

THE SCIENCE OF POULTRY AND MEAT PROCESSING

Meat, an excellent source of protein, iron and B vitamins, was processed as early as prehistoric times, probably by drying in the sun and later by smoking and drying over wood fires. Today, meat is processed with salt, colour fixing ingredients and seasonings in order to impart desired palatability traits to intact and comminuted meat products. Meat processing, preparation of meat for human consumption. Meat is the common term used to describe the edible portion of animal tissues and any processed or manufactured products prepared from these tissues. Meats are often classified by the type of animal from which they are taken. Red meat refers to the meat taken from mammals; white meat refers to the meat taken from fowl; seafood refers to the meat taken from fish and shellfish; and game refers to meat taken from animals that are not commonly domesticated. In addition, most commonly consumed meats are specifically identified by the live animal from which they come. Beef refers to the meat from cattle, veal from calves, pork from hogs, lamb from young sheep, and mutton from sheep older than two years. It is with these latter types of red meat that this section is concerned. The manufacture of raw-fermented sausages at the small to medium scale meat industry level is outlined hereunder. These sectors often lack a full range of comminuting equipment and in particular equipment for accurate climatisation during fermentation and ripening and therefore face more technological challenges than larger, well equipped industries. This book contains the processing of fresh meats, curing, smoking preservation and packaging methods of processed meat etc. The book is very useful for entrepreneurs, technocrats and those who want to diversify in to this field.

Contents: Methods of Processing and Preservation of Meat; Breeding and Quality of Poultry; Meat and Poultry Packaging Materials; Poultry Preservation Techniques; Treatment and Disposal of Poultry Processing Waste; Meat Processing and Technology; Meat Microbiology and Disease; Poultry Diseases Based on Causative Agent; Systems of Operation of Poultry Plant.

About the Author



Dr. Ram Prakash Verma received his B.Sc. and M.Sc. degree from the Faculty of Agriculture University, Kaushambi, UP and His Ph.D. from the same university. His books provides Poultry Science information and help to create new feedstuffs for poultry and farm animals from the agro-industry and to mobilize the neglected waste as a feedstuff to lower the price of animal products such as eggs, white and red meat, milk, etc. He has authored and co-authored many scientific international articles. At

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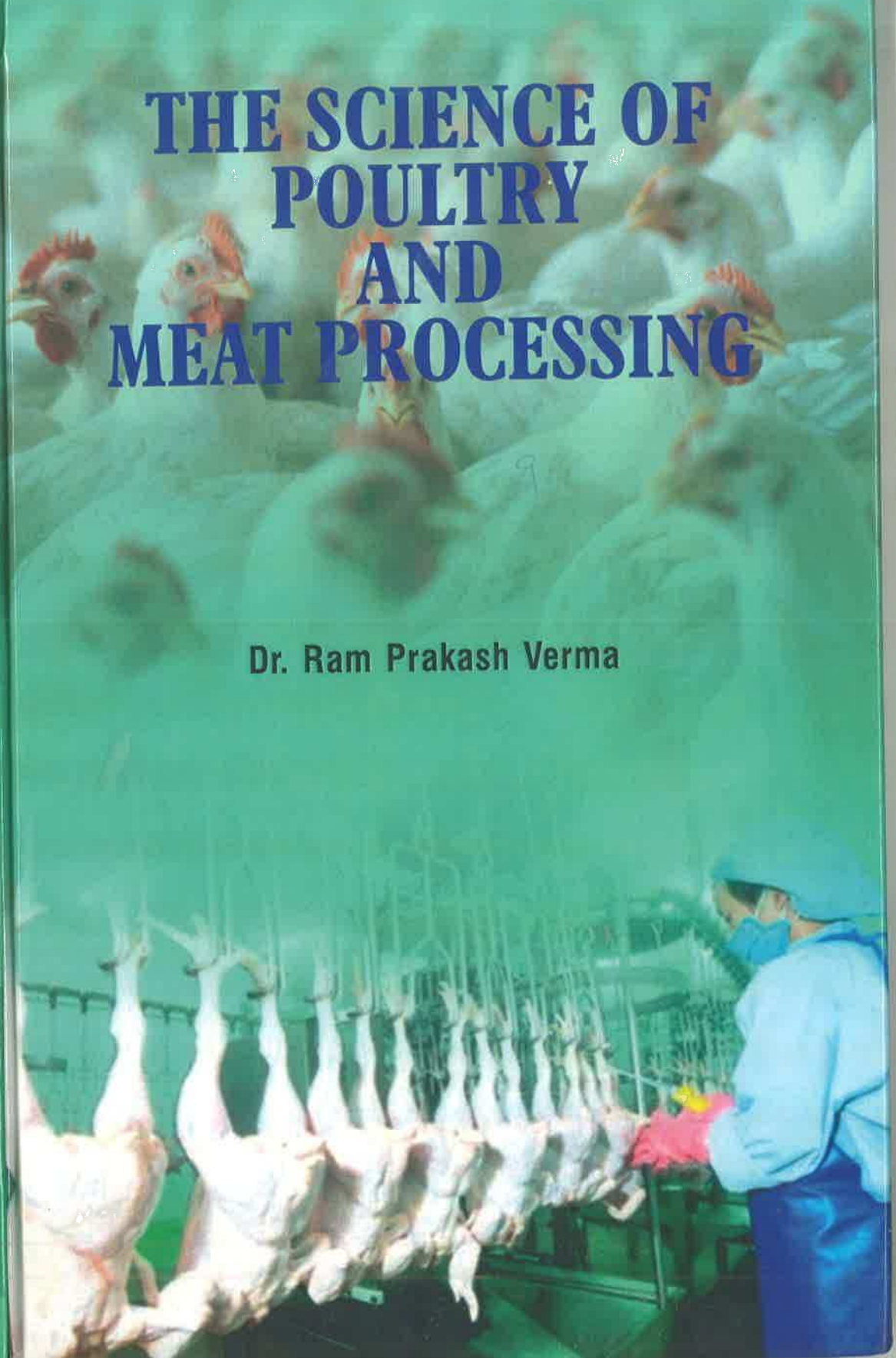
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- Author

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Methods of Processing and Preservation of Meat

Meat was originally processed to preserve it, but since the various procedures cause so many changes in texture and flavour it is also a means of adding variety to the diet. Processing also provides scope to mix the less desirable parts of the carcass with lean meat and in addition is a means of extending meat supplies by including other foodstuffs such as cereal in the product.

Meat is a highly perishable products and soon becomes unfit to eat and possibly dangerous to health through microbial growth, chemical change and breakdown by endogenous enzymes.

These processes can be curtailed by reducing the temperature sufficiently to slow down or inhibit the growth of micro-organisms, by heating to destroy organisms and enzymes (cooking, canning), or by removal of water by drying or osmotic control (binding the water with salt or other substances so that it becomes unavailable to the organisms). It is also possible to use chemicals to inhibit growth and, very recently, ionising radiation (however, the last is not allowed in some countries).

Traditional methods that have been used for thousands of years involve drying in wind and sun, salting and smoking. Canning dates from early in the 19th century and allows food to be stored for many years since it is sterilised and protected from recontamination.

CHILLING AND FREEZING

While mechanical refrigeration is a modern process it is known that the ancient Romans kept food cool with ice. "Chilled" meat is usually stored at temperatures around 1°C to +4°C when it keeps well for several days. Provided that the meat is kept very cool (1°C to 0°C) and that slaughter and meat cutting are carried out under strict hygienic conditions, modern packaging techniques including storage under carbon dioxide or nitrogen or in vacuum can extend this period to about 10 weeks. Chilling at temperatures very close to the freezing point of meat, -15°C, diminishes the dangers of most pathogens and slows the