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TEN LESSON IN MARKETING—Lesson IV

Preservation and Storage

By DR. HECTOR MACPHERSON

Revised by DR. MILTON N. NELSON

1. **A law of the Universe.** The efforts of almost all living creatures to save and store the things from which they get their energy is in accordance with the general law of the conservation of the energy of the universe. Plants store their energy in the form of tubers, bulbs, roots, stems, fruit, and seed. Animals, likewise, have the habit of storing and conserving the things from which they derive their energy. Some animals not only have the storage instinct put on surplus fat during the seasons when food is abundant to help them survive periods when food is hard to obtain. Many animals and some insects, however, display wonderful skill in hiding and protecting their storehouses of food, which they fill to overflowing during the time when food is abundant, so that there may be plenty to eat during seasons of scarcity.

2. **Conservation and storage the foundation of civilization.** In this habit of storing up energy for future use, man has gone farther than any of the animals. He is always planning for the future. The goods he produces today are stores of energy which may be used tomorrow or in years to come. In fact, progress in civilization depends upon always saving part of the fruits of present labor for future consumption and for the use of future generations.

We all know the old story of Joseph in Egypt, who stored the surplus grain during the seven years of plenty in order that the people might not starve during the years of poor crops which were to follow. This action of Joseph was in obedience to the same

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principle of conservation which is found in the potato at the bottom of the vine and the hole in the stump filled with nuts and grain by a chipmunk.

If you will think of it, it will be clear to you that we enjoy the advantages we do today of splendid fruits, succulent vegetables, nourishing grains, and muscle-building meats and dairy products because thousands of generations of farmers before us had the saving habit. They selected the best of their surplus to breed and reproduce from.

3. Non-perishable and perishable products. From the standpoint of preservation and storage, goods may be divided into two classes: (1) Those which are comparatively easy to preserve are called non-perishable products. Grain, wool, cotton, and silk are examples of products which require mainly to be kept dry and to be protected from insects and rodents in order to preserve them for indefinite periods. (2) Those products such as milk, eggs, fresh meats, and fruit, which very speedily fall into decay unless special methods and processes are adopted to take care of them, are called perishable products.

4. Early methods of preservation and storage. The underlying reason why so many different kinds of goods have to be preserved and stored is that they are produced only, or most abundantly, at certain seasons of the year. On this account, if man is to enjoy the use of a variety of goods throughout the entire year, he must learn to take care of them so as to keep them fit for use.

We now know that man has long been acquainted with many methods for the preservation and storage of goods. Non-perishables were stored in caves, in pits in the ground, or in specially constructed storehouses. For perishable food products there were various methods of preservation. Spices were used for keeping fruit and meat fresh. Honey was used separately or as a preservative for fruit. Salting, smoking, and drying were used to preserve a variety of products, while in cold latitudes meat and fish were kept frozen, sometimes for considerable periods, by covering with snow and a coating of leaves, branches, and mud.

5. Modern methods of preservation and storage. There never was a time in the world's history when man was producing and consuming such an abundance and so great a variety of goods as he is today. Hence, methods of preservation and storage are in greater demand than ever before. In this lesson we can indicate only very briefly the importance of this subject in the marketing of our products.

For the so-called non-perishables, we have all kinds of warehouses. Some are shelters built mainly to protect products from rain and moisture. Others are specially devised to keep out insects and rodents. Still others are built so as to control the temperature and moisture to which the products are exposed. Most of our great warehouses are so constructed as to make handling as easy as possible. They are usually built close to the railroads or alongside the docks over which water-borne freight is loaded and unloaded. Many commodities are graded at storage points. This necessitates the arrangement of the warehouses so as to make it possible to keep the different grades separate.

For the preservation and storage of perishable products we are still using all of the methods which have come down to us from time immemorial; and in addition, we are using others which have been made possible only by the advance of modern science. The most common methods in use today are salting, smoking, drying, pickling, canning, and refrigeration.

The last two are now, by all counts, the most important. They have been especially dependent upon modern science. It was discovered that things decay on account of the action of small living things called bacteria. In canning we heat the products sufficiently to kill the bacteria. Then, while the products are still hot, we seal them up in tin cans or glass jars so that no more bacteria can get in. The products can then be kept indefinitely. Under refrigeration or cold storage, we chill or freeze the products and keep them at temperatures so low that the destructive bacteria cannot multiply and work. Thus eggs, butter, cheese, fresh meat, fruit, etc., can be kept fresh for varying periods of time under refrigeration.

6. The advantages of preservation and storage. The principal advantage from modern methods of preservation of food products is that they permit greater abundance and more even distribution of wholesome food throughout the year. The storage of eggs, for example, makes it possible to have a supply of eggs at reasonable prices in seasons when eggs are scarce and when prices would be prohibitive for all except the rich were it not for cold storage. Butter and cheese likewise go into storage when prices are low in April, May, and June, and come out during the other months of the year when prices are high. The same is true of many other products. Apples, for example, are available in their fresh state every day of the year. This has been made possible by refrigeration.

Refrigerated cars and ocean-going ships make it possible for those sections of the world which produce a great abundance of perishables to market their surplus at reasonable prices in other parts of the world where such products are scarce. The city of

London, England, for example, enjoys fresh meat from Argentine, Australia, the United States, Canada, and several other places; obtains apples from Canada, the United States, Australia, and South Africa; gets eggs and butter from Denmark, New Zealand, and Canada; and canned goods from many parts of the world. This illustrates what the consumers in great cities gain by modern methods of preservation and storage.

But there is an equal advantage also to the producers of food products. Were it not for cold storage, our poultrymen would be unable to sell eggs at any price in the flush season; and our dairymen would be in difficulty in the spring months. Without the modern methods of drying, preserving, and canning, large numbers of our fruit and vegetable growers would have to go out of business. Modern methods of preservation and storage thus benefit all classes of people.

QUESTIONS AND EXERCISES

1. Make lists of the plants, insects, and animals on your own or some other farm that lay up stores of food in summer for future use.
2. What methods are used by your family for the preservation and storage of food products for family use?
3. What methods are used to preserve and store food for the use of domesticated animals in your community?
4. Take the list of commodities prepared for Lesson I, Exercise 2, and describe how each is preserved and stored.

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