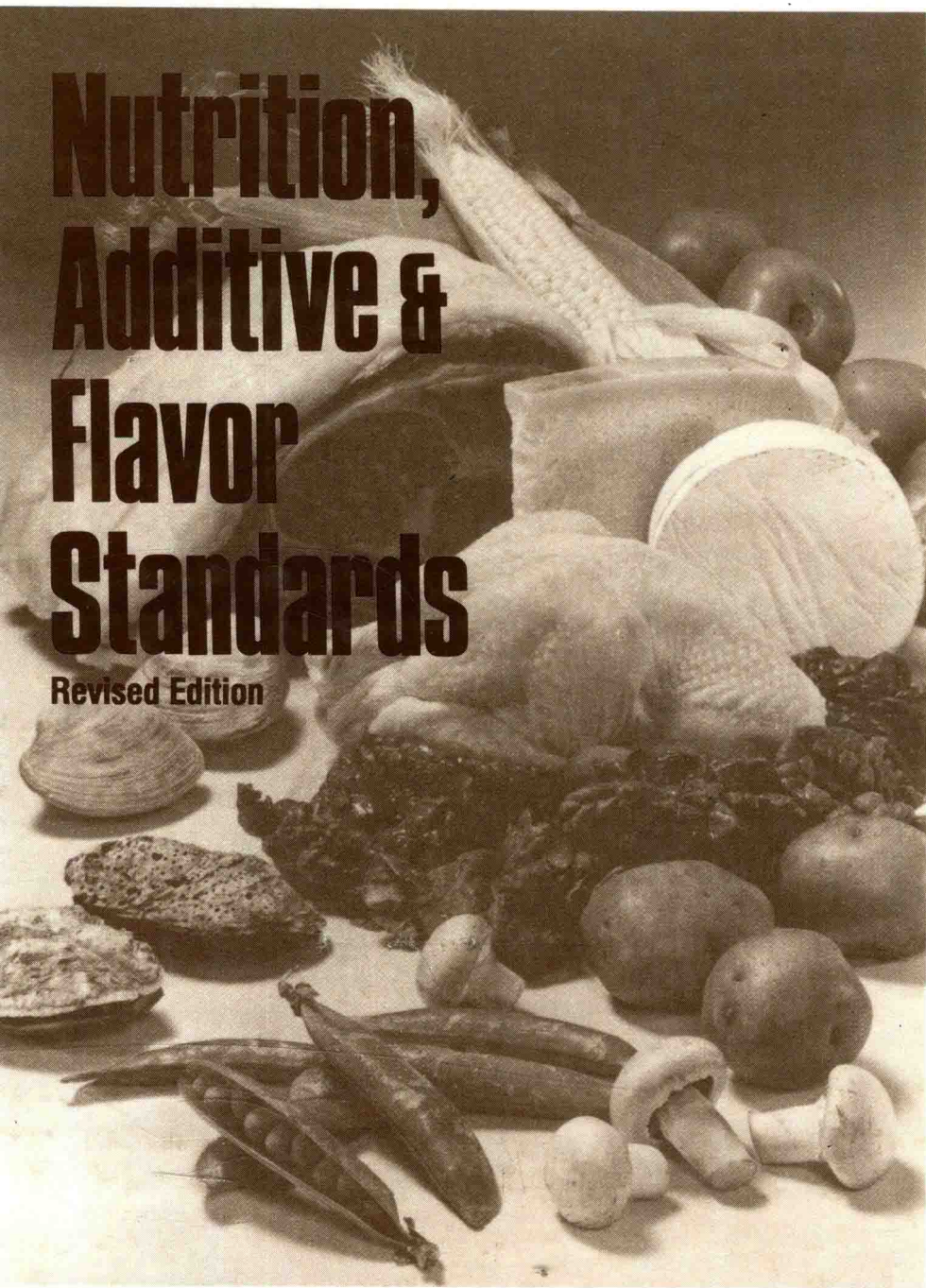




Nutrition, Additive & Flavor Standards

Revised Edition



The L.J. Minor Foodservice Standards Series

VOLUME



Nutrition, Additive & Flavor Standards

Revised Edition

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and Institutional Management
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To hotel, restaurant, and institutional management students, managers, chefs, dietitians, engineers, manufacturers, distributors, planners, and operators who strive to achieve high quality foodservice standards by developing and marketing very modern lines that give relevance to our complex industry.

And to my devoted wife, Ruth

Preface

Mankind's primary requisites include air, water, and food, as well as fuel (warmth), clothing, and shelter. Without these essentials human beings cannot exist.

This book is aimed at helping to explain the basic factors that influence the wholesomeness, nutritive value, flavor, color, texture, appearance, and preservation of food products. Just as important, it also provides guidelines used to set quality standards for institutional and commercial dietary services.

The study of food science and nutrition is critical to our ability to provide healthy diets to future generations. Food is a complex subject, and proper focus embraces the physical, chemical, biological, and social sciences. Fortunately, as great scientists are choosing careers in food science, the development of flavorful and nutritious foods together with processes for preserving these products are fulfilling our current needs and providing great promise for the future. Concomitantly, the safety of our food supply is being monitored with ever-increasing care and accuracy.

The reader will have to decide about the acceptability of governmental agency and food industry policies that affect the environment and the availability of a safe and abundant supply of good, wholesome, and economical food.

My sincere thanks to my colleagues and friends Dr. Lendal Kotschevar, School of Hotel, Restaurant and Institutional Management, Florida International University, for assisting with the development of the chapter on

nutrition; to Dr. Jack Ninemeier, Michigan State University, and Dr. Ronald F. Cichy, School of Hotel and Restaurant Management, University of Denver, for editing various stages of manuscript; and to Michael L. Minor and others for assistance with illustrations.

Lewis J. Minor

Introduction

The L. J. Minor Foodservice Standards Series is a concerted attempt to identify quality parameters according to which quantity foodservices should operate. Although sources of standards may vary—they emanate from professional, consumer, governmental, and other concerns—they all have several things in common:

- Foodservice standards identify goals and represent performance indicators that can and should be utilized to structure and evaluate operational performance.
- Foodservice standards provide a foundation of information that students of hospitality must acquire in order to improve our industry as they become its leaders.
- Exemplary standards of excellence must be known in order to be utilized. Each of us has a desire to do the best we can in the activities with which we are involved. Standards become the guidelines for personal assessment; they suggest how things should be when we consider the effectiveness of our own actions.

The foodservice industry is vast and complex; the scope of the activities and job-related knowledge required to operate within it is very broad. Each book in this series is developed to focus concern for identification and application of standards upon one important but, by itself, small aspect of the entire domain of regulated standards. This is done with the hope that each book will be considered in company with others in the series. The result can be a synergistic effect that will make a difference in the way our industry evolves.

Lewis J. Minor

**The L. J. Minor
FOODSERVICE STANDARDS SERIES**

Lewis J. Minor, Editor

School of Hotel, Restaurant and
Institutional Management
Michigan State University
East Lansing, Michigan

- Volume 1. NUTRITION, ADDITIVE AND FLAVOR STANDARDS, Revised Edition
Lewis J. Minor
- Volume 2. SANITATION, SAFETY AND ENVIRONMENTAL STANDARDS
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- Volume 3. BASIC ACCOUNTING STANDARDS
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- Volume 5. STANDARDS FOR FATS AND OILS
Harry W. Lawson
- Volume 6. COLLEGE AND UNIVERSITY FOODSERVICE MANAGEMENT STANDARDS
Peter J. Eckel, Jr.

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Introduction to the Study of Food

Why is a basic knowledge of food, the culinary arts and the science of preserving foods important to foodservice managers? The answer lies in the fact that mankind must eat in order to live, work, and play. However, besides fulfilling physiological needs, food also fulfills psychological and social purposes when quality standards are attained to a minimum required level as perceived by the individual. Our ethnic backgrounds, ancestry, childhood food experiences, travel, and social activities all tend to influence whether we like or dislike specific foods.

It is essential for a manager to understand the dietary preferences of clientele served by the foodservice operation. Food acceptance is determined by such factors as age, socioeconomic background, travel experiences, family size and makeup, and activity patterns. These are, of course, different for each individual.

In addition, the foodservice manager must keep abreast of general economic changes in society. People are often more concerned about the high cost of food than that of other products, and food cost ranks above many other issues. A review of consumer concerns about some economic and social problems is noted in Table 1.

Today cooking at home involves use of more fresh meats, produce, and cheeses; it involves fewer frozen dinners and other convenience food items. There has been an increase in the number of meals eaten away from home, in part because menu prices in foodservice operations are frequently less

TABLE 1. Consumer Concerns About Economic and Social Problems

Problem	Percentage of public expressing concern
High cost of food	70
Crime and violence	67
Inflation	62
High cost of medical care	60
High cost of gasoline	53
Corruption in government	53
Drug addiction	52

Source: *Forbes Magazine*, March 15, 1976.

than increased supermarket food prices. (Often commercial foodservice operators do not pass on all increased costs to their customers but rather suffer reduced profit margins.)

New cooking schools have begun operation in New York, Philadelphia, Boston, Chicago, and other cities. More men are discovering the kitchen and find the glamour of food preparation to be a challenge to their creative talents. Cooking may be first an art and then a science, but it is beauty in appearance and maximum flavor that makes food a social pastime unequalled in culture and pleasure. Growing antipathy toward synthetic ingredients and menu dishonesty is causing a renaissance in cookery.

LIGHTER EATING

The mechanical world of today has lightened the work load of individuals, which has greatly reduced the caloric needs of men and women. Inevitably, meal patterns established in the past and currently retained are causing widespread obesity.

Eating between meals also causes dietary problems. Food is everywhere. Vending machines, coffee and doughnut shops, fast food outlets, restaurants, bars, hotels, schools, and hospitals provide snacks and meals away from home. Microwave ovens at home encourage "warmer-uppers" whenever TV ads suggest eating. In general, we eat too much food and exercise inadequately.

Research indicates that eating less but more often would reduce the load on our digestive systems by providing nourishment without fatty tissue buildup and cholesterol plaque deposit. The need to change our dietary habits is creating a foodservice revolution that is really a nutritional necessity. Foodservice managers must be sensitive to these changes and develop strategies to cope with them. A constant awareness of customer attitudes and needs is the key to continuing success.

Low Temperature Cooking

Charcoal broiling, a cooking process that has been popular for many years, has been found to be dangerous because smoke introduces carcinogens into the food. As this cooking method is replaced with low temperature cooking procedures, energy conservation will result. Even more important health improvements will be attained from the retention of nutritional elements because of reduced cooking temperatures. Equipment manufacturers are already preparing for this change. Foodservice managers are again confronted with the need to keep pace by changing with the times.

Vegetarianism

Vegetarian diets modified with dairy and poultry products provide adequate nutrition and are increasing in popularity. Man's preference for meat will not change suddenly, but in new generations there may be a trend away from the meat-and-potato preference of yesteryear. Fresh fruits, not preserved with sulfite and benzoate, are always in demand; and their availability may also increase as a result of customer dislike of food additives.

Wine and Cheese

The growing popularity of both wine and cheese in the United States has created new foodservice merchandising opportunities. Knowledge concerning these products of fermentation depends on exposure to the numerous varieties available.

Coffee Brewing

Coffee brewing based on special blends and added flavoring is another phase of the foodservice art that requires special knowledge and exposure. Beans from Arabia, Java, South America, and other localities, when blended, roasted, stored, and ground in a prescribed manner, can provide countless variations in flavor. A wise foodservice manager knows that customers will choose a coffee suited to their taste that is properly prepared and served.

Soups and Salads

With lighter eating the demand for soups and salads will increase. The soup can vary from low calorie consommés or thin soups to meal-equivalent *pot au feu* soups and heavy cream soups or bisques. Salads may likewise be varied through a variety of recipes as desired. The first concern of the

manager should always be customer satisfaction. High quality standards will be rewarded with steady patronage.

THE COOKING AND CATERING ARTS

A manager who knows food and recognizes the importance of cooks and the kitchen has an advantage over one who lacks this training and experience. Some individuals who aspire to become foodservice managers may begin their training by attending a commercial cooking school to learn cooking, baking, decorating, garde manger, ice carving, and other skills that one finds in a full-service catering operation. Special training in dining room service may be included along with complete knowledge of how menus are planned (daily and for special functions) in a manner that coordinates the entire activity with the available personnel and equipment. A combination of this background with management training adds a dimension to the ability of the person that could provide a distinct advantage.

FOODSERVICE SYSTEMS

Many new systems have been introduced into foodservice during the past decade. Included are the Scramble system for cafeteria service that eliminates lineups and saves time for customers; the Ready Foods system of MacLennon for on-premises preparation and freezing that provides a broad menu spectrum; The Chill System (Cry-O-Vac Division, W.R. Grace & Co.) for retention of freshness for weeks without freezing; the Chef-Ready system that utilizes a myriad of manufactured frozen or canned menu items to be warmed up, garnished, and served; the Central-Kitchen system for freshly prepared food distribution to satellite outlets; and the Neff and Kupperbusch continuous Cooking Streets for fresh and/or frozen volume food preparation. These systems or combinations of them have been developed and used successfully to save labor and capital investment costs for facilities.

Change

Change is the key word that best exemplifies the foodservice industry of today. We are witnessing a veritable revolution in products, equipment, service, and customer demand. Our future is only as secure as the effectiveness of the training of our youth and their dedication to industry improvement.

CERTIFICATION OF COOKS AND EXECUTIVE CHEFS

Estimates by the U.S. Department of Labor and the American Culinary Federation (ACF) forecast that an average of 200,000 cooks per year are needed in the United States for the next five years. Through efforts of the ACF, with the help of General John D. McLaughlin (U.S. Army, Retired) of the L. J. Minor Corporation, a certification program for cooks was approved by the U.S. Department of Labor in 1977. From 1977 to 1979, the apprentice first-time program was conducted throughout the United States by the American Culinary Federation with seed money furnished by the U.S. Department of Labor National Apprentice Program. Altogether, several thousand cook apprentices have been or are being trained in this program.

General McLaughlin also succeeded in obtaining a change in the occupational rating of executive chefs by the U.S. Department of Labor. The result is that, rather than being classed as domestics (0-3) as they had been for decades, executive chefs are now included as professionals with engineers and architects in a (0-1) classification by the U.S. government.

These historic developments should result in better food for the consumers of the nation. An auxiliary benefit will be to provide more professional kitchen personnel who will cooperate with managers, food scientists, and dietitians in helping to develop improved and more efficient food production and foodservice systems in the United States.