is often referred to as the **IRQ**.

### Examples of Various Labels



Header Strip



Two Principal Display Panels



Spot Label

This is the basic information, which is required by law, to be on every packaged commodity. The **identity statement** tells you “What is in the package.” The **responsibility statement** tells you “Who put the product in the package or who is responsible for it. The **quantity statement** tells you “How much is in the package.”

Generally, solid or semi-solid commodities must be labeled by weight, liquid items by liquid volume, and dry goods by dry measure or numerical count.

Quantity statements with certain exceptions must include metric units. Some commodities with metric labeling are exempt from inch-pound labeling.

Label inspections can be done alone or in conjunction with other quantity control inspections such as; package audit inspections, test purchases, commodity tests, and investigation of a complaint.

*Multiple Dimension Labeling*



*Spot Label*



*Strip Label*

### Code Sections Used for Label Requirements

The Business and Professions Code, Chapter 6, "Fair Packaging and Labeling Act", contains the labeling requirements for packaged commodities we enforce in California.

<b>12601</b>	This chapter is designed to protect purchasers of any commodity within its provisions against deception or misrepresentation. Packages and their labels should enable consumers to obtain accurate information as to the quantity of the contents and should facilitate value comparisons.
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<b>12603</b>	<p>No person subject to the prohibition in Section 12602 shall distribute any packaged commodity unless it is in conformity with regulations that shall be established by the director that shall provide:</p> <p>(a) The commodity shall bear a label specifying the identity of the commodity and the name and place of business of the manufacturer, packer, or distributor.</p> <p>(b) The net quantity of contents (in terms of weight or mass, measure, numerical count, or time) shall be separately and accurately stated in a uniform location upon the principal display panel of that label, using the most appropriate units of both the customary inch-pound system of measure, and except as provided in subdivisions (c) and (d), the SI (Système International d'Unites) metric system.</p> <p>(c) On a random package labeled in terms of pounds and decimal fractions of the pound, the statement may be carried out to not more than three decimal places and is not required to, but may include a statement in terms of the SI metric system carried out to not more than three decimal places.</p> <p>(d) The requirements of subdivision (b) concerning labeling using the metric system do not apply to nonconsumer packages, foods that are packaged at the retail store level, or to the sale or distribution of products whose labels have been printed prior to February 14, 1994.</p>
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The quantity statement on a package is such an important requirement that Section 12607 gives a sealer the authority to order off sale any commodity that does not have a quantity statement. Without a quantity statement an official could make no determination about a commodity.

<b>12607</b>	Whenever a packaged commodity is offered for sale, exposed for sale or sold without a statement of net quantity appearing thereon as required by this chapter, the sealer shall in writing order the commodity off sale and require that a correct statement of net quantity be placed on the commodity before the same may be released by the sealer.
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<b>12609</b>	<p>The director shall adopt necessary regulations to carry out the purpose of this division and for the testing of packages to verify the net quantity statements. In adopting these regulations, the director shall adopt by reference the packaging and labeling requirements recommended by the National Conference on Weights and Measures and published in the current edition of the National Institute of Standards and Technology Handbook 130, Uniform Packaging and Labeling Regulation, except insofar as those requirements are specifically modified, amended, or rejected by regulation by the director. The regulations shall include exemptions from full compliance with this chapter for good and sufficient reasons. Any exemptions affecting consumer commodities shall be in conformance with exemptions permitted by federal regulations. Any regulation, or amendment thereof, shall be adopted by the director in conformity with Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code.</p>
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Chapter 10, Section 4510 of the California Code of Regulations officially adopted the “Uniform Packaging and Labeling Regulation” from NIST Handbook 130, with a few exceptions found in Section 4511 (sections not adopted) and Section 4512 (requirements in addition to Handbook 130).

A select number of Federal agencies also have jurisdiction over package labeling of certain commodities and in most cases pre-empt State laws. They are:

**Federal Food and Drug Administration (FDA)** - Packages containing food or drink for man or animal, cosmetics, drugs, and medical devices. Ingredients and ingredient labeling, nutritional labeling, quality standards or problems.

**United States Department of Food and Agriculture (USDA)** - Packages of food made entirely or predominately from meat or poultry. Ingredients and ingredient labeling, nutritional labeling, or quality standards or problems.

**Department of Treasury, Bureau of Alcohol, Tobacco, and Firearms (BATF)** - All package labeling for these types of commodities.

**Federal Trade Commission (FTC)** - Retail packages of household commodities used by individuals for personal care or used for the household, and are usually consumed or expended in use.

**Environmental Protection Agency (EPA)** - All package labeling for insecticides, fungicides, herbicides, rodenticides, and sanitizing agents.



12613	If any provision of this chapter is less stringent or requires information different from any requirement of Section 4 of the Act of Congress entitled "Fair Packaging and Labeling Act" (P.L. 89-755; 80 Stat. 1296; 15 U.S.C. 1451-1461) or of any regulation promulgated pursuant to that act, the provision is inoperative to the extent that it is less stringent or requires information different from the federal requirement, in which event the federal requirement is a part of this chapter.
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### Label Inspection

Inspectors should familiarize themselves with the Business and Professions Code, Division 5, Chapter 6, Fair Packaging and Labeling Act and the Uniform Packaging and Labeling Regulation before attempting to enforce the labeling requirements.

## Deceptive Package

One component of package and label compliance is the evaluation of "deceptive packages." There is no legal requirement to have a program to search for deceptive packages. In general, each time a package is examined for any reason (e.g., quantity compliance, survey, complaint, or label compliance), it should also be reviewed for compliance with the deceptive packaging statutes.

There are significant benefits to the business community and to the consumer in keeping the marketplace free of these types of packages. It ensures that no one business has an unfair competitive advantage over another and that the purchaser may have confidence that the package fairly represents the commodity.



*Non-Functional Slack Fill  
Coffee Beans*

### Enforcement

Violations are usually prosecuted civilly by a district attorney, county counsel, or city attorney under provisions of Business and Professions Code, Section 17200, Unlawful Business Practices.

## Commodity Testing

These tests are done to verify the accuracy of the quantity statements labeled on the packages.

<b>12211</b>	<p>Each sealer shall, from time to time, weigh or measure packages, containers, or amounts of commodities sold, or in the process of delivery, in order to determine whether they contain the quantity or amount represented and whether they are being sold in accordance with law.</p> <p>The secretary shall adopt necessary regulations governing the procedures to be followed by sealers in connection with the weighing or measuring of amounts of commodities in individual packages, containers, or lots of packages or containers, including the procedures for sampling a lot, and for determining whether any package, container, or a lot of packages or containers complies with this section.</p> <p>In adopting those regulations, the secretary shall adopt by reference the package checking procedures recommended by the National Conference on Weights and Measures and published in the current edition of the National Institute of Standards and Technology, Handbook 133, "Checking the Net Contents of Packaged Goods," and any subsequent amendments thereto, except insofar as those requirements are specifically modified, amended, or rejected by a regulation adopted by the secretary.</p> <p>Any lot, package, or container of any commodity that conforms to this section shall be deemed to be in conformity with this division relating to stated net weights or measures.</p> <p>Whenever a lot, package, or container of any commodity is found to contain, through the procedures authorized in this section, a less amount than that represented, the sealer shall order, in writing, that lot, package, or container of commodity off sale and require that an accurate statement of quantity be placed on each package or container before it may be released for sale by the sealer in writing. The sealer may seize as evidence any package or container that is found to contain a less amount than that represented.</p>
<b>12024</b>	<p>Every person, who by himself or herself, or through or for another, sells any commodity in less quantity than he or she represents it to be is guilty of a misdemeanor, except as provided in Section 12024.3.</p>



Quantity Control inspectors test almost any product you can imagine, whether the item is packaged by weight, volume, measure or count. An inspector may be in a retail establishment checking packages of meat, bottles of wine, boxes of toothpicks, or packages of garden mulch on one day, and checking agricultural chemicals, bags of cement, or compressed gasses the following day.

There are specified procedures used to check different products. Some of these procedures, which are found in NIST Handbook 133, will be addressed in this module.

Commodity testing is used to verify the net contents of individual packages of product. An inspector may test a commodity based upon a statewide survey, a consumer complaint, surveillance request, or a possible shortage identified by an audit, or simply as part of a regular routine. The Commodity Test Report form may be used to document data from this test.

### Testing By Weight

1. Make certain that the testing scale is appropriate for the size and/or type of product to be inspected. All necessary equipment and resources should be readily available, such as trays, box cutter, paper towels and safety equipment.
2. Products labeled by weight indicate the product weight (net weight) without the weight of packaging materials (tare weight).
3. The tare weight is the unusable package materials. Be aware that certain products are tested with “dry tare” which considers only the dry packaging materials as tare, while other products are tested with “wet tare” which considers packaging materials and juices as tare.
4. Certain items have special handling requirements such as glazed fish or chicken. Certain equipment such as sieves for draining products also require special knowledge that is described in NIST Handbook 133 and the QC Program Manual.



### Testing By Volume

1. Make certain that the appropriate equipment is used (i.e., volumetric glassware and slicker plates). If the product must be tested or corrected to a specific temperature, use an appropriate thermometer.
2. Liquids that are easily poured into volumetric glassware may be tested using alternative methods.
  - Viscous products, such as shampoo or oil, can be poured into a density cup to determine a weight to volume conversion.
  - Messy products such as paint or roofing tar can be tested by measuring the volume of the container and subtracting the “headspace”.
  - Mayonnaise, salad dressing, and similar products can be tested by subtracting the head-space volume from the volume of the empty, volumetrically tested container.
  - Ice cream can be tested by using a volume displacement procedure.
3. Some items labeled by volume require special handling and equipment to test the quantity.
  - Some compressed gases require gauges.
  - Animal bedding or mulch requires specially constructed boxes with known volume.



### Testing By Count

1. When testing products with count of over 50, and when the items are of consistent weight, the count may be converted to weight. You can count each piece or arrive at a weight for a designated amount and then check it by weight (i.e., tinsel).



2. Candles might have multiple quantity statements (count, length and width). In these cases the packages would need to meet all the net content statements.

### Testing By Measurement (Dimension)

1. A certified tape measure or metal ruler will be needed for this test.
2. Some items have specific guidelines for testing in NIST Handbook 133 or in the QC Manual. Many large items require that several measurements be taken along certain dimensions and an average value is derived. Be aware that certain construction products have an “industry standard” adopted by NCWM so that the legal nominal size may be larger than the actual size (i.e., 2x4 lumber).
3. Firewood is labeled by volume, but measurements are needed to calculate the net content. There is no maximum allowable variation.
4. Other products checked by measure needing special instruction are polyethylene products and animal bedding.



Each product or group of product types are assigned a commodity classification number that identifies the product group on various forms (QC Program Manual).

<b>COMMODITY CLASSIFICATION NUMBER (EXAMPLE)</b>		
<p><b>1.10 Confection, Flavorings &amp; Seasonings</b></p> <p>1.01 - Penny Goods                      1.02 - Bar Goods                      1.03 - Confectionery-Type Chocolate                      1.04 - Chocolate Coatings &amp; Syrups                      1.05 - Other Flavoring Agents                      1.06 - Packaged Goods                      1.07 - Bulk Goods                      1.08 - Nutmeats &amp; Seeds                      1.09 - Sweetening Syrups &amp; Molasses                      1.10 - Flavoring Extracts</p>	<p><b>4.00 Meat, Fish, Poultry</b></p> <p>4.01 - Fish &amp; Seafood, Canned                      4.02 - Fish &amp; Seafood, Frozen                      4.03 - Fish &amp; Seafood, Fresh                      4.04 - Canned Meats                      4.05 - Beef, Fresh or Frozen                      4.06 - Veal, Fresh or Frozen                      4.07 - Pork, Fresh or Frozen                      4.08 - Lamb &amp; Mutton, Fresh or Frozen                      4.09 - Processed Pork: Ham, Bacon, etc.                      4.10 - Sausages, Luncheon &amp; Other Processed Meats                      4.11 - Canned Poultry</p>	<p><b>6.00 Milling Products</b></p> <p>6.01 - Cereals, Breakfast Foods                      6.02 - Brans, Wheat Germ                      6.03 - Corn Meal                      6.04 - Wet Corn Meal Mush                      6.05 - Milled Rice &amp; Rice By-Products                      6.06 - Prepared Flour &amp; Flour Mixes                      6.07 - Grain Mill Products N.E.C.                      6.08 - Macaroni &amp; Allied Foods                      6.09 - Popcorn                      6.40 - Milling Products, N.E.C.                      6.50 - Milling Products, Audits</p>

## Package Audit/Package Inspection

Packages and materials with a represented quantity are tested by Quantity Control Inspectors. Package audits and inspections focus on groups of packages.



An audit is used to “screen” the marketplace for possible violations and is a fast preliminary procedure used to check products for accuracy of the quantity statement. An “Audit Inspection Report” form can be used as a worksheet or to record your findings. An off sale order or other legal action cannot be taken against a lot or group of short-measure packages until the shortage is confirmed by a legal inspection, using the sampling procedures from NIST Handbook 133.

*Audit Inspection Report Form*

COUNTY		INSPECTOR	DATE	TIME	AM PM																										
LOCATION					ADDRESS																										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
+																															
	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	
+																															
	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	
+																															
LOT NO.	CATEGORY NO.	COMMODITY			PACKAGES ACCEPTED																										
TOTALS																															
<p>NO LEGAL ACTION CAN BE TAKEN AGAINST SHORTWEIGHT PACKAGES UNTIL THE SHORTAGE IS CONFIRMED BY A LEGAL INSPECTION PROCEDURE.</p>																															



## Package Inspection

The Package Inspection Report (PIR) form is used to determine “lot” compliance.

Once a possible shortage has been found through auditing, the next step is to do an official test using the appropriate sampling plan. The product is tested according to the regulations from National Institute of Standards and Technology Handbook 133 and a Package Inspection Report or PIR form is completed. Without doing a legal package inspection, no enforcement action can be taken.

The foundation of all statistical sampling plans is that a truly “Random Sample” must be selected for testing from the entire “Inspection Lot”. Once the sample packages have been selected and tested, the results are compared against two criteria.

The first criterion is the “Average Requirement”.

***In general, the average net quantity of contents of packages in a lot must at least equal the net quantity of contents declared on the label.***

The second criterion is the “Individual Package Requirement”.

***The variation of individual package contents from the labeled quantity must not be “unreasonably large”.***

Packages that are underfilled by more than the “Maximum Allowable Variation” (MAV) specified for the packages in NIST Handbook 133 are considered unreasonable errors. The sampling plan in Handbook 133 limits the number of negative package errors permitted to be greater than the MAV.

When a shortage has been verified through an official package inspection sampling plan, the product is taken off sale. Action may only be taken against the “Inspection Lot” from which the random sample was selected.

There are three possible sampling plans: Category A, B and C.



### Category A

This sampling plan is used for most products labeled by weight, volume or measure, and those with a count over 50. This category is the one most commonly used for inspections.

PACKAGE INSPECTION REPORT																																				
CATEGORY <b>A</b>	Date	Time am pm	COUNTY	Report / OSO #	Insp. Type	Est. Type	Commodity No.																													
CHECK PARTY RESPONSIBLE FOR NET CONTENTS							INSPECTED AT																													
Packer				Address																																
Distributor				Address																																
Dealer				Address																																
Brand Name			Other Identification - Code Symbols		Date		Other																													
Commodity			Container Description																																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">\$</td> <td style="width: 5%;"><input type="checkbox"/> Package POUND</td> <td style="width: 5%;">Group</td> <td style="width: 5%;">MLA</td> <td style="width: 5%;"><input type="checkbox"/></td> <td style="width: 5%;">%</td> <td style="width: 5%;">[2] Unit of Measure</td> <td style="width: 5%;">[5] Inspection Lot Size</td> <td style="width: 5%;">[6] Sample Size</td> <td style="width: 5%;">[7] Tare Sample Size (init.)</td> <td style="width: 5%;">[8] Unreas. Minus Err. (UME) Allowed</td> <td style="width: 5%;"></td> </tr> <tr> <td>[1] Labeled Cont. or Random Avg.</td> <td>[A] Gross Weight</td> <td>[B] Tare Weight</td> <td>[C] Net Weight [A] - [B]</td> <td>[13] Avg. Tare</td> <td>[14] Nom. Gross Weight [1] + [13]</td> <td>[6] Package Error Std. A - [14] Rdn. A - [13] - [1]</td> <td>[E] Error</td> <td>[5] MAV from table</td> <td>[6] MAV in UOM</td> <td>[4A] MLA 0. _____ x Lab cont / [2]</td> <td>[4B] ADJ. MAV [4] + [4A]</td> </tr> </table>													\$	<input type="checkbox"/> Package POUND	Group	MLA	<input type="checkbox"/>	%	[2] Unit of Measure	[5] Inspection Lot Size	[6] Sample Size	[7] Tare Sample Size (init.)	[8] Unreas. Minus Err. (UME) Allowed		[1] Labeled Cont. or Random Avg.	[A] Gross Weight	[B] Tare Weight	[C] Net Weight [A] - [B]	[13] Avg. Tare	[14] Nom. Gross Weight [1] + [13]	[6] Package Error Std. A - [14] Rdn. A - [13] - [1]	[E] Error	[5] MAV from table	[6] MAV in UOM	[4A] MLA 0. _____ x Lab cont / [2]	[4B] ADJ. MAV [4] + [4A]
\$	<input type="checkbox"/> Package POUND	Group	MLA	<input type="checkbox"/>	%	[2] Unit of Measure	[5] Inspection Lot Size	[6] Sample Size	[7] Tare Sample Size (init.)	[8] Unreas. Minus Err. (UME) Allowed																										
[1] Labeled Cont. or Random Avg.	[A] Gross Weight	[B] Tare Weight	[C] Net Weight [A] - [B]	[13] Avg. Tare	[14] Nom. Gross Weight [1] + [13]	[6] Package Error Std. A - [14] Rdn. A - [13] - [1]	[E] Error	[5] MAV from table	[6] MAV in UOM	[4A] MLA 0. _____ x Lab cont / [2]	[4B] ADJ. MAV [4] + [4A]																									
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TOTAL		STANDARD: Range of Net Weights				RANDOM: Range of Errors																														
[9] Std. Range of [C] Rdn. Range of [D]	[10] Range of Tare Wts. Rt (See [8])	[11] Ratio of Rt / Rt [8] / [10]	[12] Total no. of Tare rt (Table 2 - 3)	[15] Total Error	[16] No. of UME's	[17] is [16] greater than [9]? YES: REJECT NO: Continue	[18] Avg. Error ([15] / [6])	[19] Avg. Error in labeled units ([18] x [2])	[20] Is [19] Zero or Plus?	YES: ACCEPT LOT NO: Go to [21]																										
[21] Compute Sample Standard Dev.	[22] Sample Correction Factor (Table 2 - 1, Col. 3)	[23] Sample Error Limit (SEL) [21] x [22]	[24] AVERAGE ERROR [18] IS MINUS																																	
Avg. Err. [19] / Labeled Cont. [1] = _____ x 100 = _____ % Err. _____ / Lot Size [5] = _____ x 100 = _____ % _____ x Lot Size [5] x Price Per Pkg.* = Total \$ Value * IF PRICED PER POUND: USE PRICE PER POUND X LABELED CONTENTS			<b>MLA</b> MLA is greater than 0% <input type="checkbox"/> _____ % Is _____ [18] less than or equal to _____ [23] IF YES, ACCEPT <input type="checkbox"/> Is _____ [18] greater than _____ [23] + [4A] IF YES, REJECT <input type="checkbox"/> Is _____ [18] greater than _____ [23] AND less than or equal to _____ [23] + [4A] IF YES, COMMODITY IS IN THE GREY AREA, STATUS NOT DETERMINED.																																	
REMARKS:			<b>OTHER</b> NO MLA <input type="checkbox"/> Or MLA equals 0% <input type="checkbox"/> Is _____ [18] less than or equal to _____ [23] IF YES, ACCEPT <input type="checkbox"/> Is _____ [18] greater than _____ [23] IF YES, REJECT <input type="checkbox"/>																																	
<input type="checkbox"/> THESE PACKAGES HAVE BEEN ORDERED OFF SALE UNDER PROVISIONS OF DIVISION 5, SECTION 12211 OF THE CALIFORNIA BUSINESS AND PROFESSIONS CODE.  <b>DO NOT MOVE, TRANSPORT, COMMINGLE OR DISPOSE OF WITHOUT WRITTEN AUTHORIZATION.</b>					DISPOSITION: Date: ____/____/____			Packages Off Sale: (rejected) _____ Packages Accepted: _____ Packages Status Not Determined: _____ Packages Weighed / Measured: _____																												
I HAVE RECEIVED A COPY OF THIS REPORT AND HAVE BEEN GIVEN THE OPPORTUNITY TO REVIEW THE DATA.																																				
OWNER OR AGENT			TITLE		DEALER			INSPECTOR																												
49-003 (Rev. 11/01)			DEPARTMENT OF FOOD AND AGRICULTURE - DIVISION OF MEASUREMENT STANDARDS					<b>A</b>																												



## Category B

This sampling plan is only used for inspections conducted in USDA inspected packaging plants.

PACKAGE INSPECTION REPORT													
CATEGORY <b>B</b>	Date	Time	am pm	COUNTY	Report / OSO #	Insp. Type	Est. Type	Commodity No.					
CHECK PARTY RESPONSIBLE FOR NET CONTENTS						INSPECTED AT							
Packer						Address							
Brand Name				Other Identification - Code Symbols		Date		Other					
Commodity				Container Description									
\$		<input type="checkbox"/> Package Pound		[2] Unit of Measure	[5] Inspection Lot Size	[6] Sample Size	[7] Tare Sample Size (init.)	[8] Unreas. Minus Err. (UME) Allowed					
[1] Labeled Cont. or Random Avg.	[A] Gross Weight	[9] Tare Weight	[C] Net Weight [A] - [9]	[13] Avg. Tare	[14] Nom. Gross Weight [1] + [13]	[D] Package Error Std. A - [14] Rdm. A - [13] - [1]	[E] Error		[3] MAV from table	[4] MAV in UOM			
							-	+					
1.													
2.													
3.													
4.													
5.													
6.													
7.													
8.													
9.													
10.													
11.													
12.													
13.													
14.													
15.													
TOTAL		STANDARD: Range of Net Weights			RANDOM: Range of Errors								
Avg. Err. [19]		/ Labeled Cont. [1]		=		x 100 =		% Err.		[9] Std. Range of [C] Rdm. Range of [D]	[10] Range of Tare Wts. Rt ( See [8] )	[11] Ratio of Rc / Rt [9] / [10]	
x Lot Size [5]		x Price Per Pkg.*		=		Total \$ Value				[12] Total no. of Tare nt (Table 2 - 4)	[15] Total Error	[16] No. of UME's	[17] Is [16] greater than [8] ?
													YES: REJECT <input type="checkbox"/>
													NO: Continue
													YES: Accept Lot <input type="checkbox"/>
													NO: Reject Lot <input type="checkbox"/>
<input type="checkbox"/> THESE PACKAGES HAVE BEEN ORDERED OFF SALE UNDER PROVISIONS OF DIVISION 5, SECTION 12211 OF THE CALIFORNIA BUSINESS AND PROFESSIONS CODE.  <b>DO NOT MOVE, TRANSPORT, COMMINGLE OR DISPOSE OF WITHOUT WRITTEN AUTHORIZATION.</b>						DISPOSITION: Date: ___/___/___			Packages Off Sale: (rejected) _____  Packages Accepted: _____  Packages Weighed / Measured _____				
Corrected and Released <input type="checkbox"/>						Destroyed <input type="checkbox"/>			Not determined <input type="checkbox"/>				
I HAVE RECEIVED A COPY OF THIS REPORT AND HAVE BEEN GIVEN THE OPPORTUNITY TO REVIEW THE DATA.													
OWNER OR AGENT				TITLE				SEALER		INSPECTOR			
49-004 (Rev. 11/01)				DEPARTMENT OF FOOD AND AGRICULTURE - DIVISION OF MEASUREMENT STANDARDS						<b>B</b>			

### Category C

This sampling plan is used for products sold by a count of 50 or less.

PACKAGE INSPECTION REPORT																																																																																																																																																								
CATEGORY <b>C</b>	DATE	TIME am. pm.	COUNTY	REPORT / OSO #	INSP. TYPE	EST. TYPE	COMMODITY																																																																																																																																																	
CHECK PARTY RESPONSIBLE FOR NET CONTENTS								INSPECTED AT																																																																																																																																																
PACKER				ADDRESS																																																																																																																																																				
DISTRIBUTOR				ADDRESS																																																																																																																																																				
DEALER				ADDRESS																																																																																																																																																				
BRAND NAME			OTHER IDENTIFICATION - CODE SYMBOLS		DATE		OTHER																																																																																																																																																	
COMMODITY				CONTAINER DESCRIPTION																																																																																																																																																				
<input type="checkbox"/> Package <input type="checkbox"/> Labeled Contents <input type="checkbox"/> Unit of Measure <input type="checkbox"/> MAV <input type="checkbox"/> Inspection Lot Size (N) <input type="checkbox"/> Sample Size (n) <input type="checkbox"/> Tare Sample Size <input type="checkbox"/> Pound																																																																																																																																																								
<b>TARE PACKAGES</b>																																																																																																																																																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">[A] Gross Weight</td> <td style="width: 10%;">1</td> <td style="width: 10%;">2</td> <td style="width: 10%;">3</td> <td style="width: 10%;">4</td> <td style="width: 10%;">5</td> <td style="width: 10%;">6</td> <td style="width: 10%;">[13] Average Tare</td> <td style="width: 10%;">[14] Gross Control Wt. [1] + [13]</td> <td style="width: 10%;">[15] Total Error</td> </tr> <tr> <td>[B] Tare Weight</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>[16A] No. Undercount Pkgs. Allowed</td> <td>[16B] No. Undercount Pkgs. in Sample</td> <td>[17] Is [16B] Greater Than [16A] ? YES: Lot Fails <input type="checkbox"/> NO: Accept Lot <input type="checkbox"/></td> </tr> <tr> <td>[C] Net Weight</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>[18] Average Error ( [15] / [5] )</td> <td>[19] Average Error Labeled Units ( [18] X [2] )</td> <td></td> </tr> <tr> <td>[D] Package Error [A] - [14]</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										[A] Gross Weight	1	2	3	4	5	6	[13] Average Tare	[14] Gross Control Wt. [1] + [13]	[15] Total Error	[B] Tare Weight							[16A] No. Undercount Pkgs. Allowed	[16B] No. Undercount Pkgs. in Sample	[17] Is [16B] Greater Than [16A] ? YES: Lot Fails <input type="checkbox"/> NO: Accept Lot <input type="checkbox"/>	[C] Net Weight							[18] Average Error ( [15] / [5] )	[19] Average Error Labeled Units ( [18] X [2] )		[D] Package Error [A] - [14]																																																																																																																
[A] Gross Weight	1	2	3	4	5	6	[13] Average Tare	[14] Gross Control Wt. [1] + [13]	[15] Total Error																																																																																																																																															
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<b>[E] PACKAGE ERROR (dimensionless units)</b>																																																																																																																																																								
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<input type="checkbox"/> THESE PACKAGES HAVE BEEN ORDERED OFF SALE UNDER PROVISIONS OF DIVISION 5, SECTION 12211 OF THE CALIFORNIA BUSINESS AND PROFESSIONS CODE.  <b>DO NOT MOVE, TRANSPORT, COMMINGLE OR DISPOSE OF WITHOUT WRITTEN AUTHORIZATION.</b>					DISPOSITION: Date: ____/____/____ Corrected and Released <input type="checkbox"/> Shipped to: Packer <input type="checkbox"/> Distributor <input type="checkbox"/> on ____/____/____ Not Determined <input type="checkbox"/>																																																																																																																																																			
<input type="checkbox"/> Packages Off Sale: (rejected) _____ <input type="checkbox"/> Packages Accepted _____ <input type="checkbox"/> Packages Weighed / Measured: _____					I HAVE BEEN GIVEN THE OPPORTUNITY TO REVIEW THE DATA ON THIS REPORT.																																																																																																																																																			
OWNER OR AGENT			TITLE		SEALER		INSPECTOR																																																																																																																																																	
49-012 (Rev. 5/96)      DEPARTMENT OF FOOD AND AGRICULTURE - DIVISION OF MEASUREMENT STANDARDS <b>C</b>																																																																																																																																																								

Individual worksheets may be used to determine shortages for **individual packages**.

Compressed gasses are sold by weight or volume. There are two worksheets, one for volume and the other for weight that can be used to audit these materials. The data put on the worksheet can then be transferred to a Package Inspection Report "A" form if the sample was taken randomly and shortages are found.

*Volume Worksheet*

STATE OF CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE DIVISION OF MEASUREMENT STANDARDS 48-047 (REV. 9-88)		CYLINDER GAS INSPECTION WORKSHEET - VOLUME		County: _____ Date: _____ Category No: _____			
Name & Address of Test Location :							
Brand Name		Description or Commodity		Unit of Measure			
Sample Number	Cylinder Size	Cylinder Temp.	Pressure P.S.I.G.	Stated Net Contents (cu ft)	Measured Net Contents (cu ft)	Minus -	Plus +
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
Remarks			Number of Lots Inspected				
			Number of Packages Sampled				
			Number of Packages Accepted				
			Number of Lots Inspected by Legal Test (PIR)				
Sealer		Inspector / Specialist		Title			

*Weight Worksheet*

STATE OF CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE DIVISION OF MEASUREMENT STANDARDS 48-048 (REV. 9-88)		CYLINDER GAS INSPECTION WORKSHEET - WEIGHT		County: _____ Date: _____ Category No: _____				
Name & Address of Test Location :								
Brand Name		Description or Commodity		Unit of Measure				
Sample Number	Cylinder Size	Tare Weight	Gross Weight	Net Weight	Stated Contents <input type="checkbox"/> lbs. or <input type="checkbox"/> cu ft	Measured Contents <input type="checkbox"/> lbs. or <input type="checkbox"/> cu ft	Minus -	Plus +
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
Remarks			Number of Lots Inspected					
			Number of Packages Sampled					
			Number of Packages Accepted					
			Number of Lots Inspected by Legal Test (PIR)					
Sealer		Inspector / Specialist		Title				

## Test Purchase/Test Sale

Two other types of inspections used for quantity verification are *Test Purchase* and *Test Sale*. Due to similarities in the inspections, they are commonly grouped together and they share the use of the same report form. These methods test the accuracy of the entire sales transaction.

### Test Purchase

Many items are not packaged or “put-up” before sale, but instead the selling price is calculated from a weight or measure determined at the time of the sale. The only method to verify that the correct price is being charged for the amount received is to make a “Test Purchase.” In a Test Purchase Inspection, one or more items are purchased by a weights and measures official. The purchased items are then weighed or measured to determine if the correct amount was received for the price charged.



*Deli Counter*



*Weighing Meat*



Many items are sold in this manner. Some examples are firewood, nails, rope, wire, chain, fabrics, seed, flower bulbs, onion sets, pet foods, livestock feeds, ice cream, candy, coffee, health foods, produce, meat, cheese, deli salads, and tobacco.



## Test Sale

Test Sales are made to verify that the correct payment is received for goods purchased by weight. The most common type of “Test Sale” is the sale of aluminum cans, plastic containers, and/or glass bottles to recyclers. In conducting a Test Sale inspection, an official sells a pre-weighed or pre-measured amount to the buyer. The official then determines if the correct payment was received for the quantity sold.

### *Recycling Cans*



There are no legal requirements for a county to conduct routine Test Purchases or Test Sales; however, they do provide a great economic benefit to the citizens of the county and protect conscientious businesses from careless or less than honest competitors.

If a complaint has been received about a specific location, special efforts should be made to conduct a timely test purchase or test sale.

To establish a Test Purchase/Test Sale Program it is necessary to identify locations using a weighing or measuring device to buy or sell items and the types of items typically bought or sold using these devices. It is recommended that at least 25% of the available outlets should be sampled each year. All outlets should be sampled within a four-year period. If this inspection frequency is not possible, outlets having high sales volumes or sales of relatively expensive items should have high priority. Inspections should be conducted at new outlets soon after starting business.



Code Sections Applied to Test Purchase and Test Sale Violations

Type	Business and Professions Code Text	Section
<p><b>Test Purchase</b></p>	<p><b>Unlawful Computation of Value:</b> It is unlawful for any person (the legal definition of “person” includes an individual, firm, corporation, or association) to compute a value that is not a true extension of the price per unit, or to charge a price higher than the price advertised or stated. Depending on the amount of the overcharge, a violation may be an infraction or a misdemeanor. Upon conviction punishment may be a fine or imprisonment in the county jail.</p>	<p>12024.2</p>
	<p><b>Selling in Less Quantity than Represented:</b> Any person who sells a commodity in less quantity than represented is guilty of a misdemeanor.</p>	<p>12024</p>
	<p><b>Selling According to Gross Weight or Measure:</b> Any person who sells any commodity according to gross weight or measure is guilty of a misdemeanor.</p>	<p>12023</p>
<p><b>Test Sale</b></p>	<p><b>Purchase of Less than True Quantity:</b> It is a misdemeanor for the purchaser, when using his own weighing or measuring equipment, to buy (i.e., pay) in less than the true quantity. Punishment for a violation may be a fine or imprisonment in the county jail.</p>	<p>12512</p>
<p><b>Test Sale or Test Purchase</b></p>	<p>The district attorney may choose to use these sections:</p> <p><b>Part 2, Chapter 4, Unfair Trade Practices:</b> Violations of the sections contained in this chapter or elsewhere in the Business and Professions Code may be considered to be an “unlawful business practice”.</p>	<p>17200</p>
	<p><b>Part 3, Chapter 1:</b> Charging a price higher than the advertised or quoted price or paying less than the price advertised or quoted is viewed as “false and misleading advertising”.</p> <p>Civil penalties for these two sections may include monetary payments and specific agreements for conducting future business.</p>	<p>17500</p>

Complete records must be kept of every inspection. Information is recorded on the Test Purchase/Sale Report (form number 49-030). Inspection techniques are outlined in the Quantity Control Program Manual.

**Example**  
**Test Purchase Report Completed**

STATE OF CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE DIVISION OF MEASUREMENT STANDARDS TEST PURCHASE/SALE REPORT 49-030 (Rev. 6/01)		BUSINESS NAME: <u>SUPER DUPER MKT #1</u>		DATE: <u>4-18-01</u>	
ADDRESS: <u>106 WEST ST</u>		ADDRESS: <u>METRO, CA</u>		TIME IN: <u>10:20 AM</u>	
COUNTY: <u>MISSION</u>		PRICES: <input type="checkbox"/> POSTED/ADVERTISED <input type="checkbox"/> QUOTED		TIME OUT: <u>10:55 AM</u>	
				TIME WEIGHED: <u>11:05 AM</u>	

COMMODITY (PURCHASED/SALE)	A SALES/ UNIT PRICE	B GROSS WEIGHT	C NET WEIGHT RECEIVED/ SOLD	D CORRECT PRICE EXTENSION (A X C)	E PRICE CHARGED/ PAYMENT RECEIVED	F ERROR PRICE (E - D)		G % OVER CHARGE/ UNDER PAYMENT (F/D) X 100	H COMPUTED WEIGHT EXTENSION (E/A)	I WEIGHT ERROR	
						OVER CHARGE/ PAYMENT (+)	UNDER CHARGE/ PAYMENT (-)			TEST PURCHASE (C-H)	TEST SALE (H-C)
1. SLICED ROAST BEEF	5.99 / LB	0.77	0.76	4.55	4.66	0.11		2.4	0.78	-0.02	
2. CHEDDAR CHEESE	2.99 / LB	0.66	0.65	1.94	2.57	0.63		32.5	0.86	-0.21	
3. SALAD BAR	2.59 / LB	1.14	1.03	2.67	2.95	0.28		10.5	1.14	-0.11	
4. BULK CANDY	1.89 / LB	0.89	0.84	1.59	1.54		0.05		0.82	+0.02	
5. COFFEE BEANS	2.49 / Kilo										
6.	(9.96 / LB)	0.53	0.51	5.08	5.02		0.06		0.50	+0.01	
7. TANGELOS	0.69 / LB	1.39	1.39	0.96	0.68		0.28		0.98	+0.41	
8. ASPARAGUS	0.99 / LB	2.09	2.09	2.07	2.07	-	-				
9.											
10.											
TOTALS				18.86	19.49	1.02	0.39	3.3	% OVERCHARGE/UNDERPAYMENT		

SCALE USED FOR TEST WEIGHING: SERIAL #: <u>149055</u> OWNED BY: <u>COUNTY</u>	DESCRIPTION OF SELLER/PURCHASER: <input checked="" type="checkbox"/> MALE <input type="checkbox"/> FEMALE RACE: <u>C</u> AGE: <u>45-50</u> HEIGHT: <u>5'10"</u> WEIGHT: <u>185 LB</u> HAIR: <u>BROWN</u> EYES: <u>BLUE</u> OTHER CHARACTERISTICS: <u>GLASSES, SHORT BEARD</u> CHECKSTAND #8, F, C, 30-35 YRS, 5'7", <u>140 LB, BLOND HAIR, GREEN EYES</u>	COMMODITY DISPOSITION: <input type="checkbox"/> RETURNED <input checked="" type="checkbox"/> DESTROYED #3 <input checked="" type="checkbox"/> HELD AS EVIDENCE: I.D. # <u>04-8166-01</u> WHERE HELD: <u>MISSION Co. W.M., 100 SUNSET DR</u> <u>METRO</u> <input type="checkbox"/> SHIPPED/DONATED TO: _____ RECEIVED BY: _____
SCALE USED BY SELLER/PURCHASER: TYPE: <u>ELECT</u> SEALED? <u>99</u> OTHER INFO: <u>DELI SCALE ON</u> <u>BACK COUNTER</u>	SECTIONS VIOLATED: <input checked="" type="checkbox"/> 12023 #3 <input type="checkbox"/> 12024.2a <input checked="" type="checkbox"/> 12024.2b #1, 2 <input type="checkbox"/> 12512 <input checked="" type="checkbox"/> OTHER <u>§12107, CCR</u> <u>1.10 &amp; 1.12 3.3</u>	LEGAL ACTION: <input type="checkbox"/> HEARING <input checked="" type="checkbox"/> CRIMINAL CITATION/COMPLAINT <input type="checkbox"/> CIVIL COMPLAINT <input type="checkbox"/> NOTICE OF VIOLATION (NOV) <input type="checkbox"/> CIVIL PENALTY (NOTICE OF PROPOSED ACTION, NOPA)

REMARKS: <u>*2 CHARGED AT 3.99 / LB INSTEAD OF ADVERTISED 2.99 / LB</u> <u>*7 CHARGED AT 4.99 / LB INSTEAD OF TESTED 6.99 / LB</u>	INVESTIGATOR: <u>[Signature]</u> BUYER/SELLER: <u>[Signature]</u>
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**Example  
Test Sale Report Completed**

STATE OF CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE DIVISION OF MEASUREMENT STANDARDS TEST PURCHASE/SALE REPORT 49-030 (Rev. 9/01)		BUSINESS NAME: <u>40/40 RECYCLE CENTER</u>		DATE: <u>11/01/01</u>	
COUNTY: <u>GOLDEN</u>		ADDRESS: <u>451 PIONEER AVE.</u> <u>MOSHER, CA</u>		TIME IN: <u>2:40 PM</u>	
PRICES: <input checked="" type="checkbox"/> POSTED/ADVERTISED <input type="checkbox"/> QUOTED				TIME OUT: <u>3:00 PM</u>	
				TIME WEIGHED: <u>1:50 PM</u>	

COMMODITY (PURCHASED/SOLD)	A SALES/ UNIT PRICE	B GROSS WEIGHT	C NET WEIGHT RECEIVED/ SOLD	D CORRECT PRICE EXTENSION (A X C)	E PRICE CHARGED/ PAYMENT RECEIVED	F ERROR PRICE (E - D)		G % OVER CHARGE/ UNDER PAYMENT (F/D) X 100	H COMPUTED WEIGHT EXTENSION (E / A)	I WEIGHT ERROR	
						OVER CHARGE/ PAYMENT (+)	UNDER CHARGE/ PAYMENT (-)			TEST PURCHASE (C - H)	TEST SALE (H - C)
1. ALUMINUM CANS	0.85 / LB	6.55 LB	6.3 LB	5.35	4.54	0.81	15.1	5.34			-0.96
2. BROWN GLASS BOTTLES	0.51 / LB	12.1 LB	12.0 LB	0.61	0.60	0.01	1.6	11.76			-0.23
3.											
4.											
5.											
6.											
7.											
8.											
9.											
10.											
TOTALS				5.96	5.14	0.82	13.7	% OVERCHARGE/UNDERPAYMENT			

SCALE USED FOR TEST WEIGHING: SERIAL #: <u>AD 43-21, S2425</u> OWNED BY: <u>STATE</u>	DESCRIPTION OF SELLER/PURCHASER: <input checked="" type="checkbox"/> MALE <input type="checkbox"/> FEMALE RACE: <u>C</u> AGE: <u>45-50</u> HEIGHT: <u>5'6"</u> WEIGHT: <u>135 LB</u> HAIR: <u>BRO/GRAY</u> EYES: <u>BRO</u> OTHER CHARACTERISTICS: <u>GLASSES, BEARD,</u> <u>NAME TAG: JAMES</u>	COMMODITY DISPOSITION: <input type="checkbox"/> RETURNED <input type="checkbox"/> DESTROYED <input type="checkbox"/> HELD AS EVIDENCE: I.D. # _____ WHERE HELD: _____ <input type="checkbox"/> SHIPPED/DONATED TO: _____ RECEIVED BY: _____
SCALE USED BY SELLER/PURCHASER: TYPE: <u>ELECT</u> SEALED? <u>YES</u> OTHER INFO: <u>NOT VISIBLE FROM</u> <u>CUSTOMER POSITION</u>	LEGAL ACTION: <input checked="" type="checkbox"/> HEARING <input type="checkbox"/> CRIMINAL CITATION/COMPLAINT <input type="checkbox"/> CIVIL COMPLAINT <input type="checkbox"/> NOTICE OF VIOLATION (NOV) <input type="checkbox"/> CIVIL PENALTY (NOTICE OF PROPOSED ACTION, NOPA)	
SECTIONS VIOLATED: <input type="checkbox"/> 12023 <input type="checkbox"/> 12024.2a <input type="checkbox"/> 12024.2b <input checked="" type="checkbox"/> 12512 <input type="checkbox"/> OTHER		REMARKS: _____ INVESTIGATOR: <u>[Signature]</u> BUYER/SELLER: <u>[Signature]</u>

It is important that the establishment is aware of the inspection results and of any violations found. The inspector may discuss the inspection with the person in charge at the time of the inspection, or if the same purchaser is to buy again at that location, a letter may be used instead. The establishment should be notified even if no violations are found. A letter to that effect lets them know there is a program monitoring sales and informs them of the legal requirements. Additionally, businesses are pleased to be acknowledged for correct practices.

Recommended enforcement actions for underpayments or overcharges are specified in the Citation Procedure Manual and the California Code of Regulations Section 4802.

**Example**  
**Model Test Purchase Letter – Inspection Without Violations**

Dear Sir or Madam,

Your business establishment was recently shopped as a part of *(insert department's name)* Test Purchase Program. Purchases of items weighed or measured at the time of sale are made periodically to verify that the buyer receives the correct amount of goods for the purchase price. Test purchases are also used to verify the usage and accuracy of the scale or measuring device.

Frequent violations encountered are:

1. The item is sold at gross weight; i.e., there is no deduction from the overall weight for the wrapping and/or inedible fluids or byproducts (tare).
2. Not enough weight has been deducted for "tare".
3. The price per pound or price per unit is incorrectly given or computed.
4. The scale or measuring device is used incorrectly or is misread.
5. The scale or measuring device is mechanically incorrect, not properly maintained, or is in an inappropriate location. Although this department tests scales and other devices, it is the responsibility of the owner to keep the device in good repair and to maintain its accuracy.

It is a violation of state law to sell according to gross weight (no deduction for tare), to sell in less quantity than represented (short weight), or to incorrectly compute the selling price. (California Business and Professions Code, Sections 12023, 12024, and 12024.2)

**I am pleased to inform you that the goods purchased  
from your business were priced within the guidelines.**

If you have any questions regarding the Test Purchase Program or any other Weights and Measures issues, please call me at *(insert phone number)*.

**Example**  
**Model Test Purchase Letter – Inspection With Violations**

Dear Sir or Madam,

Your business establishment was recently shopped as a part of *(insert department's name)* Test Purchase Program. Purchases of items weighed or measured at the time of sale are made periodically to verify that the buyer receives the correct amount of goods for the purchase price. Test purchases are also used to verify the usage and accuracy of the scale or measuring device.

The violation(s) marked in the following list were found at your establishment:

1. The item or items was/were sold at gross weight; i.e., there was no deduction from the overall weight for the wrapping and/or inedible fluids or by-products (tare).  
*(insert description of violation)*
2. Not enough weight was deducted for “tare”.  
*(insert description of violation)*
3. The price per pound or price per unit was incorrectly given or computed.  
*(insert description of violation)*
4. The scale or measuring device was used incorrectly or was misread.  
*(insert description of violation)*
5. The scale or measuring device was mechanically incorrect, not properly maintained, or was in an inappropriate location. Although this department tests scales and other devices, it is the responsibility of the owner to keep the device in good repair and to maintain its accuracy.  
*(insert description of violation)*

It is a violation of state law to sell according to gross weight, to sell in less quantity than represented, or to incorrectly compute the selling price. (California Business and Professions Code, Sections 12023, 12024, and 12024.2)

**Failure to correct these violations and failure to maintain compliance with state laws and regulations may subject you to criminal fines or civil penalties as provided in the California Business and Professions Code.**

Future purchases will be made to verify that violations are no longer occurring.

If you have any questions regarding this matter, the Test Purchase Program or any other Weights and Measures issues, please call me at *(insert phone number)*.



## SELF-EVALUATION QUESTIONS

1. What manual is most helpful in determining how to test a product?
2. What procedure is used to quickly determine if there is a shortage?
3. What type of Sampling Plan category would be used for a 100-count package of 1/4 inch screws?
4. What type of Sampling Plan category would be used for a package of Beef Tenderloin from a USDA plant that was being tested in a major chain grocery store?
5. What is a Test Purchase?
6. According to the Business and Professions Code, how often does a county have to conduct Test Purchase inspections?
7. Name three things, other than foods, that may have the quantity verified by a Test Purchase.



## Price Verification

<b>12024.2</b>	It is unlawful for any person to compute, at the time of sale of a commodity, a value which is not a true extension of a price per unit which is then advertised, posted, or quoted or to charge, at the time of sale of a commodity, a value which is more than the price which is then advertised, posted, or quoted.
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Price verification inspections and investigations are conducted to ensure that a customer is charged the correct price (the lowest quoted, posted or advertised price) for items whose prices are determined by an automatic scanning device or by the manual entry of a code or price. Currently, routine inspections are made by County and State inspectors following procedures outlined in the Quantity Control Program Manual and are documented on a Sales Price Report form.



In addition to procedures described in the Quantity Control Program Manual for routine inspections, other types of inspections such as focused inspections, complaint inspections, undercover inspections, and others may be conducted following somewhat different guidelines. When the inspector detects an incorrect charge for an item, this data is recorded, showing the number of items mispriced, the dollar value of the mispricing, and the percentage of the errors compared to the correct price and to the receipt total. These numbers are used by the inspector and his/her supervisors to determine if additional monitoring or enforcement actions are appropriate.

There are no recommended guidelines for the frequency that retailers should be inspected for pricing accuracy, but many counties within California make an effort to conduct these inspections at least on an annual basis. Since automated pricing systems require ongoing price management by the store to maintain accuracy, it is helpful to establish an inventory of retail locations that use a scanner or price look-up system at the checkstand. Once these locations are identified, priorities can be made depending on sales volume, amount of complaints, performance history, or other criteria. An inventory list of these locations is not static. The introduction of scanner-type technology is growing in many parts of the retail business world. This technology can be found in “traditional” locations such as grocery and department stores, and can also be found in places such as pet supply, hardware, farm supply, beauty supply, auto part, and mini mart stores.

*Using Scanner Gun*



Important reference materials can be found in:

- National Institute of Standards and Technology Handbook 130, “Examination Procedure for Price Verification”
- Division of Measurement Standards Quantity Control Program Manual, “Checkstand Sales Price Inspection”
- California Business and Professions Code, Division 5
- California Code of Regulations, Title 4
- Weights and Measures Citation Manual

The law that is most often cited in scanner-type violations is Business and Professions Code Section 12024.2 (a) and (b).



## Door-To-Door Meat Sales

Door-to-Door meat sales are a common source of consumer complaints. Quantity Control investigators are often alerted to these complaints by the District Attorney's Consumer Fraud Division or the local Health Department. Other agencies that may become involved with these investigations include the local police or sheriff, California Department of Motor Vehicles, Better Business Bureau, and the United States Department of Agriculture.

Investigations of door-to-door meat sales require knowledge of the door-to-door code section and labeling regulations. Below are legal publications and other resources that should be familiar to the investigator.

- Business and Professions Code Sections:
  - 12024.5 Sale by Weight Required
  - 12024.55 Door-to-Door Section
  - Chapter 6 Fair Packaging and Labeling
- California Code of Regulations, Quantity Control Packaging and Labeling, Section 4510
- Civil Code, Section 1689.6, Right to Cancel Solicitation Contract or Offer
- Barclays Official California Code of Regulations, Title 4, Division 3, Article 10, Section 1304.1, Bait and Switch Advertising
- Guides Against Bait Advertising, 16 CFR Part 238

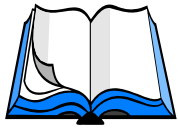
### Equipment

Door-to-Door Meat Sales Complaint  
Scales, Calibrated Test Weights  
Calculator  
Package Inspection Report Forms  
Labeling Violation Forms  
Tape Measure  
Camera  
Tape Recorder  
Letter of Statement of Complainant  
Door-to-Door Meat Sales Complaint (includes a form)



## SELF-EVALUATION QUESTIONS

1. What is the legal price that should be charged to a customer for an item?
2. What law or code section is most often cited when there are overcharges made by an automated price look-up (scanner) system?
3. Where can the procedure be found to conduct a price verification inspection?
4. Is a county required to have a program for seeking out and prosecuting deceptive packages?



## GLOSSARY

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### *A LISTING OF TERMINOLOGY AND ACRONYMS MOST COMMONLY USED BY WEIGHTS AND MEASURES OFFICIALS.*

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**Deceptive Package** – A package made (without a legally acceptable reason) so that it appears to contain more than it actually does.

**Density Cup and Pycnometer** – A device used to convert fluid volume to weight when testing the volume of a package of semi-viscous fluids.

**Dry Tare** – The packaging material of a packaged commodity not including any product, moisture or fluids absorbed by the package.

**Gross Content** – The package content (tare) and the product content (net) of a packaged commodity.

**Inch/Pound Units** – Traditional units of measure such as inch, yard, mile, ounce, pound, fluid ounce, quart, gallon and acre.

**IRQ** – Refers to the **identify, responsibility, and quantity** statement on a package product.

**Net Content** – The content of a package consisting of the product and excluding any packaging material.

**Package Audit** – A fast, preliminary procedure used to detect shortages of packaged commodities.

**Package Inspection** – A legal procedure used to inspect packaged commodities for accurate contents as compared to the labeled content statement.

**Price Verification** – A type of inspection that compares the legal price represented for an item with the price charged for that item.

**Quantity Control Specialist** – A weights and measures investigator employed by the Division of Measurement Standards that specializes in quantity control compliance and enforcement.





## GLOSSARY

*A LISTING OF TERMINOLOGY AND ACRONYMS MOST COMMONLY USED BY WEIGHTS AND MEASURES OFFICIALS.*

**SI (Metric) Units** – Units of measure used in science and in most countries of the world, such as centimeter, meter, kilometer, gram, kilogram, milliliter, liter and hectare.

**Slack Fill** – The difference between the actual capacity of a package and the volume of the contents.

**Tare** – The parts or contents of a package that are not the labeled product.

**Test Purchase/Test Sale** – An investigation procedure that checks the accurate measure or weight and legal sale (or purchase) of an item.

**Wet Tare** – Packaging material of a packaged commodity that includes fluid, moisture and ice.



## **BIBLIOGRAPHY AND REFERENCES**

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Business and Professions Code

Quantity Control Program Manual

California Code of Regulations (Field Reference Manual)

National Institute of Standards and Technology Handbooks 133  
and 130



## SELF-EVALUATION ANSWERS

### Segment 1

1. Manufacturing, wholesale, retail
2. National Institute of Standards and Technology Handbook 130
3. National Institute of Standards and Technology Handbook 133
4. Citation Manual
5. Various state and federal websites, Division of Measurement Standards Quantity Control Specialists, and your supervisor
6. Business and Professions Code Section 12211
7. National Institute of Standards and Technology
8. Quantity Control Program Manual
9. At each location and when an action is taken
10. Graduated glassware
11. Adhesive, hand lotion, grease, caulking

### Segment 2

1. National Institute of Standards and Technology Handbook 133
2. An Audit
3. Category A
4. Category A
5. Purchase made to determine if the correct price is charged for the amount received
6. There are no legal requirements for inspection frequency
7. Rope, chain, flower bulbs, landscape, firewood, seeds, pet food, chain, cloth fabric, tobacco, aquarium gravel, or wire

### Segment 3

1. The lower price posted, advertised or quoted
2. Business and Professions Code Section 12024.2
3. Quantity Control Program Manual
4. No



**We would appreciate your taking a few moments to complete our training evaluation feedback form. We welcome your comments and any suggestions you might have regarding Training Module 13. You may E-mail your response to us at [DMS@cdfa.ca.gov](mailto:DMS@cdfa.ca.gov) or mail to Division of Measurement Standards at 6790 Florin Perkins Road, Suite 100, Sacramento CA 95828-1812.**

1. Did this module fulfill your expectations?
2. What did you like/dislike about this module?
3. What areas would you like to see improved?
4. What specific changes, if any, would you recommend?
5. How could this module be better organized to make it easier to follow and learn from?
6. Was this module too basic or too advanced for someone with an entry level background in weights and measures?
7. Additional comments or suggestions.