

# PRESERVATION OF MEAT AND POULTRY PRODUCTS

- ☆ The book provides a clear, scientific and technical understanding of this subject.
- ☆ The information contained herein will equip the readers with latest and up-to-date knowledge.
- ☆ It also explains various processes of meat and poultry preservation.
- ☆ All the entrepreneurs, technocrats, persons evolved in meat and poultry processing will be benefited from this book.



PRESERVATION OF MEAT AND POULTRY PRODUCTS

Yadav

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PRESERVATION OF



Vishnu Yadav



# MEAT AND POULTRY PRODUCTS



# Preservation of Meat and Poultry Products

*- Author -  
Vishnu Yadav*



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## Preface

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The history of food preservation employed by humans is fairly old. Thousands of years ago, people had already used different techniques without actually understanding the scientific principal behind them. Some historians describe two major periods in terms of food consumption. The first is called the food-gathering period that covers the time from human origin, over one million years ago, to 8,000–10,000 years ago. The second is called the food producing period that continues until today. It appears that food spoilage problems were encountered early in the second period when people started to produce and store their own food for extended periods of time. Spoilage problems caused by improper storage as well as disease transmission via food have required some innovations/solutions. Drying food was one of the earliest methods employed to store foods like grain and fruits and was also used to preserve slices of meat. Sun-dried grain and meat could be stored for extended periods of time. Some cultures discovered that drying and smoking meat over fire could substantially extend the shelf life of the product. Later, fermentation of grains resulted in the production of beer, which can be traced back to ancient Babylonia at around 7000 BC. Other people, such as the Samaritans, are believed to have been the first great livestock breeders and dairymen, who were among the first to make butter at about 3000 BC. They were also known to use salted meat, fish and dried skins. The early Egyptians in 3000 BC were known for their ability to ferment dairy products and make cheeses. Salted meat was known to be used by the Israelites, the Chinese and the Greeks; the latter also passed it to the Romans. Evidence of sausage fermentation by the ancient Babylonians and the ancient Chinese people goes as far back as 1500 BC. It is doubtful whether people at that time understood the nature of food preservation by fermenting microorganisms; however, they used it fairly successfully. It was probably common to “seed” a new batch with material from a successfully previous batch and by that transmit the “right culture” to reduce chances of spoilage.

Raw meat and poultry products should be maintained at 40° F or below to greatly reduce the growth rate of any pathogenic bacteria that may be present on their surfaces. Chilling is required of all raw product unless it moves directly from the slaughter line to heat processing or cooking, which destroys pathogens. Meat and poultry products are chilled immediately after slaughter to acceptable internal temperatures which insure the prompt removal of the animal heat and preserve the wholesomeness of the products. Generally, red meat carcasses (which are above 90° F at the time of slaughter) are chilled in a blast cooler with rapidly moving chilled air, and, in some instances, a cold water shower. Poultry is required to be chilled to 40° F or less within specified time frames, depending upon the size of the carcass. Whole birds and parts of major size are chilled in ice or ice and water media. Poultry parts are chilled in ice, air or water spray with continuous drainage. Giblets must be chilled to 40° or below within two hours of slaughtering the birds. Packaging is a physical barrier to cross contamination. Microorganisms exist everywhere in nature. They are in the soil, air, and water. The simple act of covering food keeps microorganisms from contacting the food. Covered perishable foods can be stored longer and at better quality than uncovered foods. Modified atmosphere packaging (MAP) and vacuum packaging help prolong storage (see following question). Refer to the charts on pages 5 and 6 for recommended storage times.

The book provides a clear, scientific and technical understanding of this subject. The information contained herein will equip the readers with latest and up-to-date knowledge.

—Vishnu Yadav

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