

STANDARDIZATION of containers for marketing fruits and vegetables is an important problem that demands the attention of the general public. It is vitally necessary in the interest of a square deal that the exact content of these packages be generally known and that the different sizes be readily distinguishable from each other.

Federal standards are now in force regarding the sizes of barrels used for fruits and vegetables and for cranberries, and Federal standards are fixed for grape baskets, berry boxes, and small till baskets.

A serious lack of uniformity is still to be corrected in the sizes of such packages as hampers, round stave baskets, splint or market baskets, and of many boxes and crates used in the marketing of perishables.

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STANDARD BASKETS FOR FRUITS AND VEGETABLES

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CAUSES OF VARIATION IN CONTAINERS

FIFTEEN STYLES and sizes of round stave baskets, market baskets varying in size from 1 quart to 24 quarts are in common use to-day; about 40 sizes of cabbage crates, about 20 styles of celery crates, 30 lettuce crates or boxes, and 50 styles and sizes of hampers, although a relatively few standard sizes would satisfy all the demands of the trade.

Probably the most important factor contributing to the present unsatisfactory situation is the use of regional packages long established by local usage. Such packages may have been satisfactory when their use was confined to a limited territory, but of late years rapid transportation and the use of special refrigerator and ventilator cars have brought the products of every corner of this country into our great marketing centers, where the diversity of styles and sizes of containers have resulted in confusion.

The unfair competition of short-measure containers is another factor contributing to the present situation. Certain shrewd packers have found that by slight modifications in the shape of packages (fig. 1) the cubical content can be reduced substantially without noticeably affecting the appearance. Commodities sold in these containers can be offered at a lower price per package than those sold in standard packages, but the price per unit of weight is of course higher. Often this has caused the general adoption of the short-measure package, and there is no end to this procedure, for no sooner is the short-measure recognized as the standard than a still shorter one is put out by the unscrupulous minority.

The 6-quart market basket is easily confused with the peck size, the 13½ or 14 quart peach basket with the half-bushel (fig. 1), the seven-eighths bushel bean hamper with the bushel (fig. 2), and the type of 5-peck lettuce hamper shown in Figure 3 with the Florida type of 1½-bushel hamper.

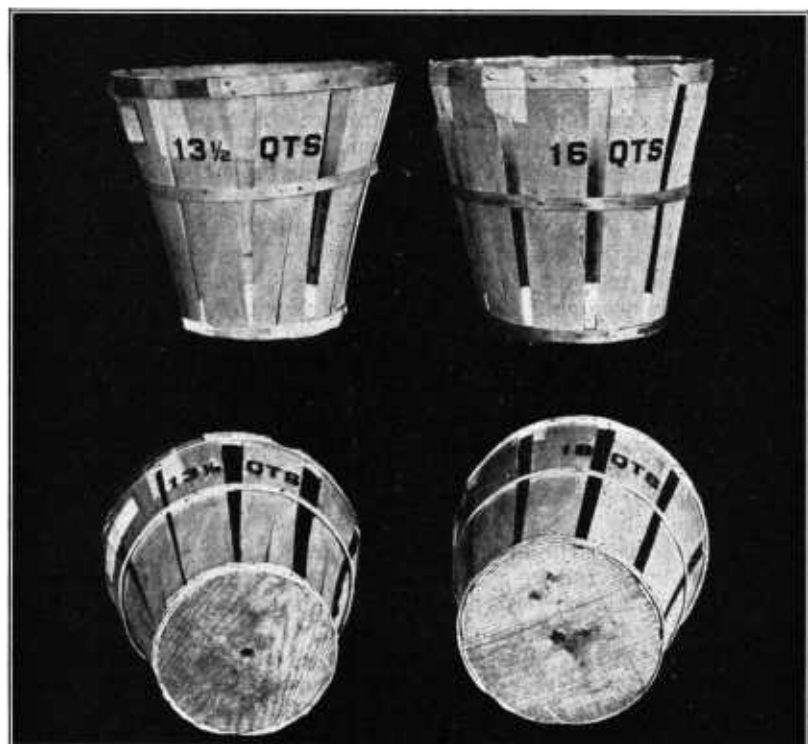
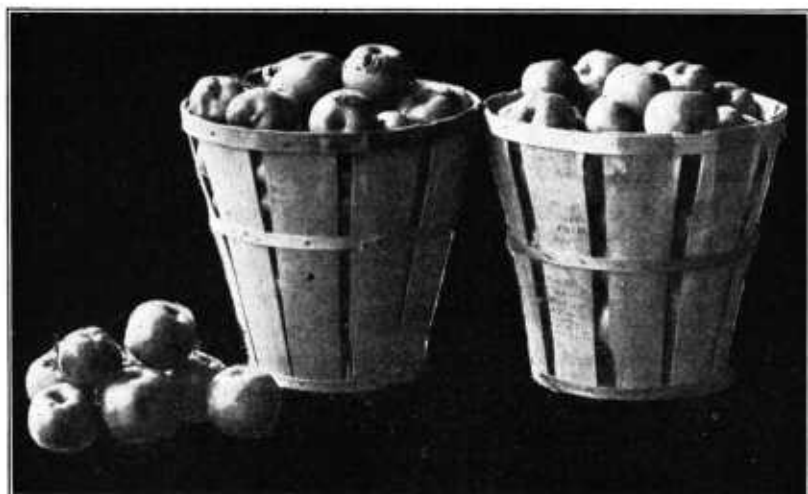


FIG. 1.—The apples on the floor represent the difference in the contents of the 14-quart and 16-quart baskets. By reducing the diameter of the bottom $\frac{1}{2}$ inch and making no change in the height of the baskets the deception is accomplished



FIG. 2.—A standard bushel hamper of 32 quarts and a seven-eighths hamper which, although shipped as a 28-quart container, held but 27 quarts. The beans in front of the short basket represent the difference in quantity held by the two baskets

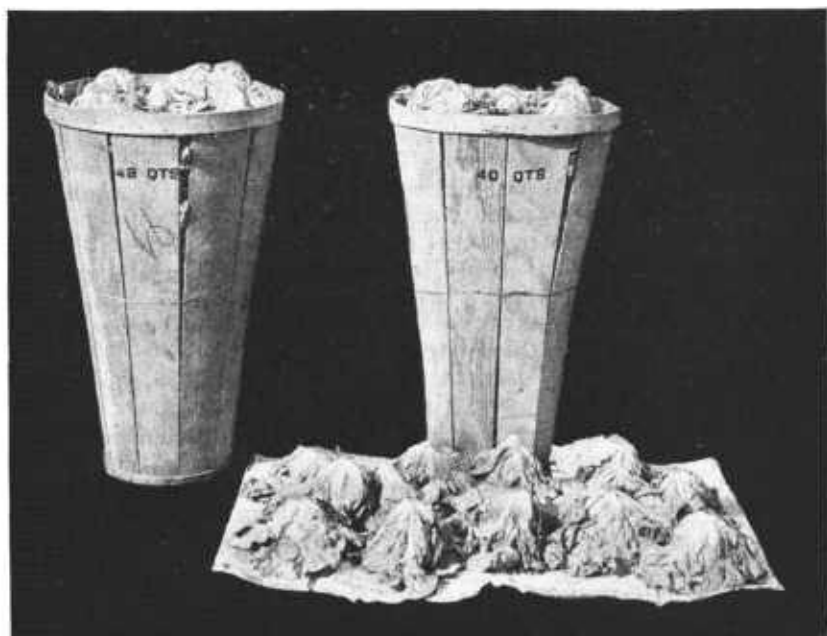


FIG. 3.—Lettuce hampers vary in capacity from 40 to 48 quarts, but frequently wholesale at the same price. The smaller basket in the picture holds 37 heads of lettuce, the larger 49 heads. The difference in contents is shown on the ground

IMPORTANCE OF STANDARD CONTAINERS

Standard containers for marketing fruits and vegetables are of more interest to the average citizen than he generally realizes. He is at all times a consumer of some commodity and may be a grower or shipper of other commodities, a manufacturer of containers, or an official of a railroad, steamship line, or other carrier. As a consumer he is frequently defrauded by the substitution of short-measure packages at the full-measure price. Also the cost of marketing is increased by the greater expense of manufacturing a large number of styles and sizes and by breakage in transit, which may be due to weak packages, to improper stowage, or to the difficulty of loading odd-sized containers.

Standardization means to the manufacturer that production is simplified and that he can concentrate on a few sizes, with consequent lowering of costs. To the carrier it means the elimination of many sizes which now help to complicate the problem of damage in transit, and narrows the container problem to a few sizes for which standard strength specifications can be worked out and approved methods of stowing and bracing devised. The grower or shipper benefits by any action that lowers the cost of manufacture and tends to reduce breakage in transit. In addition standard containers provide him with a definite basis of sale so far as the size of his package is concerned. He is thus relieved of unfair competition through use by his competitor of a "short" package.

EXISTING FEDERAL STANDARDS

The Federal Government has provided by law for certain standard containers for the marketing of fruits and vegetables. They are the standard barrel, containing 7,056 cubic inches, and its subdivisions; the cranberry barrel, containing 5,826 cubic inches, with its subdivisions; three standard sizes of Climax or grape baskets, containing 2, 4, and 12 dry quarts, respectively; and standard berry boxes and till baskets, containing dry one-half pint, dry pint, dry quart, and multiples of the dry quart. The standard apple and vegetable barrel, which is ordinarily supposed to contain 3 bushels, actually holds 9 quarts in excess of that amount. In establishing this standard theoretical considerations were laid aside and the same dimensions and capacity were adopted as those of the flour barrel. The subdivisions of both barrels are three-fourths barrel, one-half barrel, and one-third barrel.

The United States standard barrel act, passed in 1915, is enforced by the Bureau of Standards, United States Department of Commerce, and in those States which have legally adopted the Federal standard by the local sealers of weights and measures. The United States standard container act of 1916, fixing standards for Climax baskets and for berry boxes and small till baskets, is enforced by the Bureau of Agricultural Economics of the United States Department of Agriculture.

The two acts have done away with a large number of unnecessary sizes of barrels, Climax baskets, till baskets, and berry boxes, and have awakened a widespread demand for the application of the same principle to other containers (figs. 4 and 5). In baskets and berry



FIG. 4.—Above: Tills or small fruit baskets now standardized by law. Below: Some of the sizes of small fruit baskets in common use before Government standardization



FIG. 5.—Above: Two, four, and twelve-quart Climax or grape baskets. Shipments of other sizes in Interstate trade are prohibited by law. Below: Thirty-one types of Climax baskets in general use in 1917, before the establishment of standards

boxes the reductions represent the elimination of 93, 84, and 82 per cent, respectively, of the sizes formerly used. This reduction has improved marketing conditions in the produce shipped in these containers because there is now no question as to the size of the container, and it works to the benefit of growers, shippers, and consumers. To the manufacturer it has meant a reduction in the number of forms necessary to supply his customers; he can now make up stock ahead of orders; and it has extended his market, because the containers which he makes are now standard and in use the country over. Similar results can be accomplished by standardization of other containers.

The United States standard barrel act has been reenacted by at least 17 of the States and the United States standard container act by Indiana, Iowa, Kansas, Michigan, Ohio, Pennsylvania, and the District of Columbia. A list of States which have standardized various types of fruit and vegetable containers is found on page 17.

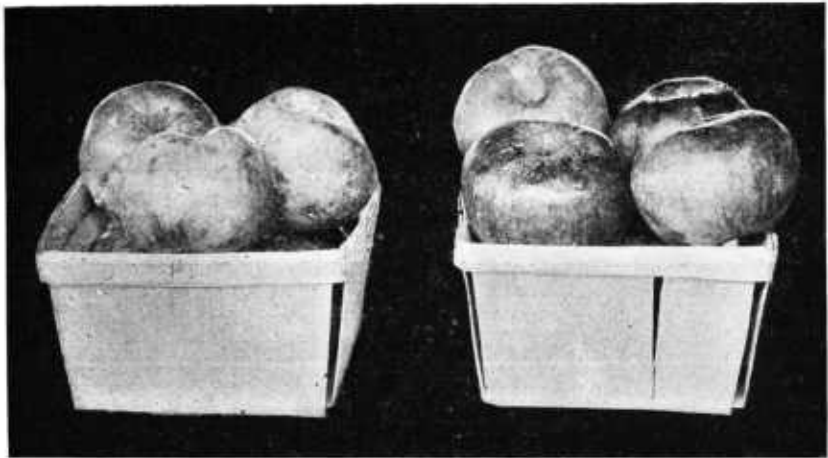


FIG. 6.—Misuse of a basket. Quart berry boxes are intended only for the marketing of berries, cherries, and similar fruits. There is a variation of 14 per cent in the weight of the apples in these baskets.

NEED FOR A FIXED UNIT AS BASIS FOR STANDARDS

The dry quart with its subdivisions and multiples is a satisfactory basis for standardizing such small containers as the berry box and small till basket; but for larger packages a larger unit must be adopted, so that the customer can recognize readily the various sizes. Most of the larger baskets now used are supposed to be based in capacity on the bushel and its subdivisions and multiples. However, there is some confusion as to what constitutes a bushel, as evidenced by the terms "struck bushel," "heaped bushel," and "weight bushel." The last two are purely arbitrary standards, varying in different localities, and the use of standards of this type is one of the causes of the present unsatisfactory conditions. The term "struck bushel" is usually understood to mean the struck United States standard bushel, commonly known as the Winchester bushel. This unit, containing 2,150.42 cubic inches, is believed to afford the most satisfactory basis for standardization.

A standard unit of measure should be permanent, definite, and of fixed and uniform value. The heaped bushel, which is in common use, is far from being fixed, and in many instances the heap has practically disappeared. A proper heap has never been defined by Congress, and in those States where an attempt has been made to describe the manner in which the measure should be heaped the phraseology generally is vague and indefinite. The heap has been referred to as a cone, the base being the top of the measure, and the height depending on the nature of the article when piled "as high as may be without special effort or design." Under this definition such vegetables as sweet potatoes might be piled so high that the heap would be as large as the measure itself. In certain States, where determined efforts have been made to secure a proper heap to the measure, dealers have provided themselves with measures of small diameter. (See fig. 7.) Obviously the smaller the diameter of the measure the smaller the heap. In shipping packages with covers the heap must necessarily be eliminated. The State of New

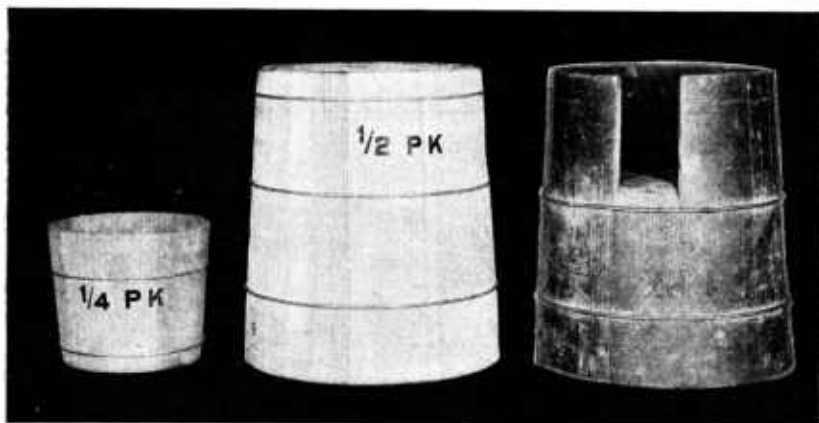


FIG. 7.—The double-ended measure, being narrower at the top than at the bottom, is easily "stacked." Its use is forbidden by law in many States

York has recognized these objections by repealing its laws requiring certain commodities to be sold by the heaped measure.

Many States have attempted to define the bushel in terms of weight. But the bushel is a unit of volume and it is impossible to define accurately a unit of volume in terms of weight, as the weight of any given volume of fruits or vegetables will vary with the size, variety, condition of the product, and the tightness of the pack.

It is not clear just what was the basis for the weight-per-bushel laws now in effect, and wide differences may be found in the laws of the various States. To illustrate, the legal weight per bushel of sweet potatoes is 46 pounds in the Dakotas and 60 pounds in Maryland; that of unshelled green peas, 28 pounds in Maine and 56 pounds in Missouri; of tomatoes, 45 pounds in Oklahoma and 60 pounds in Virginia.

If the various States were to enforce rigidly these weight-per-bushel laws, interstate commerce would be carried on under tremendous difficulties. In 1921 the State of Massachusetts appointed

a commission to investigate the expediency of revising the established legal bushel weights of fruits, vegetables, and other commodities. After a thorough investigation, including the weighing of measured bushels of many commodities, the commission reported that "the fallacy of attempting to remedy the conditions * * * by any changes in the established bushel weights is apparent, as any weight adopted must necessarily be arbitrary and can not reasonably be ex-

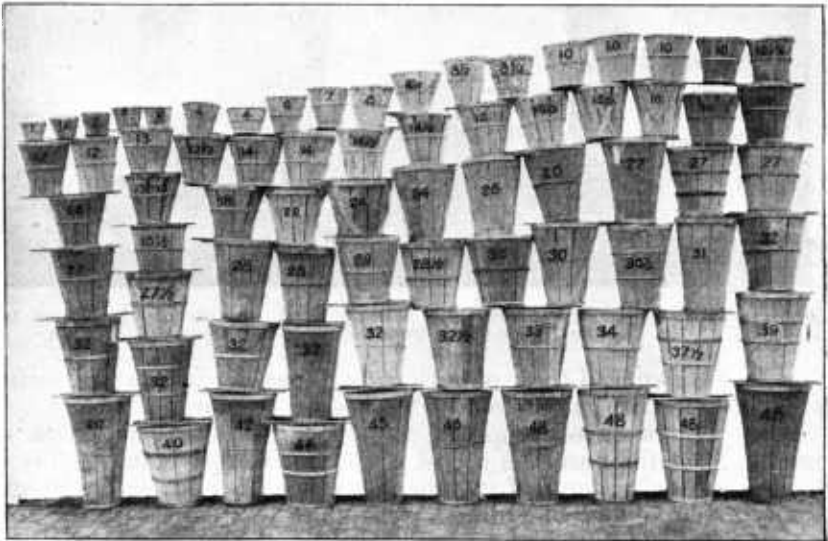
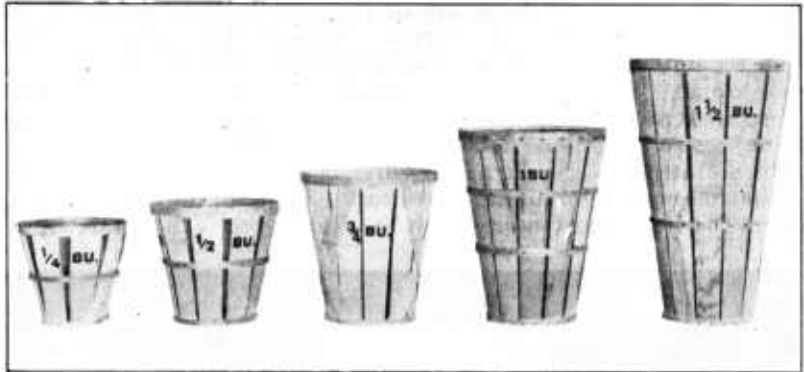


FIG. 8.—Above: Proposed standard hampers. All other styles should be eliminated. Below: Group of hampers showing sizes and styles in general use to-day. A striking illustration of the need of standardization.

pected to represent the actual weight of a bushel of any commodity at time of sale." As a result of this investigation the general court of Massachusetts repealed the State's weight-per-bushel law and provided for the sale of fruits, nuts, vegetables, and grain by weight or numerical count except when sold in the original standard container. It is hoped that this action by Massachusetts is the forerunner of similar action by other States.

The most satisfactory basic unit for a system of standard containers is the struck Winchester bushel of 2,150.42 cubic inches. It is recognized indirectly as the United States standard bushel through a resolution of Congress passed and approved in 1836, authorizing the Secretary of the Treasury to prepare a set of weights for use in the customhouses and for other purposes. The Treasury Department adopted the Winchester bushel and most of the States now recognize this standard by legislative enactment. A package based upon this fixed unit of volume, when filled level with the top, is recognized easily as a full measure. Any variation or slackness in filling is detected at once even by the untrained eye.

SALES BY MEASURE VERSUS SALES BY WEIGHT

In view of the difficulties which are necessarily encountered in attempting to secure a uniform method of filling or packing standard containers, it is generally recognized that weight is the only really definite basis of sale, and for that reason the pound or hundredweight should be used where this is practicable. When products are carefully graded as to size an exception may be made, because the sales may then be made satisfactorily by numerical count.

To avoid such abuses as frequently take place in repacking, the sale of commodities in quantities less than the original package should be by weight or numerical count. For example, 4-quart baskets of peaches are sometimes repacked so loosely that an extra basket is gained out of every five or six repacked, and 3 or 4 pounds of Malaga grapes are often removed from the California four-basket grape crate before they are displayed for sale. Another evil attendant upon repacking is the use of small containers, which, although they conform to the standards, are not suitable for measuring certain products for which they are not intended. The 1-quart berry box and 2-quart and 3-quart till baskets are used extensively by retail dealers in the sale of apples, peaches, onions, and other large fruits or vegetables. Figure 6 shows how such dealers frequently resort to deceptive methods of packing, thus defrauding the unsuspecting customer who pays well for the empty spaces in the bottom of the basket.

However, transactions involving the sale of original containers often can not be made on a net-weight basis without adding greatly to the cost of marketing. Perishable commodities must be handled with all possible dispatch, and the time and labor required to weigh each package would more than offset the good which might result from a knowledge of the exact weight. Furthermore, many sales are made while the products are in transit to market, and even if the weight at time of packing were known, a considerable variation from this weight might occur as a result of shrinkage due to drying out or decay. Then, too, a shipping package must be filled compactly without regard to weight or the product may be damaged by the movement within the container. In general it may be said that transactions involving the sale of packed fruits or vegetables in the original container should be made by the standard package; but when it is necessary to break such packages to dispose of the commodity in smaller quantities, sales should be made by weight or count.

PROPER FILLING

It is greatly to the advantage of all parties interested in marketing fruits and vegetables that, in addition to fixing standards for containers, proper methods of filling be employed. If containers are not well filled the waste space increases the package cost, and since freight charges are ordinarily based on an estimated per package weight, the carriers receive pay for more than they actually carry. (See fig. 9.) Also the product is likely to be shaken and bruised in transit and discriminated against by dealers in the markets on account of its poor appearance. The price penalty paid on account of



• FIG. 9.—A "slack fill" of string beans in a short $\frac{3}{4}$ bushel bean hamper. The beans at right weigh 23 pounds, at left 25 pounds. Average weight of properly filled hampers is 27 pounds

poor filling is usually much greater than the actual weight shortage would warrant.

It is customary in packing fruits and vegetables to arrange the product to provide a bulge above the top of the container. The cover is then put in place by pressure. When the height of the pack is not excessive this is a desirable practice. As the natural shrinkage and settling occur, the product is held securely in place until the shrinkage is sufficient to offset the bulge. The extra amount of produce is more than paid for by the ready sale and better price which can always be secured for an attractive pack. However, an excessive bulge is a detriment, as it causes bruising of the product and frequently weakens the container, resulting in breakage in transit.

NEED OF FURTHER FEDERAL STANDARDS

Three important shipping containers are especially in need of standardization at the present time—the hamper, the round stave basket, and the market or splint basket. Investigations in all parts of the United States where these packages are used have shown a serious lack of uniformity in capacity, shape, and strength, which could be corrected by the adoption of standards worked out by the Bureau of Agricultural Economics.

HAMPERS

The hamper is one of the most widely used shipping containers, and is especially popular in the Eastern and Southern States. Almost 30,000,000 of these baskets are used annually. When made of light materials the hamper is well adapted for marketing light produce, such as lettuce and kale; and when of heavier construction it can be used in shipping such products as sweet potatoes and apples.

A glance at Figure 8 shows a large number of styles and sizes of hampers in use at present. On account of the different shapes and



FIG. 10.—Showing need of standard dimensions for bushel hampers. The height of the six standard bushels varies from 17 inches to 22½ inches, making a carlot loading of mixed hampers difficult

sizes it is practically impossible for a purchaser to know just how much he is getting, when he buys a hamper of produce.

The need for standard dimensions is not generally recognized. On first consideration it would seem that if all standard bushel hampers contained the same cubic content there would be no chance for deception. This is not altogether true, as will be seen by referring to Figure 10. The baskets shown in this group are all standard bushels, but one would never know it by looking at them. Another important reason for fixing standard dimensions is to facilitate the development of standard rules for loading these containers in cars.

It is estimated that one-third of the so-called half-bushel hampers which are manufactured to-day are short measure. In fact, the use of the 14-quart basket has become universal in certain districts, entirely supplanting the 16-quart or half-bushel basket.

The seven-eighth or 28-quart hamper, which is frequently so made as to hold as little as 27 quarts, is another size which should be eliminated. (See fig. 2.) It is used largely for shipping southern produce and masquerades as a full bushel in the markets. This basket has already been declared illegal in Texas, New Jersey, Indiana, Ohio, and the District of Columbia. About 25 per cent of what are commonly supposed to be bushel baskets are short measure.

Still another size in common use which should be eliminated is the 5-peck hamper. This size does not meet any need which is not filled by the 1 bushel and $1\frac{1}{2}$ bushel sizes.

The 20-quart or five-eighths bushel brace basket is used chiefly in the territory tributary to Philadelphia, where it is employed extensively in hauling tomatoes to the canneries. This size is not to be regarded as a short container, because it is more likely to be confused with the 16-quart or half-bushel basket than with a larger size; but it does not appear in the list of proposed standards recommended by the Bureau of Agricultural Economics. However, it should be noted that there is used to some extent in Philadelphia a 16-quart brace basket, which so closely resembles the 20-quart hamper in construction and size as to be readily mistaken for it.

The ordinary hamper is circular in form, but an oval shape (fig. 11) has been put on the market recently by one manufacturer. Instead



FIG. 11.—Oval hamper which has recently been put on the market

of a number of staves of equal size, this type has a wide panel on each side with three smaller staves at each end. The wide panels permit the placing of a label on the package. This hamper has been used for shipping apples, cucumbers, and sweet potatoes.

In some eastern sections a bushel hamper with a loose bottom is used for apples. The cover is placed in position, the hamper turned bottom up, and the fruit ring-packed through the bottom end. The bottom is then forced into place and nailed in.

The sizes of hampers recommended by the Bureau of Agricultural Economics as being sufficient in number to satisfy all legitimate requirements of the trade are as follows: Eight-quart, or one-quarter bushel; 16-quart, or one-half bushel; 24-quart, or three-quarter bushel; 32-quart, or one bushel; 48 quart, or one and one-half bushel (fig. 8). All of these sizes are necessary.

The 24-quart size is recommended, because there is a demand for a container between the half-bushel and bushel sizes. This demand is now met in one section of the country by the 20-quart size and in other sections by the 28-quart size. Neither of these sizes has any place in a logical system of standard containers, whereas the use of the 24-quart size gives a series of standards of 1, 2, 3, 4, and 6 peck capacity.

ROUND STAVE BASKETS

The round stave basket is popular in all regions except the Southern and Middle Atlantic States and on the Pacific coast. It is used for shipping a large variety of fruits and vegetables and in the

field in place of the lug box. In recent years it has supplanted to some extent the 6-basket carrier in the peach districts of Georgia and the Middle Atlantic States, because of the smaller amount of labor necessary in packing. It has also become a competitor of the barrel in the packaging of New York apples. Some 18,000,000 or 20,000,000 round stave baskets are manufactured annually.

Figure 12 shows that in the case of the round stave basket a large number of unnecessary sizes are being manufactured. The sizes recommended as standard by the Bureau of Agricultural Economics are the same as those recommended for the hamper except for the addition of the 2-bushel size. These six sizes shown in the upper

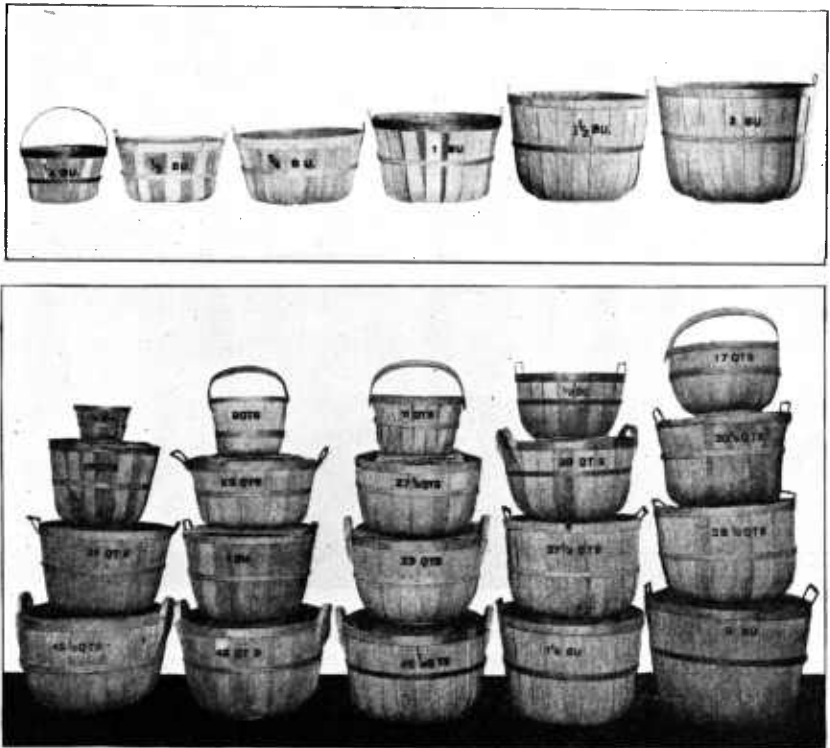


FIG. 12.—Above: Proposed standard sizes of round stave baskets. Below: Twenty sizes of round stave baskets in general use to-day

part of Figure 12 can be distinguished readily from each other by the eye.

A modification of this type has been introduced recently. It differs from the ordinary round stave basket in having a flat bottom, which is made as a separate unit in the same manner as the cover, and fits inside the basket. In one style the bottom is stapled to the sides of the basket, thus forming an integral part of the container. In another style the bottom is removable. In packing this style, the cover is put in place and the basket turned bottom up, the fruit being packed through the bottom end, in the same manner as with the barrel. The bottom is then forced into position, being held in

place by wire hooks stapled through the bottom hoops of the basket, these hooks being bent over the hoop to which the veneer or slats forming the bottom are stapled (fig. 13).

SPLINT BASKETS

Splint or veneer baskets are better known to the public as market baskets. They are manufactured from either broad or narrow splints, and there is a wide diversity in the dimensions of the forms used by the different manufacturers. The broad-splint type is sometimes known as the solid veneer basket.

Splint baskets may be divided into three classes: Overhandle, drop-handle, and square-cornered. The overhandle has a single handle nailed to the center of each side; the drop-handle type has two handles that fold back over each end of the basket when not in use; and the square-cornered type, as the name indicates, has square instead of round corners. It is the best type of the three for shipping, because it is the strongest and loads in freight cars to better

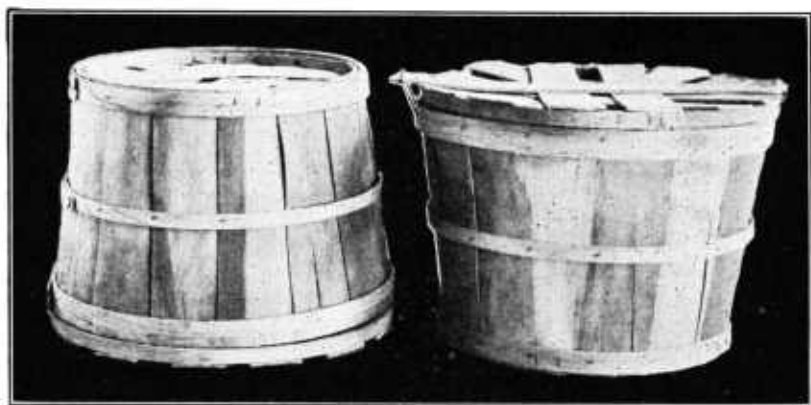


FIG. 13.—A new type of bushel round stave basket introduced in Michigan.

advantage. Square-cornered baskets are used extensively in the marketing of hothouse products, such as lettuce, tomatoes, and cucumbers.

The splint basket is used extensively as a shipping container for farm produce. In the farmers' market of one large city sales of produce in market baskets have run as high as \$11,000 in a single day, and in many other cities the market basket is one of the most common containers. It is preeminently a direct marketing package, and it is valuable because it can be carried conveniently, thus encouraging the purchase of produce in larger quantities than might be bought otherwise.

Many of the styles now in use are unnecessary and deceptive. The peck size has dwindled to one-fifth or one-sixth of a bushel, and the half bushel to 12 or 14 quarts, the standard sizes seldom appearing on the markets. The sizes which are proposed by the Bureau of Agricultural Economics are five in number: 4-quart, 8-quart, 12-quart, 16-quart, and 24-quart. Of these sizes the 12-quart and 16-quart will be used most generally. For heavy products the 12-quart

size carries better than the 16-quart. The 24-quart size is used for such products as lettuce and spinach.

The number of splint baskets used annually is not known, but more of this type are manufactured than any other. Approximately 50 per cent of these baskets are manufactured in sizes varying from 13 to 15 quarts. In Figure 14, 25 styles and sizes are shown, together with the five sizes recommended as standards.

GENERAL CONSIDERATIONS

A shipping container for fruits and vegetables should combine strength with lightness, it should be attractive, and it should provide adequate ventilation for the commodity shipped. It should be light, because no one wishes to pay more freight charges than necessary. It should be attractive, because a large part of the buying public forms its judgments through its eyes and the favorable im-

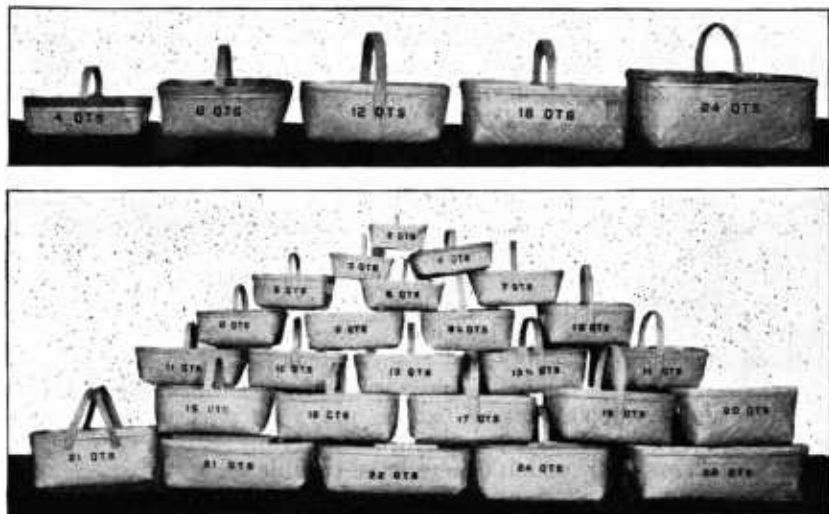


FIG. 14.—Above: Proposed sizes for standards. Below: Twenty-five styles and sizes of market or splint baskets manufactured and used to-day

pression created by an attractive package is worth considering. To insure safe arrival at market, strength, adequate ventilation, and proper storage in the car are necessary. If arrival in good condition is overlooked, the weeks or months of work and care which have gone into the growing of the crop may amount to nothing.

The carriers of the United States say that in the handling of perishables the losses in one year amounted to \$10,000,000. Among the many causes of these losses are rough handling, failure to stow shipments properly in cars, delay in transit, lack of proper refrigeration, and frail containers. Such a tax on the fruit and vegetable business of the country calls for cooperation on the part of growers, shippers, container manufacturers, and carriers in an effort to reduce the damage to the lowest possible point.

As one step in this direction and as a protection to himself and his shipments, the intending buyer of baskets should require that the

manufacturer furnish a definite statement of the specifications on which the baskets are made. Manufacturers should be glad to supply such information and undoubtedly will do so if they are turning out a product of high quality. Many basket manufacturers are striving to put out an article which will stand up under heavy use, but there are also many baskets on the market of such poor quality that they should never be used in the shipping of fruits and vegetables.

A container for the shipment of fruits or vegetables, properly loaded and under normal traffic conditions, should be strong enough to carry the commodity intact from the grower to the wholesale market and thence to the retailer. Greater strength than this is unnecessary, but too much stress can not be laid on the importance of buyers insisting that their baskets be equal to the task imposed upon them. Although such a container will be more expensive than a lighter one, it is better to pay more than to pay less and take the risk of broken packages and lost produce.

Strength specifications apply principally to the larger baskets, which are not inclosed in crates for shipment. Strength is not so important a consideration in berry boxes and till baskets, which are placed in crates or boxes for shipment, but it is important that these small baskets should be of standard capacity.

The question of proper stowing and bracing of containers in car-load shipments of fruits or vegetables is worthy of careful thought on the part of shippers. The baskets mentioned in this bulletin have proven adapted to loading in cars. Approved methods of loading different types of packages are discussed in a series of commodity marketing bulletins that are available for distribution by the United States Department of Agriculture. Suggestions regarding proper methods can usually be obtained from railroad companies, and many experienced shippers doubtless have worked out satisfactory methods for themselves. That proper loading plays its part in safe arrival is shown by the fact that some shippers obtain satisfactory results from containers with which others have trouble.

Specifications insisted upon by the buyer should touch at least three points: Capacity, material, and workmanship. In capacity, the container should be required to hold a designated number of United States standard dry quarts, struck measure. This will insure compliance with the standard container act and will guarantee fairness to all.

As regards material, all veneer used should be of smooth finish, should be solid cut, tight grained, and practically free from decay, knots, and cross grain. Baskets should have no broken or patched staves. Wooden hoops should be of elm, beech, or gum, or wood of equal strength, and should be free from knots and cross-grain material. Thickness of material will depend on the type of basket desired, the purpose for which employed, and the kind of wood used in its construction. In general, hard maple, beech, and birch may be used a little thinner than gum, but cottonwood should be heavier.

Baskets should be of good workmanship, well stapled or nailed, and free from protruding ends of hoops or staves, loose-fitting staves, and poorly-fitting covers.

**LIST OF STATES WHICH HAVE STANDARDIZED VARIOUS TYPES OF
FRUIT AND VEGETABLE CONTAINERS WITH TITLE AND ADDRESS
OF ENFORCING OFFICIAL**

California: Director of agriculture, Sacramento. Apple box; apricot, plum, and grape baskets; berry boxes, pear boxes, half pear boxes; peach, lettuce, grape and cantaloupe crates; cherry boxes and lug boxes.

Connecticut: State board of agriculture, Hartford. Apple barrel and box.

District of Columbia: Superintendent weights, measures, and markets, Washington. Apple barrel, cranberry barrel; Climax baskets; 6-basket and 4-basket carriers; berry boxes; lug boxes; hampers; round stave baskets; apple and pear boxes, and onion crates.

Florida: Any magistrate. Tomato (4-quart till) basket; 6-basket carrier and orange box. (Note: The law gives the dimensions of the tomato basket but does not prescribe its capacity.)

Idaho: Director bureau of plant industry, Boise. Apple box; prune box; lettuce crate. Recommended standards for cherry and peach boxes; and berry, cantaloupe, potato, cabbage, and watermelon crates.

Illinois: Director of trade and commerce, Springfield. Berry boxes; fruit and vegetable barrel; cranberry barrel; bushel crate for cranberries and blueberries; one-third-barrel crate, box or basket for fruits and vegetables; containers for fresh fruits and vegetables of less than 1-bushel capacity to be of the standard capacity of 1, 2, 3, 4, 5, 6, 8, 16, and 24 quarts standard dry measure.

Indiana: State commissioner of weights and measures, Indianapolis. Hampers, round stave baskets, splint or market baskets, Climax baskets, till baskets, berry boxes, apple barrel, and apple box. The law also forbids the sale of slack-filled containers.

Iowa: Secretary of agriculture, Des Moines. Berry boxes and Climax baskets.

Kansas: Secretary of State Horticultural Society, Topeka. Climax baskets; berry boxes; till baskets; apple box and barrel.

Kentucky: Commissioner of agriculture, Frankfort. Apple barrel.

Maine: Commissioner of agriculture, Augusta. Apple barrel and box; berry boxes.

Maryland: Chief inspector bureau weights and measures, room 24, City Hall, Baltimore. Berry boxes, but permits the sale of short boxes when so marked.

Massachusetts: Division of standards, department of labor and industries, State House, Boston. Apple barrel and box; cranberry barrel; cranberry crate; berry boxes; bushel and half bushel lug boxes.

Michigan: Director bureau of foods and standards, Lansing. Climax baskets for grapes and other fruits and vegetables, baskets and other containers for small fruits and vegetables and berries, and apple barrel.

Minnesota: Commissioner of weights and measures, St. Paul. Berry boxes.

Missouri: Enforcement not lodged with any particular official. Apple barrel.

Montana: Commissioner of agriculture, Helena. Apple box.

Nebraska: Secretary of agriculture, Lincoln. Berry boxes.

Nevada: Commissioner of weights and measures, Reno. Berry boxes, Climax baskets, and till baskets.

New Hampshire: Commissioner of agriculture, State House, Concord; commissioner of weights and measures, State House, Concord. Apple barrel and box; berry boxes. Bushel and half-bushel farm-produce box.

New Jersey: State superintendent weights and measures, Trenton. Barrel; cranberry box; fruit and vegetable baskets and boxes; Climax baskets.

New Mexico: Local public weighmasters. Apple box; pear box; berry boxes on the basis of liquid quart and pint. (Note: Such berry boxes are illegal for interstate shipment, since they fail to comply with the United States standard container act.)

New York: Director of bureau of weights and measures, Albany. Barrel.

North Carolina: Chief division of markets, Raleigh. Has authority to establish standard containers.

North Dakota: Deputy chief inspector weights and measures, agricultural college. Berry boxes.

Ohio: Chief division of foods, dairy, and drugs, Columbus. Climax baskets, small fruit baskets, hampers, and round stave baskets.

Oregon: State sealer of weights and measures, Salem; State board of horticulture, Salem. Apple and pear boxes; berry boxes; cranberry barrel and box.

Pennsylvania: Bureau of standards, Harrisburg; bureau of markets, Harrisburg. Climax baskets; berry boxes; 4-quart till baskets; 6-basket crate; 32-quart berry crate, fruit and vegetable barrel; cranberry barrel.

Rhode Island: State board of agriculture, 129 State House, Providence. Bushel and half bushel lug boxes.

South Carolina: Chief, division of markets, Spartanburg. Apple barrel; bushel hamper, 6-basket carrier; 32-quart berry crate; berry boxes and till baskets.

South Dakota: Commissioner of agriculture, Pierre. Fruit and vegetable barrel; berry boxes.

Tennessee: Superintendent of weights and measures, Nashville. Berry boxes; bushel crate to hold heaped bushel, 2,688 cubic inches (12 by 14 by 16 inches).

Texas: Commissioner of agriculture, Austin. Four-basket crate; 6-basket crate; folding onion crate; orange box and berry box and crate; hampers; round stave baskets; market or splint baskets; 3 and 4 quart till baskets.

Utah: Secretary, State board of agriculture, Salt Lake City. Berry boxes; apple box.

Vermont: Commissioner of agriculture, Montpelier. Apple barrel and box.

Washington: Director of agriculture, Olympia. Pear box; cantaloupe crate; apple box; peach box; prune box; berry, cherry, potato, cabbage, and watermelon crates; Washington standard cranberry barrel (one-third United States cranberry barrel).

West Virginia: Commissioner of agriculture, Charleston. Barrel.

Wisconsin: Dairy and food commissioner, Madison. Apple barrel; cranberry barrel; bushel crate, box or basket for apples, peaches, and similar fruits; bushel crate for cranberries and blueberries; berry boxes; fruit and vegetable containers of less than 1-bushel capacity to be of the standard capacity of 1, 2, 3, 4, 5, 6, 8, 16, or 24 quarts.

FEDERAL LEGISLATION

Standard barrel act.

1. Fruit and vegetable barrel.
2. Cranberry barrel.
3. Subdivisions: Three-fourths, one-half, and one-third barrel.
4. Enforced by Bureau of Standards, United States Department of Commerce, Washington, D. C.

Standard container act. Standardizes for interstate commerce:

1. Climax baskets: 2, 4, and 12 quarts, dry measure.
2. Berry boxes: One-half pint, 1 pint, and 1 quart, dry measure.
3. Till baskets and other containers for small fruits and vegetables to be of the capacity of 1 quart or multiples thereof.
4. Enforced by Bureau of Agricultural Economics, United States Department of Agriculture, Washington, D. C.

Net weight amendment to section 8 of food and drugs act

1. Provides for a statement of the quantity of the contents, in the case of foods if in package form, in terms of weight, measure, or numerical count.
2. Enforced by the Bureau of Chemistry, United States Department of Agriculture, Washington, D. C.