

## CONTENTS

Introduction or the Knowledge Needed for Successful Leaf Protein Production	1
<b>PART I PLANT SOURCES OF LPC</b>	<b>7</b>
1 Protein Extraction from Grasslands	9
2 Leaf Protein Concentrate from Plant Sources in Temperate Climates	52
3 Tropical Plants for Leaf Protein Concentrates	81
4 Soluble Proteins in Tobacco and Their Potential Use	117
<b>PART II CHEMISTRY AND NUTRITION OF LPC</b>	<b>133</b>
5 Extracted Leaf Proteins: Their Amino Acid Composition and Nutritional Quality	135
6 Gas-Liquid Chromatographic Analysis of Amino Acids	176
7 Characterization of Leaf Protein Concentrate by Gel Chromatography	184
8 Carbohydrates in LPC and Fractionated Leaf Extracts	215
9 Pigments in Leaf Protein Concentrates	228
10 Reactions of Phenolic Compounds with Proteins. and Their Relevance to the Production of Leaf Protein	235
11 Lipids in Leaf Protein Concentrates	268
12 Toxic Substances in Potential Plant Sources for Leaf Protein Preparation	295
13 Biological Properties and Nutritional Significance of Legume Saponins	396
14 The Nutritional Evaluation of Leaf Protein Concentrates	415
<b>PART III PREPARATION OF LPC</b>	<b>435</b>
15 Protein Concentrates from Pasture Herbage and Their Fractionation into Feed-and Food-grade Products	437
16 On-farm Forage Harvesting: Plant Juice Protein Production System in a Humid Temperate Climate	467
17 Mechanical Parameters in Leaf Cell Rupture for Protein Production	490
18 LPC for Feeds and Foods: The Pro-Xan Process	508
19 Economics of Producing LPC for Feed with the Pro-Xan Process	525
20 Utilization of Press Cake from LPC Operations	546
21 Optimization of the Protein Extraction Process from Grasslands in Temperate and Subtropical Regions	562
22 The Vepex Process	601
23 The Economics of Green Crop Fractionation and Leaf Protein Production	633

<b>PART IV LPC RESEARCH AROUND THE WORLD</b>	<b>649</b>
24 Introducing a Protein Extraction System to Agricultural Practice in Developing Countries	651
25 Leaf Protein Research in Brazil	661
26 Experimental Studies on Leaf Proteins in Egypt	669
27 Leaf Protein Research in India	673
28 Village Leaf Protein Production: A Cost Analysis	700
29 Leaf Protein Resource Development in New Zealand	712
30 Leaf Protein Research and Development in Japan	731
31 Leaf Protein Research in Nigeria	739
32 The Future of Leaf Protein Concentrate in Pakistan	760
33 Leaf Protein Research in Poland	795
34 Production of Leaf Protein Concentrates from the Green Plant Biomass in the USSR	804
Appendix	827
Index	831