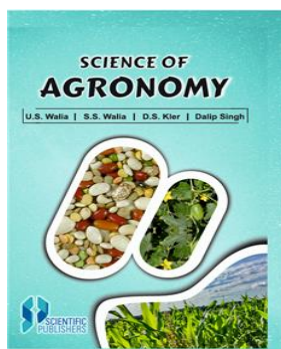


## Science of Agronomy

[U.S. Walia](#) , [S.S. Walia](#) , [D.S. Kler](#) & [Dalip Singh](#)



ISBN	: 9788172336981	Book Format	: Book
E-ISBN	: 9789386347787	Binding	: Hard Bound
Language	: English	Edition	: 1
Imprint	: Scientific Publishers	© Year	: 2025
Pages	: 605	Trim Size	: 6.50 X 9.50
Weight	: 1170 Gms		

**Print Book** : ₹2,950.00

**Individual E Book** : ₹3,835.00

**Institutional E Book** : Price available on request

### Blurb

Agriculture is the largest enterprise in India which has been and will continue to be the lifeline of the Indian economy in the foreseeable future. However due to urbanization, agricultural land is shrinking and human population is increasing year by year. So, there is a need for vertical increase in agricultural produce to feed the increasing population. Due to changing climatic conditions, there is a need for reorientation of presently practiced agricultural technologies. At the same time there is a need to save/conserves the natural resources. Crop yields can be improved with the adoption of improved production and protection technologies for raising field crops. In order to increase profit in agriculture, the farm inputs like fertilizers, irrigation water, pesticides etc. must be used judiciously and more stress should be laid on conservation agriculture. The book covers basic but very comprehensive information on history of agriculture and role of Agronomy, tillage practices, nutrient elements for plant growth, weeds and their management, irrigation management, crop physiology, crop ecology, integrated farming system and organic farming. A detailed information on history and origin, improved varieties, agronomic practices and plant protection techniques for important field crops viz. cereals, oilseeds, pulses, sugar crops and fibre crops has been given. Also information on cultivation practices for important medicinal, aromatic, spice crops as well as plantation crops along with their uses/medicinal values has been provided. This book will be very helpful for B.Sc. Agriculture students throughout the country as it covers nearby the entire syllabus for Agronomy courses framed by ICAR as suggested by 4<sup>th</sup> Dean s Committee.

### Table of Contents

#### 1. HISTORY OF AGRICULTURE AND ROLE OF AGRONOMY

History of agriculture - Relationship of Agronomy with other disciplines

#### 2. TILLAGE PRACTICES

Effect of tillage on soil properties - Types of tillage - Modern concepts of tillage

#### 3. NUTRIENT ELEMENTS FOR PLANT GROWTH

Essential elements for plant growth - Mineral elements - The elements of complete plant nutrition - Nutrient deficiencies - Testing of nutrient elements

#### 4. WEEDS AND THEIR MANAGEMENT

Weeds - Harmful and beneficial effects - Classification of weeds - Propagation and dissemination of weeds - Weed biology and ecology - Methods of weed control - Herbicide classification, formulations and method of application - Mode of action of herbicides - Aquatic and problematic weeds

#### 5. IRRIGATION MANAGEMENT

History - Role of water in crop production - Scheduling irrigation - Methods of irrigation - Water and irrigation requirements of crops - Quality of irrigation water - Preventing wastage of irrigation water - Agricultural drainage - Frost

#### 6. CROP PHYSIOLOGY

Physiological process in crop growth and development - Role of growth regulators - Physiological maturity - Biological nitrogen fixation -

## 7. CROP ECOLOGY

Historical evolution - Physical environments for plant growth - Crop yield and its physiological limits - Agro- ecological manipulations for efficient solar energy use - Agro-ecological regions of India - Biogeochemical cycles - Response of crop plants to environment

## 8. CULTIVATION PRACTICES OF IMPORTANT FIELD CROPS

CEREALS Rice - Wheat - Maize - Barley - Sorghum - Pearl millet - Oats

OILSEED CROPS Groundnut - Rapeseed and mustard - Linseed - Niger - Sesame - Sunflower - Safflower - Castor

PULSES Chickpea - Lentil - Field pea - Pigeon pea - Green gram - Black gram - Soyabean - Cowpea

SUGAR CROPS Sugarcane - Sugarbeet

FIBRE CROPS Cotton - Jute - Sunhemp - Mesta - Ramie

## 9. INTEGRATED FARMING SYSTEM

Concept of farming system - Types of farming system - Case studies - Allied enterprises.

## 10. ROLE OF ORGANIC FARMING IN AGRICULTURE

Area under organic farming - Movement of organic farming - Status and scope of organic farming in India - Benefits of organic farming - Major limitations - Production and demand of organic products - Different biopesticides and biofertilizers - Nutrient management for organic farming - Organic farming and crop yields - Organic farming and soil health

## 11. IMPORTANCE AND SCOPE OF MEDICINAL, AROMATIC, SPICE AND PLANTATION CROPS

Importance of medicinal, aromatic and spice crops

Important Medicinal Plants - Dioscorea - Periwinkle - Serpentine - Indian gooseberry - Indian bdellium - Coleus - Solanums - Sweet flag - Indian senna - Strychnine tree - Stevia - Aloe

Important Spice Crops - Cardamom - Pepper - Ginger - Turmeric - Dilseed - Coriander - Senna - Belladonna - Isabgol - Opium poppy

Important Aromatic Plants - Lemon grass - Citronella grass - Celery - Rose geranium - Vetiver or khus - Fenugreek - Fennel - Mentha

Important Plantation Crops - Coffee - Coconut - Arecanut - Betelvine - Cashew - Cocoa

## LIST OF IMPORTANT WEEDS

## REFERENCES

This is computer generated document and does not require signature