

HANDBOOK OF

*Spices,  
Seasonings,  
& Flavorings*

Susheela Raghavan Uhl

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*Horizons Consulting*





## **Handbook of Spices, Seasonings, and Flavorings**

a **TECHNOMIC**<sup>®</sup> publication

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SPICES, SEASONINGS, & FLAVORINGS

SEASONINGS  
& FLAVORINGS

by V. S. Varughese



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*To my parents . . . Pathmavathy Kumaran and Kattery Raghavan*

*I dedicate this book to my ma and cha who  
planted the seed of taste within me, and from  
which my thirst for knowledge of spices and  
flavors grew. It was this exposure that enabled me  
to truly appreciate and enjoy many diverse foods.*

## Preface

**M**Y gastronomic heritage began while I was growing up in Malaysia. Watching my grandma grinding the soaked rice-lentil mixture for Sunday's breakfast, picking kari leaves for ma's aromatic crab curry and listening to my late cha's (father's) food adventures during meals, all created in me a passion for food, spices and cultures. For mom, cooking was a creative process—every day there had to be something new and different on the table. She never hurried her cooking and never settled for less than the best in her choice of spices. I observed and learned her pride in creating the ultimate flavor and absorbed her approach to freshness, flavor and healthy eating. For cha, food had no boundaries. It surpassed all cultures and religions. He taught me to explore and try all foods and flavors available in Malaysia, whether Chinese, Indian, Indonesian, Thai or Western. Mom's endless search for different tastes and a zest for cooking and cha's enthusiasm and appreciation of different foods gave me an appetite for adventurous eating and a curiosity about new flavors.

Their spirit ultimately influenced my career as a food developer. I have traveled to experience the floating markets of Thailand, to cook on the stone charcoal ovens of Kerala, India, to attend cooking classes in Oaxaca, Mexico, to dine in the country pubs of England and to taste the perfect chili in Texas, U.S. All of this, in search for authentic foods and flavors. I am not alone in my search. Nowadays, food professionals in the U.S. and around the world are continually looking for "new" and unique spice flavorings because of the growing global demand for authentic ethnic and fusion cuisines. People are also seeking natural foods and natural preservatives for healthier lifestyles and natural ways of preventing ailments. I wrote this book because I believe that food developers need to understand and gather a vast knowledge of spices, seasonings and flavorings to meet these new demands and to create and market successful products.

Today's food development is becoming "techno-culinary" by incorporating and connecting technology, and culinary skills, with cultural influences, food trends, nutrition and other disciplines. As such, a food developer needs technical knowledge, creative talent and an understanding of the cultural aspects of the consumer in order to develop successful products. This book incorporates technical information about spices, their varieties, properties and applications, with culinary concepts, food history, market trends and the cultural and flavor profiles of different ethnic populations and different regions of the globe. I designed this book as a tool for the many professionals who develop and market food. The product developer needs to use spices and flavorings with creativity in addition to technical know-how. The chef needs to have some technical information to balance creativity. The flavorist needs to understand the origins and varieties of spices and how they are prepared and used in ethnic cuisines to understand their differing flavor profiles. Nutritionists need to create flavorful menus for a diverse population, while marketers and sales professionals need cultural information and data on food trends. With the information in this book, they can work together to develop successful products.

First and foremost, I have tried to make this book a comprehensive guide to spices. Spices are the building blocks of flavors. They define and intensify flavors and are important tools for providing consistency and color. They create the desired taste, characterize cuisines and differentiate one recipe from another. Understanding spices in their fullest capacities is the cornerstone of successful product or seasoning development. Therefore, this book contains detailed descriptions of each spice, arranged alphabetically. While many reference books on spices include alphabetized descriptions, I believe that the similarity between this book and others ends there.

Consistent with my desire to create a truly comprehensive and global reference on spices, this book goes beyond a dry technical description of spices. It describes each spice's varieties, forms, and chemical components that typify its flavor and color. It includes functional and sensory descriptions and chemical and culinary information that will provoke curiosity and passion in the developer and assist in product development. This book also explains how each spice is used in cuisines around the world, lists global spice blends that contain the spice, describes each spice's folklore and traditional medicinal uses and provides translations of each spice's name in diverse languages.

In researching this book, I also became aware that there were no comprehensive guides to spices and seasoning blends that could help food developers create products based on the popular ethnic cuisines from around the world. Consequently, I have provided detailed descriptions of many varieties of each spice and have included many spices, seasonings and flavorings that are becoming increasingly popular, especially those used in Asian, Latin, Caribbean and African cuisines. In addition, this book goes beyond other spice books by describing other important ingredients found among the world's cuisines that



provide flavors, textures, colors and nutritional value to foods. It describes how these flavorings are commonly used with spices to create characteristic ethnic spice blends and seasonings and how they can be used to create new, exciting or authentic flavors.

The last chapter is an important tool for creating ethnic and regional seasonings. It describes major ethnic and regional cuisines and their characteristic flavors and ingredients. Examples of seasoning blends that are significant in creating the typical flavors of these cuisines are described in detail. In addition, it provides many global and regional variations of a seasoning or spice blend, such as sofritos, adobos, curry blends, hot sauces and chile blends. This chapter is not intended as an in-depth study of each region's flavor profile, but it is written to provide a general understanding of some typical flavor profiles of each of these regions and a strong foundation for product development.

In writing this book, I have tried to create a complete modern book on spices, seasonings and flavorings. I have included traditional popular spices and flavorings, as well as those that are growing in popularity and are used to create authentic ethnic, fusion and regional American foods. It is designed to meet the challenges and demands of today's dynamic market. My ultimate aim, however, was to share with the reader some of the enthusiasm for food and sense of adventure that my parents gave to me.

A note on terminology in this book:

Throughout history, the various parts of plants have been cultivated and used for their aromatic, fragrant, pungent or other desirable qualities. This book uses the term "spice" to refer to all of the edible parts of a plant used for flavoring foods—including roots, stems, seeds, rhizomes and the leafy plant parts usually referred to as herbs in European and North American cuisines. There are several reasons for this usage. In the case of herbs, it avoids the shifting definitions of what an herb is, which have varied greatly over time. In addition, not all herbs are used in seasoning foods; many are not edible and do not function as a spice. Moreover, many traditional cultures today do not separate these leafy spices into a distinct herb category. This book attempts to discuss and define spices from a global perspective; therefore, a global approach to defining flavoring ingredients is most appropriate. Finally, as with roots, stems, seeds and flowers and other plant parts, the purpose of these leafy plant parts is to "spice up" food or beverage products, and their collective grouping is the most logical.

## Acknowledgments

I wish to thank my daughter, Geeta, for encouraging me to write this book and showing patience for my absence during this period. My sincere gratitude to Bob Roach, who helped me immensely with the editing and organization and who was also my best critic throughout. I wish to thank my family members around the globe, who gave me moral support and help during this time.

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## Spices in History

**T**ODAY'S search for unique and authentic spices is not new. In ancient times, spices were status symbols in Europe and throughout the Mediterranean for the wealthy who ate them. Spices had an enormous trade value, not only as flavorings for food, but as medicines, preservatives and perfumes.

A brief tour of the history of spices and modern trends will serve as a good introduction to the use of spices in today's global cuisines.

### A "SPICY" TALE: A SHORT HISTORY OF THE SPICE TRADE

The history of spices is entwined with exploration, adventure, religious missions, commerce and conquest. Treasured like gold and precious stones, spices have had enormous commercial value in ancient and medieval times. Most spices and flavorings had origins in the tropics or subtropics. They were much sought after in the West, and the quest for spices tremendously changed the course of history.

The East is the birthplace of most popular spices and flavorings. India, Southeast Asia and China have given us anise, basil, cardamom, cinnamon, clove, garlic, ginger, mace, mustard, nutmeg, onions, pepper, star anise, tamarind and turmeric. Other spices, such as bay leaf, coriander, cumin, dill, fennel, fenugreek, rosemary, sage, sesame and thyme came from the Middle East, North Africa and other parts of the Mediterranean. The colder regions of Europe have provided us with juniper and horseradish, while the Americas gave us allspice, annatto, chile peppers, chocolate, epazote and saffron.

Ancient civilizations, such as Asian Indians, Middle Easterners, Chinese, Aztecs and Incas, have used spices since time immemorial. As in modern times, these cultures spiced their foods to enhance them and to create differ-

ent flavors. Spices were also used to preserve meats, to disguise tainted foods and disagreeable odors and even to create cosmetics and perfumes.

Early civilizations understood that spices had medicinal value and used them as antidotes for poisons, to help cure diseases and to prevent ailments. During medieval times, spices such as cinnamon, garlic and oregano were used as germicides to battle the spread of the plague.

People also believed that spices had magical properties, and they were used in religious functions and on ceremonial occasions.

## EARLY USE OF SPICES IN THE AMERICAS

While stories of most spices begin in the East, a number of the more popular spices and flavorings in use today are native to the Western Hemisphere. Since the dawn of time, Native American Indians—Aztecs, Mayans and Incas—flavored their food and drinks with spices and offered them to their Gods in religious ceremonies. Chile peppers, sweet peppers, allspice, chocolate and vanilla originated in the New World before being introduced to Europe and Asia.

Chile peppers grew wild in the Andes and were used as early as 10,000 years ago. From South America, chile peppers were carried to Central America and the Caribbean. Archaeological excavations in Mexico reveal chile pepper remains dating back to 7000 B.C.

Anthropologists have been unable to define with certainty when chile peppers were first domesticated. It appears that Native Americans began domesticating chilies between 5200 and 3300 B.C. By the time the Spanish arrived in Mexico in the sixteenth century A.D., the Aztecs were growing dozens of pod types. Today, all domesticated cultivars are derived from five domesticated species of chile peppers, and none differ substantially from those domesticated by Native Americans.

In Pre-Columbian Americas, dried chile peppers were used in trade in what is now the Southwestern United States and regions of Mexico. Atole (a corn, cacao bean, sugar and chile pepper drink) and posole (a corn and chile pepper stew) were some of the foods flavored by chile peppers enjoyed by the Aztecs and Mayans.

*Vanilla planifolia*, a climbing, tropical orchid, grew wild in the hothouse jungles of Central America and northern South America. When the fruit pod of the vanilla orchid fell to the jungle floor before it was ripe, it would ferment and give off a marvelous aroma, which the Aztecs must have noticed. Called tlixochitl or "black pod" by the Aztecs, vanilla pods were harvested from wild climbing vines found in the jungles of southwest Mexico. Later, the Aztecs domesticated this exotic plant and cultivated its vines. They blended the smooth vanilla flavor with chocolatl and honey to create "royal" drinks reserved for the elite of society. By legend, the great Aztec emperor Mon-

tezuma presented a chocolate drink flavored with vanilla to the Spanish conquistador Cortez, and he served it in golden goblets. In addition to flavoring, vanilla was used in medicine as a nerve stimulant and was reputed to be an aphrodisiac.

In Mexico and Guatemala, Mayans, Toltecs and Aztecs took the seeds of cocoa pods, roasted them, crushed them into powder on stones and whisked the powder with boiling water to create tchacahoua (Mayan) or tchocoatl (Aztec). This drink, often mixed with chile pepper, honey or ground maize, was considered sacred food.

Allspice is the fruit of an evergreen-type tree that grew wild in southern Mexico, Central America and on several Caribbean islands, including Jamaica and Cuba. The Mayan Indians used allspice berries to help preserve or embalm the bodies of their leaders. The fruit of the unripe allspice berry looks like a large peppercorn, which was sought by early Spanish explorers. Thus, they called these berries pimiento or pepper, from which we get today the name pimento.

## THE ASIAN SPICE EMPORIUM

Many of the spices that are popular today are indigenous to India, where they have been savored for thousands of years. The Harappa civilization, one of the first cultures of the Indus valley in northern India, ground saffron and other spices on stones around 3200 B.C.

One of the earliest written records regarding spices appears in the religious scriptures of the Aryan people of north India. The Vedas, written in Sanskrit between 1700 B.C. and 800 B.C., refer to mustard (baja), turmeric (haridra), long pepper (pippali) and sour citrus (jambira).

The Sanskrit language, itself, however, contains words for spices that reflect the well-established use of spices by the most ancient peoples in India. For example, the Sanskrit word for tamarind (chinchā) has aboriginal origins. Harida or turmeric comes from the Munda, a pre-Aryan people who lived through much of North India. The Vedas, themselves, refer to a community called Nushadas, whose name translates literally into "turmeric eaters."

The Aryans looked down on some spice use. Vedic literature describes garlic, leeks, mushrooms and onions as native foods despised by the Aryans. Some scholars explain that this aversion arose from the common practice at the time of fertilizing these crops with a manure of human waste.

Later Vedic writings establish that early North Indians were engaged in a far-reaching spice trade. The Vedas report the Aryans using black pepper (maricha) imported from South India and asafoetida (hingū) from Afghanistan. In the Buddhist era (800 to 350 B.C.), we see the introduction in North India of ginger, cumin and cloves, which were generally imported from other parts of Asia.

The origins of ginger have been obscured by its wide domestication. It is native to Southeast Asia, but wild forms are found in India. Cumin appears in Vedic writing around 300 B.C. and appears to be native to the Middle East. The Sanskrit term for cumin, jeeraka, comes from Persian. Clove originated in the Moluccas Islands in Eastern Indonesia. It first appeared in the Ramayana, an Indian epic written between 350 B.C. and 1 A.D. Clove may have originally come to India through Malaysia because the Sanskrit word for clove, lavanga, appears to be derived from the Malay word for clove, bunga lavanga.

The Dravidians were the predominate civilization of South India. They used tamarind, black pepper, lemon, cardamom, cinnamon, cloves, turmeric and pomegranate to flavor their foods. Pepper plants, cardamom and cinnamon grew wild in the south of India, particularly in the states of Kerala and Karnataka. Mysore, in Karnataka, was known for its cardamom, and Kerala was known for its black pepper. While cinnamon also grew wild in South India, the best cinnamon came from Sri Lanka, off the coast of South India. In addition to flavoring foods, spices played a significant role in the religious and cultural lives of early Indian peoples. The colors yellow and orange were considered auspicious and festive because of their connection to the sun. Consequently, saffron and turmeric were used in religious ceremonies and in the important personal occasions in everyday life, such as childbirths, marriages and funerals.

It was a common practice of the Aryans in the north and the Dravidians in the south to mark the forehead with kumkum as a sign of religious respect and auspiciousness. The Aryans used saffron and the Dravidians used turmeric, made alkaline with slaked lime, to make kumkum. Arghya, consisting of water mixed with saffron, flowers and sandalwood powder, was presented to Deities in worship. Akshatas, or rice colored with saffron, was presented to God Vighneswara (presently called Ganesh) in the *Puniah Vachna* ceremony when praying for the removal of an obstacle in life. Saffron was also used to color other religious articles.

Turmeric had erotic significance for Indians and played an important role in wedding ceremonies of Hindus and Muslims. During the nuptial bath called *Nalangu*, the heads of the bride and groom were rubbed with sesame oil, and the exposed parts of their bodies were smeared with turmeric. In some communities, sweets made of nutmeg and saffron were also given to the newlyweds as aphrodisiacs, while perfumes of saffron, white sandalwood, cardamom, nutmeg and mace were poured on the sacrificial wedding fire. The exquisite golden complexion of Naga women of North India was reputedly obtained through their constant use of turmeric.

Turmeric was widely available and was considered auspicious, so it was also used in everyday life whenever good luck was desired. For example, garments dyed or marked on the corners with turmeric were considered lucky and possessed with protective powers.