

COLD STORAGE IS PRACTICAL CONSERVATION.

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Cold storage is essentially the application of scientific temperature control in the solution of an economic problem, a practice that regulates prices without increasing them and prevents deterioration while eliminating waste.

But to the average consumer there is no hint of conservation in cold storage and little reason for the practice except that born of greed. June butter in January, spring chicken at Christmas, fresh eggs months after they were taken from the nest, summer fruit in winter weather—do these reversals of the season's horn of plenty, this carrying the products of flush markets over the time of scant production, increase the cost of food to the consumer, reduce its value to the producer or in any way injure the masses of the people who by its consumption and in its production find health and wealth?

The world's development has been along the lines of easy and abundant food production and the most progressive nations have been the best fed. No people living in a hand-to-mouth fashion have lifted themselves above the poverty of their surroundings; no man can be an efficient member of society whose life is an alternate feast and famine. That is why the savage, ignorant of methods for conserving his food supply, is still a savage.

The food supply is perishable. Fruits and vegetables are seasonable; that is, for the most part suitable for use only during the months in which they reach maturity. Meats cannot be kept after slaughter except by special treatment; even the cereals deteriorate with age and the store is depleted by vermin. And so we have a season of plenty when food fresh from the fields and orchards gluts the markets and later seasons of scarcity when natural causes have destroyed the surplus of earlier months. These seasonal variations in the food supply are also subject to yearly fluctuations, for the abundant crop of one year may be succeeded by the scant crop of another. The fact that foods are perishable makes it necessary, if they

are not to be wasted, to supply some adequate means for holding in check the processes of decay which, if allowed to operate, would make them unfit for use.

Cold storage is the modern way for arresting food spoilage. It is the latest and most successful method of storing the surplus of one season against the want of the next, and of preventing the fluctuation of prices from below the cost of production at harvest to a point beyond the resources of the purse the rest of the year.

It is of especial interest to the health officer, both because of this phase, which, in so far as it affects the available food supply, touches the great problem of nutrition, and because of the general impression that goods held beyond what may be termed a natural period of usefulness are not suitable for food. Whether food deteriorates and to what extent should be understood by him in order that he properly may draft and enforce cold storage laws. During the last few years extensive investigations have been made to determine the deterioration of food in cold storage. The results of these investigations are the more interesting because, in some instances, at least, they upset generally accepted theories. Ever since cold storage has been practiced, cold storage chicken has been viewed with askance by the public, and cold storage food has been held accountable for every unexplained illness.

The flood of ill-designed, crudely drawn bills presented to the lawmakers of the various States during the last few years was without doubt a well-intentioned attempt to meet the demand for a careful regulation of the business of cold storage, both with the idea of protecting the health of the consumer, and, in some little-understood way, reducing the cost of living. In effect, however, the passing of many of the bills suggested would have meant the destruction of a most important industry. Yet the value of cold storage is clear to everyone who has given intelligent study to the subject. Even where cold storage facilities are not available, the necessity for them is recognized, and in Canada, at least, the government, appreciating the need of cold storage plants, has adopted the policy of subsidizing the construction of refrigerating warehouses. A committee appointed by the French government to study the recent increase in the prices of food stuffs has pointed out that this is in no small measure due to the fact that France has as yet practically no system of holding food stuffs in cold storage. Unfortunately, men who should be thoroughly famil-

lar with the practice of cold storage still appreciate neither its purpose nor its effect. The Commission on Cold Storage appointed by the Governor of Massachusetts to investigate the subject, addressed a circular of inquiry to secretaries of Boards of Health in the different States, asking for opinions or suggestions as to the need of regulation of the industry and the form which it should take. Twenty-one state boards answered the inquiry and in every instance recorded a belief that legislation for the regulation of cold storage of food and food products is necessary. That the information, however, was not on the whole of great value was shown by the fact that one official recommended restricting the time limit of storage to ten days, another to ninety days, several did not think storage for more than three months desirable. When the information of those we count as sanitary experts is so limited, need we wonder at the fear of cold storage products so long held by the average consumer? Before satisfactory legislation is enacted we must know why we need regulation and what, if any, bounds of restriction are necessary. The business should be regulated by practical laws which do not have for their purpose its destruction and which are intended rather to put a stop to the practice of the storing of food unsuitable for refrigeration, and which has, even before its entry into storage, deteriorated and become unfit for food, and to insure the withdrawal of all goods before they have been held sufficiently long to undergo such physical change as may render them undesirable for human consumption.

The report of the Massachusetts Commission referred to recognizes in cold storage a fundamental necessity in the distribution of the food supply of the nation. It finds that cold storage enables perishable food products to be brought to market with the least possible deterioration, and that it enables the surplus of one season to be carried over to meet the demand during the season of natural scarcity. In this way, by distributing the seasonal output of perishable food stuffs evenly through the market year, it helps to equalize supply and demand. The price of the food supply to the consumer is not materially influenced by cold storage. It has been argued that the possibility of storing food products against a rising market may lead to speculation on the part of the middleman, and no doubt the facilities offered by cold storage may be abused to manipulate prices. This possibility, however, is more theoretical than actual, because of the enormous practical difficulties in the way of artificially controlling the supply of food. It is impossible to determine in advance, for instance, whether

January and February will be relatively warm months as during the winter of 1911, or bitter cold months as during the winter of 1912. In 1911 the warm months brought about a very large production of eggs, and consequently eggs in storage were taken out at a loss to the owners. The possibility of such conditions obtaining acts as a deterrent to the speculator, and all data at hand shows that the manipulation of food prices is not materially increased by the practice of cold storage.

As above suggested, there have been desultory attempts to regulate the cold storage industry by legislation. The government of the United States, although it has discussed the enactment of such legislation for several years, has as yet taken no action. Several States, however, have enacted cold storage laws of varying character. The first cold storage law of record, in the United States at least, was enacted by the State of Indiana in 1911, similar legislation following in the States of New York and New Jersey in the same year. In 1912 the National Association of Food Officials gave to a committee the task of drafting a model cold storage bill. After many months of careful work and investigation and after the revision of several tentative drafts, the committee recommended as a model bill for enactment in the several States a draft which during the legislative sessions of 1913 was enacted in approximately its original form as a law in the states of California, Iowa, Nebraska and North Dakota, and by authority conferred upon it adopted by the Louisiana State Board of Health as the law for that State. In 1912 the Massachusetts legislature enacted a cold storage law, drafted after a most comprehensive investigation of the subject by a committee of the legislature appointed for that purpose. The latest law at the time of writing is that enacted in the state of Pennsylvania. The Pennsylvania law differs in several points from the model bill and indeed from the early legislation upon the subject, which will be referred to in detail later.

At the present time eleven States regulate the cold storage industry by law. The State of Kansas regulates the storing of certain food products, but has no general law. The Canadian government, appreciating the necessity for developing a cold storage industry, in 1907, passed a cold storage act entitled, "An act to encourage the establishment of cold storage warehouses for the preservation of food products." This act, while primarily not intended as a regulative measure, but rather drafted for the purpose of subsidizing the construction of warehouses, is in effect regulative in that

the application for subsidy is limited to warehouses which are constructed under plans subject to the approval of the Department of Agriculture.

Cold storage is defined as the holding of food products at or below the temperature of 40° F. in warehouses refrigerated for that purpose. A cold storage or refrigerating warehouse is held to be an establishment employing refrigerating machinery or ice for the purpose of refrigeration in which articles of food are stored for thirty days or more at a temperature of 40° F. or below. This provision varies somewhat in the several States. The State of Nebraska, for instance, requires that goods must be held in storage for sixty days before being legally cold-stored, while a bill pending in the State of Connecticut holds that eggs must be labeled "Cold Storage" if held for more than fifteen days. The time limit imposed by most of the laws is the natural limit of twelve months, that is, from one productive season to the next. The time limit, however, is not uniform in the several States. The State of Pennsylvania fixes a different limit for different articles of food. It limits the storage of whole carcasses of beef or parts thereof to four months, whole carcasses of pork or parts thereof, of sheep or parts thereof and of lamb or parts thereof to six months, the whole carcasses of veal or parts thereof to three months, of dressed fowl drawn to five months, of dressed fowl undrawn, ten months, eggs eight months, butter nine months and fish nine months. As a rule the law requires that goods which have been in cold storage shall be sold under a label advising the purchaser of their character. The Pennsylvania law even goes so far as to require that food sold from labeled containers must be wrapped in a package stamped on the outside with the words, "Wholesome Cold Storage Food." The Massachusetts, Iowa, Louisiana, Nebraska and North Dakota laws require the display of a sign marked "Cold Storage Goods Sold Here." The Indiana law requires only that eggs taken from cold storage be sold from a receptacle bearing the words, "Cold Storage." All laws are uniform in requiring that goods be marked with the date of entry into storage and the date of withdrawal therefrom, except that the laws of New Jersey and Delaware require only the marking with date of entry and the Nebraska law does not require the date of withdrawal on goods to be shipped outside the State. In nearly every case the warehouseman is required to report the quantity of goods in storage to the proper officials at the end of each three months' period. The Massachusetts law, however, requires the report but three times a year. This provision, while not in any way affecting the character of the goods in storage, is undoubtedly an attempt on the part of

the legislatures to minimize the possibility of the cornering of the food supply by giving all information concerning stocks on hand to the public. As an additional protection under certain conditions the officials of several of the states are authorized to call for more frequent reports than are specifically authorized in the statutes.

In six of the eleven States enforcing a cold storage law, the State Board of Health and its executives and inspectors are charged with the enforcement of the act. In five States the work is done under the supervision of the food commissioner or dairy and food commissioner, as the case may be. In every case, except the State of Delaware, it is made the duty of the official or executive board to issue licenses for the operation of cold storage plants. These licenses are issued after an inspection has shown them to be sanitary and properly equipped and operated, and the board or officials charged with the enforcement of the act have power to withdraw the license if the plant becomes unsanitary or is operated in violation of the law. An important provision of practically every law is that authorizing the officials to extend the time of storage if inspection at the end of the storage period shows the goods still to be in satisfactory condition and suitable for use as food.

Unquestionably the public has the impression that prices are artificially and arbitrarily raised by reason of withholding goods from market in storage warehouses. The special committee of the Chicago Association of Commerce, which made a thorough study of cold storage in its many phases, says of this argument against storage:

“Exhaustive examination of the statistics compiled under the directions of your committee, and a comparison of these statistics with the facts obtained by the department of agriculture, after an exhaustive research demonstrates clearly that the prices of butter, eggs, poultry and fish have been more uniform during the year since cold storage has become a factor in the care of food products than before that period. These statistics also show that taking an average for a period of years, prices on the whole have been lower than during the years when cold storage was unknown.”

This statement is in substantial agreement with the conclusions reached by the Massachusetts committee and undoubtedly is an accurate gauge of the effect of cold storage upon the price of food. Nevertheless, in view of the persistent criticism of the new industry and of the too general impres-

sion that high prices are the result of manipulation somewhere between the farm and the consumer rather than a decreasing supply for an increasing demand, the legislation enacted may be assumed to have definite value both to the warehouseman and to the consumer in that on the one hand the consumer knows where and how much goods are being held for future use and the warehouseman is protected from a criticism which, if persistently indulged in, must prove a serious injury to his business. This statement may, indeed, be applied to all the phases of cold storage legislation, and where the laws have been in force the longest, I believe that without question the industry receives most credit from the consumer, and cold storage food properly handled in storage and sold under an open label out of storage is not only viewed without suspicion, but indeed purchased and consumed with greater satisfaction.

The cold storage industry is not a local business, but is very largely a feature of interstate commerce. Public warehouses could not be maintained for the convenience of local trade. They must depend upon the large shipments collected in one part of the country to be distributed at centers of population. For this reason legislation affecting the industry should properly originate at Washington instead of as at present in the several States. It is perhaps unfortunate that the Federal government did not point the way to uniform and reasonable state legislation by itself enacting a fair and equitable law. The bills proposed for enactment by Congress have, however, been framed without a proper understanding of the subject, and for that reason have not met the favor of those engaged in the industry, the states' officials charged with the regulation of the food supply, the retail trade dependent so largely for a supply upon the warehouse, or the consumer, who wishes only to be protected against unfit food, manipulated prices and deception.

The regulations drafted by officials charged with the enforcement of the laws have been generous and pertinent. The laws have been construed liberally and with regard for the warehouseman. In general, goods held at low temperature in process of manufacture, such as beer and meats in cure, have not been held to be in storage. The technical features of the stamping and tagging have been made as simple as possible and in practice the dating of the time of entry and withdrawal is easily and economically done. There is still some dispute as to whether the small dealer, as for instance the butcher, who may carry small stocks of meats longer than the usual thirty-day period, and the hotel and restaurant, should be held to be

operating cold storage or refrigerating warehouses. In so far as storage may affect the quality of food stuffs there is no difference between the large public warehouse and the private ice box, except that in all probability goods cannot be handled as successfully at the smaller plant. However, the stock of goods held at the hotel or butcher shop for local consumption is never so great as to influence the market, and for that reason the generally recognized necessity for the publication of storage holdings does not obtain. Moreover, unless legislation presumes to label cold storage goods all the way from the warehouse to the consumer's table, there is no necessity in the case of the individual plant for the system of marking followed by the warehouseman. Goods taken from storage are sent to the hotel kitchen or to the home of the consumer without delay, and deterioration is avoided, as might not be the case with the careless handling of goods drawn from cold storage for distribution over a larger area.

Recognizing a strong sentiment for cold storage regulation and the fact that such legislation is already in force, not only in Western States where no warehouses are in operation, but in the populous Eastern States of Massachusetts, New York, New Jersey and Pennsylvania, it behooves the industry to demand adequate protection by federal legislation, protection against unwise state legislation, protection against the loudly expressed yet admittedly erroneous statement that the cold storage industry is employed to manipulate prices to the detriment of the consumer, protection against the firmly established impression that goods deteriorate markedly in storage, protection against the oft-repeated tale that food-poisoning follows the ingestion of cold stored goods. Legislation that accomplishes these facts will not operate to curb the development of the industry, but rather to stabilize and encourage the use of refrigeration by the producer and of cold stored foods by every consumer.

With the passage of adequate cold storage legislation and the development of a practice of labelling which declares the character of the goods to the purchaser, the idea now held that cold storage is an artifice used by the speculator to force higher prices and a practice which spoils food instead of preserving it will no longer obtain.

And when cold storage is no longer feared, our markets will be widened and the food supply enlarged by the thousands and hundreds of thousands of tons of edible products which now rot on the ground for want of facilities to preserve them to such a time that they can find a profitable market.