

CONTENTS

PREFACE TO THE SECOND EDITION	v
FOREWORD	vii
PREFACE TO THE FIRST EDITION	ix
CROP PRODUCTION: ART, SCIENCE AND BUSINESS	1
The art of crop production; The science of crop production; The business of crop production	
FACTORS AFFECTING CROP PRODUCTION	5
Genetic factors; Environmental factors; Edaphic factors; Biotic factors; Physiographic factors; Anthropic factor	
SEEDS AND THEIR ROLE IN CROP PRODUCTION ..	35
Seedling vigour; Seed production; Seeds Act; Seed treatment	
TILLAGE AND CROP PRODUCTION	49
Effect of tillage on soil characteristics; Types of tillage operations; Effect of tillage on nutrition availability	
WATER IN RELATION TO CROP PRODUCTION	61
The field water balance; Efficiency of water use; Irrigation	
ORGANIC MATTER IN RELATION TO CROP PRODUCTION	90
Manure as a complete fertility system; Organic matter and soil tilth	
WEED MANAGEMENT IN CROP PRODUCTION	104
Weed management; Herbicides	

SOIL FERTILITY MANAGEMENT IN CROP PRODUCTION.....	135
Role of soil in crop production; Nitrogen in soil; Phosphorus in soil; Potassium in soil; Secondary and micro-nutrients in soil; Measurable soil properties and crop yields; Soil management	
CROP PRODUCTION IN RAINFED AGRICULTURE	159
Climatic factors and their effect on crop production; Agricultural characteristics; Tillage methods in dry regions; Water resources and their development; Fertilizer application under conditions of low moisture supply; Plant density—yield relationship; Cropping systems and Rotations	
CROP PRODUCTION IN IRRIGATED AGRICULTURE.....	187
Evaluating land for irrigation; Planning a farm for irrigation; Drainage; Farm planning; Types of farming in relation to farm plans	
CROP PRODUCTION IN FLOODED SOILS.....	219
Physical changes due to submergence; Chemical changes due to submergence; Nutritional changes due to submergence; Prediction of fertilizer needs by soil test	
ECONOMICS OF CROP PRODUCTION.....	247
Returns per rupee spent on fertilizers; Priority in use of funds	
SYSTEMS OF CROP PRODUCTION	257
Ancient and recent pattern of human settlement and land use	
CROP PRODUCTION AND MANAGEMENT OF THE FUTURE WITH SPECIAL REFERENCE TO INDIA....	267
BOOKS FOR FURTHER READING.....	283
INDEX	287