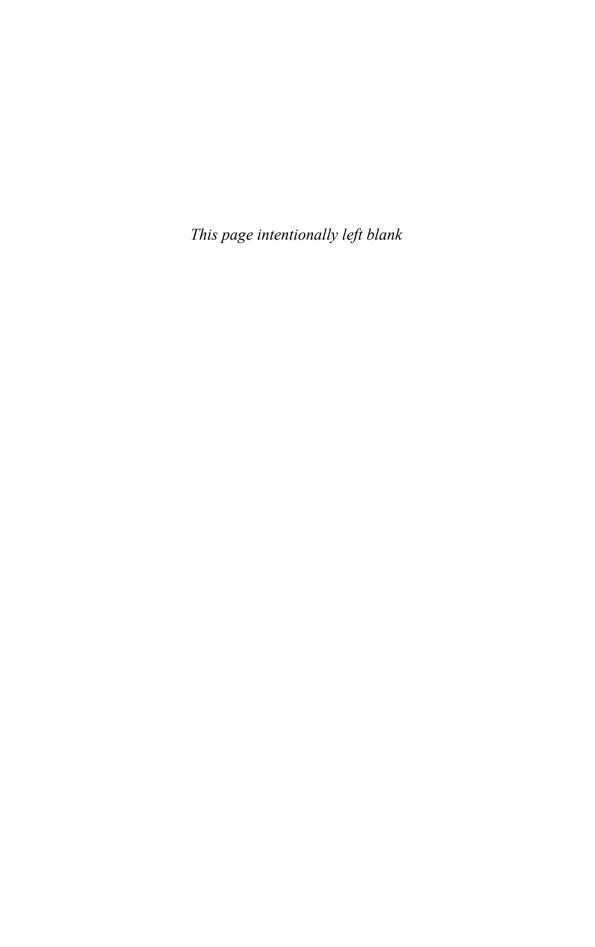
# **Chemistry of Spices**



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# **Contents**

Contributors Preface		vii
		ix
1	Introduction V.A. Parthasarathy, B. Chempakam and T. John Zachariah	1
2	Black Pepper T. John Zachariah and V.A. Parthasarathy	21
3	Small Cardamom B. Chempakam and S. Sindhu	41
4	Large Cardamom B. Chempakam and S. Sindhu	59
5	Ginger T. John Zachariah	70
6	<b>Turmeric</b> <i>B. Chempakam and V.A. Parthasarathy</i>	97
7	Cinnamon and Cassia N.K. Leela	124
8	Clove N.K. Leela and V.P. Sapna	146
9	Nutmeg and Mace N.K. Leela	165
10	Coriander V.A. Parthasarathy and T. John Zachariah	190
11	Cumin Shamina Azeez	211
12	Fennel Shamina Azeez	227

vi Contents

13	Fenugreek N.K. Leela and K.M. Shafeekh	242
14	Paprika and Chilli T. John Zachariah and P. Gobinath	260
15	Vanilla Shamina Azeez	287
16	Ajowan T. John Zachariah	312
17	Star Anise B. Chempakam and S. Balaji	319
18	Aniseed N.K. Leela and T.M. Vipin	331
19	Garcinia K.S. Krishnamurthy and V.P. Sapna	342
20	Tamarind K.S. Krishnamurthy, V.P. Sapna and V.A. Parthasarathy	362
21	Parsley Shamina Azeez and V.A. Parthasarathy	376
22	Celery K.S. Krishnamurthy	401
23	Curry Leaf V.A. Parthasarathy, T. John Zachariah and B. Chempakam	413
24	Bay Leaf V.A. Parthasarathy, T. John Zachariah and B. Chempakam	426
Index		435

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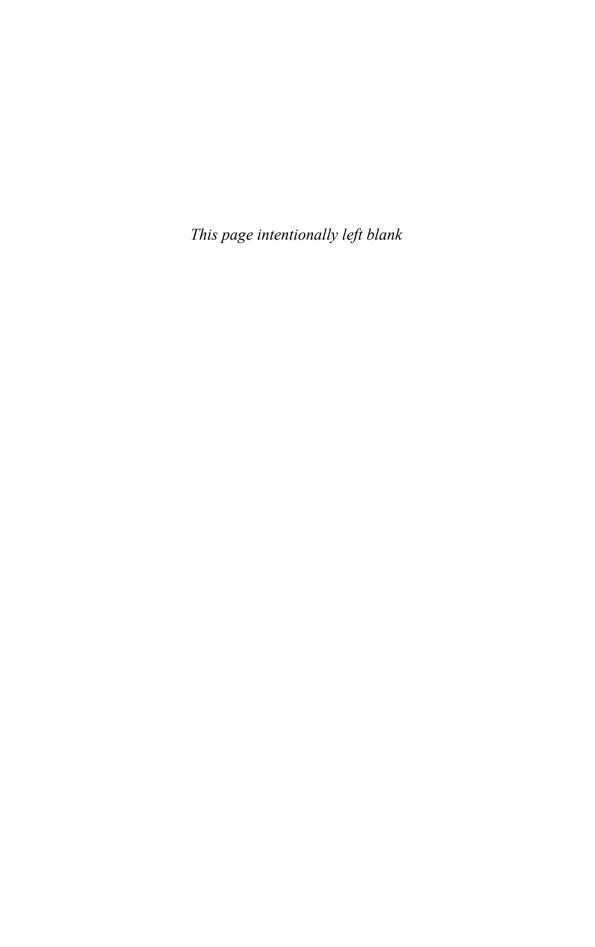
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## **Preface**

Spices are woven into the history of nations. The desire to possess and monopolize the spice trade has, in the past, compelled many a navigator to find new routes to spice-producing nations. In the late 13th century, Marco Polo's exploration of Asia established Venice as the most important trade port. Venice remained prosperous until about 1498. Portuguese explorer Vasco de Gama sailed around Africa's Cape of Good Hope to reach Calicut, India. He returned with pepper, cinnamon, ginger and jewels, and also deals for the Portuguese to continue trade with India.

Spices impart aroma, colour and taste to food preparations and sometimes mask undesirable odours. The volatile oils from spices give the aroma and the oleoresins impart the taste. There is a growing interest in the theoretical and practical aspects of the inner biosynthetic mechanisms of the active principles in spices, as well as in the relationship between the biological activity and the chemical structure of these secondary metabolites. The antioxidant properties of herbs and spices are of particular interest in view of the impact of oxidative modification of low-density lipoprotein cholesterol in the development of atherosclerosis. A range of bioactive compounds in herbs and spices has been studied for anticarcinogenic properties in animals, but the challenge lies in integrating this knowledge to ascertain whether these effects can be observed in humans, and within defined cuisines. Research on the structure activity relationships in spice components has become an exciting field since these compounds play a major role in the culinary, industrial and pharmacological fields.

Hence, we have attempted to compile all available information on the chemistry of spice crops such as black pepper, cardamom (small), cardamom (large), ginger, turmeric, cinnamon and cassia, clove, nutmeg and mace, coriander, cumin, fennel, fenugreek, paprika, vanilla, ajowan, star anise, aniseed, garcinia, tamarind, parsley, celery, curry leaf and bay leaf. To edit this book, we have used the current Indian expertise on spices and we have made every effort to collate all available information so that the book will be useful to researchers, industrialists and postgraduate students of agriculture, horticulture and phytochemistry. It will also be a very useful resource book for spice traders and processors. We are grateful to CABI for giving us the opportunity to edit this book and we are indebted to Ms Sarah Hulbert of CABI Head Office for her immense help in getting the book into final shape. She has answered an array of e-mails and strings of questions to help us in this venture and we thank her for her patience and assistance.

x Preface

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