Grocers Guide to Weights & Measures

Wisconsin Department of Agriculture, Trade & Consumer Protection
Bureau of Weights & Measures

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Introduction

The Bureau of Weights and Measures ensures a fair marketplace for buyers and sellers in Wisconsin by establishing and enforcing uniform legal standards for weighing commodities, labeling products, selling goods, and regulating the devices used for weighing and measuring.

Standardized weights and measures business practices are fundamental to fair competition among retailers, and ensure that consumers get what they pay for. Good communication and cooperation between the Bureau of Weights and Measures and Wisconsin grocers helps improve compliance.

In order to achieve fairness and uniformity in the marketplace, the Wisconsin Bureau of Weights and Measures adopts into law standards contained in Handbooks 44, 130, and 133 from the National Institute of Standards and Technology (NIST). NIST is part of the U.S. Department of Commerce. In 1905 NIST established the National Conference on Weights and Measures (NCWM). The NCWM is a professional organization of weights and measures officials and representatives of business, industry and consumer groups from all over the country. NIST collaborates with the NCWM to develop standards in the form of uniform laws, regulations, and methods of practice, which are then published by NIST.

An understanding of NIST handbooks is an important component of achieving compliance with weights and measures laws. These handbooks can be found at nist.gov or by clicking the links below.

- NIST Handbook 44, Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring devices.
- NIST Handbook 130, Uniform Laws and Regulations.
- NIST Handbook 133, Checking the Net Contents of Packaged Goods – Fourth Edition.

Wisconsin Bureau of Weights and Measures

Weights & Measures has the authority to:

- Conduct investigations to ensure compliance with the law.
- Prescribe the appropriate method of sale for commodities.
- Enter any structure or premises.
- Order products off sale, reject devices, and conduct enforcement actions with regard to weights and measures.

The responsibilities and duties of the Department of Agriculture, Trade and Consumer Protection, Bureau of Weights and Measures are defined in Wisconsin Statutes, Chapter 98. (http://docs.legis.wisconsin.gov/statutes/statutes/98/Title)

Further regulations are defined in Administrative Codes, which can be found docs.legis.wisconsin.gov or by clicking the following links:

- ATCP Chapter 90: Fair Packaging and Labeling
- ATCP Chapter 91: Selling Commodities by Weight, Measure, or Count
- ATCP Chapter 92: Weights and Measures

The purpose of this handbook is to provide grocers with resources and the basic information needed to comply with Wisconsin Weights and Measures laws regulating scales, price accuracy, product labeling, method of sale, and package weight accuracy.

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Inspections

The Bureau of Weights and Measures conducts several types of inspections including scales, price accuracy, product labeling, method of sale, and package weight. Inspections may be routine, in response to a consumer complaint, or as part of an investigation to monitor previously identified problem areas. Inspections are always unscheduled. There are no fees for regular initial inspections.

What to Expect During Inspections

The inspector will identify him or herself upon arrival and ask for a manager. The inspector will explain which types of inspections will be performed. Merchandise in all areas of the store will typically be checked during an inspection including bakery, deli, meat, produce, and grocery items. Inspectors need access to all areas of the store, including storage and employee only areas. The inspector will complete an inspection report detailing the inspections performed, any compliance problems found, corrective action required, and any deadlines for completion of the corrective action. The inspector will discuss the results with you, have you sign the report, and give you a copy for your records. Do not hesitate to ask the inspector any questions you may have during or after inspection. Additional resources are also available at the back of this guide.

How to Assist with Inspections

If the storage, display, or location of any packages requires special equipment or an abnormal amount of labor for inspection, the owner or operator of the business should supply the equipment and/or labor as requested by the Weights and Measures inspector.

- Inspectors need a work area to set up test equipment in close proximity to the inspection lots.

- Inspectors require access to storage areas where additional products may be located.
- Inspectors require use of packaging materials on site for proper tare determination.

Re-inspections

Re-inspections are typically conducted within 30 days of the failed regular inspection. If the re-inspection fails, the Bureau of Weights and Measures will determine the next level of compliance enforcement action.

Re-Inspection Fees

Fees for re-inspection are as follows:

Medium capacity scale (300-5,000 lbs.)	$80
Small capacity scale (up to 300 lbs.)	$65
Timing device	$65
Package checking and labeling accuracy	$80
Price accuracy	$105
Other re-inspections	$75

Municipal Weights & Measures Programs

Municipalities in Wisconsin have the option of maintaining their own weights and measures program. City inspectors that choose this option employ their own inspectors, or contract with another city or a private company to conduct inspections; however, city inspectors enforce the same laws and standards as state inspectors. Several cities in Wisconsin have weights and measures programs. A list of these cities can be found at our website by clicking this link:

http://datcp.wi.gov/uploads/Consumer/pdf/Municipal%20W%20and%20M%20Programs.pdf

Cities may charge fees to businesses for weights and measures inspections. If you have stores or are planning stores in any cities with their own weights and measures program, you should contact the city regarding licenses, fees, and inspections.

Scales

The Bureau of Weights and Measures inspects commercial scales for compliance with Wisconsin law. If a scale passes inspection, the inspector will attach an inspection sticker to the scale. The inspector will reject any scale that is not correct under the law.

Rejected Scales

If a scale is incorrect, the details of the reasons for rejection will be provided in an inspection report along with a required date for compliance. If the inspector attaches a red tag to the scale, the scale is immediately removed from service and may no longer be used commercially until it is brought into compliance.

Scale Requirements:

- Scales must be installed and maintained by a service company that is registered with the Bureau of Weights and Measures. A list of certified companies can be found at our website at http://datcp.wi.gov/Consumer/Weights_and_Measures/Service_Company_Information/index.aspx. At the time of installation the sale will be placed in service and sealed by the service company. The scale may be used commercially at time of installation. An inspector may test the scale within 30 days of installation.

- Scales used to buy or sell a commodity must have a National Type Evaluation Program (NTEP) certificate of conformance if manufactured after January 1, 1997. This ensures that the device described in the Certificate is capable of meeting applicable requirements of the NIST Handbook 44, Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring devices.

- Per NIST Handbook 44, a commercial scale must be suitable for its intended use with respect to elements of its design, including but not limited to:
    - Capacity
    - Number of scale divisions
    - Value of the scale divisions or verification of scale division
    - Minimum capacity
    - Computing capability

- Because weighing small quantities and/or high value commodities on a scale not intended for such use may result in large errors, a commercial scale must be suitable for the minimum load it is weighing. Examples of high value commodities sold in small quantities you may encounter are bulk spices and teas.

- Bathroom scales, baby scales, portion scales, scales marked Not Legal for Trade, and mechanical scales with thumb screw zero adjustments, are examples of scales that cannot be used commercially in Wisconsin.

- In order to meet commercial quality requirements, mechanical scales must have a zero adjustment that requires a tool for operation. Electronic scales must have a means for sealing the calibration adjustment mechanism.

- Any commercial scale manufactured after January 1, 1986 must be labeled Class III. It will have an identification plate with the serial number, manufacturer, model number, maximum capacity, number of divisions and size of the smallest division. Commercial scales manufactured before January 1, 1986 may be labeled Class III and have an identification plate as described above. A scale manufactured before 1986 which has no class marking is considered “commercial quality” if it has a manufacturer’s name, serial number, maximum capacity, and division size printed on the scale.

Scale Installation

Installation by a Wisconsin certified scale service company, scales must meet the following requirements.

- Scales must always be installed according to the manufacturer's instructions, including any instructions marked on the device.
- Fixed location scales must be installed so that the foundation, supports, or any other detail of the installation will not disturb the scale's operation or performance.
- The foundation and supports of any scale installed in a fixed location should provide strength, rigidity, and permanence of all components.
- There must be clearance around all parts so that nothing touches the scale itself or interferes with items placed on the scale.
- Deli scales placed on shelf units attached to the deli case must be stable so the scale can maintain a level condition. Some pre-pack scales placed on stainless steel tables do not meet this requirement.

Scale Position

Scales used in direct sales must be positioned so the customer can observe the entire weighing operation.

- The weight display must be clearly visible, and not obscured by signs or other products.
- Scales equipped with a mast indicator must be positioned so customers can see the display.

Scale Operating

- Debris must be cleared from the edges of a scanner platter on a regular basis to insure accurate weighing.
- Stores should inspect scales regularly to make sure they are in a zero-balance condition. Scales that do not return to zero cause incorrect weights.

Point of Sale Systems

The sales information recorded by cash registers that are interfaced with a scale must contain the following information for items weighed at the checkout stand:

- the net weight
- the unit price
- the total price, and
- the product class; or, in a system equipped with a price look-up capability, the product name or code number

All of the above items must appear on the cash register receipt.

Tare

On any scale, the tare division must be equal to the scale division. For example, if the scale has .01 divisions, the tare divisions must also be .01. The tare mechanism must operate only in a backward direction (that is, in a direction of under-registration) with no load on the scale. A device designed to automatically clear any tare value must also be designed to prevent the automatic clearing of tare until a transaction has been completed.
For more information on Tare requirements, see the Package Weight chapter.

Method of Sale Requirements

Consumers can become confused when more than one method of sale is used for the same product. In order to ensure a fair and transparent marketplace, standard units of measure and methods of sale have been created for many products including deli, bakery, produce, meat, poultry, bakery items and stovewood. During method of sale inspections the inspector will check to ensure products meet these requirements.

Wisconsin Administrative Code § ATCP 91 and NIST Handbook 130 require the following methods of sale for food commodities.

- In general, when specific methods of sale are not identified, solid materials should be sold by weight, and liquids should be sold by volume.
- Bread shall be sold by weight unless it is clearly identified and sold as "stale bread."
- Unpackaged, non-bread bakery items may be sold by count from a display case or bulk bin.
- Cheese shall be sold by weight.
- Fluid milk products shall be sold in fluid volume.
- Cottage cheese, cottage cheese products, and other milk products that are solid, semisolid, viscous, or a mixture of solid and liquid, as defined in the Pasteurized Milk Ordinance of the U.S. Public Health Service, as amended in 1965, shall be sold in terms of weight.
- Meat, Poultry, Fish, and Seafood shall be sold by weight, except that whole shellfish in the shell may be sold by weight, measure, and/or count.

Fruits and Vegetables

Fresh fruits and vegetables must be sold by weight, unless they have another method identified in NIST Handbook 130, chVI., section 2.3.2. See the following charts from NIST Handbook 130 for information on fresh fruits and vegetables that are to be sold according to that section.

Berries and small fruits such as cherries, currants, and cherry tomatoes, may be sold by weight or by dry measure. If sold by dry measure, these may only be sold in containers having capacities one-half dry pint, one dry pint, or one dry quart, as standardized by the Berry Basket and Box code in NIST Handbook 44.

Method of Retail Sale for Fresh Fruits and Vegetables
General Commodity Groups

Commodity	Weight	Count	Head or Bunch	Dry Measure (any size)	Dry Measure (1 dry qt or larger)
Citrus Fruits (oranges, grapefruits, lemons, etc.)	X	X			X
Edible Bulbs (onions [spring or green], garlic, leeks, etc.)	X	X	X		X
Edible Tubers (Irish potatoes, sweet potatoes, ginger, horseradish, etc.)	X				X
Flower Vegetables (broccoli, cauliflower, Brussels sprouts, etc.)	X		X		
Gourd Vegetables (cucumbers, squash, melons, etc.)	X	X			X
Leaf Vegetables (lettuce, cabbage, celery, etc.)	X		X		
Leaf Vegetables (parsley, herbs, loose greens)	X		X	X	
Pitted Fruits (peaches, plums, prunes, etc.)	X	X			X
Pome Fruits (apples, pears, mangoes, etc.)	X	X			X
Root Vegetables (turnips, carrots, radishes, etc.)	X		X		

Method of Retail Sale for Fresh Fruits and Vegetables Specific Commodity					
Commodity	**Weight**	**Count**	**Head or Bunch**	**Dry Measure (any size)**	**Dry Measure (1 dry qt or larger)**
Artichokes	X	X			
Asparagus	X		X		
Avocados		X			
Bananas	X	X			
Beans (green, yellow, etc.)	X				X
Brussels Sprouts (loose)	X				
Brussels Sprouts (on stalk)			X		
Cherries	X			X	X
Coconuts	X	X			
Corn on the Cob		X			X
Dates	X				
Eggplant	X	X			
Figs	X				
Grapes	X				
Melons (cut in pieces)	X				
Mushrooms (small)	X			X	X
Mushrooms (Portobello, large)	X	X			
Okra	X				
Peas	X				X
Peppers (bell and other varieties)	X	X			X
Pineapples	X	X			
Rhubarb	X		X		
Tomatoes (except cherry/grape)	X	X			X

Ready-To-Eat Foods

Ready-to-eat food is food that is ready for consumption without further washing, heating, thawing or other preparation. "Ready-to-eat food" does not include any of the following:

- Raw fruits or vegetables, except when sold as part of a ready-to-eat meal
- Sliced meat or poultry, or other sliced luncheon products, except when sold as part of a ready-to-eat meal
- Cheese, except when sold as part of a ready-to-eat meal
- Candy or snack foods, except when sold as part of a ready-to-eat meal
- Beverages in hermetically sealed containers

Ready-to-eat food sold from bulk or in single servings packed at the point of sale may be sold by weight, measure or count. For purposes of this subsection, count may include a serving count. If cooked ready-to-eat food is sold by weight, its declared weight shall be its cooked weight unless the declared weight is clearly identified as pre-cooked weight.

Fireplace and Stovewood

Fireplace and stovewood must be advertised, offered for sale, and sold only by measure, using the term “cord” and fractional parts of a cord, or the cubic meter, except in the case of packaged natural wood.

> **Packaged Natural Wood.** Natural wood offered for sale in packaged form in quantities less than 1/8 cord or 16 cubic feet must display the quantity in terms of:
>
> - Liters, including fractions of liters
> - Cubic inches, if less than one cubic foot
> - Cubic feet, if one cubic foot or greater, or fractions of cubic feet

These methods include the requirements listed in the NIST Handbook 130: Uniform Laws and Regulations.

Product Labeling

To ensure a fair and safe marketplace, consumer commodities are required to be labeled with the declaration of product identity, declaration of responsibility, and declaration of net quantity.

Declaration of Product Identity

A package must clearly and conspicuously identify the commodity it contains. The commodity must be identified by its common name, legal name, or other appropriate description readily understood by consumers. The declaration of identity must appear on the principle display of each package, and must be a principle feature of that display panel. It must be printed in English, and in a color that contrasts the background color. It must be generally parallel to the base on which the package is designed to rest so that it can be readily seen when displayed.

Declaration of Product Responsibility

Packages of consumer commodities sold any place other than the premises where the commodity was packaged must be clearly and conspicuously labeled with the name of the responsible person, business address of the responsible person, and the connection of the responsible person to the commodity. The declaration of responsibility must be clearly printed in English in a color that contrasts with the background and generally parallel to the base on which the package is designed to rest when displayed.

Declaration of Net Quantity

Packages must bear a declaration of net quantity expressed in the weight, measure, or count required by the method of sale, except as provided under Wis. Admin. Code ATCP § 90.04(1)(b). The declaration of net quantity must appear on the principle display panel of each package and comply with all requirements contained in ATCP § 90.07, except for where ATCP § 90.08 provides specific exception for special packages and commodities.

Package Weight

Package weight errors are costly to consumers and retailers. Customers should get what they pay for, and businesses are required to ensure that declared net quantities of packages are correct. Net quantity is the quantity of packaged product remaining after all necessary deductions for tare have been made. Tare is the wrapper, container, or other material used to package the commodity. Inspectors test packages for accurate net quantity declarations.

The inspector will use NIST Handbook 133 test procedures to determine the net contents of packaged commodities in an inspection lot. An inspection lot may consist of any group of identically labeled packages found at the same manufacturing, wholesale or retail premises. An inspection lot may include packages from different manufacturing or production lots, and from different wholesale shipments or deliveries. Lots found during inspection to be in violation of law will be ordered off sale.

Inspection lots may be ordered off sale for two reasons:

- Short on average: the average net quantity in a lot of packages must not be less than the net quantity on the label.
- Maximum Allowable Variation (MAV) violation: an unreasonable deficiency in the weight, measure, or count of an individual package. The MAV values are listed in NIST Handbook 133 and the amount varies according to the size of the package. Unreasonable shortages are not permitted, even though other packages in the same lot or shipment may be overfilled.

Tare Weight

One of the key items to accurate package weights is correct calculation of tare weight. Customers cannot be charged for tare when weighing packages for sale. The weight of the tare materials must be subtracted from the gross weight of the packaged product in order to determine the correct net weight and the correct price.

Store Packed Commodities

Retailers are responsible for determining accurate tare weights, and for deducting tare from the declared weight. For items packaged on site, tare weight can be determined by separately weighing the dry packaging material.

Pre-Packed Commodities

When stores are weighing and labeling pre-packaged random weight items the store is still responsible for ensuring accurate tare weights. Tare weights for these items should be obtained from the manufacturer.

Bulk Commodities

Tare weight for bulk items must be deducted from the gross weight at the point of sale. These are products that the consumer selects and places in a package, usually a bag, to be weighed at the checkout register.

Types of Tare

Unused Dry Tare includes all unused packaging materials (including pads, labels, ties, etc.) that contain or enclose a product. It includes prizes, gifts, coupons, or decorations that are not part of the product. Inspectors will determine tare weights from unused packaging materials located on site.

Used Dry Tare includes used tare material that has been air dried, or dried in some manner to simulate unused tare weight. It includes all packaging materials that can be separated from the packaged product, either readily (e.g., by shaking) or by washing, scraping, ambient air drying, or other techniques, but not including laboratory procedures like oven drying. If an inspector is unable to determine proper tare values for pre-packaged products, it will be necessary to open packages.

Tips for maintaining accurate tare weights:

- Periodically check the tare values stored in the scale. Inform the person responsible for tare of any errors.
- Correct mislabeled tare values.
- Verify dry tare values by weighing the tare products. Make sure your packaging matches the programmed tare.
- Conduct your own audit inspection of the packages in your display.
- Update the tare values when packaging materials change.
- Maintain a current list of pre-packaged tare values from outside distributors.
- Train packers and clerks to accurately determine tare weights.

Cost of Errors

Even small errors can add up to surprisingly big losses for grocery stores or their customers. The following example shows how a seemingly minimal tare weight mistake or inaccurate scale calibration can affect your bottom line when multiplied by thousands of packages sold over the course of a year.

Ground Beef: average per pound price of $3.79

Package Size	Packages Sold Per Year	Cost of Error of .01 lb.	Cost of Error of .02 lb.	Cost of Error of .03 lb.
1 lb.	75,000	$2,842.50	$5,685.00	$8,527.50
2 lb.	35,000	$2,653.00	$5,306.00	$7,959.00
5 lb.	25,000	$4,737.50	$9,475.00	$14,212.50
	Annual Loss:	**$10,233.00**	**$20,466.00**	**$30,699.00**

Price Accuracy

Customers must be charged the advertised price for commodities. While it is not required by law that the price be posted, if it is posted, the customer must be charged the posted price. If a customer is over charged, they are entitled to a refund the difference between the posted price and the amount they were charged. Retailers using electronic scanners are required to post conspicuous signage notifying customers they are entitled to a refund if over charged. During inspection, inspectors will check to confirm this signage is present in a conspicuous place visible to the customer from the point of transaction. An example of such signage is below.

PRICE INFORMATION AND REFUNDS

If an item is posted or advertised for a price that is less than what you are charged by our electronic scanning system, you are entitled to a refund of the difference between the posted or advertised price and the price charged.

Price accuracy inspections are conducted according to NIST Handbook 130 guidelines. Inspectors will utilize an inspection method based on the type of inspection being conducted. Types of inspections are:

- Routine: Inspectors will use a random method to select products from throughout the store to be tested. This includes regular priced items, sale items, clearance items, and possibly items with discounts offered with use of a store promotion or loyalty card.
- Investigation: When prior compliance problems have been found, inspectors will use a randomized selection method, but may limit the types of products included in testing based on problems found during previous failed inspections.
- Complaint Investigation: The inspector will select products to test based on the nature of the complaint.

Common Problems in the Marketplace

Multiple Package Sizes

The same commodity packaged in several different package sizes requires different tare weights. Incorrect tare weight due to multiple package sizes is most commonly found in the meat and deli departments, or with bulk items sold in multiple containers. This can be avoided with proper training and by auditing tare weights regularly.

Centralized Program Tare Systems

The purpose of these systems is to increase efficiencies and promote uniformity among a chain of stores. However, problems can arise from several areas.

- Inconsistent packaging procedures: All stores in the chain may not be packaging a particular commodity in the same way. For example, one store may include an extra soaker pad in packages of a certain cut of meat, which is not accounted for in the tare weight provided by the system. Either all packages should be packaged consistently, or tare weights should be checked at the time of packaging to ensure accuracy.
- Failure to promptly update tare weights in the system: If a tare value is found to be incorrect at one store, or the packaging is changed for a product, the information should be promptly corrected in the system to ensure accuracy at all stores.
- Missing tare values: When only one tare value is programmed for a product packaged in several different sized packages, inaccurate tare weights can result. There should always be a correct tare weight in the system for each package size.

Point of Sale Tare Weights

Mistakes in calculating tare are more likely to happen when tare weights for bulk commodities that are weighed at the register are not programmed in the POS. Programming tare weights at the register is one way to avoid tare weight errors.

Miscellaneous Product Codes

When an inspector selects a package that is labeled “Miscellaneous Meat” or “Miscellaneous Deli,” these items often have either no tare weight or an inaccurate tare weight. This “miscellaneous” code is sometimes used for labeling new products not included as a specific item in the central tare program. It is impossible for one "miscellaneous" code to cover all possible tare values. Timely processing of new items into the centralized tare system is essential to accuracy. Training of employees so they have the ability to determine and enter the proper tare weights is also important.

Shelf Life and Moisture Loss

All perishable products will experience some degree of moisture loss regardless of the packaging material. Moisture loss leads to short-weight packages. The longer the shelf life of a commodity, the longer the exposure period, and the greater the moisture loss. Random weight products with a long shelf life need to be re-weighed periodically to insure accurate net weight declarations. This is particularly true of frozen meat and seafood products with a very long shelf life. Other problem areas include smoked meats and fish or whole-bagged fresh chickens, which tend to lose moisture rapidly due to leaking packages.

CONTACTS

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