



Town and Country

BUSINESS PROGRAM

ASSEMBLY AND STORAGE

PURPOSE: To recognize the need for gathering a large volume of products in one location for efficient marketing and to study the importance of storage as a vital part of our distribution system.

ASSSEMBLY AND STORAGE are two functions which play a major role in the marketing story.

One of the first functions performed in the marketing of food and fiber products is assembly: the concentration of goods into larger volumes for more efficient marketing.

To serve the wants and needs of all types of consumers most goods must be assembled into volume lots. This concentration of items into large volumes tends to reduce handling costs and further marketing efficiency. You can visualize the struggle that would be involved if each consumer had to go directly to different farms for his eggs, meats, fruits, and vegetables. Under such circumstances, the entire time of one person could be spent simply in assembling the needs for a single household. The marketing system has eliminated confusion of this nature because it assumes the assembly role.

The concentration may involve assembly of items which are alike. This is the kind of assembly done at a grain elevator, where wheat is assembled from many farms into a single location. Likewise a milk plant picks up milk from many farms as its contribution to product assembly.

In contrast to these examples are the retailers who assemble adequate volume of a variety of goods, often more than 7000 items in a single location, for customer convenience.

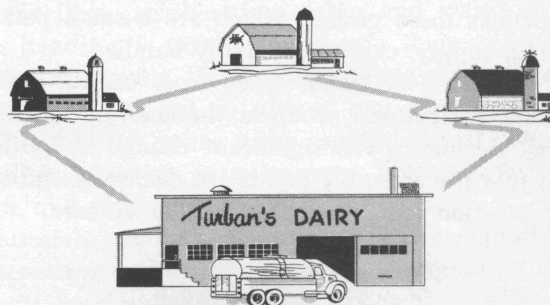
The assembly of agricultural products is usually an expensive operation, since it involves the handling and transportation from scattered farms to central concentration points. The farmer usually bears the cost of trucking to the first receiver. Most of the hauling at this stage is done by the producer in his own

trucks. It is easy to see that transportation is closely associated with the assembly of products.

In agricultural markets the assembly function is most easily seen in the central or terminal markets, the two terms being used interchangeably. These markets are the major centers, exercising a dominant role in the marketing of various products. Terminal markets had their start at the time when railroads were the major factor in marketing livestock and other farm products. Large packing centers grew up at the "terminal" points on the railroads; places such as Chicago, Kansas City, Omaha, and St. Louis. Memphis, Atlanta, and New Orleans are central markets for the cotton trade.

In most commodities the marketing significance of the terminal market has declined. This is especially true when measured by the proportion of the total supply moving through these markets. Major reason for this decline is that more products move directly to the packers, processors, and distributors. This trend has been encouraged by modern developments in communications and transportation.

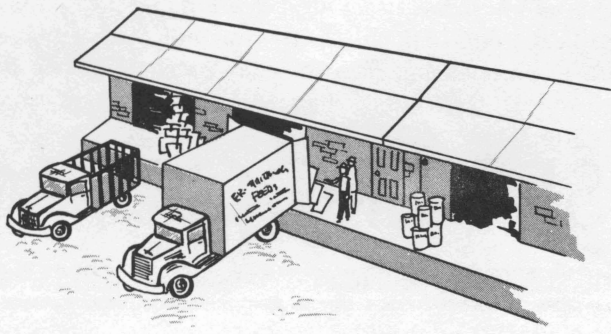
Terminal markets for fruits and vegetables are still important. Many of the larger cities have constructed



THE AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

TEXAS AGRICULTURAL EXTENSION SERVICE

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new and efficient facilities to accommodate the fruit and vegetable trade.

Chicago, Kansas City, and Minneapolis are central markets of the grain trade. These markets are used more by dealers than by farmers because the standard unit of shipment is the freight car. The country elevators are the first receivers in the grain trade; these first receivers then ship large amounts of the product into the central markets.

Central markets for eggs and poultry products, like those for grain, are not widely used by producers. The first receivers of eggs at country points supply central market requirements. The markets exist in the major cities mainly to procure supplies for the consuming areas. For some commodities there are no central or terminal markets: milk, seeds, rice, tobacco, fruits, and vegetables for processing.

The concentration (or assembly) of goods into sizable volume for marketing has several advantages. First, it makes possible the specialization of handling and storage facilities. For example, with the assurance of large volumes the grain firm can build efficient elevators with conveyors, storage bins, loading and unloading facilities.

Another important advantage of assembly is that the larger volumes draw additional buyers. The combination of large supplies and numbers of competing buyers helps in formulating prices.

Large volumes also facilitate grading procedures and utilization of off-grades. Off-grades are those which are defective in size, shape, or color. In this manner these grades, which are a small part of the total supply, can be profitably handled.

In spite of trends away from central markets in some agricultural products, the need for assembly has not declined. The significant change in the function is that the assembly points are dispersed and the concentration is in somewhat smaller volume.

STORAGE

Storage involves the holding of goods between the time of production and their final sale. There are two types of storage: One is specialized storage to hold

goods for later use. This is the type of storage performed by grain elevators, refrigerated storage, and public warehouses of various kinds. The other type storage is that involving the day-to-day operating supplies, or inventories, of marketing firms. An example of this type storage are the items on the shelves and in the stockrooms of a retail grocer. During storage the goods may be moved from one place to another and may be processed, graded, and packed.

Farm products are stored to make them available the year 'round. Many are processed (canned, pickled, frozen, and dried) so that they can be available during periods of scarcity. Every farm product has to be stored in its own way to prevent loss of quality.

To store some commodities is relatively simple, as in the case of storing hay in stacks in the field or storing coal in an open coal yard. The characteristics of some commodities are highly complex, requiring elaborate and specialized care. Cottons can be stored almost any place; grains are more exacting because of moisture sensitivity, fruits and vegetables require cold storage; dairy products, meats, and eggs require highly specialized care in storage.

Most production, especially in agriculture, takes place in spurts. Products are available in much greater volume during certain months of the year. Consumption seldom occurs in exact accord with the patterns of production.

Crops are produced and must be harvested within a period of a few weeks, but consumers want a steady supply from month to month. Apple growers store their products to meet the consumer's desire for apples nearly every month of the year.

Wheat flour is needed for bread every day of the year. Wheat is harvested only during certain months. Storage makes wheat and flour available when it is needed by millers and bakers.

In marketing, management is confronted with important decisions regarding storage. On the farm the storage problem is focused on whether to store the product or sell it immediately. If the storage decision is made, then it becomes a problem of where to store and how long to store.

Some storage is done for speculative purposes. This occurs when producers store goods solely in anticipation of an improvement in price. Potatoes are often stored in anticipation of improved prices later in the market season. The price improvement must more than offset the cost of storage to make the venture profitable. Potatoes are stored for other purposes, too, such as extending the marketing season. Some manufacturers, in taking advantage of buying in large quantities, must store items for later use. The milk dealer will buy a large amount of paper cartons to take advantage of discounts. These are stored in his warehouse.

Storage is such an important aspect of our marketing system that there are specialized agencies organized to perform this marketing function in various products and commodities.

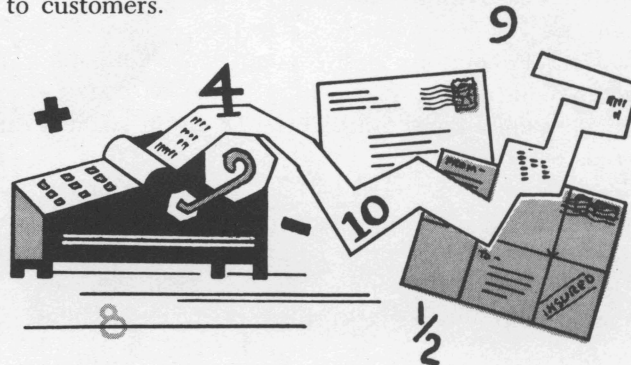
When the storage function is performed by a firm for the purpose of commercial gain for the person owning the storage facilities it is referred to as "warehousing." In this sense, commercial grain elevators, tobacco and cotton warehouses are considered as a special type of warehousing.

Both private and public facilities are used for storage. A private warehouse is one operated by a business to store its own commodities or goods. The public warehouse offers storage and related services to the public.

There are many types of public warehouses to serve the requirements of all classes of goods. The general merchandise warehouses are those which provide storage for general commodities which do not require special servicing such as heat or refrigeration. Most general merchandise warehouses are used for storage of a variety of raw products, semi-finished, or finished goods. There are both public and private elevators operating in the grain storage business.

In addition to storage the public warehouses offer many other services. One of the most important is delivery service. Indeed, many public warehouses are

operated in conjunction with a trucking or transportation firm. The national distributor will often engage such a warehousing firm to make local deliveries of his products. This assures prompt and direct delivery to customers.



Warehouses frequently provide clerical and accounting services to their clients, keeping track of inventory, supplies on hand, and some warehouses offer repacking, labeling, and packaging services.

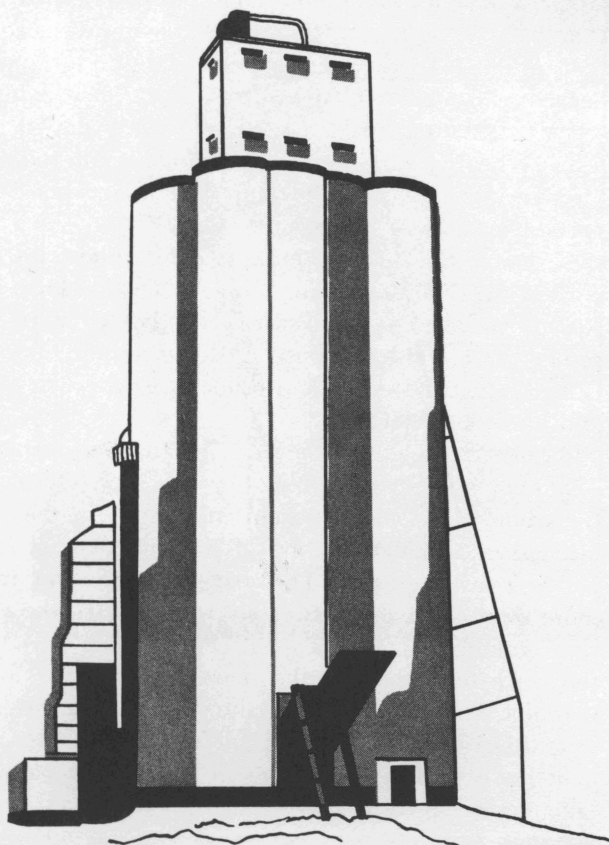
Special commodity warehouses, including grain elevators, are equipped to handle but one type of commodity. They will often perform both the assembly and storage function. Thus county grain elevators assemble products from many scattered points for further shipment to central markets.

In some special commodity storages, especially grains, the storer has a right to the same amount of product of equal grade but it might not be the same units he stored originally. The same principle is applied to public storage of petroleum products, liquid chemicals, and other bulk storage goods.

Marketing involves movement of materials many times. It includes unloading, loading and storage at various places from the point of origin to the place of final use. You can visualize this flow of materials as a series of moves and waits, until the product reaches the final consumer.

Each package or piece of goods is "material," and every time it is moved, it must be "handled." A whole new field of knowledge — known as materials handling — has developed around achieving this movement with the least possible time, labor and waste. Materials handling is involved whenever there is lifting, lowering or moving. Materials handling might be appropriately discussed in almost any Key Point on marketing, but it seems to be especially well demonstrated in visits to warehouses, produce packing houses, and similar storage facilities.

Materials handling can affect sales of a product. An increasing number of companies is requesting that products be shipped on pallets (portable platforms) — ready for mechanized unloading and storage. Materials handling, use of fork lifts, hand trucks, conveyors, and the like, facilitates loading and unloading,



reducing labor and demurrage costs. Demurrage is the charge made by railroads for keeping freight cars too long during unloading.

There are hundreds of devices and types of materials handling equipment. Indeed, there are almost as many kinds of equipment as there are materials to be handled. Among the most commonly seen are conveyors: moving belts, roller conveyors, screw conveyors, pipelines and bucket elevators. All aid in efficient materials handling.

For lifting materials you will see cranes and hoists. These are especially important in lifting heavy or bulky materials as lumber or coils of steel.

Almost every warehouse uses industrial vehicles such as fork lifts, pallet jacks, platform trucks. These small tractors and trucks can go almost anywhere and in any direction in a plant or warehouse. They are of many sizes and models, powered by diesel, gasoline or electric engines.

Warehouses and plants must be designed to reduce handling costs. The modern warehouse must make best use of every foot of space. Effort is made to build high stacks so less floor space is used. Materials are scientifically arranged in locations on the warehouse floor to reduce travel time and distance.

All states have enacted the Uniform Warehouse Receipts Act which lists the responsibilities of the warehouseman in the care of the items under storage. The properly executed receipt makes the warehouseman liable for damages or loss incurred during storage.

These receipts are of two types (1) negotiable and (2) non-negotiable. The owner of a *negotiable* receipt may transfer ownership of the stored items by endorsing the receipt and asking the warehouseman to deliver the stored goods to the new owner. With the *non-negotiable* warehouse receipt the warehouseman can release the stored items only to the person or company making the original storage.

Reference has been made to specialized cold storage warehousing for fruit, vegetables, poultry, dairy and meat products. There are both private and public cold storage warehouses.

A manufacturer or producer who stores goods in a bona fide warehouse is issued a warehouse receipt which describes the property on deposit in the warehouse. Banks will accept these receipts as collateral for loans. In this manner the warehouse receipts play an important role in market finance.

Some public warehouses storing staple and unprocessed agricultural products are licensed by the U. S. Government. This licensing applies particularly to cotton and grain storage and operation.

A licensed warehouse must comply with certain regulations. Inspections are made to assure conformance to the standards of the law. The receipts of the licensed warehouses are widely acceptable as security for loans. Since licensing is voluntary a relatively small percentage of warehousemen are licensed by the Government.

Public warehouses are similar to banks in many ways. In both banks and warehouses the depositor has legal right to get back the kind and value of what has been deposited. Losses can occur by operations of the careless or unscrupulous warehouseman. In warehousing there is far less government supervision than in banks, so the integrity of the warehouseman is extremely important in the selection of storage facilities.

