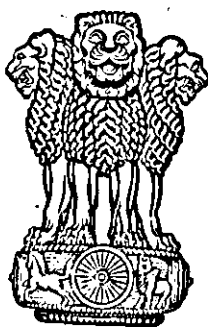


Third Issue)

DIRECTORATE OF ECONOMICS AND STATISTICS  
MINISTRY OF FOOD & AGRICULTURE, GOVT. OF INDIA.

# INDIAN CROP CALENDAR



सत्यमेव जयते

*Issued by*  
Economic and Statistical Adviser  
Ministry of Food and Agriculture

1956

*(Third Issue)*

DIRECTORATE OF ECONOMICS AND STATISTICS  
MINISTRY OF FOOD & AGRICULTURE, GOVT. OF INDIA

# INDIAN CROP CALENDAR

*Issued by*

Economic and Statistical Adviser  
Ministry of Food and Agriculture

1956

*Price Rs. 3/12/- or 6 annas*

First Edition	...	...	September, 1948
Re-printed	...	...	May, 1949
Second (Revised and Enlarged Edition)	...	...	September, 1950
Third (Revised and Enlarged Edition)	...	...	August, 1954

## P R E F A C E

This is the Third revised and enlarged edition of the Indian Crop Calender. It presents information relating to the agricultural operations in progress in different States from month to month together with appropriate background regarding soil, rainfall, climatic conditions etc. Information regarding control measures for crop diseases and insect pests has been incorporated in this publication for the first time.

The detailed work involved in the preparation of this publication has been done in the Development Branch of the Directorate of Economics & Statistics. The information included has been drawn from a variety of sources, official as well as non-official.

NEW DELHI,  
August, 1954

S. R. SEN,  
*Economic & Statistical Adviser,  
Ministry of Food & Agriculture.*



CORRIGENDA

Page	Para/Tablo	Column/Line	As printed	As desired
(ii)	9.4	10	Areas	Area
(ii)	C.7	22	Indian	India
(do)	C.9	24	Indian	India
5	7	Col.2	Southern, Punjab	Southern Punjab,
12	3.6	1st line(Heading)	36	3.6
15	5.1	Col.4	Feb-June	Feb-March
	Against Tripura Harvest- ing			
17	5.2	Col.2 Line 5	Mar-Jul	Apr-Jul
	sowing			
18	6.1	Col.1 Line 6	Chin	China
40	7.1	Col.2 Line 17	Black Stem Rush	Black Stem Rust
49	8.1	Col.3 Line 18	extended	extend
	Madhya Pradesh	Col.5 Line 21	extended	extend
"	8.1	Col.4 Line 26	cuddapath	cuddapah
	Madras & Andhra			
"	8.1	Col.5 Line 27	also	also
	Madras & Andhra			
50	8.1	Col.2	Rice Tabi, (Summer)	Rice Tabi(Summer),
	Hyderabad			
50	8.1	Col.5 Line 9	Harvesting	Harvesting
	Rajasthan			
51	8.1	Col.5 Line 8	Guddapah	Cuddapah
	Madras, & Andhra			
51	8.1	Col.4 Line 15	Seamm	Sesamum
	Orissa			
51	8.1	Col.4 Line 25	Caster	Castor
	Hyderabad			
51	8.1	Col.5 Line 32	autum	autumn
	PEPSU			
55	8.1	Col.5 Line 5	begin	begins
	Madhya Pradesh			
55	8.1	Col.5 Line 26	condiments of	condiments and
	PEPSU			

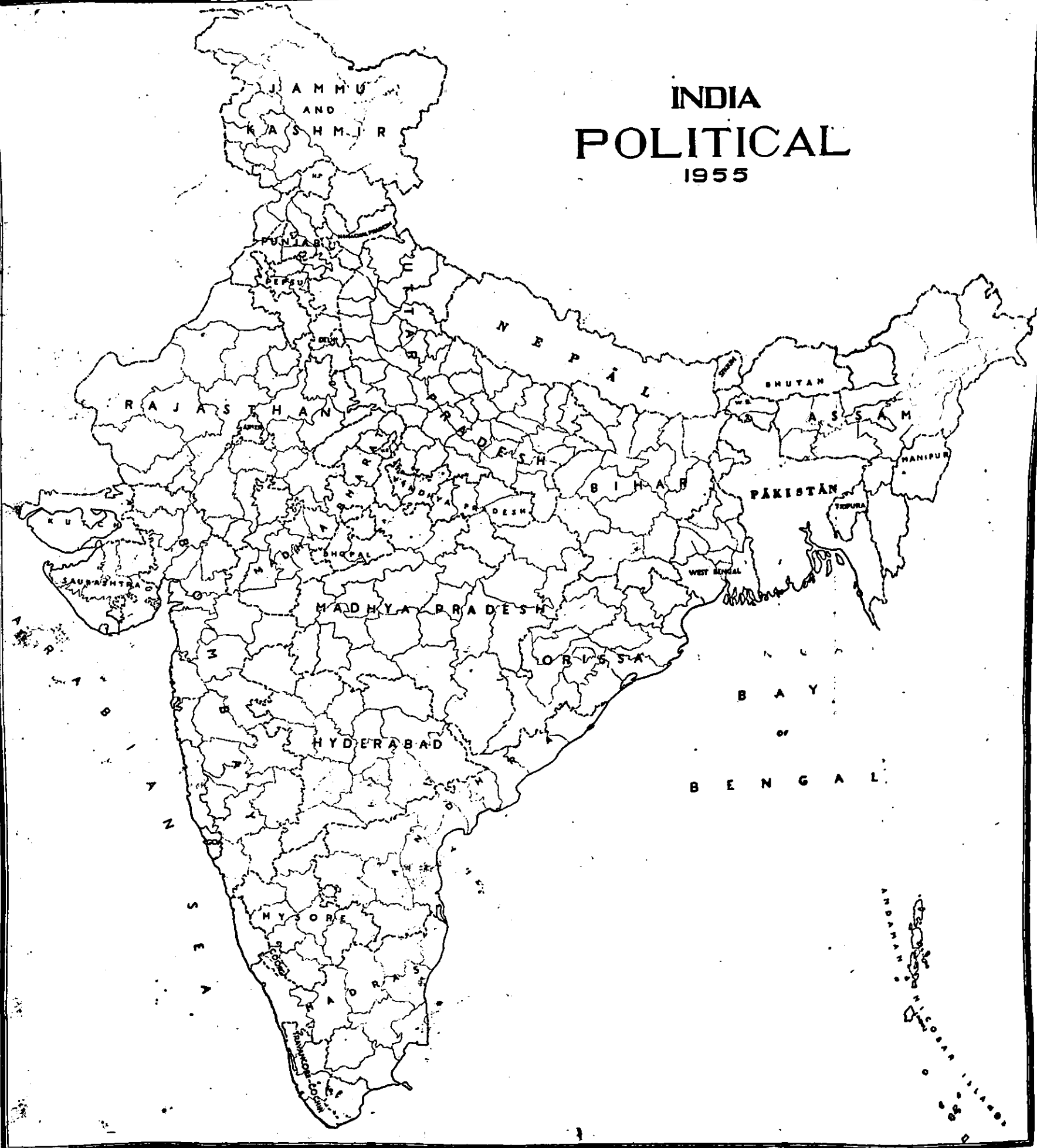
Page	Para/Table	Column/Line	As printed	As desired
56	8.1 Punjab	Col.3 Line 31	Sann Hemp	Sann Hemp
57	8.1 PEPSU	Col.3 Line 5	Gigner	Ginger
63	8.1 Rajasthan	Col.3 Line 16	Oilseeds	Rabi Oilseeds
65	8.1 Hyderabad	Col.4 Line 5 from bottom	Whcat	Wheat
82	8.2 Madhya Pradesh	Col.3 Line 2 from bottom	prepared of wheat	prepared for wheat
90	8.2 PEPSU	Col.3 Line 12 & 13	Germina &	Germinating &
94	9.4 Potatoes- Second	Col.3 Line 22	968	96.8
94	9.4 Groundnut	Col.5 Line 28	440	44.0
94	" "	Col.4 Line 29	83.5	88.5
94	9.4 Cotton	Col.5 Line 37	594	59.4
95	9.5 Ragi	Col.4 Line 12	Bevto	Bavto
"	"	Col.10	Bagi	Ragi
9	9.5 Turmeric	Col.10 Line 6	Belloli	-
"	9.5 Garlic	Col.10 Line 7	Blank	Belloli
"	9.5 Sesamum	Col.7 Line 9	Navvalu	Nuvvulu
"	9.5 Jute	Col.10 Line 2 from bottom	Gidadinara	-
"	9.5 Sann Hemp	Col.10 Last line		Gidadinara

## CONTENTS

	<i>Page</i>
<b>1. GENERAL</b>	
1.1 Natural Regions, Sub-Regions and Divisions of India ... ..	1
1.2 Natural Divisions of States of India ... ..	3
<b>2. SOILS OF INDIA</b>	
2.1 Types of Soils ... ..	5
2.2 Classification of Soils of States ... ..	7
<b>3. CLIMATIC CONDITIONS</b>	
3.1 Main Climatic Seasons in India ... ..	9
3.2 Normal Seasonal Rainfall in Different Rainfall Divisions of India ... ..	10
3.3 Classification of Rainfall Divisions of India into Dry, Middle and Wet ... ..	10
3.4 Actual Seasonal Rainfall in Different Rainfall Divisions of India during 1952-53 ... ..	11
3.5 Approximate Starting and Closing Dates of South West Monsoon Rains ... ..	11
3.6 Annual Normals of Temperature and Relative Humidity at Selected Centres in India ... ..	12
<b>4. CROP SEASONS AND ROTATIONS</b>	
4.1 Duration of Climatic Seasons in India ... ..	13
4.2 Crop Seasons in India ... ..	13
4.3 Double Cropping in India ... ..	13
4.4 Important Crop Rotations in India ... ..	13
4.5 Important Crop Mixtures in India ... ..	13
4.6 Substitutable Crops in India ... ..	14
4.7 Seasons and Duration of Principal Crops in India ... ..	14
4.8 Crops Year ... ..	14
<b>5. SOWING AND HARVESTING SEASONS OF PRINCIPAL CROPS</b>	
5.1 India—State-wise ... ..	15
5.2 India—Consolidated ... ..	17
<b>6. SOWING AND HARVESTING SEASONS OF PRINCIPAL CROPS IN IMPORTANT COUNTRIES</b>	
6.1 Rice ... ..	18
6.2 Wheat ... ..	19
6.3 Barley ... ..	19
6.4 Maize ... ..	19
6.5 Sugarcane ... ..	20
6.6 Cotton ... ..	20
<b>7. CROP DISEASES</b>	
7.1 Important Diseases of Food Crops, their Distribution and some practical methods of Control ... ..	40
7.2 Insect Pests affecting Food Crops, their Distribution and some practical methods of Control ... ..	43
7.3 Diseases of Non-Food Crops, their Distribution and some practical methods of Control ... ..	46
7.4 Insect Pests affecting Non-Food Crops, their Distribution and some practical methods of Control ... ..	48

	<i>Page</i>
<b>8. CROP CALENDAR</b>	
8.1 Crop Calendar showing Important Agricultural Operations obtaining in States—Monthly ... ..	49
8.2 Crop Calendar showing the Different Agricultural Operations for Important Crops—Monthly ... ..	67
<b>9. MISCELLANEOUS</b>	
9.1 Relative Importance of States for each Principal Crop ... ..	91
9.2 Relative Importance of Principal Crops in each State ... ..	92
9.3 Due Dates of All-India Forecasts of Crops ... ..	93
9.4 Estimates of Areas as given in Successive Forecasts (revised) expressed as Percentage of the revised Final Estimates ... ..	94
9.5 Glossary of English, Botanical and Vernacular Names of Crops ... ..	95
<b>MAP</b>	
M 1 INDIA—Political Divisions ... ..	
<b>CHARTS</b>	
C 1 Rice—Winter—Sowing and Harvesting Seasons in India ... ..	21
C 2 Rice—Autumn—Sowing and Harvesting Seasons in India ... ..	22
C 3 Rice—Summer—Sowing and Harvesting Seasons in India ... ..	23
C 4 Jowar—Sowing and Harvesting Seasons in India ... ..	24
C 5 Bajra—Sowing and Harvesting Seasons in India ... ..	25
C 6 Maize—Sowing and Harvesting Seasons in India ... ..	26
C 7 Ragi—Sowing and Harvesting Seasons in Indian ... ..	27
C 8 Wheat—Sowing and Harvesting Seasons in India ... ..	28
C 9 Barley—Sowing and Harvesting Seasons in Indian ... ..	29
C 10 Sugarcane—Sowing and Harvesting Seasons in India ... ..	30
C 11 Tobacco—Sowing and Harvesting Seasons in India ... ..	31
C 12 Groundnut—Sowing and Harvesting Seasons in India ... ..	32
C 13 Castorseed—Sowing and Harvesting Seasons in India ... ..	33
C 14 Cotton—Sowing and Harvesting Seasons in India ... ..	34
C 15 Jute—Sowing and Harvesting Seasons in India ... ..	35
C 16 Sann Hemp—Sowing and Harvesting Seasons in India ... ..	36
C 17 Rice & Maize—Sowing and Harvesting Seasons in Foreign Countries ... ..	37
C 18 Wheat & Barley—Sowing and Harvesting Seasons in Foreign Countries ... ..	38
C 19 Sugarcane and Cotton—Sowing and Harvesting Seasons in Foreign Countries ... ..	39

# INDIA POLITICAL 1955



## GENERAL

### 1.1 NATURAL REGIONS, SUB-REGIONS AND DIVISIONS OF INDIA @

Total area according to the Surveyor  
General (Thousand Acres)

#### I. HIMALAYAN REGION

1.1 Western Himalayan Sub-Region :		85,190
1.11 Himalayan Uttar Pradesh Division.	12,461	
1.12 Himachal Pradesh and Bilaspur Division.	6,979	
1.13 Himalayan Punjab Division.	6,371	
1.14 Jammu and Kashmir Division.	59,379	
1.2 Eastern Himalayan Sub-Region :		67,384
1.21 Assam Plain Division. }	54,408	
1.22 Assam Hills Division. }		
1.23 Manipur Division.	5,522	
1.24 Tripura Division.	2,580	
1.25 Himalayan West Bengal Division.	3,118	
1.26 Sikkim Division.	1,756	

#### 2. NORTHERN PLAINS REGION

2.1 Lower Gangetic Plains Sub-Region :		53,841
2.11 West Bengal Plain Division.	16,578	
2.12 North Bihar Plain Division.	13,863	
2.13 South Bihar Plain Division.	9,926	
2.14 East Uttar Pradesh Plain Division.	13,474	
2.2 Upper Gangetic Plains Sub-Region :		36,570
2.21 Central Uttar Pradesh Plain Division.	14,403	
2.22 West Uttar Pradesh Plain Division.	22,167	
2.3 Trans-Gangetic Plains Sub-Region :		50,585
2.31 Punjab Plain Division.	17,551	
2.32 Patiala & East Punjab States Union Division.	6,450	
2.33 Delhi Division.	370	
2.34 East Rajasthan Plain Division.	19,445	
2.35 Madhya Bharat Lowland Division.	5,223	
2.36 Ajmer Division.	1,546	
2.4 The Desert Sub-Region :		48,198
2.41 Rajasthan Dry Area Division.	48,198	

#### 3. PENINSULAR HILLS AND PLATEAU REGION

3.1 North-West Hills Sub-Region :		40,212
3.11 Rajasthan Hills Division.	7,711	
3.12 Rajasthan Plateau Division.	7,978	
3.13 Madhya Bharat Plateau Division.	17,579	
3.14 Madhya Bharat Hills Division.	6,944	

@ Source : Census of India—Paper No. 2, 1952—Population  
Zones, Natural Regions, Sub-Regions and Divisions,

Total Area according to the Surveyor  
General (Thousand Acres)

**PENINSULAR HILLS AND PLATEAU REGION—Contd.**

**3.2 North Central Hills and Plateau Sub-Region :**

53,677

- 3.21 Uttar Pradesh Hills and Plateau Division.
- 3.22 Vindhya Pradesh Division.
- 3.23 Bhopal Division.
- 3.24 North West Madhya Pradesh Division.

10,077  
15,106  
4,402  
24,092

**3.3 North-East Plateau Sub-Region :**

95,195

- 3.31 Chhota Nagpur Division.
- 3.32 East Madhya Pradesh Division.
- 3.33 Orissa Inland Division.

21,222  
43,872  
30,101

**3.4 North Deccan Sub-Region :**

62,088

- 3.41 South West Madhya Pradesh Division.
- 3.42 North Hyderabad Division.
- 3.43 Bombay-Deccan Northern Division.

15,410  
17,780  
28,898

**3.5 South Deccan Sub-Region :**

81,735

- 3.51 South Hyderabad Division.
- 3.52 Bombay-Deccan Southern Division.
- 3.53 Mysore Division.
- 3.54 Madras Deccan Division.

34,808  
11,155  
18,873  
16,899

**4. WESTERN GHATS AND COASTAL REGION**

**4.1 Gujrat-Kathiawar Sub-Region :**

45,640

- 4.11 Bombay Gujrat Division.
- 4.12 Saurashtra Division.
- 4.13 Kutch Division.

21,208  
13,729  
10,703

**4.2 Malabar-Konkan Sub-Region :**

23,882

- 4.21 Greater Bombay Division.
- 4.22 Bombay Konkan Division.
- 4.23 West Madras Division.
- 4.24 Travancore-Cochin Division.
- 4.25 Coorg Division.

135  
9,922  
6,958  
5,852  
1,015

**5. EASTERN GHATS AND COASTAL REGION**

**5.1 North Madras and Orissa Coastal Sub-Region :**

30,846

- 5.11 Orissa Coastal Division.
- 5.12 North Madras Division.

8,387  
22,459

**5.2 South Madras Sub-Region :**

35,469

- 5.21 South Madras Division.

35,469

## 1.2 NATURAL DIVISIONS OF STATES OF INDIA@

State/Natural Division (1)	Total area according to the Surveyor General (Thousand Acres) (2)	Districts (3)
<b>UTTAR PRADESH</b>		
Himalayan Uttar Pradesh Division ...	12,461	Garhwal, Tehri-Garhwal, Nainital, Almora, Dehra Dun.
East Uttar Pradesh Plain Division ...	13,474	Gorakhpur, Basti, Gonda, Bahraich, Deoria, Banaras, Jaunpur, Ghazipur, Ballia, Azamgarh.
Central Uttar Pradesh Plain Division ...	14,403	Kanpur, Fatehpur, Allahabad, Lucknow, Unao, Rae-Bareilly, Sitapur, Hardoi, Fyzabad, Sultanpur, Pratapgarh, Bara Banki.
West Uttar Pradesh Plain Division ...	22,167	Saharanpur, Bareilly, Bijnor, Pilibhit, Rampur, Kheri, Muzaffarnagar, Meerut, Bulandshahr, Aligarh, Mathura, Agra, Mainpuri, Etah, Budaun, Moradabad, Shahjahanpur, Etawah, Farukhabad.
Uttar Pradesh Hills and Plateau Division...	10,077	Jhansi, Jalaun, Hamirpur, Banda, Mirzapur.
<b>BIHAR</b>		
North Bihar Plain Division ...	13,863	Saran, Champaran, Muzaffarpur, Darbhanga, Purnea, Saharsa, Monghyr North.
South Bihar Plain Division ...	9,926	Patna, Gaya, Shahabad, Bhagalpur, Monghyr South.
Chhota Nagpur Division ...	21,222	Hazaribagh, Ranchi, Dhanbad, Palamau, Singhbhum, Manbhum, Santhal Parganas.
<b>ORISSA</b>		
Orissa Inland Division ...	30,101	Mayurbhanj, Keonjhar, Dhenkanal, Sundergarh, Phulbani, Ganjam Plain, Sambalpur, Bolangir, Kalahandi, Koraput.
Orissa Coastal Division ...	8,387	Balasure, Cuttack, Puri, Ganjam Agency.
<b>WEST BENGAL</b>		
Himalayan West Bengal Division ...	3,118	Darjeeling, Jalpaiguri, Cooch-Behar.
West Bengal Plain Division ...	16,578	Hooghly, Howrah, 24 Parganas, Calcutta, Burdwan, Birbhum, Bankura, Midnapur, Nadia, Murshidabad, Malda, West Dinajpur.
<b>ASSAM</b>		
Assam Hills Division } ...	54,408	United Khasi and Jaintia Hills, Naga Hills, Lushai Hills, Garo Hills, United Mikir and North Cachar Hills, Mishmi Hills, Abor Hills, Tirap Frontier Tract, Balipara Frontier Tract, Cachar, Goalpara, Kamrup, Darrang, Nowgong, Sibsagar, Lakhimpur.
Assam Plain Division }		
<b>MANIPUR</b>		
Manipur Division ...	5,522	Manipur.
<b>TRIPURA</b>		
Tripura Division ...	2,580	Tripura.
<b>SIKKIM</b>		
Sikkim Division ...	1,756	Sikkim.
<b>MADRAS (Including Andhra)</b>		
Madras Deccan Division ...	16,899	Bellary, Anantapur, Cuddapah, Kurnool.
West Madras Division ...	6,958	Malabar, South Kanara, Nilgiris.
North Madras Division ...	22,459	Srikakulam, Visakhapatnam, East Godavari, West Godavari, Krishna, Guntur, Nellore.
South Madras Division ...	35,469	Chittoor, North Arcot, Salem, Coimbatore, Tiruchirapalli, Madurai, Chingleput, Madras, South Arcot, Tanjore, Ramanathapuram, Tirunelveli.
<b>MYSORE</b>		
Mysore Division ...	1,8873	Bangalore, Kolar, Tumkur, Mysore, Mandya, Chittaldurg, Hassan, Chickmagalur, Shimoga.
<b>TRAVANCORE-COCHIN</b>		
Travancore-cochin Division ...	5,852	Trivandrum, Quilon, Kottayam, Trichur.
<b>COORG</b>		
Coorg Division ...	1,015	Coorg.
Bay Islands ...	2,058	Andaman and Nicobar.

@ Source—Census of India Paper No. 2, 1952.  
Population Zones, Natural Regions, Sub-Regions and Divisions.



1	2	3
<b>BOMBAY</b>		
Bombay Deccan Northern Division ...	28,898	West Khandesh, East Khandesh, Dangs, Nasik, Ahmednagar, Poona, Satara North, Satara South, Kolhapur, Sholapur.
Bombay Deccan Southern Division ...	11,155	Belgaum, Bijapur, Dharwar.
Bombay Gujrat Division ...	21,208	Banaskantha, Sabarkantha, Mahsana, Ahmedabad, Kaira, Panch Mahals, Baroda, Broach, Surat, Amreli.
Greater Bombay Division ...	135	Greater Bombay.
Bombay-Konkan Division ...	9,922	Thana, Kolaba, Ratnagiri, Kanara.
<b>SAURASHTRA</b>		
Saurashtra Division ...	13,729	Halar, Central Saurashtra, Zalawad, Gohilwad, Sorath.
<b>KUTCH</b>		
Kutch Division ...	10,703	Kutch.
<b>MADHYA PRADESH</b>		
North-West Madhya Pradesh Division ...	24,092	Mandla, Saugor, Jubbulpur, Hoshangabad, Nimar, Betul, Chhindwara.
East Madhya Pradesh Division ...	43,872	Balaghat, Bhandara, Chanda, Raipur, Bilaspur, Durg, Bastar, Raigarh, Surguja.
South-West Madhya Pradesh Division ...	15,410	Amraoti, Buldana, Akola, Yeotmal, Wardha, Nagpur.
<b>MADHYA BHARAT</b>		
Madhya Bharat Lowland Division ...	5,223	Bhind, Gird, Morena.
Madhya Bharat Plateau Division ...	17,579	Shivpuri, Guna, Mandasaur, Rajgarh, Shajapur, Ujjain, Ratlam, Bhilsa, Indore, Dewas.
Madhya Bharat Hills Division ...	6,944	Dhar, Jhabua, Nimar.
<b>HYDERABAD</b>		
North Hyderabad Division ...	17,780	Aurangabad, Parbhani, Nanded, Bidar, Bhir, Osmanabad.
South Hyderabad Division ...	34,808	Hyderabad, Mahbubnagar, Raichur, Gulbarga, Adilabad, Nizamabad, Medak, Karim Nagar, Warangal, Nalgonda.
<b>BHOPAL</b>		
Bhopal Division ...	4,402	Sehore, Raisen.
<b>VINDHYA PRADESH</b>		
Vindhya Pradesh Division ..	15,106	Sidhi, Rewa, Satna, Shahdol, Datia, Chhatarpur, Tikamgarh, Panna.
<b>RAJASTHAN</b>		
East Rajasthan Plain Division ..	19,445	Jaipur, Tonk, Sawai-Madhopur, Bharatpur, Alwar, Sikar, Bhilwara, Jhunjhunu.
Rajasthan Dry Area Division ..	48,198	Ganganagar, Bikaner, Churu, Jodhpur, Barmer, Jalore, Pali, Nagore Jaisalmer.
Rajasthan Hills Division ..	7,711	Udaipur, Dungarpur, Banswara, Sirohi.
Rajasthan Plateau Division ...	7,978	Chittorgarh, Kotah, Bundi, Jhalawar.
<b>PUNJAB</b>		
Himalayan Punjab Division ..	6,371	Kangra, Simla.
Punjab Plain Division ...	17,551	Ambala, Gurdaspur, Hoshiarpur, Amritsar, Jullundur, Ludhiana, Ferozepur, Karnal, Hissar, Rohtak, Gurgaon.
<b>PEPSU</b>		
Patiala & E. P. States Union Division ...	6,450	Patiala, Barnala, Bhatinda, Mohindergarh, Kapurthala, Sangrur, Kohistan, Fatehgarh Sahib.
<b>KASHMIR</b>		
Jammu and Kashmir Division ..	59,379	Jammu, Kathua, Udhampur, Reasi, Mirpur, Chenani Jagir, Poonch Jagir, Baramulla, Anant Nag, Muzaffarabad, Ladakh, Astore, Gilgit (Leased Area), Gilgit (Agency).
<b>AJMER</b>		
Ajmer Division ...	1,546	Ajmer.
<b>DELHI</b>		
Delhi Division ...	370	Delhi.
<b>HIMACHAL PRADESH &amp; BILASPUR</b>		
Himachal Pradesh and Bilaspur Division ...	6,979	Chamba, Mandi, Sirmoor, Mahasu and Bilaspur.

## 2. SOILS OF INDIA

## 2.1 TYPES OF SOIL

S. No.	Soils	Areas of occurrence	Characteristics	Suitability for cultivation
1.	Alluvial Soils	Most of Punjab, P.E.P.S.U., U.P., Bihar and West Bengal: Parts of Assam and Orissa: Deltaic areas of South India.	Deficient in phosphoric acid, nitrogen and humus: Sufficiency of lime and Potash: Noted for quick renewal of nitrogen: Responsive to manuring and irrigation.	Most Important and most fertile amongst Indian soils: Produce a wide variety of crops, including rice, wheat sugarcane cotton, Banana and Tobacco.
2.	Black Soils	Most of Bombay: Great part of Deccan, Malwa plateau and Madhya Pradesh: Parts of Hyderabad, Andhra, Madras, and Parts of Vindhya Pradesh, Orissa.	Contain a large quantity of calcium and magnesium carbonates: Rather deficient in nitrogen, organic matter and phosphorous: Clayey to loamy in character: Crack heavily in summer.	Quite fertile: Particularly suitable for cultivation of cotton, Virginia tobacco, chillies and Jowar.
3.	Red Soils	Practically in all districts of Andhra and Madras, Orissa, Mysore, South-east Bombay, East of Hyderabad State and a tract running along the eastern part of Madhya Pradesh to Chota Nagpur: In the north upto Santal Parganas in Bihar, Jhansi in U.P., Beghel Khand, Vindhya Pradesh, the Aravelies and the eastern half of Rajasthan.	Generally deficient in nitrogen, phosphoric acid, humus and lime.	Differ greatly in fertility: Produce a number of crops under irrigation. Suitable for Fruit trees, especially Oranges, Grapes and Mangoes.
4.	Laterite and Lateritic Soils	Summits of Hills of Deccan, Central India, Madhya Pradesh, Raj Mahal and Eastern Ghats: Certain parts of Orissa, Bombay, Malabar, Madras, Andhra, Assam, and certain parts of Vindhya Pradesh.	Deficient in potash, phosphoric acid and lime.	Exceedingly thin and gravelly on the higher level: Heavy loams and clays in lower-levels: On lower levels produce good crops particularly rice. In Nilgiri district (Madras) Potato and sub-tropical fruits are cultivated.
5.	Mountain and Hill Soils	Hilly parts in the north and especially Darjeeling (West Bengal), Almora and Garhwal. (U.P.) districts, Orissa parts of Madras, Andhra and Kandaghat district of P.E.P.S.U.	—	Suitable for the growth of forests at places. Potato and sub-Tropical fruits in Nilgiri district (Madras).
6.	Terai Soils	A narrow strip in U.P. between plains and hills.	—	Covered by tall grasses and shrubs of no agricultural value.
7.	Arid and Desert soils	Rajasthan, Southern, Punjab Mahendragarh district of P.E.P.S.U. and parts of Vindhya Pradesh.	Mostly sands, often with high soluble salt contents: Low organic matter content.	—
8.	Peaty and other organic matter	Part of Travancore-Cochin.	—	—

Compiled from (i) Article on 'Soils of India and Soil Survey' by S.P. Ray Chaudhri, D.Sc., F.R.I.C. Published in 'Indian Farming', March 1946 and (ii) information received from the States.

## 2.2 CLASSIFICATION OF SOILS OF INDIAN STATES

State	Type of Soil	Details of distribution
1. Andhra	i) Red Loam	i) Considerable part of Chittoor ; parts of other districts except Kurnool and Nellore.
	ii) Lateritic Soil	ii) Patches in Vizagapatam, East and West Godavari, Chittoor.
	iii) Black Soil	iii) Parts of Kurnool and Anantapur, small patches in Guntur and Nellore.
	iv) Sandy Coastal Alluvium	iv) On the coasts in the districts of Nellore, Krishna and Vizagapatam.
2. Assam	i) Red Loam	i) Entire areas of Lushai hills, Manipur and Naga hills : Parts of Cachar, Garo hills, Khasi and Jaintia hills and Sibsagar.
	ii) Lateritic Soil	ii) One small patch covering part of Cachar : A large patch covering parts of Khasi and Jaintia hills, Sibsagar and Nowgong.
	iii) Alluvial Soil and old Alluvium	iii) Entire areas of Lakhimpur, Darrang, Kamrup and Goalpara : Parts of Garo hills and Sibsagar.
3. Bihar	i) Alluvial and Calcereous Soil	i) Northern districts of Saran, Champaran, Muzaffarpur, Darbhanga, Purnea and parts of Bhagalpur (Calcereous and alluvial soils) : Parts of Bhagalpur, Dhanbad, Gaya, Monghyr and whole of Patna district (Alluvial soil).
	ii) Forest and Hill Soil	ii) Latitudinal strip in centre running through Dhanbad, Gaya, Monghyr, Hazaribagh and Bhagalpur.
	iii) Red Loam	iii) Whole of Palamau, Santal Parganas, Hazaribagh and Manbhum.
	iv) Mixed Red and Black Soil	iv) Singhbhum and part of Ranchi.
4. Bombay	i) Black Soil	i) Entire areas of East and West Khandesh, Nasik, Ahmednagar, Poona, Sholapur, Satara, Bijapur and Belgaum : Considerable parts of Surat, Thana, Kolaba, Ratnagiri and Dharwar : Parts of Ahmedabad, Kaira, Panch Mahals, Dharwar, and North Kanara.
	ii) Coastal Sandy Alluvium	ii) A Coastal strip through all districts extending to West coast.
	iii) Lateritic Soil	iii) Parts of Ratnagiri and North Kanara.
	iv) Red Sandy Soil	iv) Small patch in Broach.
	v) Old Alluvium	v) Patches in Kaira and Ahmedabad.
	vi) Mixed Red and Black Soil	vi) Part of Dharwar.
5. Madhya Pradesh	i) Black Soil	i) Entire areas of Yeotmal, Akola, Buldana, Nimar, Hoshangabad and Saugor : Parts of Wardha and Jubbulpore.
	ii) Red Sandy Soil	ii) Entire areas of Durg, Raipur and Bilaspur : Patches in Jubbulpore and Mandla.
	iii) Shallow Clay Loam	iii) Entire districts of Bhandara, Chhindwara, Betul and Amraoti : Parts of Balaghat and Wardha.
	iv) Gravelly Soil	iv) Parts of Mandla, Bilaspur, Balaghat and most of Chanda.
6. Madras	i) Red Loam	i) Entire areas of South and North Arcot : Considerable parts of Ramnad, Trichopoly : Parts of other districts except South Kanara.
	ii) Lateritic Soil	ii) Considerable part of South Kanara : Patches in Malabar, South Arcot, and North Arcot.

## CLASSIFICATION OF SOILS OF INDIAN STATES—Contd.

State	Type of Soil	Details of Distribution
Madras—Contd.	iii) Black Soil	iii) Small patches in Tinnevely, Madura, Ramnad and Tanjore.
	iv) Sandy Coastal Alluvium	iv) On the coasts in the districts of South Kanara, Malabar, Ramnad, Tanjore, South Arcot and Chingleput.
	v) Red Sandy Soil	v) Small patches in the districts of Coimbatore, Nilgiris and Malabar.
Orissa	i) Old Alluvium	i) Entire areas of Balasore, Cuttack and Koraput : Most of Puri and parts of Ganjam, Eastern part of Mayurbhanj.
	ii) Lateritic Soil	ii) Considerable part of Ganjam : A patch in Puri Some parts of Cuttack, Koraput & Mayurbhanj.
	iii) Mixed Red and Black Soil	iii) About half of the area of Sambalpur, Bolangir, Boudh, Phulbani, Kalahandi : Parts of Puri, Koraput and Dhekanal.
	iv) Red Sandy Soil	iv) About half of the area of Sambalpur, Keonjhar, Sundergarh, Mayurbhanj, Dhenkanal and parts of Balasore.
8. Punjab	i) Alluvial Soil	i) Entire areas of Amritsar, Ferozpur, Hissar, Gurgaon, Rohtak, Karnal, Ambala, Ludhiana and Jullundur : Parts of Gurdaspur, Hoshiarpur and Kangra.
	ii) Sub-montaine Soil	ii) Parts of Hoshiarpur, Gurdaspur, Kangra and Ambala.
9. Uttar Pradesh	i) Forest and Hill Soil	i) Entire areas of Almora and Garhwal : Parts of Nainital, and Dehra Dun.
	ii) Terai Soil	ii) Parts of Nainital, Pilibhit, Kheri, Bahraich, Gonda, Basti and Gorakhpur.
	iii) Alluvial Soil	iii) Entire areas of Saharanpur, Muzzaffarpur, Meerut and Bareilly : Parts of Bijnor, Budaun, Pilibhit, Kheri, Bahraich, Gonda, Basti and Gorakhpur : Entire areas of Ballia, Banaras, Ghazipur, Jaunpur, Azamgarh, Partapur, Sultanpur, Fyzabad, Rae-Bareilly, Fatehpur, Kanpur, Unao, Lucknow, Farrukhabad, Etawah, Mainpuri, Etah, Mathura, Aligarh and Bulandshahr : Parts of Budaun, Agra, Allahabad, Bahraich, Gonda and Basti.
	iv) Red Sandy Soil	iv) Almost entire area of Mirzapur district.
	v) Mixed Red and Black Soil	v) Parts of Jalaun, Hamirpur, Banda, Jhansi.
	vi) Black Soil	vi) A patch in the southern part of Jhansi district.
10. West Bengal	i) Alluvial Soil and old Alluvium	i) Entire areas of Hoogly Howrah, Nadia, Murshidabad and Burdwan : Considerable parts of 24-Parganas, Jalpaiguri and Cooch-Bihar : Some parts of Midnapur, Bankura, Birbhum, Malda and West Dinajpur.
	ii) Lateritic Soil	ii) A longitudinal strip running through south western districts of Midnapur, Bankura, Burdwan, Birbhum and also some parts of Malda and West Dinajpur.
	iii) Saline and Deltaic Soil	iii) Near the sea coast in the districts of Midnapur and 24-Parganas.
	iv) Forest and Hill Soil	iv) Parts of Darjeeling, Jalpaiguri and Cooch-Bihar.
11. Hyderabad	i) Alluvial Soil	i) A small strip on either side of Godavari in the North and Krishna in the South as also of Tungbhadra, the major tributary of Krishna.
	ii) Lateritic Soil	ii) Almost the entire district of Bidar consists of laterites with a small tongue projecting into the Western central part of Medak district.

**CLASSIFICATION OF SOILS OF INDIAN STATES—Concluded.**

State	Type of Soil	Details of distribution
Hyderabad—Contd.	iii) Black Soil	iii) Almost the entire Western half of the State comprising the Districts of Aurangabad, Parbhani, Nanded, Bhir, Osmanabad, Gulbarga and Raichur. Northern borders of Adilabad; Western half of Nizamabad, Northern part of Karimnagar, Eastern half of Warangal and the Southern strip of Mahbubnagar and Nalgonda.
	iv) Red Soil	iv) The entire districts of Hyderabad, major portion of Mahbubnagar, Nalgonda, Medak and Karimnagar, the Western half of Warangal and Southern half of Adilabad.
12. Mysore	i) Alluvial Soil	i) Parts of Kolar, Chitaldrug and Tumkur districts.
	ii) Black Soil	ii) Parts of Chitaldrug, Shimoga, Chikmagalur and Mysore districts.
	iii) Red Soils with varying admixture of sand in some places.	iii) Practically the whole of the State.
	iv) Laterite and Lateritic Soil	iv) Parts of Kolar, Mysore, Hassan, Shimoga and Chikmagalur districts.
	v) Mountain and Hill Soil	v) Parts of Hassan, Chikmagalur and Shimoga districts.
13. P.E.P.S.U.	i) Alluvial Soil	i) Entire areas of Kapurthala, Bhatinda and Sangrur districts, parts of Patiala district.
	ii) Sub-Montaine Soil	ii) Kandaghat district.
	iii) Arid Soil	iii) Mohindergarh district.
14. Saurashtra	i) Alluvial Soil	i) Parts of Zalawad, Sorath, Gohilawad and Madhya Saurashtra districts.
	ii) Coastal Sandy Alluvial	ii) Parts of Gohilawad, Madhya Saurashtra and Halar districts.
	iii) Arid and desert Soil	iii) Parts of Zalawad districts.
	iv) Black Soil	iv) Parts of all the 5 districts.
	v) Low lying areas	v) A part of Sorath district.
	vi) Clay loam and Light Murram Soil	vi) A part of Gohilawad district.
15. Bhopal	i) Black Soil	i) Entire State.
16. Tripura	i) Alluvial Soil	i) Manu Valley, Gomuti Valley.
	ii) Black loam	ii) Sadar and a major part of Dharamnagar Division.
	iii) Lateritic Soil	iii) Other parts of the State.
17. Vindhya Pradesh	i) Clayey Loam	i) North and North Eastern parts of Baghelkhand.
	ii) Black Cotton Soil	ii) Plains between Betawa and Ken rivers and Northern parts of Baghelkhand.
	iii) Rocky Soil	iii) Near the Vindhya ranges.

Source : i) Report on Soil Fertility Investigations in India with special reference to Manuring by Alexander B. Stewart.  
ii) Information supplied by the State Govts.

N.B. : No scientifically planned soil survey has been carried out in India. The information included here is therefore of a very tentative character.

## 3. CLIMATIC CONDITIONS

## 3.1 MAIN CLIMATIC SEASONS IN INDIA

	June to September (Monsoon period)	October to December (Post-monsoon period)	January to February (Winter or N.E. Monsoon) period	March to May (Pre-Monsoon period)
1. Low and high Pressure Areas	Intensification of low pressure conditions on the vast land mass of S.E. Asia due to high temperature.	Low pressure areas follow the sun to the south: Get gradually shifted in two branches to the South of Bay of Bengal and South of the Arabian Sea.	Asiatic temperatures at their lowest: Belt of high pressure extending from West Mediterranean to Central India and N.E. China: Development of low pressure area in South of Indian Ocean.	Gradual shifting of low pressure area towards North.
2. Direction of winds	Rain bearing monsoon winds attracted from across the seas towards low pressure areas: Two branches—Arabian Sea and Bay of Bengal.	Weak Northerly or Easterly winds over Northern India: Most prominent winds of the season—those blowing from Burma, East Bengal and West Bengal towards the low pressure area in Bay of Bengal towards coastal areas of Orissa and Madras.	Weak Westerly to North-Westerly winds over Northern India: Weak Easterly, North-Easterly and South-Easterly winds in Peninsular India.	Winds stronger nearer the coasts: Increase in strength with advance of season.
3. Rainfall	Rains due to Arabian Sea branch and mostly on West coast: Also in varying degrees in Peninsular India, Madhya Pradesh, Gujrat, Rajasthan, Southern parts of Uttar Pradesh and Bihar: Rains due to Bay of Bengal branch in Assam, West Bengal, Bihar, Uttar Pradesh, Punjab and PEPSU.	Rains over coastal areas of Orissa and Madras brought by North Easterly winds blowing over Bay of Bengal: Weather dry except for scattered thunder showers, in North India.	On the whole, driest period over whole of India: Only light rains essential for growth of crops brought by local weather disturbances: Rainfall usually higher in the North than in the South.	Generally dry over land mass of Northern, and Peninsular India: Certain areas, especially Assam, West Bengal and Malabar receive rains through winds blowing over the seas towards areas of low pressure.
4. Miscellaneous	Intensity and range of monsoon winds on the increase during June and July: Stationary during August: Retreat of winds from September in the order reverse to that of advance.			Period of large contrasts in temperature and humidity sometimes resulting in violent local storms.

### 3.2 NORMAL SEASONAL RAINFALL IN DIFFERENT RAINFALL DIVISIONS OF INDIA

(In Inches)

S. No. Divisions	NORMAL RAINFALL				Total Ist June to 31st May
	Ist. June to 30th September	Ist October to 31st December	Ist January to 28th February	Ist March to 31st May	
1. Bay Islands	70.9	30.9	2.9	18.6	123.3
2. Assam (including Manipur and Tripura)	60.6	6.4	2.3	24.8	94.1
3(a) Sub-Himalayan West Bengal	83.8	6.1	1.1	15.8	106.8
3(b) Gangetic West Bengal	43.1	5.6	1.5	7.3	57.5
4. Orissa	44.9	8.2	1.4	5.6	60.1
5. Chota Nagpur	42.5	3.5	2.3	3.7	52.0
6. Bihar	43.7	3.2	1.3	3.8	52.0
7. Uttar Pradesh, East	37.0	2.5	1.4	1.5	42.4
8. Uttar Pradesh, West	36.3	1.7	2.2	1.6	41.8
9. Punjab (including PEPSU and Delhi)	22.2	1.1	2.4	1.7	27.4
10. Rajasthan, West	10.8	0.4	0.5	0.8	12.5
11. Rajasthan, East (including Ajmer)	24.6	1.0	0.5	0.9	27.0
12. Madhya Bharat (including Bhopal)	36.5	1.8	0.5	0.9	39.7
13. Vindhya Pradesh	39.0	2.3	1.4	1.0	43.7
14. Madhya Pradesh, East	47.3	4.1	1.5	3.1	56.0
15. Madhya Pradesh, West	39.2	2.8	1.0	1.3	44.3
16. Gujarat	33.7	1.7	0.2	0.3	35.9
17. Saurashtra and Kutch	17.5	0.8	0.2	0.4	18.9
18. Konkan	77.6	5.6	0.1	2.7	86.0
19. Deccan (Desh)	19.9	4.9	0.2	2.6	27.6
20. Hyderabad, North	28.3	3.2	0.7	1.5	33.7
21. Hyderabad, South	23.3	4.0	0.6	2.4	30.3
22. Coastal Andhradesa	20.4	16.4	1.0	2.7	40.5
23. Rayalaseema	15.3	6.6	0.5	2.5	24.9
24. Tamilnad	11.3	22.2	2.1	4.3	39.9
25. Malabar and South Kanara	100.3	14.1	0.4	10.7	125.5
26. Mysore	15.0	8.6	0.4	6.2	30.2
27. Travancore-Cochin	51.8	20.9	1.6	16.7	91.0

Source: Weekly Weather Report issued by the Director-General of Observatories, Poona (1952-53).

### 3.3 CLASSIFICATION OF RAINFALL DIVISIONS OF INDIA INTO DRY, MIDDLE AND WET

Dry - (Less than 30")	Parts of Punjab (including PEPSU and Delhi), Rajasthan West, Rajasthan East (including Ajmer), Gujarat, Saurashtra and Kutch, Deccan (Desh), Hyderabad South, Rayalaseema.
Middle - (Between 30" to 60")	Punjab (Kangra, Gurdaspur, Hoshiarpur and Ambala), Gangetic West Bengal, Orissa, Chota Nagpur, Bihar, Uttar Pradesh East, Uttar Pradesh West, Madhya Bharat (including Bhopal), Vindhya Pradesh, Madhya Pradesh East, Madhya Pradesh West, Hyderabad North, Coastal Andhradesa, Tamilnad, Mysore.
Wet - (More than 60")	Bay Islands, Assam (including Manipur and Tripura), Sub-Himalayan West Bengal, Malabar and South Kanara, Travancore-Cochin.

**3.4 ACTUAL SEASONAL RAINFALL IN DIFFERENT RAINFALL DIVISIONS OF INDIA  
DURING THE YEAR 1952-53 (1st June, 1952 to 31st May, 1953)**

(In Inches)

S. No.	Divisions	ACTUAL RAINFALL				Total 1st June to 31st May
		1st June to 30th September	1st October to 31st December	1st January to 28th February	1st March to 31st May	
1.	Bay Islands	71.8	27.2	4.1	15.5	118.6
2.	Assam (including Manipur and Tripura)	57.7	10.8	1.6	28.5	98.6
3(a)	Sub-Himalayan West Bengal	65.0	4.3	0.7	13.0	83.0
3(b)	Gangetic West Bengal	44.0	7.8	2.0	2.8	56.6
4.	Orissa	45.0	10.8	1.5	2.5	59.8
5.	Chota Nagpur	41.1	2.3	1.0	1.7	46.1
6.	Bihar	45.7	1.5	2.0	2.9	52.1
7.	Uttar Pradesh, East	33.2	0.2	2.3	0.7	36.4
8.	Uttar Pradesh, West	38.5	0.6	2.1	0.8	42.0
9.	Punjab (including PEPSU and Delhi)	21.7	0.2	3.0	0.5	25.4
10.	Rajasthan, West	10.6	0	0.2	0.4	11.2
11.	Rajasthan, East (including Ajmer)	30.8	0.1	1.4	0.4	32.7
12.	Madhya Bharat (including Bhopal)	37.8	0.6	1.2	0.5	40.1
13.	Vindhya Pradesh	42.9	1.0	0.7	0.3	44.9
14.	Madhya Pradesh, East	44.0	2.2	0.9	1.3	48.4
15.	Madhya Pradesh, West	32.2	0.4	0.4	0.5	33.5
16.	Gujarat	27.7	0	0.5	0	28.2
17.	Saurashtra and Kutch	16.6	0.1	0.2	0	16.9
18.	Konkan	68.3	7.0	0	0.6	75.9
19.	Deccan (Desh)	15.4	3.7	0	1.4	20.5
20.	Hyderabad, North	22.1	1.9	0	1.1	25.1
21.	Hyderabad, South	15.8	4.2	0.1	0.7	20.8
22.	Coastal Andhradesa	15.3	14.9	0.7	1.3	32.2
23.	Rayalaseema	7.3	5.1	0	0.8	13.2
24.	Tamilnad	7.4	12.6	1.3	5.3	26.6
25.	Malabar and South Kanara	77.5	15.7	0.4	3.2	96.8
26.	Mysore	12.1	10.8	0.1	6.6	29.6
27.	Travancore-Cochin	38.3	17.1	1.6	10.7	67.7

Source : Weekly Weather Report issued by the Director-General of Observatories, Poona (1952-53)

**3.5 APPROXIMATE STARTING AND CLOSING DATES OF SOUTH WEST MONSOON RAINS**

State	Starts	Ends
Bombay	1st June	5th October
Assam	5th June	30th October
West Bengal	10th June	20th October
Bihar	15th June	15th October
Eastern Uttar Pradesh	20th June	10th October
Western Uttar Pradesh	25th June	30th September
Punjab & PEPSU	1st July	14-21st September
Madras (including Andhra)	7th June	26th September
Mysore	1st June	30th September
Himachal Pradesh	1st July	15th September
Vindhya Pradesh	20th June	15th October



## .36 ANNUAL NORMALS OF TEMPERATURE AND RELATIVE HUMIDITY AT SELECTED CENTRES IN INDIA

State	Centre	Annual normals of temperature		Annual normals of relative humidity (%)	
		Maximum (°F)	Minimum (°F)		
Andhra	Kakinada	89.5	75.0	77	
	Kurnool	93.9	70.8	68	
	Masulipatam	90.5	74.5	82	
Assam	Nellore	94.0	75.1	76	
	Cherrapunji	68.5	57.2	81	
	Dibrugarh	80.8	64.9	91	
	Gauhati	84.6	65.9	89	
	Shillong	70.1	53.3	74	
	Sibsagar	81.5	65.8	94	
	Tezpur	83.1	66.8	89	
Bihar	Darbhanga	86.0	68.1	81	
	Dumka	87.6	67.9	73	
	Gaya	89.9	68.8	71	
	Patna	87.6	68.6	72	
	Purnea	86.6	66.3	85	
Bombay	Ranchi	84.4	65.5	66	
	Ahmedabad	94.4	70.7	58	
	Ahmednagar	89.4	63.8	62	
	Belgaum	84.5	63.9	70	
	Bijapur	90.7	67.6	77	
	Bombay	86.0	74.9	78	
	Poona	89.5	64.6	63	
	Ratnagiri	87.3	73.1	73	
	Sholapur	92.9	68.1	55	
	Surat	91.6	69.7	70	
	Akola	93.0	67.2	57	
Madhya Pradesh	Amraoti	92.1	69.0	58	
	Hoshangabad	90.4	66.9	64	
	Jabalpore	88.5	64.4	67	
	Nagpur	92.1	68.8	59	
	Raipur	90.3	69.1	63	
	Saugor	87.9	66.5	56	
	Calicut	86.7	74.3	83	
	Coimbatore	90.0	69.7	83	
	Kodaikanal	64.6	51.1	69	
	Madras	91.0	74.8	77	
Madras	Madura	93.8	73.9	71	
	Mangalore	87.4	73.5	77	
	Nagapatam	90.1	76.2	75	
	Ootacamund	65.5	49.2	68	
	Salem	93.1	71.0	77	
	Trichinopoly	94.3	74.2	72	
	Orissa	Angul	90.1	69.3	77
		Balasure	88.6	70.5	81
		Cuttack	91.2	72.5	79
		Puri	86.3	74.5	83
	Punjab	Sambalpur	90.8	69.9	70
		Ambala	87.6	62.7	72
Uttar Pradesh	Ludhiana	87.9	63.9	65	
	Agra	90.4	67.8	60	
	Allahabad	90.2	66.8	66	
	Bahraich	88.3	65.7	75	
	Banaras	89.6	66.7	72	
	Bareilly	87.6	64.7	72	
	Gorakhpur	87.8	67.0	75	
	Jhansi	91.2	69.5	58	
	Kanpur	90.1	66.2	66	
	Lucknow	89.7	65.6	69	
	Mainpuri	90.1	65.5	65	
	Burdwan	88.9	70.5	78	
	West Bengal	Calcutta (Alipur)	86.8	70.5	83
Darjeeling		58.8	47.4	85	
Dinajpur		86.1	66.7	83	
Jalpaiguri		84.0	66.1	86	
Jessore		87.5	69.8	85	
Midnapur		90.0	70.5	76	
Bangalore		84.0	64.0	80	
Mysore	Bellary	93.3	70.9	61	
	Hassan	86.3	66.2	78	
	Chitaldrug	87.4	67.9	72	
	Shimoga	86.7	66.0	81	
	Ajmer	88.8	65.0	63	
Coorg	Mercara	76.6	61.3	85	
Delhi	Delhi	88.7	67.5	59	

Source : (i) Memoirs of the Indian Meteorological Department Vol. XXII (1913-21) (ii) Information supplied by State Govts.  
 Note.—The means of the maximum and minimum temperature have been determined from the whole of the available observations since 1878. The normals are mostly derived from the data of the 33 year-period 1878-1910. The normals of relative humidity have been deduced from the 8 hours records of the period 1889-1910.

## 4. CROP SEASONS AND ROTATIONS

### 4.1 DURATION OF CLIMATIC SEASONS IN INDIA

Seasons	Period	
	From	To
Spring	15th February	15th April
Summer	15th April	15th September
Autumn	15th September	31st October
Winter	1st November	15th February

### 4.2 CROP SEASONS IN INDIA

Season	Period	Sowing Period	Harvesting Period	Principal Crops
Kharif	May to 15th October	Beginning of the South West Monsoon viz. May to July.	End of the season viz. September to October but may continue till November.	Jowar, Maize, Rice, Sugar, Castor, Sesamum, Mung, Tur, Tobacco, Groundnut, Jute, Sugarcane, Cotton, Urad and Bajra.
Zaid Kharif	August to January	August to September	December to January	Cotton, Rice, Jowar, Rape and Mustard oilseeds, and Toria.
Rabi	15th October to Middle of April	Beginning of cold weather: October to December	February to April but may continue till May.	Wheat, Barley, Oats, Potatoes, Gram, Linseed, Mustard and Peas.
Zaid Rabi	Beginning of February to beginning of May	Beginning of hot weather: February to March	Middle of April to May but may continue up-to June	Watermelons, Toroi, Jowar and Maize for fodder.

### 4.3 DOUBLE CROPPING IN INDIA

1. Rice followed by Rice
2. Rice followed by Pulses
3. Rice followed by Millets
4. Rice followed by Wheat
5. Rice followed by Mustard or Rape
6. Jowar followed by Wheat
7. Maize followed by Wheat
8. Guar followed by Wheat
9. Maize followed by Guar
10. Cotton intercropped with Senji or Methi or Berseem
11. Mung or Mattar followed by Jowar
12. Jute followed by Rice
13. Jute followed by Potato.

### 4.4 IMPORTANT CROP ROTATIONS IN INDIA

Two Year Rotation		Three Year Rotation	
1. Rice	Pulses	1. Wheat	4. Rice
		Maize	Sugarcane (Plant)
		Sugarcane	Sugarcane (Ratoon)
2. Jowar or Maize	2. Sugarcane	5. Wheat	
Wheat or Gram	Wheat	Maize	
	Cotton	Sugarcane	
3. Cotton or Jowar	3. Wheat		
Groundnut or	Wheat		
Jowar	Toria		

### 4.5 IMPORTANT CROP MIXTURES IN INDIA

1. Bihar	Wheat and Barley	Wheat and Gram	Gram and Barley	Tur and Cotton
2. Bombay	Rice and Jowar	Cotton and Jowar	Cotton and Tur	Wheat and Linseed
	Rice and Cotton	Jowar and Tur	Bajra and Tur	Groundnut and Cotton
3. Madhya Pradesh	Wheat and Gram	Wheat and Linseed	Linseed and Gram	Tur and Cotton
4. Madras & Andhra	Cotton and Chillies	Groundnut and Red Gram	Groundnut and Castor	Rice long and short duration
5. Orissa	Horsegram and Mustard	Greengram and Linseed	Mustard and Linseed	Ragi and Maize
6. Punjab & P.E.P.S.U.	Wheat and Gram	Barley and Gram	Wheat and Barley	Jowar and Guar
	Chari and Moth	Maize and Senji	Sarson and Wheat	Toria and Gram
	Til and Cotton	Moth and Cotton	Mellons and Cotton	Senji and Cotton
7. Uttar Pradesh	Wheat and Gram	Barley and Gram	Cotton and Arhar	Bajra and Arhar
	Wheat and Braley	Jowar and Arhar	Maize and Urad	Barley and Peas
8. West Bengal	Wheat and Gram	Wheat and Linseed	Paddy and Khesari	
9. Hyderabad	Jowar and Mung	Jowar and Urad	Jowar and Moth	Tur and Cotton
10. Mysore	Ragi and Jowar	Jowar, Castor and Tur	Tur and Sesamum	Cotton and Minor Millets
11. Rajputana (Rajasthan) and Malwa	Wheat and Gram	Wheat and Mustard	Gram and Mustard	Wheat and Barley
12. Bhopal	Tur and Cotton	Jowar and Tur and Mung and Mash	Wheat and Linseed	Gram and Linseed
		Barley and Gram	Wheat and Gram	
13. Himachal Pradesh	Wheat and Barley	Wheat and Mustard	Maize and Sesamum	Maize and Pulses
	Wheat and Gram			

## 4.6 SUBSTITUTABLE CROPS IN INDIA

State	Name of the crop	State	Name of the Crop
Assam Bihar	(Rice, Jute) (Ragi, Rice, Jute), (Wheat, Barley, Peas, Gram, Sugarcane)	Uttar Pradesh	(Wheat, Barley, Gram, Peas), (Jowar, Bajra, Maize, Sugarcane)
Bombay	(Rice, Ragi, Mesta), (Sugarcane, Wheat, Gram), (Jowar, Bajra, Maize, Cotton)	West Bengal	(Rice, Jute), (Sugarcane, Jute), (Sugarcane, Rice)
Madhya Pradesh	(Linseed, Wheat, Gram), (Jowar, Bajra, Maize, Cotton)	Hyderabad	(Jowar, Bajra), (Cotton, Groundnuts) (Wheat, Gram)
Madras & Andhra	(Rice, Ragi, Mesta), (Jowar, Maize, Bajra), (Cotton, Groundnuts, Sesamum)	Mysore P.E.P.S.U.	(Rice, Ragi), (Jowar, Sugarcane) (Wheat, Barley, Gram, Peas)
Orissa	(Rice, Ragi, Jute)	Bhopal	(Jowar, Bajra, Maize, Cotton, Sugarcane) (Linseed, Gram, Wheat), (Jowar, Bajra, Maize, Cotton).
Punjab	(Wheat, Barley, Gram, Peas), (Jowar, Bajra, Maize, Cotton)		

## 4.7 SEASON AND DURATION OF PRINCIPAL CROPS IN INDIA

Crop	Season	Duration*	Crop	Season	Duration*
Rice**	Winter	5½—6 months	Sesamum	Kharif	3½—4 months
	Autumn	4—4½ months		Rabi	5 months
	Summer	2—3 months	Groundnut	Kharif	4—4½ months
Wheat	Rabi	5—5½ months		Early	4½—5 months
Jowar	Kharif	4½—5 months	Rape and Mustard	Late	4—5 months
	Rabi	4½—5 months		Zaid Rabi	4 months
	Zaid Kharif	2½ months	Linseed	Rabi	5—5½ months
Bajra	Kharif	4½ months	Castor	Kharif	6 months
Maize	Kharif	4—4½ months		Early	8 months
Ragi	Kharif	3½ months	Cotton	Kharif	Other
Barley	Rabi	5—5½ months		Early	6—7 months
Gram	Rabi	6 months	Tobacco	Kharif	Late
Sugarcane	Perennial	10—12 months	Jute	Kharif	7—8 months
					6—7 months

\* Denotes the Number of months for which the crop is in the land.

\*\* Seasons for Rice in different States are known by different names. These are indicated below :

Assam	—Autumn or Ahu or Aus	Bombay—	Early
	Winter or Sali or Bao		Middle late
	Spring or Boro		
West Bengal—	Bhadoi or Aus or Autumn	Madhya Pradesh—	Early
	Aman or Winter		Late
	Boro or Summer	Madras—	First Crop Second Crop
Bihar	—Bhadoi or Autumn Aghani or Winter		
Orissa	—Bhadoi or Autumn Winter	Uttar Pradesh—	Early Late
Mysore	—Winter or Kharif or Kartiki crop Summer or Rabi or Vyasakhi crop		

## 4.8 CROP YEARS

Name of Crop	Duration	Name of Crop	Duration
Kharif	1st November to 31st October	Jute	1st July to 30th June
Rabi	1st May to 30th April	Kharif Oilseeds	1st November to 31st October
Rice	1st November to 31st October	Rabi Oilseeds	1st April to 31st March
Wheat	1st May to 30th April	Tea	1st January to 31st December
Sugarcane	1st November to 31st October	Coffee	1st July to 30th June
Cotton	1st September to 31st August	Tobacco	1st March to 28th February

The beginning of the period denotes the time when generally the crops arrive at the market.

**5. SOWING AND HARVESTING SEASONS OF PRINCIPAL CROPS**  
**5.1 INDIA—STATE-WISE**

		Winter Rice	Autumn Rice	Summer Rice	Wheat	Barley	Ragi	Jowar	Bajra
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Assam	Sowing Harvesting	Jun—Aug Nov—Jan	Mar—May Jun—Aug	Nov—Dec Mar—Apr	Oct—Nov Mar—Apr	— —	— —	— —	— —
2. Bihar	Sowing Harvesting	Jun—Aug Nov—Dec	May—Jul Aug—Oct	Sep—Nov Feb—Mar	Oct—Nov Mar—Apr	Oct—Nov Mar—Apr	June September	May—Jul Oct—Nov	May—Jul Oct—Nov
3. Bombay	Sowing Harvesting	Jun—Jul Oct—Nov	— —	— —	Oct—Nov March	Oct—Nov Feb—Mar	Jun—Jul Oct—Nov	{ Jun—Jul (K) { Sep—Oct (R) { Nov—Dec (K) { Jan—Feb (R)	Jun—Jul Oct—Nov
4. Madhya Pradesh	Sowing Harvesting	June Oct—Nov	— —	— —	Oct—Nov Feb—Mar	— —	— —	{ Jun—Jul (K) { Oct—Nov (R) { Nov—Dec (K) { Feb—Mar (R)	— —
5. Madras & Andhra	Sowing Harvesting	Jun—Oct Dec—Mar	— —	Jan—Mar Apr—May	— —	— —	{ Jan—Apr (I) { July—Oct (D) { Apr—July (I) { Oct—Feb (D)	{ Jun—Jul (K) { Apr—Nov (R) { Oct—Nov (K) { Jan—Feb (R)	{ Apr—Jul (I) { Jul—Oct (D) { July—Oct (I) { Oct—Feb (D)
6. Orissa	Sowing Harvesting	May—Jun Dec—Jan	May—Jun Sep—Oct	Jan—Feb May—Jun	Oct—Dec Mar—May	Oct—Nov Mar—Apr	May—Jun Aug—Sep	Jun—Jul Sep—Oct	Jun—Jul Sep—Oct
7. Punjab	Sowing Harvesting	— —	Apr—Jul Sep—Oct	— —	Oct—Dec April	Oct—Dec Mar—Apr	— —	Jun—Jul Oct—Nov	Jun—Jul Oct—Nov
8. Uttar Pradesh	Sowing Harvesting	Jun—Aug Sep—Dec	— —	— —	October Mar—Apr	October March	June September	Jun—Jul Oct—Nov	August Oct—Nov
9. West Bengal	Sowing Harvesting	May—Sep Nov—Jan	Apr—Jul Jul—Oct	Oct—Feb Mar—May	Oct—Nov Mar—Apr	Oct—Nov Mar—Apr	Apr—Jun Jun—Jul	Apr—Jun Aug—Oct	— —
10. Hyderabad	Sowing Harvesting	Jun—Jul Dec—Jan	May August	Jan—Feb Apr—May	October Feb—Mar	Sep—Oct Feb—Mar	June October	{ June—(K) { October (R) { Nov—Jan (K) { March (R)	June October
11. Mysore	Sowing Harvesting	Jul—Sep Nov—Jan	— —	Dec—Feb Mar—May	Oct—Nov Jan—Feb	— —	Jun—Aug Oct—Dec	Apr—Sep Oct—Dec	— —
12. P.E.P.S.U.	Sowing Harvesting	— —	Apr—Aug Sep—Nov	— —	Oct—Dec Mar—May	Oct—Dec Mar—Apr	— —	Jun—Jul Oct—Nov	Jun—Jul Oct—Nov
13. Rajasthan	Sowing Harvesting	Jun—Jul Oct—Nov	— —	— —	Oct—Dec Apr—May	Oct—Dec Mar—Apr	— —	Jun—Jul Nov—Dec	Jun—Jul Sep—Oct
14. Saurashtra	Sowing Harvesting	Jun—Jul Nov—Dec	— —	— —	Oct—Nov Feb—Mar	— —	— —	Jun—Jul Oct—Nov	Jun—Jul Oct—Nov
15. Ajmer	Sowing Harvesting	— —	— —	— —	Oct—Nov April	Oct—Nov April	— —	Jun—Jul November	Jun—Jul Oct—Nov
16. Bhopal	Sowing Harvesting	Jun—Jul Oct—Nov	— —	— —	Oct—Nov Mar—Apr	— —	— —	Jun—Jul Nov—Dec	— —
17. Coorg	Sowing Harvesting	Jun—Jul Dec—Jan	Apr—May Oct—Nov	— —	— —	— —	Jun—Jul Oct—Nov	— —	— —
18. Delhi	Sowing Harvesting	— —	— —	— —	Oct—Nov April	Oct—Dec Mar—Apr	— —	Jun—Aug Sep—Oct	Jun—Aug Sep—Oct
19. Himachal Pradesh	Sowing Harvesting	— —	Apr—Aug Aug—Oct	— —	Sep—Dec Mar—Jul	Sep—Dec Mar—Jul	Mar—Jun Aug—Nov	— —	June October
20. Tripura	Sowing Harvesting	May—Jul Oct—Jan	Mar—Jul Jun—Sep	Oct—Jan May—Jun	Nov—Dec Feb—Jun	— —	— —	— —	— —
21. Vindhya Pradesh	Sowing Harvesting	Jun—Aug Oct—Nov	— —	— —	Oct—Nov Mar—Apr	Oct—Nov March	— —	Jun—Jul Oct—Nov	Jun—Jul October

5.1 INDIA—STATE-WISE—Contd.

		Maize (9)	Sugarcane (10)	Groundnut (11)	Castorseed (12)	Cotton (13)	Jute (14)	Tobacco (15)	Sannhemp (16)
1. Assam	Sowing Harvesting	Apr—Jun Aug—Oct	Apr—May Dec—Feb	— —	May—Jun&Sep Jan—Feb&Mar	Apr—May Nov—Dec	Mar—Apr Jul—Aug	Sep—Oct Apr—May	— —
2. Bihar	Sowing Harvesting	May—Jul Sept—Oct	Feb—Apr Dec—Apr	— —	Sep—Oct Mar—Apr	{ Jan—Feb Jun—Jul Aug—Apr	Mid Mar—Apr Aug—Mid Sep	November Feb—Apr	Jun—Jul Sep—Oct
3. Bombay	Sowing Harvesting	Jun—Jul Sep—Oct	Jan—Mar Nov—Apr	Jun—Jul Sep—Dec	Jun—Jul Dec—Feb	Jun—Jul Jan—Apr	— —	Aug—Oct Jan—Mar	June Oct—Nov
4. Madhya Pradesh	Sowing Harvesting	— —	— —	Sep—Nov Jun—Jul	— —	May—Jun Nov—Mar	— —	— —	June Nov—Dec
5. Madras & Andhra	Sowing Harvesting	Jul—Oct Sep—Feb	Jan—May Nov—Apr	{ Feb—Mar(I) Apr—Aug (D) May—Jul (I) Aug—Jan (D)	Jun—Jul Nov—Feb	{ May—Jul Sep—Nov Jan—Aug	— — —	Oct—Dec Jan—Mar	Feb—Apr Jun—Aug
6. Orissa	Sowing Harvesting	May—Jun Aug—Sep	Feb—May Nov—Feb	May—Aug Nov—Jan	Jun—Sep Jan—Mar	Mar—Aug Oct—Apr	May—Jun Sep—Mid Oct	November Feb—Apr	May—Jul Oct—Dec
7. Punjab	Sowing Harvesting	Jun—Jul Oct—Nov	Mar—Apr Dec—Mar	— —	— —	May—Jul Oct—Jan	— —	March May—Jun	Jun—Jul Oct—Nov
8. Uttar Pradesh	Sowing Harvesting	June Aug—Sep	Nov—Apr Nov—May	Jun—Jul Nov—Dec	Jun—Jul Feb—Apr	June Oct—Jan	— —	Jun—Nov Sep—Apr	July November
9. West Bengal	Sowing Harvesting	Mar—Jun Aug—Oct	Nov—May Dec—Apr	— —	— —	— —	Apr—Jun Jul—Sep	Sep—Dec Feb—Apr	{ Apr—May(K) Sep—Nov(R) Aug—Sep(K) Feb—Apr(R)
10. Hyderabad	Sowing Harvesting	{ June (K) Nov—Dec (R)	{ Jan—Feb (One yearly) Jun—Jul (Half year crop) Dec—Jan (One yearly) Oct—Dec (Half year crop)	June Nov—Dec	Jul—Aug Feb—Mar	{ June (K) September (R) Nov—Jan(K) Mar—Apr(R)	— — — —	September Feb—Mar	Jun—Jul Dec—Jan
11. Mysore.	Sowing Harvesting	— —	Jan—Apr Dec—Mar	Jul—Sep Oct—Dec	July Oct—Nov	May—Oct Aug—Feb	— —	Jul—Sep Dec—Feb	Apr—May Aug—Sep
12. P.E.P.S.U.	Sowing Harvesting	May—Jun Sep—Oct	Feb—Apr Nov—Mar	May—Jun Sep—Oct	— —	Mar—Jul Oct—Jan	— —	— —	Apr—May Oct—Dec
13. Rajasthan	Sowing Harvesting	Jun—Jul Sep—Nov	Feb—May Oct—Mar	Jul—Aug Sep—Oct	— —	{ Apr—Jun(I) Jun—Jul(D) Sep—Dec	— — —	— — —	Jun—Jul September
14. Saurashtra	Sowing Harvesting	— —	Jan—Mar Dec—Feb	Jun—Jul Oct—Nov	— —	{ Jun—Jul(M) Sep—Oct.(DH) Oct—Nov(M) Feb—Mar(DH)	— — — —	— — — —	— — — —
15. Ajmer	Sowing Harvesting	June September	— —	— —	— —	— —	— —	— —	— —
16. Bhopal	Sowing Harvesting	Jun—Jul Sep—Oct	Dec—Jan Dec—Jan	Jun—Jul November	— —	Jun—Jul Jan—Feb	— —	— —	Jun—Jul Dec—Jan
17. Coorg	Sowing Harvesting	— —	— —	— —	— —	— —	— —	— —	August November
18. Delhi	Sowing Harvesting	Jun—Aug Sep—Oct	— —	— —	— —	— —	— —	— —	— —
19. Himachal Pradesh	Sowing Harvesting	April Aug—Oct	— —	— —	— —	Apr—May November	— —	— —	Jun—Jul Nov—Dec
20. Tripura	Sowing Harvesting	— —	Feb—May Dec—Mar	— —	— —	— —	Apr—May Aug—Sep	Sep—Dec Feb—Apr	— —
21. Vindya Pradesh	Sowing Harvesting	Jun—Jul October	Jan—Feb Jan—Feb	Jun—Jul November	Jun—Jul December	Jun—Jul Oct—Dec	— —	Oct—Nov Mar—Ar	Jul—Aug Nov—Dec

† But extends upto July in hilly parts

(K) Kharif  
(R) Rabi

(I) Irrigated  
(D) Dry.

(M) Mathia variety  
(DH) Dholleras

2. INDIA--(Consolidated)

	Winter Rice	Autumn Rice	Summer Rice	Wheat	Jowar	Bajra
	(1)	(2)	(3)	(4)	(5)	(6)
Sowing	Apr—Aug	Mar—Jul	Sep—Feb	Oct—Dec	May—Jul (K) Sep—Nov (R)	May—Sep
Harvesting	Oct—Jan	Aug—Dec	Mar—Jun	Mar—May	Oct—Dec (K) Jan—Mar (R)	Sep—Feb

	Gram	Sugarcane	Sesamum	Groundnut	Rape and Mustard	Linseed
	(7)	(8)	(9)	(10)	(11)	(12)
Sowing	Sep—Jan	Feb—May	May—Aug (K) Jan—Feb (R)	May—Jul	Aug—Nov	Aug—Nov
Harvesting	Feb—Apr	Nov—Apr	Aug—Dec (K) May—Jul (R)	Sep—Dec	Jan—Apr	Jan—Apr

	Castor	Cotton	Jute	Tobacco	Potato	Sannhemp
	(13)	(14)	(15)	(16)	(17)	(18)
Sowing	May—Jul (K) Sep—Nov (R)	Mar—Aug	Mar—May	Jul—Oct	Aug—Dec (W) Feb—Apr (S)	Apr—Aug
Harvesting	Jan—Feb (K) Mar—Apr (R)	Sep—Apr	Jul—Sep	Feb—May	Jan—Apr (W) May—Sep (S)	Sep—Jan

(K) Kharif  
(R) Rabi

(W) Winter  
(S) Summer

## 6. SOWING AND HAVESTING SEASONS OF PRINCIPAL CROPS IN IMPORTANT COUNTRIES

### 6.1. RICE

Country	Number of Harvests	First Crop		Second Crop		Third Crop		Area ('000 hectares)	Production ('000 metric tons)
		Sowing Season	Harvesting Season	Sowing Season	Harvesting Season	Sowing Season	Harvesting Season		
Burma	3	June	Nov - Dec	December	Mar - Apr	May	Aug - Sep	3,806	5,290
Ceylon	2	Aug - Oct	Feb - Apr	Feb - Apr	Jun - Aug	-	-	452	535 (1951 figures)
China	2	May - Jun	Aug - Sep	Apr - Jul	Nov - Dec	-	-	18,500	46,700 (22 Provinces and Manchuria)
Formosa	2	Feb - Mar	July	June	November	-	-	772	1,830
Indo-China (Cambodia & Laos only)	1	Jun - Sep	Dec - Mar	-	-	-	-	1,908	1,826 (Average) of 1949 and 1950 figures)
Indonesia	1	Jan - May	May - Sep	-	-	-	-	6,170	8,951 (Average of 1950 and 1951 figures)
Japan	1	May - Jun	Aug - Nov	-	-	-	-	2,989	11,765
Korea (South only)	1	Jun	Sep - Nov	-	-	-	-	990	2,897
Malaya	1	Jun - Sep	Dec - Mar	-	-	-	-	347	656
Pakistan	3	Jun - Aug	Nov - Jan	Jan - Feb	May - Jun	May - Jun	Sep - Oct	8,991	12,231
Philippines	1	Jun - Sep	Nov - Mar	-	-	-	-	2,324	2,733
Thailand (Siam)	1	May - Jun	Dec - Jan	-	-	-	-	5,316	6,905

NOTES.—(i) The figures given above are the averages for the years 1949 to 1951 unless otherwise indicated.

(ii) 1 hectare = 2.47109 acres.  
1 metric ton = 19.684 cwts. (112 lbs)

Source: Yearbook of Food and Agricultural Statistics, 1952.

## 6.2. WHEAT

Country	Number of Harvests	First Crop		Second Crop		Area ('000 hectares)	Production ('000 metric tons)
		Sowing	Harvesting	Sowing	Harvesting		
Argentina	1	Apr—Aug	Nov—Jan	—	—	4,133	4,330
Australia	1	Apr—Jun	Oct—Jan	—	—	4,623	5,097
Canada	2	Aug—Sep	Jul—Aug	Apr—May	Aug—Sep	10,771	12,571
France	2	Oct—Dec	Jun—Jul	Mar—Apr	Jun—Jul	4,264	7,633
India	1	Oct—Dec	Mar—May	—	—	9,522	6,203
Italy	2	Oct—Nov	Jun—Jul	Feb—Mar	Jun—Jul	4,725	7,250
Pakistan	1	Oct—Dec	Mar—May	—	—	4,366	4,069
U.S.S.R.	2	Aug—Nov	Jul—Sep	Mar—May	Aug—Sep	40,920	38,090 (1934—38 Average)
Spain	1	Oct—Nov	Jun—Jul	—	—	4,138	3,558
U.S.A.	2	Sep—Oct	May—Jul	Apr—May	Aug—Sep	26,924	28,559
China (22 Provinces and Manchuria)		N. A.	N. A.	N. A.	N. A.	22,510	21,940 (Average 1950 & 1951)

N. A.—Not available.

N.B. Except where otherwise stated the figures for area and production are the averages for the years 1949 to 1951.

Source: Yearbook of Food and Agricultural Statistics—1952.

## 6.3. BARLEY

Country	Number of Harvests	First Crop		Second Crop		Area ('000 hectares)	Production ('000 metric tons)
		Sowing	Harvesting	Sowing	Harvesting		
Algeria	1	Nov—Jan	Mar—Jul	—	—	1,142	751
Argentina	1	Jun—Aug	Nov	—	—	441	502
Canada	1	Apr—May	Jul—Aug	—	—	2,763	3,839
China (22 Provinces)		N. A.	N. A.	—	—	6,223	6,690
French Morocco		N. A.	N. A.	—	—	1,893	1,352
Germany (Western)	2	Aug—Oct	July	May	July	584	1,458
India	1	December	May	—	—	3,117	2,382
Pakistan	1	December	May	—	—	235	168
Poland	2	Sep—Oct	Jul—Aug	Apr—May	Jul—Aug	843	1,052 (Average 1949 and 1950)
Rumania	1	Mar—Apr	Jun—Jul	—	—	839 (1934—38)	596
U.S.S.R.	1	Feb—May	Jul—Aug	—	—	10,690 (1934—38)	10,250
Spain	2	November	June	April	August	1,567	2,143
Turkey		N. A.	N. A.	—	—	1,907	1,998
U.S.A.	1	May	August	—	—	4,101	5,769

N. A.—Not available

N.B. Except where otherwise stated the figures for area and production are the averages for the years 1949 to 1951.

Source: Yearbook of Food and Agricultural Statistics—1952.

## 6.4. MAIZE

Country	Number of Harvests	First Crop		Second Crop		Area ('000 hectares)	Production ('000 metric tons)
		Sowing	Harvesting	Sowing	Harvesting		
Argentina	1	Sep—Oct	Mar—Jun	—	—	1,367	1,832
Brazil		N. A.	N. A.	—	—	4,703	6,135
Canada	1	May—Jul	Aug—Oct	—	—	120	336
India	1	Jun—Jul	Oct—Nov	—	—	3,218	1,921
Italy	1	March	Aug—Oct	—	—	1,249	2,295
Mexico		N. A.	N. A.	—	—	4,282	3,131
Pakistan	1	Jun—Jul	Oct—Nov	—	—	391	402
Rumania	1	Apr—May	Aug—Sep	—	—	3,879 (1934—38)	4,032
U.S.A.	1	Feb—May	Aug—Oct	—	—	33,744	79,409

N. A.—Not available

N.B. Except where otherwise stated the figures for area and production are the averages for the years 1949 to 1951.

Source: Yearbook of Food and Agricultural Statistics—1952.



## 6.5. SUGARCANE

Country	Number of Harvests	First Crop		Second Crop		Area ('000 Hectares)	Production* ('000 metric tons)
		Sowing	Harvesting	Sowing	Harvesting		
Argentina	1	Jul—Oct	Jun—Sep	—	—	269	6,944
Brazil	1	Jun—Aug	May—Jul	—	—	833	32,418
Cuba	1	Feb—May	Jan—Jun	—	—	887 (1934—38)	26,176
Egypt	1	Feb—Mar	Dec—Apr	—	—	—	2,533
India	1	Jan—Apr	Nov—Mar	—	—	1695	56,006
Indonesia	1	Jun—Sep	May—Oct	—	—	—	5547 (1951)
Pakistan	1	Jan—Apr	Nov—Mar	—	—	—	5,550 (1950)
Philippines	1	Nov—Mar	Nov—Apr	—	—	302 (1949)	6,500 (1948)
Puerto-Rico	2	Sep—Dec	January	May—Jun	January	156	10,176
Union of South Africa	1	Nov—Mar	May—Sep	—	—	—	4,587
U.S.A.	2	March	Nov—Dec	Oct—Nov	Nov—Dec	—	5,538

\* In terms of cane

N.B. Except where otherwise indicated, the figures for acreage and production are the averages for the years 1949 to 1951.

Source: Yearbook of Food & Agricultural Statistics—1952.

## 6.6. COTTON

Country	Number of Harvests	First Crop		Second Crop		Area ('000 Hectares)	Production* ('000 metric Tons)
		Sowing	Harvesting	Sowing	Harvesting		
Argentina	1	—	—	—	—	491	130
Brazil	1	Oct—Nov	May—Jun	—	—	2,558	379
China and Manchuria	1	May	Oct—Nov	—	—	3,117	513
Egypt	1	Feb—Mar	September	—	—	791	377
India	2	Aug—Oct	Feb—Jul	Apr—Jun	Sep—Dec	5,549	599
Pakistan	2	Aug—Oct	Feb—Jul	Apr—Jun	Sep—Oct	1,247	256
U.S.S.R.	1	Jun—Jul	Nov—Dec	—	—	2,027 (1934—38)	645
Uganda	1	Jun—Jul	Nov—Dec	—	—	625	64
U.S.A.	1	Mar—Apr	Sep—Oct	—	—	9,708	2,988

\* In terms of cleaned cotton

N.B. Except where otherwise indicated, the figures for acreage and production are the averages for the years 1949 to 1951.

Source: Yearbook of Food & Agricultural Statistics—1952.

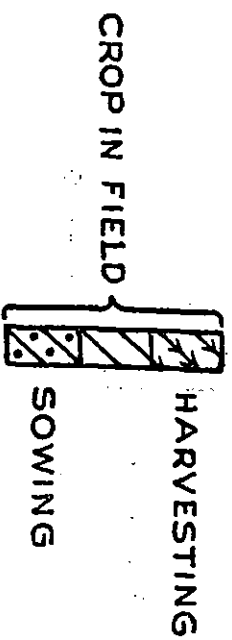




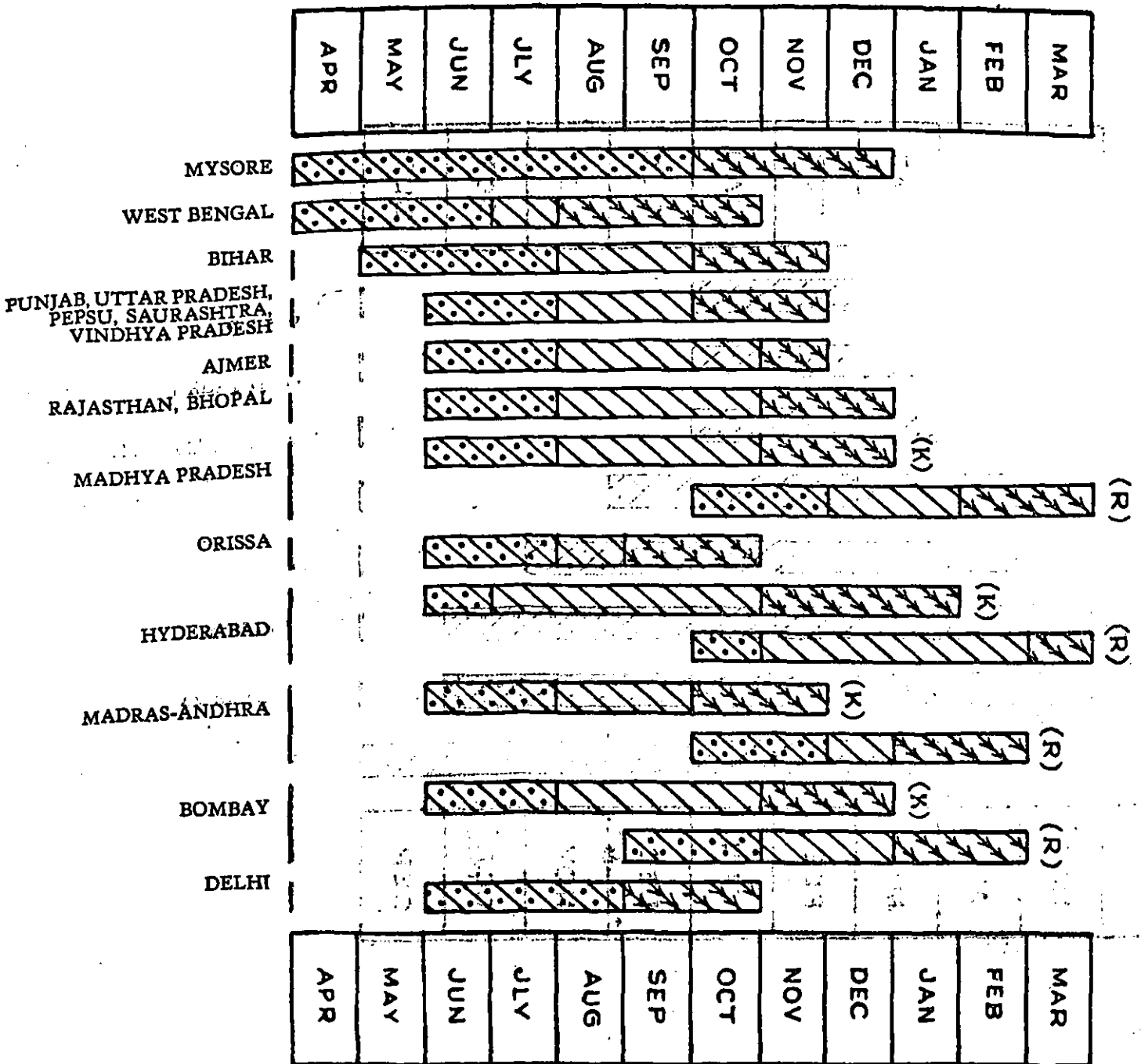


SOWING AND HARVESTING SEASONS IN INDIA

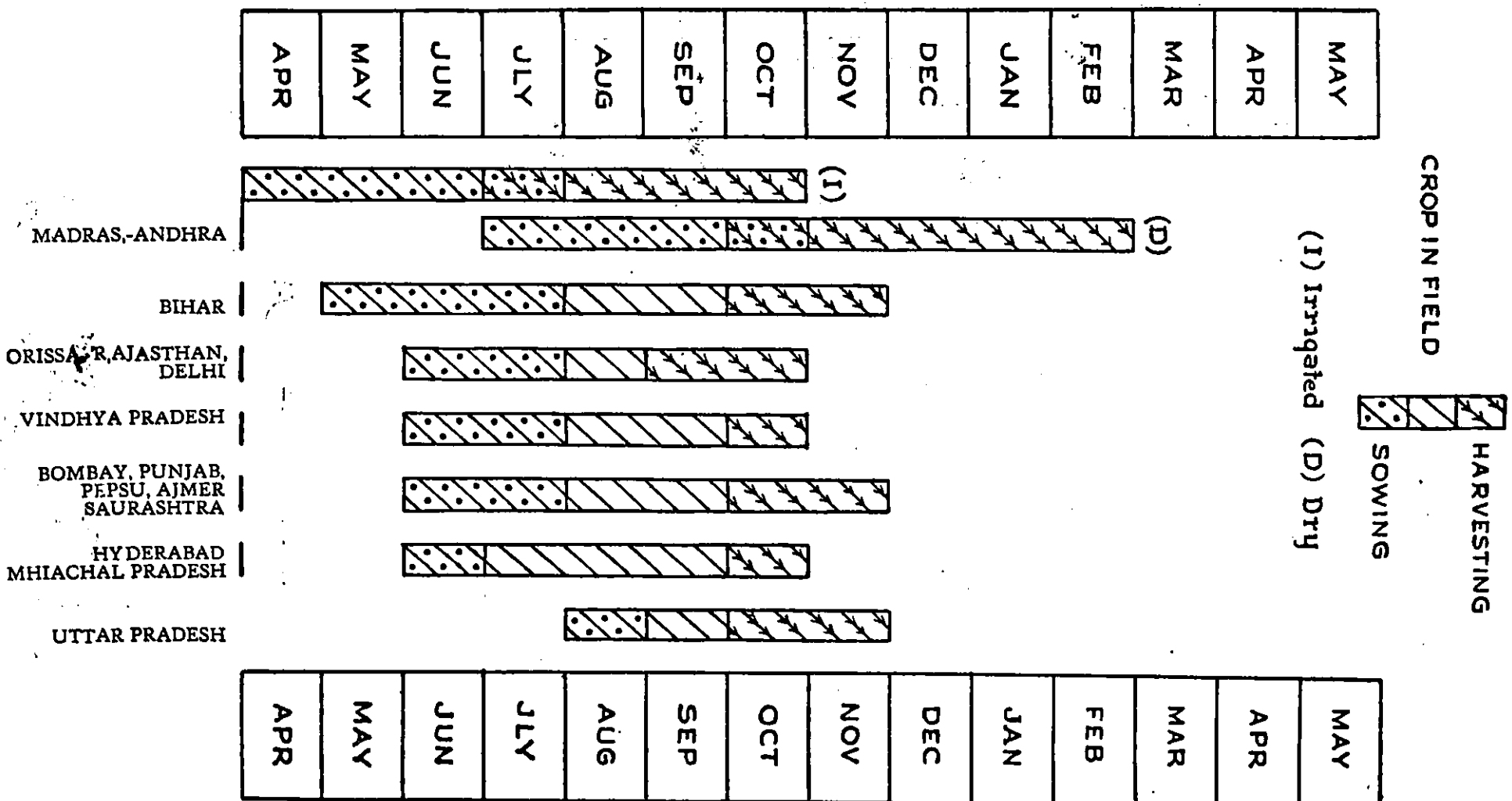
JOWAR



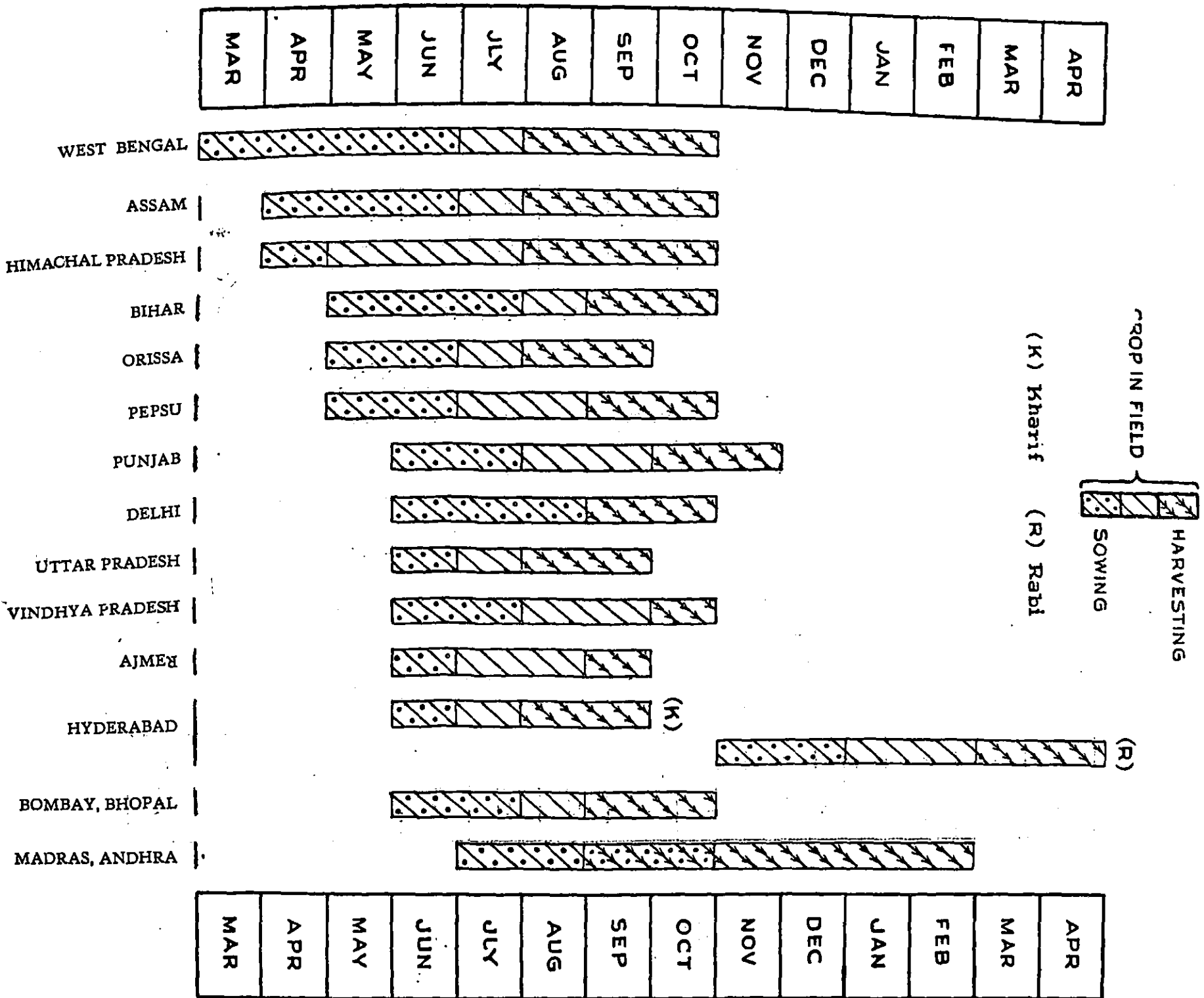
(K) Kharif (R) Rabi



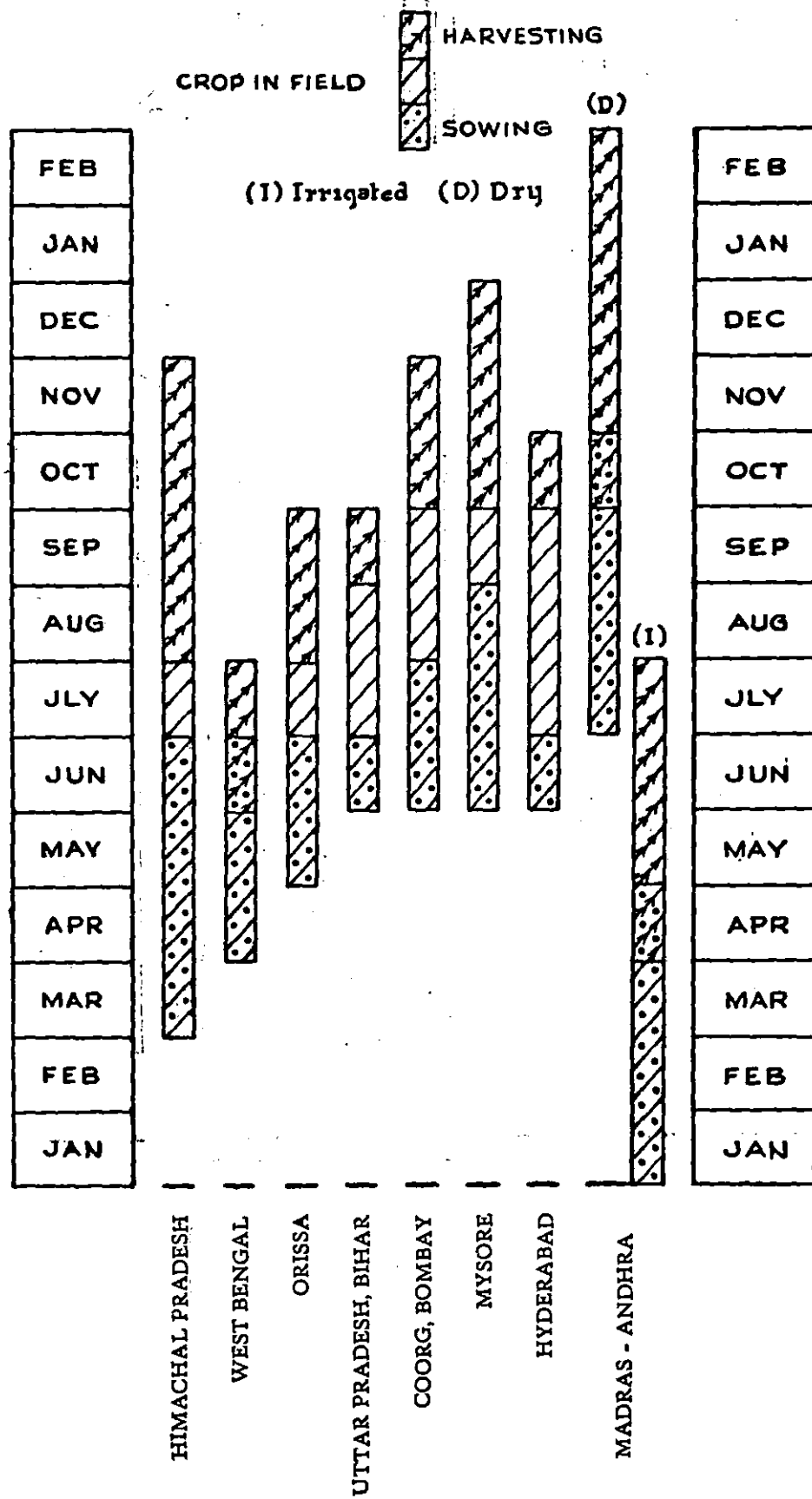
BAJRA  
SOWING AND HARVESTING SEASONS IN INDIA



**MAIZE**  
SOWING AND HARVESTING SEASONS IN INDIA

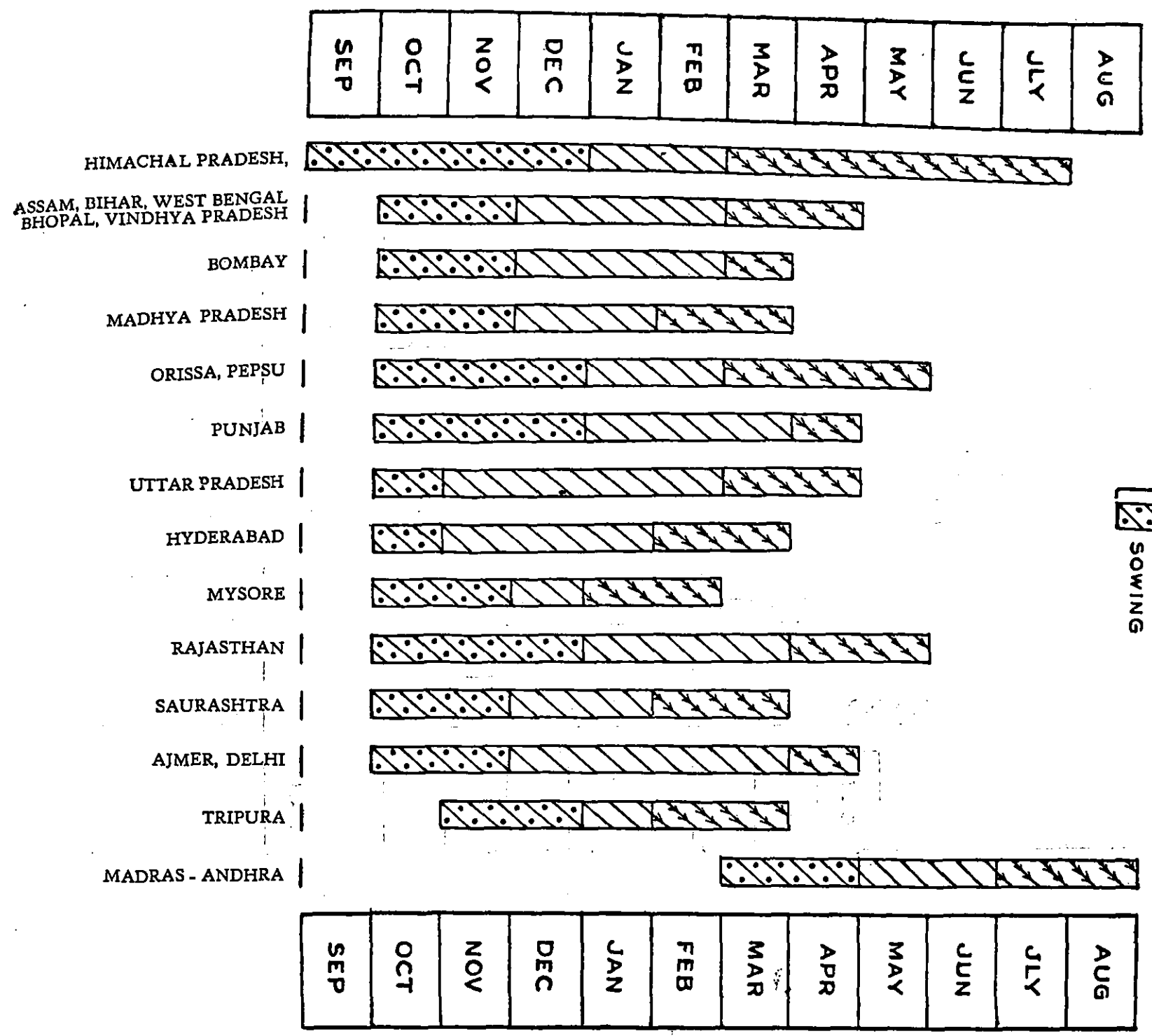
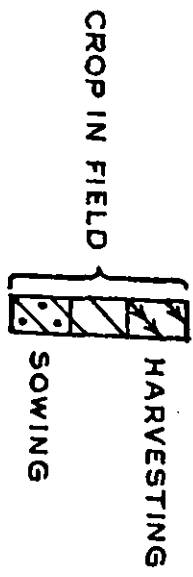


**RAGI**  
SOWING AND HARVESTING SEASONS IN INDIA





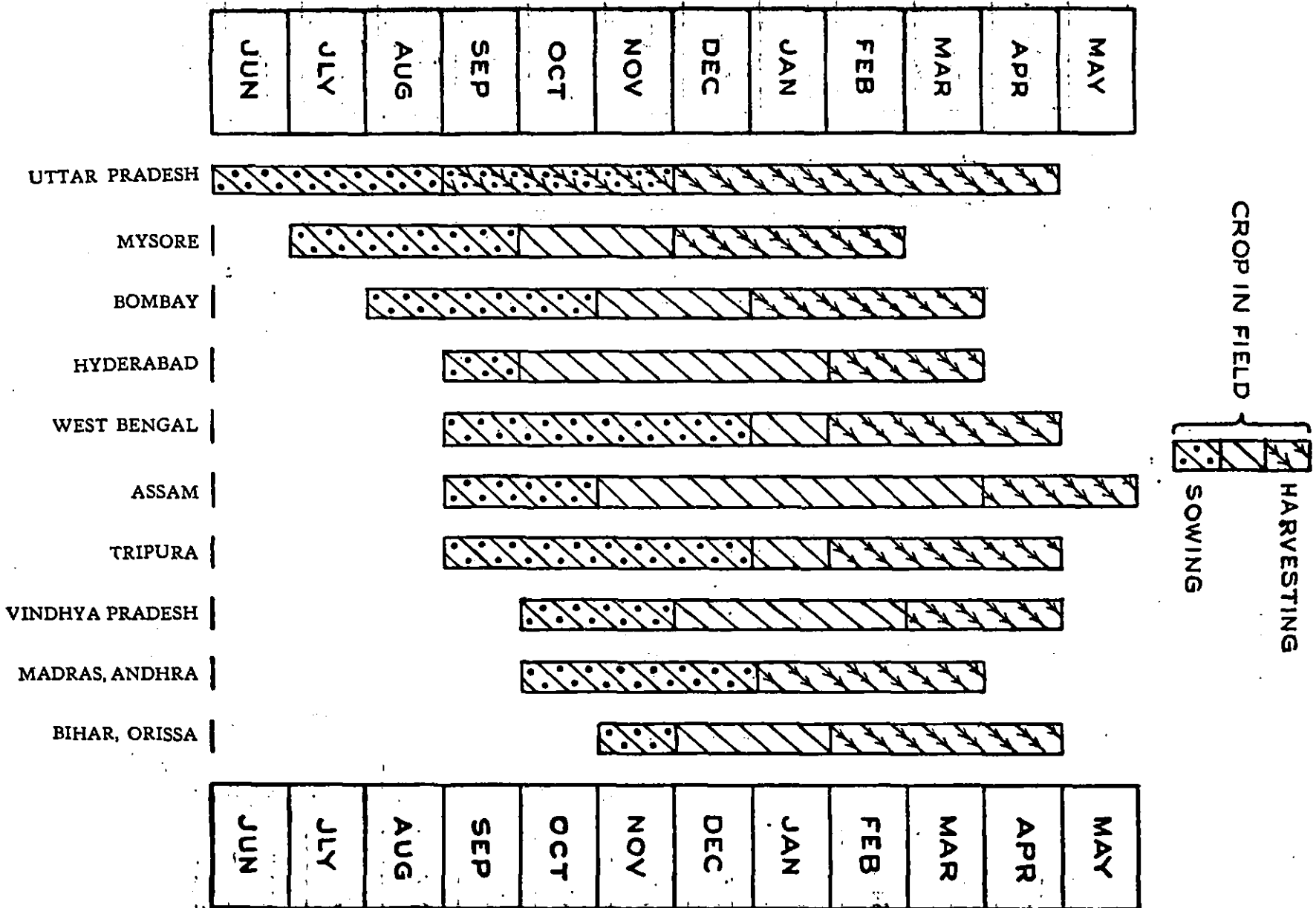
**WHEAT**  
SOWING AND HARVESTING SEASONS IN INDIA



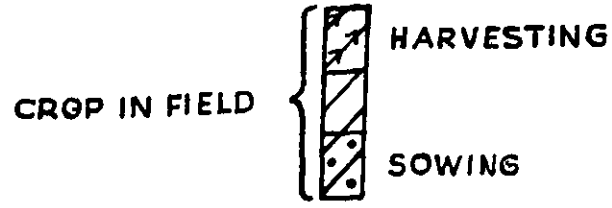




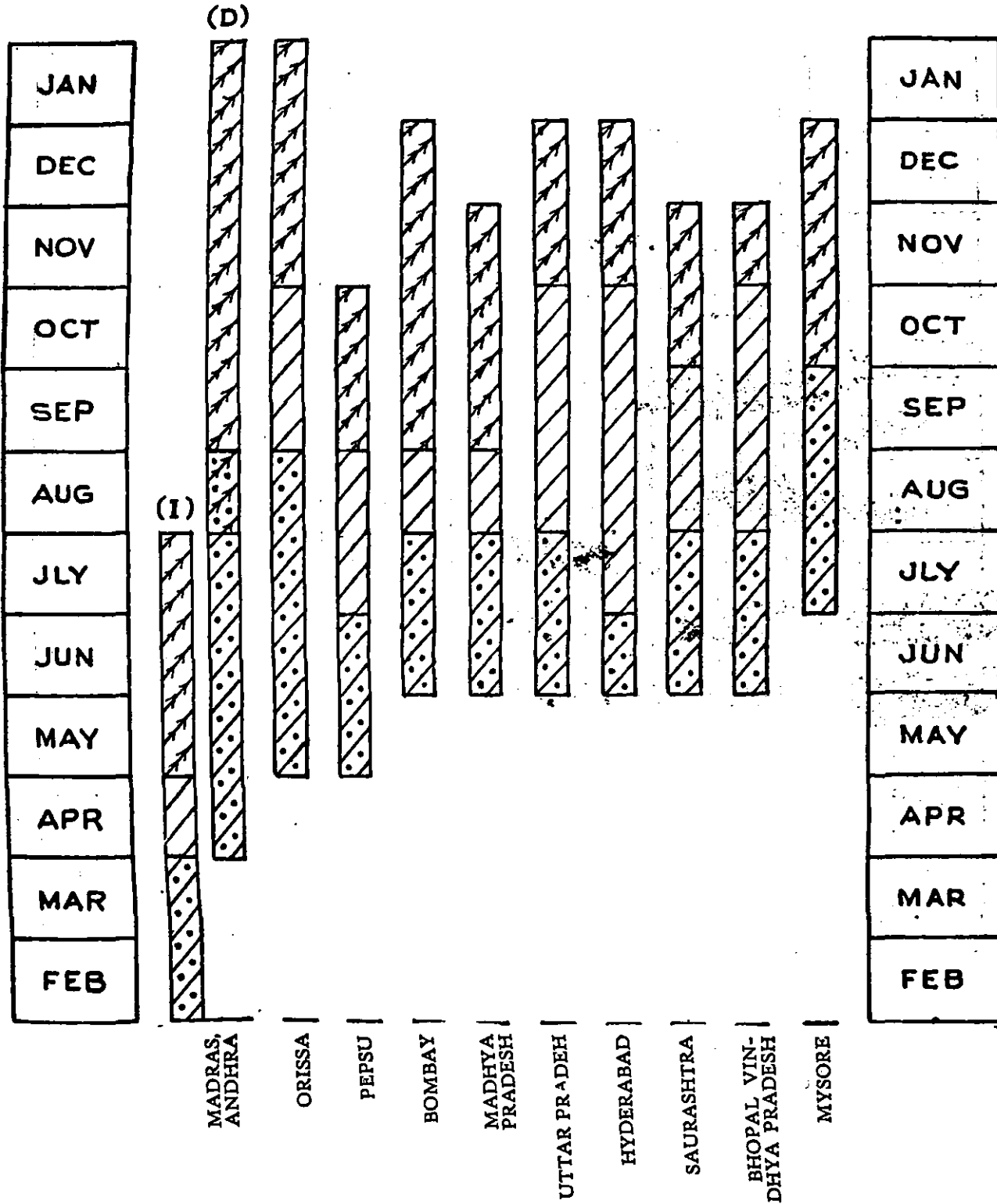
**TOBACCO**  
SOWING AND HARVESTING SEASONS IN INDIA



**GROUNDNUT**  
SOWING AND HARVESTING SEASONS IN INDIA



(I) Irrigated (D) Dry

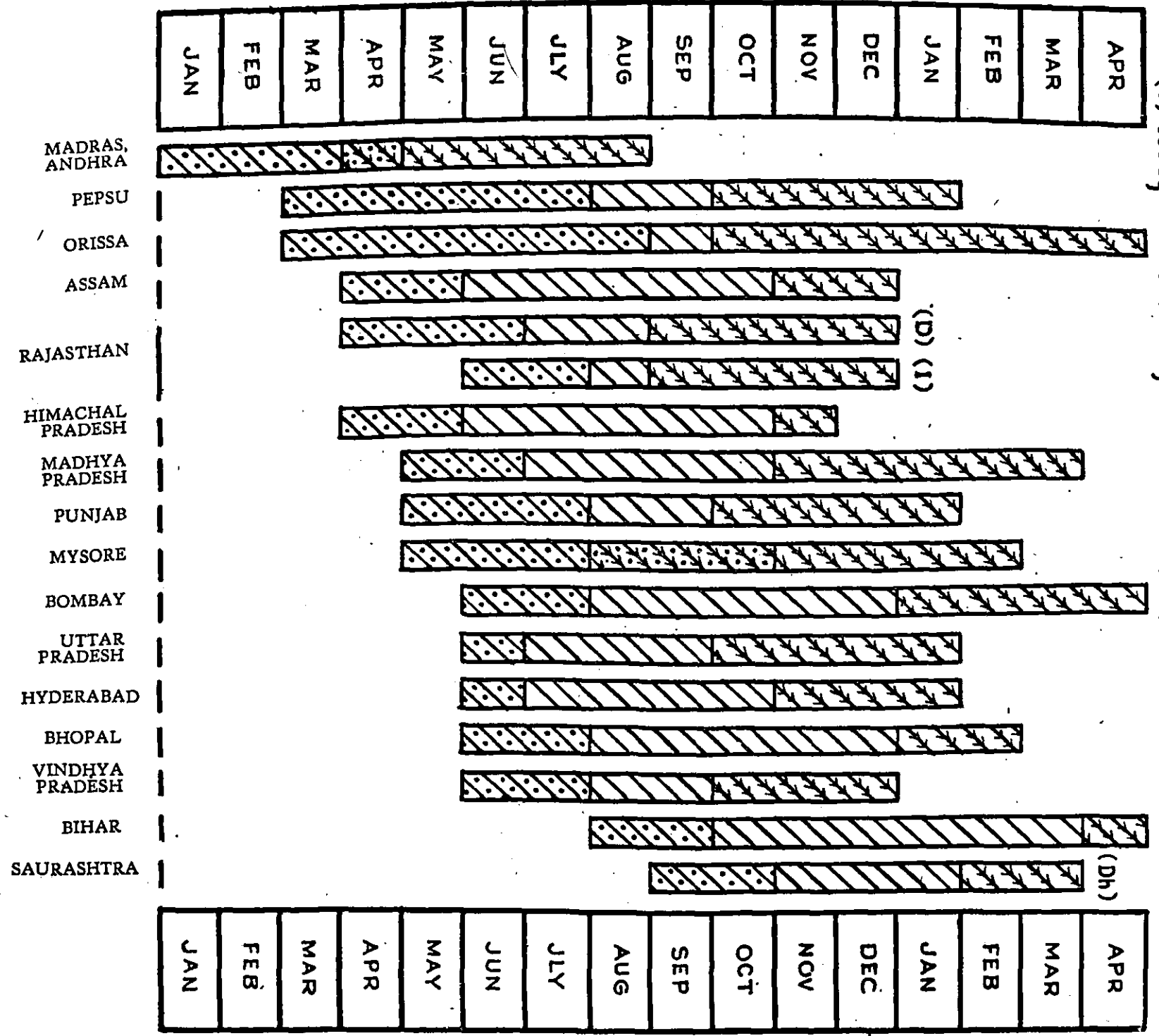




COTTON  
SOWING AND HARVESTING SEASONS IN INDIA

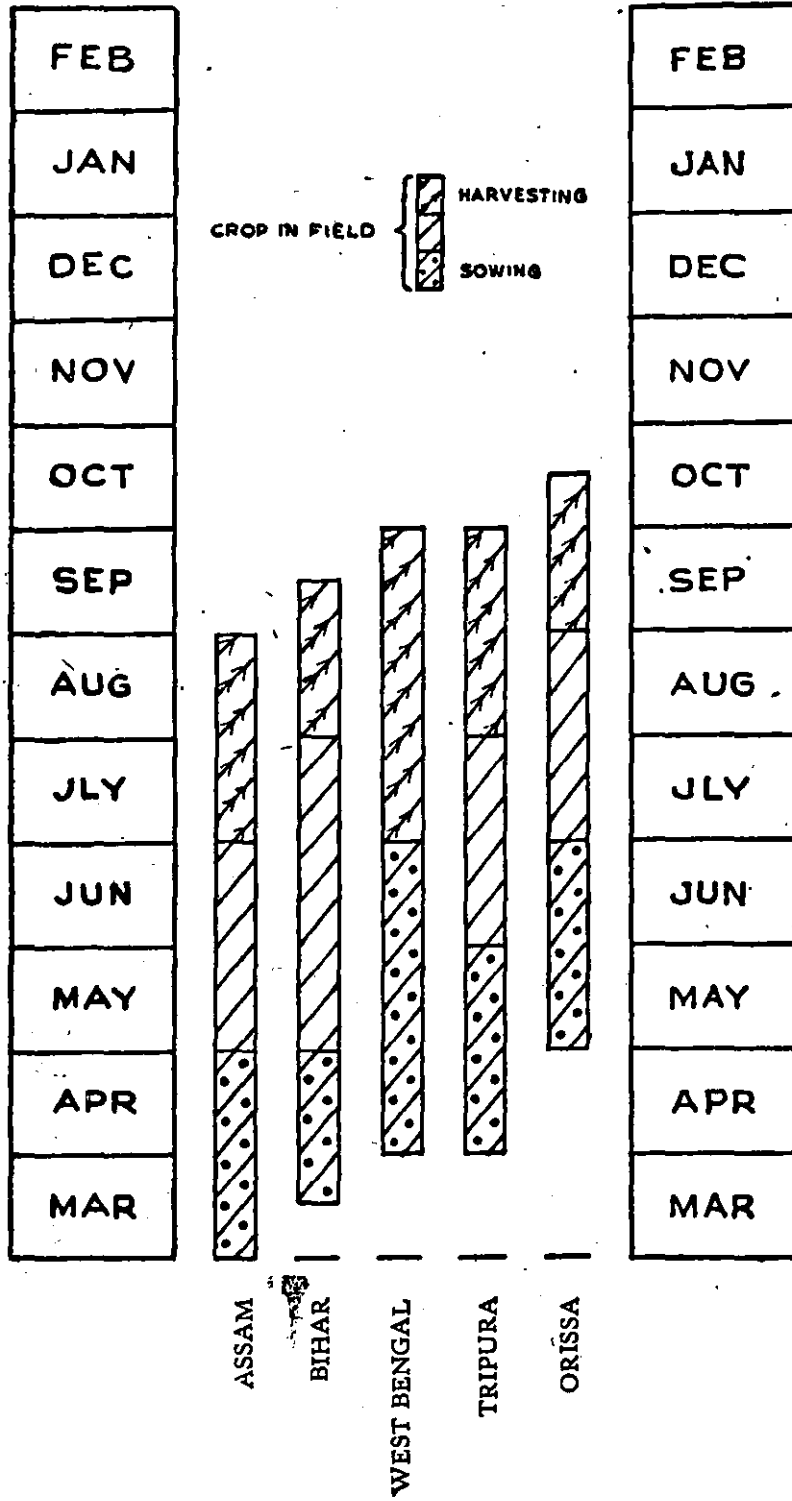
(1) Irrigated (0) Dry

CROP IN FIELD  
SOWING (Dh) Dholleras  
HARVESTING



C. 15

**JUTE**  
SOWING AND HARVESTING SEASONS IN INDIA



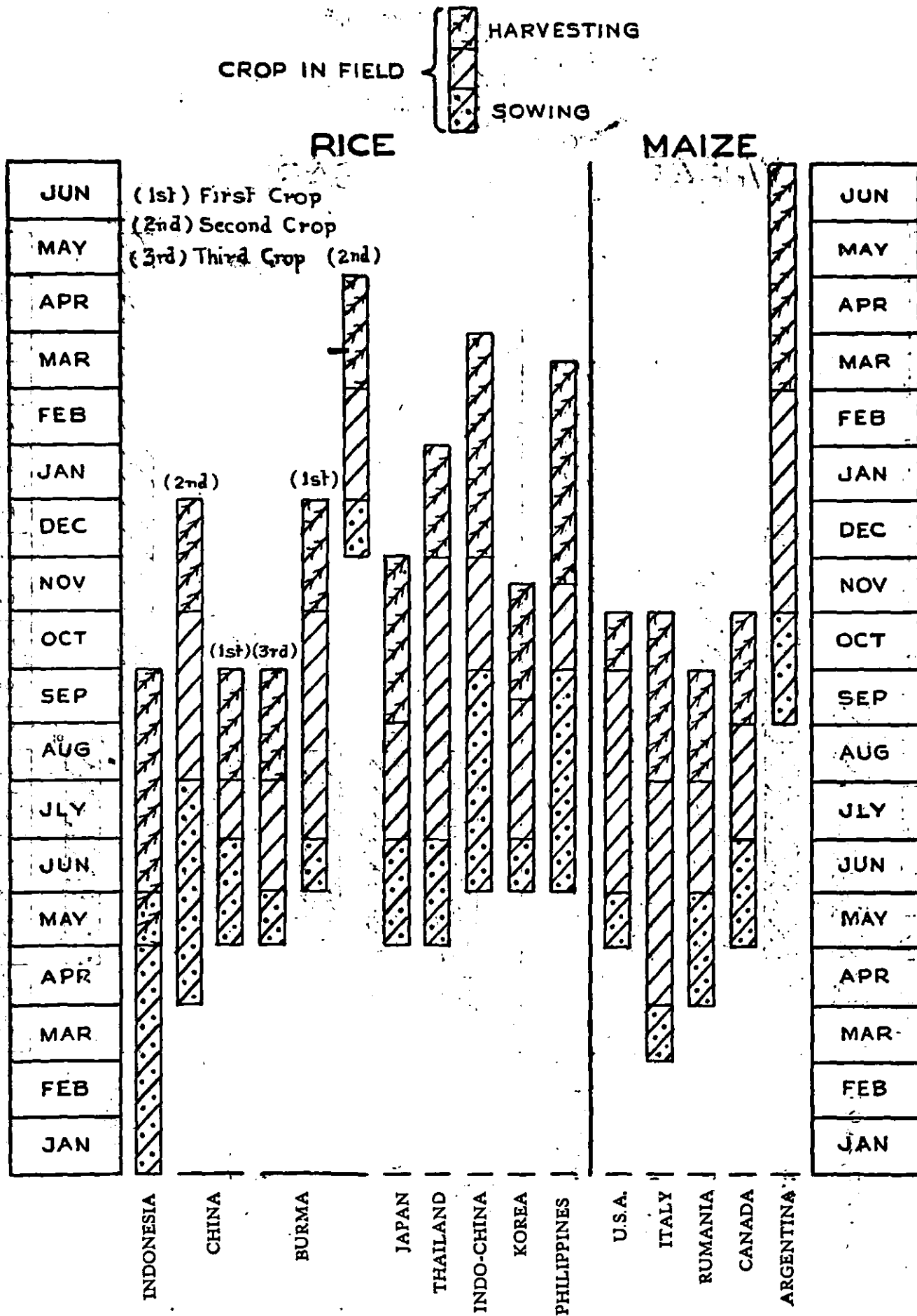




C. 17

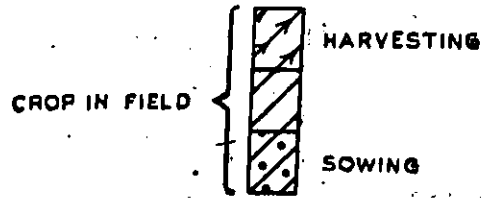
# RICE & MAIZE

SOWING AND HARVESTING SEASONS IN FOREIGN COUNTRIES



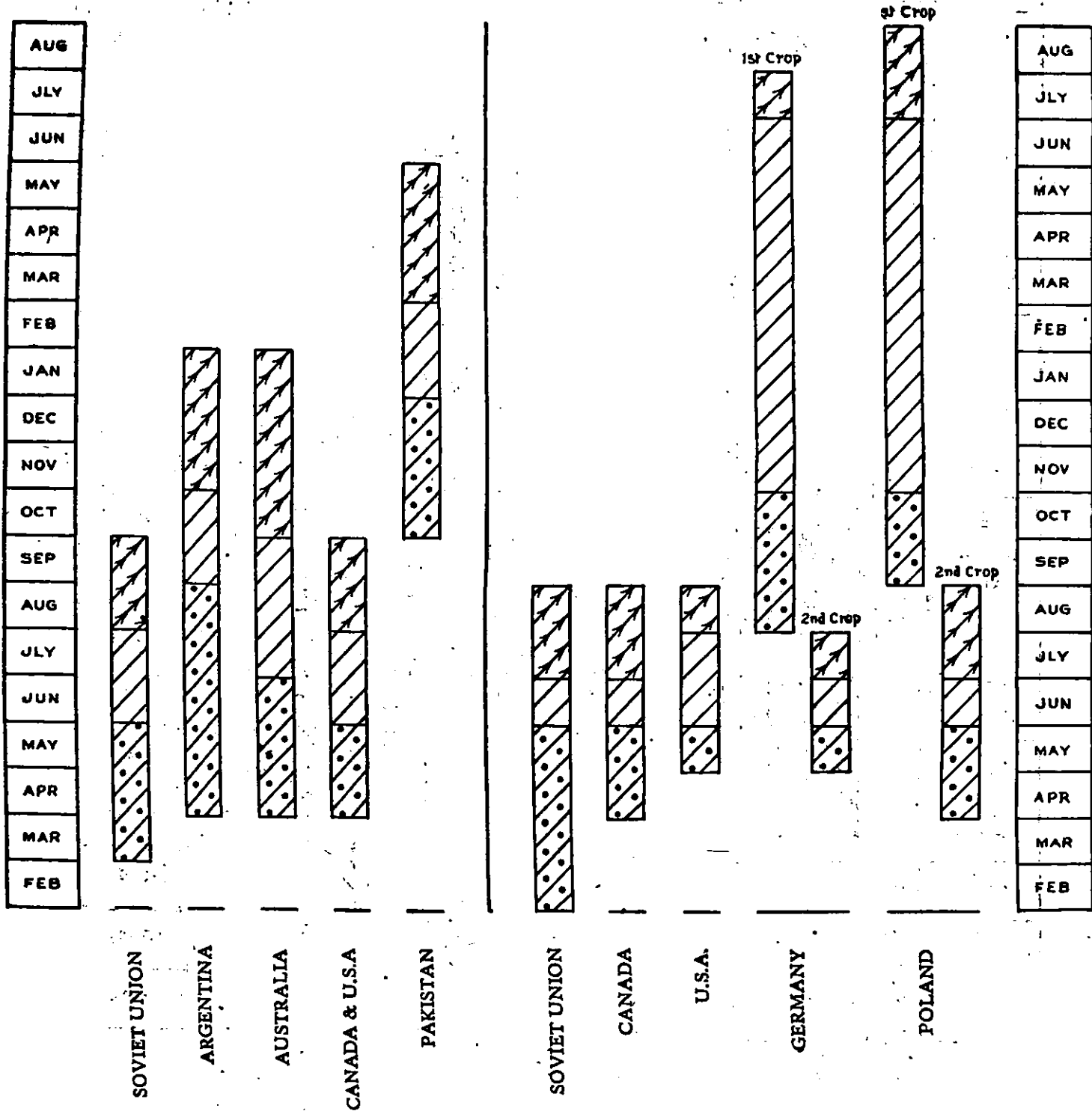
# WHEAT & BARLEY

## SOWING AND HARVESTING SEASONS IN FOREIGN COUNTRIES



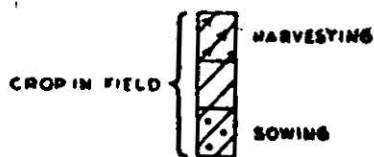
### WHEAT

### BARLEY



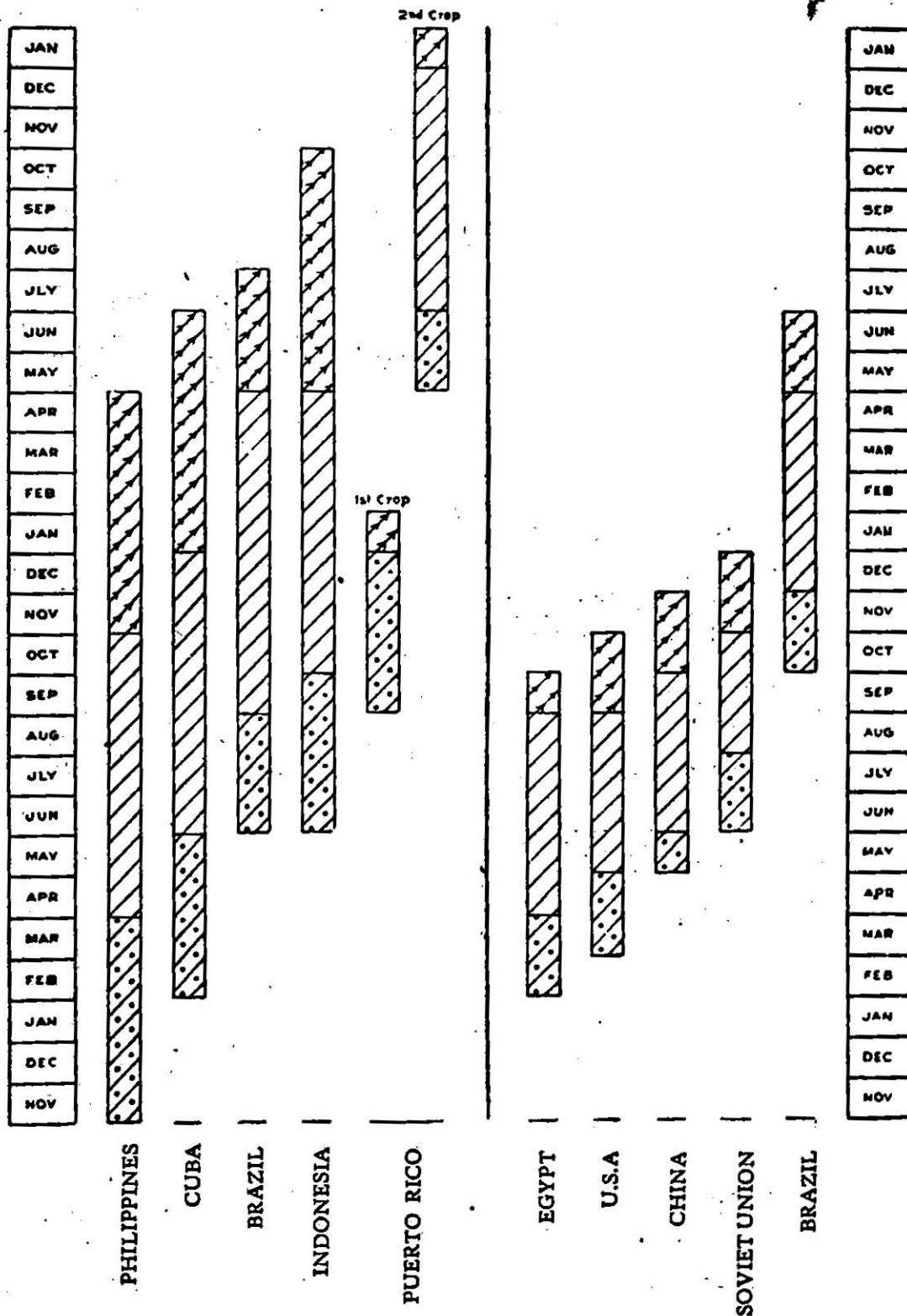
C. 19

### SUGARCANE AND COTTON SOWING AND HARVESTING SEASONS IN FOREIGN COUNTRIES



#### SUGARCANE

#### COTTON



## 7. CROP DISEASES

## 7.1. IMPORTANT DISEASES OF FOOD CROPS, THEIR DISTRIBUTION AND SOME PRACTICAL METHODS OF CONTROL

Crop	Disease Scientific name	Distribution	Control Measures
<b>Cereals</b>			
Rice	1. Seeding blight ( <i>Fusarium moniliforme</i> )	Madras (incl. Andhra), Bihar, Assam, West Bengal, Orissa and possibly Madhya Pradesh, Uttar Pradesh, Mysore and Coorg. Unknown in the Punjab and Bombay.	Seed treatment with Agrosan (1 : 500).
	2. Foot rot, leaf spot and ear blight ( <i>Helminthosporium oryzae</i> )	Throughout India	Seed treatment as above.
	3. Blast ( <i>Piricularia oryzae</i> )	Madras (incl. Andhra), Orissa, West Bengal, Mysore, Coorg and possibly Uttar Pradesh, Madhya Pradesh and Bihar.	Seed treatment as above and spraying seedbeds with Bordeaux mixture for seedling phase of disease. Later phase can be controlled by cultural operations and resistant varieties.
	4. Leaf spot and consequent lodging <i>Cercospora oryzae</i>	Possibly throughout India	—
	5. Black Stem Rush <i>Puccinia graminis</i>	West Bengal	—
	6. Foot rot and root rot <i>Helminthosporium Satiyum</i> and other species, <i>Pythium graminicolum</i> and other fungi	Throughout India	Seed treatment with Agrosan GN (1 : 500).
	7. New Hunt <i>Neo Vossia Indica</i>	Punjab	—
	8. Flag smut <i>Urocystis tritici</i>	Punjab, P.E.P.S.U., possibly Vindhya Pradesh and Madhya Pradesh.	Seed treatment with Agrosan GN (1 : 500).
	9. Black Paint disease <i>Alternaria Helminthosporium</i> species	Punjab	—
Wheat	10. Loose smut <i>Ustilago tritici</i>	Throughout India	Hot water treatment (Pre-soaking in water at 60-85°F for 4-7 hours, followed by immersion in hot water at 120°F for 5 minutes and later treatment in hot water at 127°F to 132°F for 7 minutes. Afterwards, it is to be dried and can be sown immediately or stored till sowing time or solar heat treatment, in places like the Punjab and Delhi and using of resistant varieties.
	11. Earwekle	Punjab	—
	12. Smooth and rough spored hunts <i>Tilletia caries</i> and <i>Tilletia foetida</i>	Areas over 5,000 feet above mean sea level, not in the plains.	Seed treatment with Agrosan GN (1 : 500).

## 7.1. IMPORTANT DISEASES OF FOOD CROPS THEIR DISTRIBUTION AND SOME PRACTICAL METHODS OF CONTROL—*contd.*

Crop	Disease Scientific name	Distribution	Control Measures
<b>Cereals—Continued</b>			
Jowar	13. Smuts <i>Sphacelotheca sorghi</i> and <i>S. Cruenta</i>	Throughout India	Seed treatment with fine sulphur dust at the rate of 1 oz. to 15 lbs. of seed.
Barley	14. Smuts <i>Ustilago hordei</i> and <i>Ustilago nude</i>	Throughout India	(i) Seed treatment with Agrosan GN (1: 500). (ii) Hot water treatment as in the case of loose smut of wheat.
Millets	15. Smuts <i>Ustilago crameri</i>	Madras (incl. Andhra), Mysore	Seeds steeped in 2% solution of copper sulphate for 15 minutes before sowing.
	16. Smuts of Maize <i>Ustilago leae</i>	Punjab	—
<b>Vegetables</b>			
Potato	17. Early blight <i>Alternaria solani</i>	Throughout India	Spraying with (4: 4: 50) Bordeaux mixture or 0.35% Perenox.
	18. Late blight <i>Phytophthora infestans</i>	Over 5000 ft. above mean sea level, in Northern India, Himalayan regions only	Carefully timed spraying with (4: 4: 50) Bordeaux mixture or 0.35% Perenox.
	19. Virus Virus X, Virus Y, Leafroll, etc.	Throughout India	(1) Seed Certification.  (2) Roguing out of virus affected Kants: Resistant varieties.
Peas	20. Powdery mildew <i>Erysiphe polygoni</i>	Throughout India	Dusting with fine sulphur dust (300 mesh).
Beans	21. Powdery mildew <i>Oidium</i> sp.	Throughout India	Do.
	22. Rust <i>Oromyces appendiculatus</i>	Throughout India	Do.
Bhindi	23. Mosaic Virus	Throughout India	—
Tomato	24. Damping off Species of <i>Pythium</i> and <i>Rhizoctonia</i>	Throughout India	Seed treatment and treating soil with formaldehyde or Bordeaux mixture as follows:—(Sterilizing the seedbed with formaldehyde (1: 50) at the rate of one gallon for 2 or 3 sq. ft. of soil, or spraying Bordeaux mixture (4: 2: 100) at the rate of $\frac{1}{2}$ gallon per sq. foot one before sowing the seed and another a week after germination and seed treatment with Arasan (1 tea-spoonful per lb. of seed).
<b>Cruciferous</b>			
	25. Damping off Sp. of <i>Pythium</i> and <i>Rhizoctonia</i>	Throughout India	Seed treatment and sterilization of seedbed as in case of tomato damping off above.
	26. Born deficiency diseases	Nilgiris and Pulneys	Application of borax.
	27. Club-root <i>Plasmodiophora brassicae</i>	Nilgiris, Travancore-Cochin and Darjeeling	Liming the soil at the rate of about 1,500 lbs. per acre depending upon the soil and rotation of crops.

**7.1. IMPORTANT DISEASES OF FOOD CROPS, THEIR DISTRIBUTION AND SOME PRACTICAL METHODS OF CONTROL—concl.**

Crop	Disease Scientific name	Distribution	Control Measures
<b>Vegetables—Contd.</b>			
Cucurbits	28. Powdery mildew <i>Erysiphe cichoracearum</i>	Throughout India	Sulphur dusting.
	29. Downy mildew <i>Pseudoperonospora cubense</i>	Northern India in most places	Spraying with Bordeaux mixture (4 : 4 : 50).
<b>Fruits</b>			
Mango	30. Powdery mildew <i>Oidium mangifera</i>	Throughout India	Dusting with fine sulphur (300) mesh.
Citrus	31. Canker <i>Pseudomonas citri</i>	Throughout India	Pruning the affected parts and timely and careful spraying with fungicides, viz., Bordeaux mixture (4 : 4 : 50) or Perenox 0.35%.
	32. Powdery mildew <i>Oidium tingitaninum</i>	Throughout India	Sulphur dusting.
	33. Leaf-fruit-fall <i>Phytophthora palmivora</i>	Orissa, Coorg, Madras (incl. Andhra), and Mysore.	Spraying with fungicides viz., Bordeaux mixture (1%) or Perenox.
	34. Die-back Controversial, may be also <i>Collectorchium gloeosporioides</i>	Throughout India	—
	35. Preharvest drop of fruits Physiological	Throughout India	—
	36. Mottle leaf Zinc deficiency in Soil	Throughout India	Addition of zinc sulphate to soil or spraying a mixture of zinc sulphate, hydrated lime and water (ratio, 5 lbs. : 2.5 lbs. : 50 gallons)
Apple	37. Canker (Stem black) <i>Coniothecium chomatosporum</i>	Uttar Pradesh, Punjab & P.E.P.S.U.	Pruning and application of chaulmattia paste (4 parts red lead oxide, 4 parts of copper carbonate and 5 parts of lanoline).
Figs	38. Rust <i>Cerotelium fici</i>	Bombay, Mysore	—

## 7.2 INSECT PESTS AFFECTING FOOD CROPS, THEIR DISTRIBUTION AND SOME PRACTICAL METHODS OF CONTROL

Crop	Pest Scientific name	Distribution	Control Measures
<b>Cereals</b> Rice	Swarming caterpillar <i>Spodoptera mauritia</i>	Madras (incl. Andhra) Assam, Uttar Pradesh, West Bengal, Bihar, Madhya Pradesh, Bombay, Mysore, Orissa and Vindhya Pradesh.	(i) Spraying or dusting the crop with insecticides, (ii) Flooding the field and dislodging larvae in kerosenised water has also been found successful at times.
	Paddy stem borer <i>Schaenobius incertellus</i> <i>Schaenobius bipunctifer</i>	South India, West Bengal, Madhya Pradesh, Bihar, P.E.P.S.U., Uttar Pradesh, Orissa, Vindhya Pradesh.	Really effective control measures are not yet known. The following reduce the damage:—(i) Dipping seedling in 0.1% DDT suspension. (ii) Ploughing up the stubbles after harvest to destroy hibernating larvae and pupae. (iii) Submerging the stubbles under water also kills larvae and pupae within. (iv) light traps.
	Black Hairy caterpillar, Hairy caterpillar <i>Nisaga simplex</i>	Madhya Pradesh, Coorg, Bihar, Orissa, Vindhya Pradesh.	—
	Rice caseworm <i>Nymphula depunctalis</i>	Madras (incl. Andhra), Bombay, Madhya Pradesh, Orissa, Bihar, U.P., West Bengal, Vindhya Pradesh.	(i) Spraying or dusting the crop with insecticides during the nursery stage. (ii) Dislodging the larvae cases into kerosenised water.
	Rice Hispa <i>Hispa armigera</i>	Madras, (incl. Andhra), Bombay, Madhya Pradesh, Bihar, Orissa, U.P., West Bengal, Assam, Vindhya Pradesh.	(i) Dusting the crop with insecticides. (ii) Clipping off the leaf tips in nurseries while transplanting seedlings.
	Blue beetle <i>Leptisma pygmaea</i>	Madras (incl. Andhra), Coorg, Mysore, Bombay, U.P. and West Bengal.	—
	Rice bug <i>Leptocorisa acuta</i> L. <i>varicornis</i>	South India, Uttar Pradesh, West Bengal, Vindhya Pradesh.	Spraying or dusting the crop with insecticides.
	Rice gall-fly <i>Pachydiplosis oryzae</i>	Madras (incl. Andhra), Bombay, Madhya Pradesh, Orissa, Bihar, West Bengal, Assam.	—
	Rice Grass-hopper <i>Hieroglyphus banian</i> , <i>H. oryzaevorus</i>	Madras (incl. Andhra), Orissa, Punjab, Bombay, Madhya Pradesh, Uttar Pradesh, West Bengal, Vindhya Pradesh.	(i) Dusting ; (ii) Baiting.
	<b>Jowar</b>	Deccan wingless grass-hopper <i>Colemania sphenaroides</i>	South India, Bombay and Hyderabad.
Phadka grass-hopper <i>Hieroglyphus nigrorepletus</i>		Rajasthan, Central India, Uttar Pradesh, Punjab.	(i) Dusting ; (ii) Baiting.
Jowar stem borer (Maize borer) <i>Chilo zonellus</i>		Throughout India.	No effective and direct control measures are yet known. The following have been found to reduce damage to some extent. (i) Removal of dead hearts ; (ii) Destruction of Stubbles.
Hairy caterpillar (Kutra) <i>Amsacta moorei</i> , <i>A. albistriga</i>		Uttar Pradesh, Rajasthan, Punjab, P.E.P.S.U., South India, Bihar, Orissa.	—
Army worm <i>Cirphis unipuncta</i>		Madras (incl. Andhra), Bombay, U.P. Rajasthan, Vindhya Pradesh.	—
Earhead bug <i>Calocoris angustatus</i>		Uttar Pradesh, South India.	(i) Dusting ; (ii) Spraying.



**7.2 INSECT PESTS AFFECTING FOOD CROPS, THEIR DISTRIBUTION AND SOME PRACTICAL METHODS OF CONTROL—contd.**

Crop	Pest Scientific name	Distribution	Control Measures
<b>Cereals—Contd.</b>			
Bajri and Pulses	Hairy caterpillar "Kutra" <i>Amsacta moorei</i> , and <i>A. albistriga</i>	Punjab, P.E.P.S.U., Gujrat, Rajasthan, South India, Bombay, Orissa, U.P.	(i) Spraying or dusting the crop with insecticides; (ii) Use of light traps against moths at the proper time. (iii) Deep ploughing of the land after harvest to kill pupae.
Pulses	Agromyza <i>Agromyza obtusa</i>	Madhya Pradesh, Assam, Bihar, U.P.	—
<b>Vegetable crops</b>			
Potato, Brinjal, etc,	Epilachna beetles <i>Epilachna vigintioctopunctata</i>	Throughout India	—
	Cutworm <i>Agrotisypsilon</i> , <i>A. flammatra</i> , <i>A. segetis</i>	Bihar, West Bengal, Uttar Pradesh, Orissa, South India, Punjab, Vindya Pradesh.	(i) Spraying or dusting the crop (ii) Baiting.
	Stem borer <i>Euzophera perticella</i>	Punjab, Uttar Pradesh, Bihar, Orissa and P.E.P.S.U.	—
	Fruit borer <i>Leucinodes orbonalis</i>	Throughout India	—
	Potato Tuber Moth <i>Gnorimoschema operculalla</i> Zell	Punjab	—
Cruciferous plants	Mustard Sawfly <i>Athalia proxima</i>	Indian plains	—
Chilli	Chilli thrips <i>Scirtothrips dorsalis</i>	Throughout India	Spraying or dusting the crop.
Various crops	Plant lice Different species of aphids	Throughout India	—
Sugarcane	Termites <i>Microtermes</i> Sp.	Throughout India	No direct method of control has been found. However, dipping the setts in 0.3% wettable B.H.C. or dusting in furrows B.H.C. or DDT at planting time; frequent irrigations with water charged with crude oil emulsion have a deterrent effect.
	Top borer <i>Scirpophaga nivalla</i> , <i>Argyria sticticrasis</i>	Throughout India	No satisfactory chemical method found so far; but removal of affected shoots from bases reduces further attack.
	Stem borer <i>Diatroea</i> Sp. <i>Sesamia inferens</i>	Throughout India	—
	Sugarcane Pyrilla <i>Pyrilla Perpusilla</i>	Punjab	—
	Root borer <i>Emmolocera depressella</i>	Throughout India	—
	New Pyrallid Borer <i>Chilo Trypetes</i>	Punjab	—
	Cane fly or clean leaf hoppers <i>Pyrilla</i> Sp.	Throughout India	(i) Dusting or spraying the crop. (ii) Stripping of dry leaves. (iii) Conservation and releasing of egg parasites.

**7.2 INSECT PESTS AFFECTING FOOD CROPS, THEIR DISTRIBUTION AND SOME PRACTICAL METHODS OF CONTROL—concl.**

Crop	Pest Scientific name	Distribution	Control measures	
Sugarcane—Contd.	Mango hopper <i>Idiocerus niveosparus</i>	Throughout India	Dusting or spraying the affected trees	
	Mealy bug <i>Drosicha stebbingi octocaudata</i>	Punjab, P.E.P.S.U, Bihar, Uttar Pradesh, Vindhya Pradesh.	—	
Grape vine	Flea beetle <i>Scelodonta strigicollis</i>	Throughout India especially Bombay and Madras.	—	
Citrus	Plant lice <i>Diaphorina citri</i>	Punjab, Madhya Pradesh, U.P. P.E.P.S.U.	—	
	White fly <i>Aleurocanthus spinifera</i>	Punjab, Madhya Pradesh, Madras (incl. Andhra), U.P., P.E.P.S.U.	—	
	Citrus borer <i>Stromatium barbatum, Chelidonium cinctum</i>	Madhya Pradesh, Coorg, Madras (incl. Andhra), Nilgiris, U.P.	—	
	Bark eating caterpillar <i>Indarbala tetraonis</i>	Madhya Pradesh, U.P., Vindhya Pradesh	Injection of tunnels with petrol and chloroform mixture or ethylene dichloride carbon tetrachloride mixture.	
Apple, Peach, etc.	Citrus fruit borer <i>Ophideres fullonica</i>	Madhya Pradesh, Bombay, U.P.	—	
	Woolly aphid <i>Eriosoma lanigerum</i>	Punjab, Nilgiris, Bangalore, and Uttar Pradesh hills and P.E.P.S.U.	—	
	Peach aphid <i>Lachnus persicae</i>	Mountaneous part of India	—	
	San jose Scale <i>Quadraspidiotus perniciosus</i>	Kashmir and Punjab and P.E.P.S.U. hills	—	
	Fluted scale <i>Icerya purchasi</i>	Madras (incl. Andhra), Mysore, Travancore	—	
	Cocoanut	Black headed cocoanut caterpillar <i>Nephantis seriinopa</i>	Madras (incl. Andhra), Bombay, West Bengal	—
	Stored grain (Cereals and products)	Rice-weevil <i>Sitophilus oryzae</i>	Throughout India	—
Khapra <i>Trogoderma granarium</i>		Throughout India	—	
Grain moth <i>Sitotroga cerealella</i>		Throughout India	—	
Indian meal moth <i>Plodia interpunctella</i>		Throughout India	—	
Red-flour beetle <i>Tribolium castaneum</i>		Throughout India	—	
Pulses	Pulse beetle <i>Bruchus spp.</i>	Throughout India	—	
Various crops and Seedlings	Mole rat <i>Gunomys kok</i>	Throughout India	—	
	<i>Bandicoota sp.</i>	Throughout India	—	

### 7.3 DISEASES OF NON-FOOD CROPS, THEIR DISTRIBUTION AND SOME PRACTICAL METHODS OF CONTROL

Crop	Diseases Scientific names	Distribution	Control Measures
Sugarcane	Red-rot <i>Physalopora tucumanensis</i>	Throughout India	1. Selection of sound seed for planting. 2. Ratooning in diseased localities to be abandoned. 3. Use of resistant varieties. 4. Clean cultivation.
	Wilt <i>Cephalosporium Sacchari</i> Bulter	Throughout India	Same as for Red-rot.
	Smut <i>Ustilago Scitaminea</i> Sydow	Madras (incl. Andhra), West Bengal, Bihar, Uttar Pradesh, Madhya Pradesh, Vindhya Pradesh.	Infected clumps should be removed without shaking in a bag and burnt.
	Mosaic Virus	Madras (incl. Andhra), Mysore, Bihar, Uttar Pradesh, Vindhya Pradesh.	Use of resistant varieties.
Cotton	Cotton wilt <i>Fusarium vasinfectum</i> Atk.	Hyderabad, Bombay, Madhya Pradesh, Central India, Vindhya Pradesh.	Use of resistant varieties.
	Angular Leaf Spot <i>Xanthomonas malvacearum</i> E F. Smith Dowson.	Throughout India on exotic cottons	—
	'Tirak' disease Physiological	Punjab and P.E.P.S.U.	—
Jute	Stem-rot <i>Macrophomina Phaseoli</i> (Maubl.) Ashby	West Bengal, Assam, Bihar, Orissa	—
Mesta	Stem-rot <i>Scalerotinia sclerotiorum</i> (Lib.) de Bary	Bihar, West Bengal	—
Sann-hemp	Wilt <i>Fusarium udum</i> Butl. var. <i>crotolariae</i> (Kulk) Padwick	Central India	—
	Stem-rot <i>Macrophomina phaseoli</i> (Maubl.) Ashby	Several parts of India	—
Tea	Grey blight <i>Pestalotia theae</i> Sawada	Throughout tea growing areas in India	—
	Blister blight <i>Exobasidium vexans</i> Massee	Assam, West Bengal, Nilgiris and Southern India	1. Pruning and burning the diseased leaves. 2. Spraying with Bordeaux mixture or Perenox. (Perenox at 2 oz. in 10 gallons of water may be quite effective.)
Coffee	Leaf rust <i>Hemileia vastatrix</i> Berk & Br.	Southern India	Spray Bordeaux mixture (2 : 2 : 50) a month after the blossom showers or after the initiation of vegetative growth.
	Black rot ('Koleroga' disease) <i>Corticium Koleroga</i> Cooke V. Hoehn	Southern India	1. Removal of the dead leaves and twigs before monsoons. 2. Spraying of Bordeaux mixture (4 : 4 : 50) and an adhesive like Besin, Soda or lime caseinate.

### 7.3 DISEASES OF NON-FOOD CROPS, THEIR DISTRIBUTION AND SOME PRACTICAL METHODS OF CONTROL—*contd.*

Crop	Diseases Scientific names	Distribution	Control Measures
Tobacco	Damping-off <i>Pythium</i> spp. (including <i>Pythium de Baryanum</i> Hesse)	Throughout India	1. Sterilizing seed beds by burning wood upon the sites, or 2. by disinfecting the soil with 1:50 formaldehyde at the rate of 1 gallon per 2 or 3 sq. ft. of soil. 3. spraying with 1% Bordeaux mixture at the rate of 1/2 gallon per square foot, one before sowing, the other after a week of their germination.
	Leaf spot <i>Cereospora nicotinae</i> Ell. & Ev.	Throughout India	—
	Tobacco Mosaic Virus	Throughout India	—

### 7.4 INSECT PESTS AFFECTING NON-FOOD CROPS, THEIR DISTRIBUTION AND SOME PRACTICAL METHODS OF CONTROL

Crop	Pests—Common names and Scientific names	Distribution	Control Measures
Oilseeds Sesamum	Bihar Hairy caterpillar <i>Diacrisia obliqua</i>	Uttar Pradesh, Bihar Orissa, Madhya Pradesh, Bombay, West Bengal and Assam	—
	Leaf rollar or Leaf & pod caterpillar <i>Antigastra-catalaunalis</i>	Throughout India	Spraying the crop.
Castor	Semi looper <i>Achaea janata</i>	Throughout India	—
	Hairy caterpillar <i>Euproctis fraterna</i>	Throughout India	—
	Capsule borer <i>Dichocrocis-punctiferalis</i>	Throughout plains of India	—
	White fly <i>Aleurodes ricini</i>	Throughout India	—
Groundnut	Kuttra <i>Amsacta moorei</i> , <i>A. albistriga</i>	Throughout India	—
	Surul-puchi <i>Aproaerema netara</i>	Bihar, West Bengal, Madras and Bombay	Trapping the moths by lights. Destruction of affected shoots.
Safflower	Leaf-caterpillar <i>Peregia capensis</i>	Bihar, South India	—
Sarson	Mustard saw-fly <i>Athalia proxima</i>	Throughout India	—
Toria, Mustard, etc.	Painted bug <i>Bagrada cruciferarum</i>	Throughout India	—
Cotton	Semi looper <i>Cosmophila erosa</i>	Punjab, Uttar Pradesh, Bihar, Ajmer, Bombay and Vindhya Pradesh	—
	Leaf roller <i>Sylepta derogata</i>	Throughout India	—
	Spotted bollworm <i>Earias insulana</i> and <i>E. fabia</i>	Throughout cotton growing zones of India	—

### 7.4 INSECT PESTS AFFECTING NON-FOOD CROPS, THEIR DISTRIBUTION AND SOME PRACTICAL METHODS OF CONTROL—*contd.*

Crop	Pests—Common names and Scientific names	Distribution	Control Measures
Cotton— <i>contd.</i>	Pink bollworm <i>Platyedra gossypiella</i>	Throughout cotton growing zones of India.	—
	Red bug <i>Dysdercus cingulatus</i>	Throughout India	—
	Dustry bug <i>Oxycarenus loetus</i>	Punjab, U.P. and P.E.P.S.U.	—
	Jassids <i>Empoasca devastans</i>	Punjab, U. P., Delhi, Bihar, Madhya Pradesh, PEPSU, Bombay and Vindhya Pradesh.	Dusting or spraying the crop.
	White fly <i>Bemisia tabaci</i>	Punjab, Delhi and P.E.P.S.U.	—
	Leaf weevil <i>Myloccerus II-pustulatus</i>	Throughout India	—
	Stem weevil <i>Pempherus affinis</i>	Madras (incl. Andhra) and Bihar	—
Jute	Bihar Hairy caterpillar <i>Diacrisia obliqua</i>	Bihar, Orissa, West Bengal and U.P.	—
	Semi looper <i>Cosmophila sabulifera</i>	Madras (incl. Andhra), Bihar, West Bengal, Assam, Orissa, Punjab, Madhya Pradesh, Bombay and U.P.	Dusting or spraying the crop.
Sann-hemp	Pod borer <i>Utetheisa pulchella</i>	Bihar, Orissa, West Bengal, Punjab, Madhya Pradesh and U.P.	—
	Weevil <i>Myloccerus II-pustulatus</i>	Throughout India	—
Tea	Leaf eaters <i>Stauropus alternus</i> <i>Biston suppressaria</i> <i>Clania crameri</i>	North-East India. North-East India (U.P.) Assam.	— — —
	Weevil <i>Corigetus bidentulus</i>	Assam	—
	Bug <i>Helopeltis theivora</i>	East and South India	—
	Scale insect <i>Aspidiotus camelliae</i>	South India	—
	Miscellaneous insects Mites, aphids and thrips	Wherever tea is grown in India	—
	Coffee	Cut worm <i>Euxoa segetum</i>	Hills of South India and Mysore
Mealy bug <i>Dpsuedococouscitri</i>		Coorg	—
White borer <i>Xylotrechus quadripes</i>		Coorg and Mysore	Dusting and scrubbing of stems with insecticides to kill eggs, larvae and adults.
Red borer <i>Zeuzera coffeale</i>		All coffee growing tracts	—
Green scale <i>Coccus viridis</i>		Coorg	—
Tobacco		Caterpillar <i>Heliothis assulta</i>	Throughout India
	Cut worm <i>Prodenia litura</i>	Throughout India	—
	Stem borer <i>Phthorimaea neliopa</i>	Throughout plains	—

## 8. CROP CALENDAR

### 8.1 CROP CALENDAR SHOWING IMPORTANT AGRICULTURAL OPERATIONS OBTAINING IN THE STATES

State	Preparation of the Soil	Sowing and Transplanting	Growing and Maturing	Harvesting and Threshing
<b>JANUARY</b>				
Assam	Soil prepared for sowing lowland Aus Paddy and Murali; Preparatory tillage for Jute and Sugarcane.	Sowing of lowland Aus Paddy begun; Transplantation of Sali (Rice) and Irrigated Rice in Lushai Hills; Potatoes sown.	Rainfed Pulses begin to flower from middle of month; Tobacco is flowering and maturing; Tea plants are pruned; Linseed crop maturing.	Harvesting and threshing of rainfed Kharif Rice; Cutting and crushing of Sugarcane begins from middle of the month; Harvesting of Kulthi (Horsegram).
Bihar	Preparatory tillage for Sugarcane.	Sowing of Sugarcane in parts.	Elongation of the Wheat plant and flowering; Barley crop growing; Bengal gram and Linseed maturing; Arhar ready for harvesting.	Rainfed Kharif Rice being threshed; Harvesting of early Cotton completed; Linseed harvesting begins towards the close of month; Harvesting of Kharif Castor.
Bombay	Land ploughed in after Kharif Rice is harvested; Preparatory tillage for Sugarcane in some districts.	Sowing of summer Rice in some districts; Planting of Sugarcane in Surat and Southern Maratha districts.	Wheat crop in ears: So too Rabi Jowar.	Threshing of Kharif Rice completed; Threshing of Kharif Jowar in progress; Sesamum sown in September ready for harvest; Groundnut sown in June-July lifted in December-January; Turmeric planted in May being collected; Harvesting of Linseed, Rape and Kharif Castor; Cotton being picked.
Madhya Praddsh	Ploughing for early Cotton; Preparatory tillage for Rabi Rice and irrigated Sugarcane.	Sowing of Rabi Rice commences towards end of month; Planting of unirrigated Sugarcane may be extended to the month. Planting of irrigated cane begins.	Wheat crop in ears; Elongation and flowering of Rabi Jowar.	Threshing of Kharif Rice completed; Harvesting of Kharif Jowar may be extended to second week; Harvesting of Linseed, Rape and Mustard begins and that of Groundnut nearing completion; Picking of Cotton in progress; Harvesting of irrigated Sugarcane begins.
Madras & Andhra	Preparatory tillage for Kharif Rice in some districts like Chingleput for Cotton (irrigated) in Ramnad district and for Jowar (Rabi) and Ragi in Trichinopoly.	Sowing of Rabi Rice in Travancore-Cochin and transplantation in Anantapur and West Godavari; Planting of Sugarcane and irrigated Tobacco; Coffeeseed beds sown.	Elongation of Jowar stalk and flowering in ceded districts, East Godavari and Guntur; Horsegram growing; Flowering and boll formation of Cotton in Anantapur, Cuddapath, Guntur, Coimbatore and Madura; Linseed growing and ready for harvest in places.	Harvesting of Kharif Rice in most districts Rabi Rice also harvested in the districts of South Kanara, Trichinopoly and North Arcot; Harvesting and threshing of Jowar in Vizagapatam, Madura and West Godavari; Bengal gram sown in October ready for harvesting, as also Groundnut and Sesamum sown in September, Castor pods being gathered; Picking of Kharif Cotton commences in Bellary, Cuddapah and Guntur.
Orissa	Land ploughed after harvesting of winter Rice; Preparatory tillage for Sugarcane.	Sesamum (Rabi) sown.	Flowering and grain formation of Rabi Jowar.	Threshing of Kharif Rice and harvesting of Sugarcane completed; Harvesting of Linseed, Rape and Mustard begun; Kharif Castor ready for harvesting; Cotton picking in progress.
Punjab	Preparatory tillage for fallow lands for Cotton, Sugarcane and Kharif Fodders. Preparation and manuring of land for Potatoes, Tobacco and all summer vegetables. Application of F. Y. manure to lands meant for Sugarcane planting.	Sowing of Tobacco; Planting and hoeing of Onion, sowing of cucurbits at places.	Watering of Wheat, Barley, Linseed and all Rabi Fodders and weeding of Wheat, Barley and Oats; Watering of late varieties of Sugarcane of previous year and watering and weeding of all Rabi Condiments and Spices. Application of chemical fertilizers to wheat.	Completion of harvesting and threshing of Kharif Rice; Threshing of Kharif Jowar Harvesting and threshing of Toria; Picking of American Cotton completed; Harvesting and crushing of previous year's Sugarcane; Lifting of Potatoes in plains begins; Harvesting of Turmeric, Ginger and Chillies ends. Removal of Cotton sticks.

## 8.1 CROP CALENDAR SHOWING IMPORTANT AGRICULTURAL OPERATIONS OBTAINING IN THE STATES—contd.

State	Preparation of the Soil	Sowing and Transplanting	Growing and maturing	Harvesting and Threshing
<b>JANUARY—Contd.</b>				
Uttar Pradesh	Land prepared for Sugarcane, Hill Potatos and Zaid Vegetables, ploughing and levelling for Indigo.	Zaid or hot weather: Rice sown in slimy soils: Tobacco and onion transplanted. Sowing of Hill Potato, Sugarcane.	Wheat is growing: Potato crop maturing: irrigation of all Rabi crops and Vegetables.	Harvesting of Linseed, Rape and Mustard: Sugarcane Green Oats for fodder vegetables and Berseen. Threshing of Sanin for Seed.
West Bengal	Land prepared for sowing of Summer til and planting of Sourgarcane.	Boro transplanted in the swamps: Sowing of Sesamum and planting of Sugarcane.	Wheat, Barley, Gram, Pulses and Potato (late) growing: Arhar, Linseed and Rape and Mustard maturing: Tobacco is flowering.	Harvesting and threshing of Winter Rice: Harvesting of Sugarcane: Horsegram harvested: Turmeric begins to yield: Picking of Cotton crop completed: Potato harvest in the plains begins from about 15th. Harvesting of winter til.
Hyderabad	For Rice Tabi, (Summer) Sugarcane.	Rice Tabi, Sugarcane.	Rabi Jowar, Wheat, Rabi Pulses and Rabi Oilseeds growing.	Harvesting of late sown and late maturing varieties of abi Rice, Sugarcane, Tobacco. Picking of Kharif Cotton in progress, Harvesting of Linseed in parts.
Mysore	Tillage for Rabi Paddy and Jowar.	Rabi Paddy and irrigated Jowar.	Kharif Paddy and Sugarcane.	Kharif Paddy, Ragi, Sugarcane, Pulses, Minor Millets, Wheat and Groundnut, Cotton, Tobacco.
P.E.P.S.U.	Preparatory tillage of fallow land for Cotton, Sugarcane and Kharif fodders: Preparation and manuring of land for Potato and all summer Vegetables.	Planting and hoeing of Onions.	Watering of Wheat, Barley, linseed and all Rabi fodders, weeding of Wheat, Barley, Oats, Rabi condiments & spices. Watering of late varieties of Sugarcane of previous year.	Completion of harvesting and threshing of Kharif Rice, Kharif Jowar, Toria. Picking of American Cotton also completed. Harvesting of previous years sugarcane. Harvesting of Turmeric, Ginger and Chillies ends, lifting of Potatoes in the plains begins.
Rajasthan	—	—	Wheat, Barley and Rabi Oilseeds growing.	Harvesting of Sugarcane continues.
Saurashtra	Ploughing and harrowing of land—Carting manure.	Transplanting of vegetables and sugarcane seedlings.	Wheat crops in ears, Cotton and Sugarcane watering.	Sesamum sown in September ready for harvest. Picking of late sown Cotton.
Bhopal	Preparing land for Sugarcane and other irrigated crops.	Planting of Sugarcane. Sowing of other irrigated crops.	Wheat crop in ears. Other Rabi crops flowering and maturing.	Threshing of Jowar. Harvesting of Rabi Til. Picking of Cotton.
Tripura	Land ploughed for sowing lowland Aus Paddy, Tillage for Jute & Sugarcane.	Boro sown and transplanted.	Potatoes and Cotton.	Aman Paddy, Sugarcane, Potatoes.
Vindhya Pradesh	Land prepared for Sugarcane. Bunding in fallow fields.	Sowing of Sugarcane after middle of this month.	Wheat is growing, Potato crop maturing. Cotton ready for picking.	Harvesting of Jowar may extend upto 1st week. Harvesting of Sugarcane, picking of Castor and Cotton.
<b>FEBRUARY</b>				
Assam	Soil prepared for Jute: Land ploughed for Sugarcane.	Aus lowland sown: Rabi Rice transplanted in Lushai Hills, Manipur and Cachar: Potato crop sown.	Tea plant pruned: Flowering and grain formation of Grams and Pulses: Rabi Rice growing, Tobacco maturing.	Threshing of Kharif Paddy: Linseed, Rape and Mustard harvested: Cutting and crushing of Cane: Harvesting of Horsegram.
Bihar	Land prepared for Sugarcane.	Sowing of Sesamum (Rabi): Summer Rice and Jute sown.	Wheat and Barley crop maturing: Bengal Gram growing.	Harvesting and threshing of winter Rice: Cotton picking in progress: Kharif Castor gathered: Harvesting of Linseed, Rape and Mustard, Horsegram and Arhar.



Bombay	Preparatory tillage for Sugarcane.	Planting of Cane in some districts.	Rabi* Rice maturing: Gram and Pulses growing and in places ready for harvest.	Harvesting of Wheat and Rabi Jowar begun. Picking of Cotton continues in some districts: Linseed harvesting also begun.
Madhya Pradesh	Preparatory tillage for Cotton. Land prepared for irrigated Sugarcane.	Sowing of Rabi Rice. Planting of Cane continues. Sowing of all Summer Vegetables.	Grain formation of Wheat crop: Flowering and grain formation of Rabi Jowar; Horsegram and Arhar maturing.	Picking of Cotton completed: Harvesting of Rabi Jowar and Linseed begins. Cutting and crushing of Sugarcane.
Madras & Andhra	Preparatory tillage after harvesting of Kharif Rice.	Sowing of Rabi Jowar in Trichinopoly: Sowing of Kharif Cotton in Ramnad: Planting of Sugarcane in places.	Maturing of Jowar: Boll formation of Cotton in Anantapur and Cuddapah: Flowering and boll formation of Rabi Cotton: Sugarcane growing in places.	Threshing of Paddy continued, Harvesting of Rabi Rice in South Kanara: Harvesting of Jowar begun: Picking of Cotton in Guntur and Guddapah: Harvesting of Potatoes in Nilgiris: Harvesting of Bengal Gram.
Orissa	Preparatory tillage after Kharif harvest.	Sowing of Rabi Rice: Planting of Cane begins.	Seamum, Grams and Pulses growing: Wheat maturing.	Harvesting of Rabi Jowar, Linseed, Rape and Mustard, Cotton picking.
Punjab	Preparatory tillage for Cotton, Sugarcane, Potatoes Tobacco and all summer Vegetables. Application of F.Y. manure to lands for sowing Cotton and planting of Sugarcane.	Planting of Potatoes in plains: Sowing of thick variety of Sugarcane: Sowing of all summer Vegetables.	Watering of Wheat, Barley, Linseed and Oats: Gram and Pulses growing: Watering and weeding of all winter Vegetables.	Harvesting and crushing of previous year's Cane: Lifting of the autumn crop of Potatoes in plains ends. Removal of Cotton sticks.
Uttar Pradesh	Preparation of land for Sugarcane, Zaid crops and Vegetables continues.	Transplanting of Zaid or hot weather Rice: Sowing of Sugarcane, Zaid Tobacco, Zaid crops and Vegetables.	Grams and Pulses growing: Grain formation of Wheat and Barley: irrigation of Vegetables, Rabi crops and Sugarcane.	Picking of Cotton and Castorseed. Potato crop dug up. Harvesting of Sugarcane early Rabi Tobacco, Green Oats, Vegetables, Rapeseed, and Mustard.
West Bengal	Land prepared for Summer Til and Sugarcane Preparatory tillage for Jute capsularies, Autumn Rice and Broadcast winter Rice.	Transplanting of Boro (Summer Rice) in swamps: Sowing of Sesamum and planting of Sugarcane.	Grain formation of Wheat, Barley Grams and Pulses: Tobacco maturing in some districts.	Threshing of winter Paddy completed: Harvesting of Tobacco continued. Harvesting of Sugarcane: Castor harvested: Picking of Cotton in progress: Harvesting of Linseed, Rape and Mustard. Harvesting of Arhar, Potato and Chillies.
Hyderabad	—	Sugarcane	Early sown Rice Tabi, Rabi Jowar, Caster, Linseed and other Rabi oilseeds maturing.	Harvesting of Rabi Pulses, Oilseeds, Sugarcane, Chillies and early Wheat in some parts.
Mysore	—	Rabi Paddy and irrigated Jowar and Sugarcane.	Rabi Paddy and irrigated Jowar and Sugarcane.	Kharif Paddy, Ragi, Sugarcane, Pulses, Minor Millets, wheat and Groundnut, Cotton, Tobacco, Patatoes.
P.E.P.S.U.	Preparatory tillage for Cotton, Sugarcane, Potatoes and all Summer Vegetables.	Planting of Potatoes in plains, Sowing of Sugarcane and Summer Vegetables.	Watering of wheat, Barley, Linseed, Oats and all winter Vegetables. Gram and pulses growing.	Harvesting and crushing of previous year's Cane. Lifting of the autumn crop of Potatoes in the plains ends.
Rajasthan	Ploughing and preparation of land for sugarcane.	—	Wheat, Barley and Rabi Oilseeds growing. Gram maturing.	—
Saurashtra	Preparation of land for Sugarcane and summer Jowar.	Planting of Sugarcane and Sowing of Summer Jowar.	Watering of Gram, wheat and Cotton.	Harvesting of Wheat and Sugarcane. Picking of cotton.
Bhopal	—	—	Wheat ears and Gram buds in the maturity stage. Other Rabi crops ready for harvest.	Picking of Cotton completed, other Rabi crops harvested.



## 8.1 CROP CALENDAR SHOWING IMPORTANT AGRICULTURAL OPERATIONS OBTAINING IN THE STATES—contd.

State	Preparation of the Soil	Sowing and Transplanting	Growing and Maturing	Harvesting and Threshing
<b>FEBRUARY—contd.</b>				
Tripura	Ploughing for Aus and Aman Paddy.	Transplanting of Boro finished,	Tobacco and Wheat.	Threshing Kharif Paddy. Harvesting of Sugarcane.
Vindhya Pradesh	Land prepared for Kharif Rice. Bunding of fallow fields.	Planting of cane.	Gram and pulses growing. Grain formation of Wheat, Barley and Gram maturing.	Picking of Cotton completed, Potato crop dug up. Harvesting of Linseed and Mustard begins, Groundnut harvested.
<b>MARCH</b>				
Assam	Land ploughed after Kharif harvest: Land prepared for Sugarcane planting.	Sowing of Jute, Ahu (high land), Paddy and Boro.	Rabi Paddy in ears: Gram maturing in places.	Harvesting of Grams and Pulses begun: Also of black Til sown in October: Crushing of Cane completed.
Bihar	Land ploughed after Kharif harvest: Preparation for sowing Paddy.	Sowing of Jute: Planting of Cane.	Wheat crop in ears: Grams maturing.	Harvesting of Wheat and Barley: Harvesting of Sugarcane and Linseed completed: Cotton picking completed.
Bombay	Land prepared for Kharif crops.	Planting of Sugarcane.	Flowering* and grain formation of Rabi Rice: Bengal Gram ready for harvest in most places.	Harvesting of Wheat and Jowar: Picking of Cotton and Castor.
Madhya Pradesh	Preparatory tillage for Kharif crops.	Planting of Cane nearing completion.	Rabi Rice in ears: Arhar ready for harvesting. Irrigating summer Vegetables.	Harvesting of Wheat, Grams and Rabi Jowar. Cutting and crushing of irrigated Sugarcane continues. Tobacco harvested: Picking of Castor and Cotton.
Madars and Andhra	Land ploughed for Kharif crops.	Sowing of Kharif crops begins: Sowing of Cotton in Ramnad: Planting of Cane continues.	Rabi Rice in ears in some districts: Tillering and elongation of Rabi Jowar: Arhar ready for harvesting.	Picking of Cotton: Threshing of Kharif Jowar: Harvesting of Grams. Harvesting of Bajra completed: Turmeric gathered in Coimbatore: Tobacco harvested: Linseed harvesting in progress.
Orissa	Land prepared for Kharif crops.	Sowing of Kharif Bajra and planting of Cane.	Rabi Rice and Wheat in ears, Sesamum growing.	Harvesting and threshing of Rabi Jowar and Grams: Harvesting of Linseed, Rape and Mustard nearing completion.
Punjab	Ploughing up of Cotton and Sugarcane fields. Tillage and manuring of land for all summer Vegetables.	Planting of Sugarcane and sowing of early Kharif: Sowing of Cotton (American): Transplanting of Tobacco: Planting of Potatoes in Hills. Sowing of Summer Vegetables.	Watering of Wheat, Oats, etc. Watering of Condiments and Spices: Grain formation of Wheat in places: Linseed maturing.	Harvesting of Barley, Grams, winter Vegetables and late varieties of Sugarcane.
Uttar Pradesh	Preparation of land for Sugarcane, Zaid crops. Preparation of seed bed for Kharif crops commences.	Sowing of Sugarcane and Zaid crops. Sowing of Jute commences.	Wheat, Barley, Linseed Tobacco and Zaid Rice maturing. Inter culture of Sugarcane.	Harvesting of Wheat, Gram, Barley, Linseed, Sugarcane, Potato, Tobacco, Arhar and Oats. Picking of Castor continues.
West Bengal	Preparation of land for sowing Autumn Paddy: Broadcast winter Paddy and other Kharif crops.	Sowing of Jute (Capsularies), Maize and Sesamum: Planting of Sugarcane.	Wheat, Barley, Grams and Pulses maturing.	Harvesting of Linseed Rape & Mustard. Saesamum (winter), Arhar and Potato completed. Harvesting of Gram, Pulses, Wheat, Barley and Boro Rice started. Harvesting of Sugarcane and Tobacco continued. Harvesting of Chillies.

Hyderabad			Rice Taba, Rabi Jowar, Linseed and other Oilseeds, Gram and other Rabi Pulses begin to ripe.	Harvesting of Rabi Jowar and wheat completed. Barley, Maize Safflower, Pulses, Tobacco and chillies being harvested. Picking of Rabi Cotton.
Mysore	—	Rabi Paddy, Irrigated Jowar and Sugarcane.	Rabi Paddy and irrigated Jowar and sugarcane.	Threshing of Ragi, Picking of Cotton and harvesting of Potatoes.
P.E.P.S.U.	Preparatory tillage for Sugarcane, Cotton and other Kharif crops. Tillage and manuring of land for all Summer Vegetables.	Planting of Sugarcane and Potatoes in hills.	Watering of Wheat, Oats, Condiment and Spices, etc. Grain formation of Wheat at places. Linseed maturing.	Harvesting of Wheat, Barley, Gram, winter Vegetables and late varieties of Sugarcane.
Rajasthan	Preparation of land for Sugarcane.	Sowing of Sugarcane.	All Rabi crops maturing.	Harvesting of Gram, Barley and Rabi Oilseeds begins.
Saurashtra	Land prepared for Kharif crop.	Sowing of Summer Jowar and planting of Sugarcane.	Castorseed maturing.	Harvesting of Gram, Wheat, Sugarcane and Cotton.
Bhopal	—	—	Wheat Gram and all other Rabi crops ready for harvesting.	Harvesting of Wheat, Gram, Tur and other Rabi crops.
Tripura	Land ploughed for sowing Paddy and Jute.	Sowing of Jute. Planting Sugarcane	Grams and pulses maturing. Wheat in ears.	Harvesting Gram, Pulses, Tobacco and Sugarcane.
Vindhya Pradesh	Land prepared for Kharif sowing.	Planting of cane may extend upto 1st week.	Grain formation of Wheat, Tobacco matures, Arhar ready for harvest, Sugarcane germinates.	Harvesting of Wheat commences after middle of the month. Harvesting of Gram.

#### APRIL

Assam	Preparatory tillage for Kharif.	Sowing of Bao and Sali in Cachar: Sowing of Jute and planting of Cane in Brahamputra Valley.	Rabi Paddy in ears: Sesamum growing: Early crop of Potatoes growing.	Threshing of Grams and Pulses: Harvesting of Sail Bura Paddy: Plucking of Tea.
Bihar	Preparatory tillage for Kharif.	Sowing of Kharif crops begun: Planting of Cane.	Growth of Jute: Growth of Cane in places.	Harvesting and threshing of Wheat, Gram and Pulses: Barley harvesting nearing completion: Threshing also begins.
Bombay	Land prepared for sowing Kharif Paddy and Jowar.	Sowing of Kharif crops begins.	Sugarcane growing: Tobacco maturing.	Harvesting and threshing of Rabi Paddy: Threshing of wheat and Jowar: Harvesting of Bengal Gram and Rabi Castor: Picking of Cotton.
Madhya Pradesh	Preparatory tillage for Kharif Paddy and Cotton.	Sugarcane planting completed.	Sugarcane growing in some districts: Tobacco ready for being cut. Watering of cane and Summer Vegetables.	Harvesting and threshing of Wheat and Rabi Paddy: Threshing of Jowar: Harvesting of Grams and Pulses: Cutting and crushing of Cane continues. Tobacco cut in some districts: Castor pickings over.
Madras & Andhra	Land ploughed after harvesting of Kharif crops: Preparatory tillage for Bajra; Cotton and Sesamum.	Sowing of Kharif Paddy begins in Malabar: Sowing of Kharif Cotton in Ramnad and other districts: Planting of Cane nearing completion.	Elongation of Rabi Jowar in Trichinopoly: Sesamum growing.	Harvesting of Rabi Paddy in Madura, Ramnad, Chittoor, Tinnevely and Chingleput districts: Harvesting of Rabi Jowar: Picking of Cotton: Turmeric dug up in Coimbatore district: Harvesting of Grams Linseed, Rape and Mustard harvested.

### 8.1 CROP CALENDAR SHOWING IMPORTANT AGRICULTURAL OPERATIONS OBTAINING IN THE STATES—contd.

State	Preparation of the Soil	Sowing and Transplanting	Growing and Maturing	Harvesting and Threshing
<b>APRIL—contd.</b>				
Orissa	Preparatory tillage for most Kharif crops.	Sowing of Kharif crops begins.	Growing of Sugarcane; Tobacco maturing.	Harvesting and threshing of Wheat and Rabi Paddy.
Punjab	Preparatory tillage for Kharif Paddy and other Kharif crops.	Planting of Sugarcane completed; Sowing of Cotton and Arhar in most districts.	Sugarcane and Tobacco growing.	Harvesting and threshing of Wheat, Linseed, Grams and Barley; Harvesting of Condiments and Spices.
Uttar Pradesh	Preparation of land for Paddy, Jowar, Bajra, Maize, Cotton, Sesamum and Groundnut.	Sowing of early Kharif crops commences in parts of the State; Turmeric planted; Planting of Sugarcane; sowing of Jute continues.	Irrigation of Sugarcane and zaid vegetables. Zaid Tobacco ready for being cut. Inter-culturing of Sugarcane and Tobacco.	Harvesting and threshing of Wheat Barley, Grams, Arhar, Peas, Rape and Musrard. Picking of Castor. Harvesting of Zaid Vegetables.
West Bengal	Preparatory tillage for Jute (capsularies), Autumn Rice, Broadcast winter Rice Maize Ragi, Jowar and other Kharif crops.	Sowing of Jute (capsularies) Maize, Ragi, Autumn Rice and Sesamum; Planting of Cane nearing completion.	Boro (summer Rice) ready for harvest. Jute (capsularies) Autumn Rice, Sesamum, Sugarcane and Maize growing.	Threshing of Grams and Pulses, Wheat, Barley and Boro Rice; Harvesting of Tobacco and Chillies and of Sugarcane completed.
Hyderabad	Land preparation for Kharif and irrigated crops.	—	—	Tabi Paddy, Maize and Barley being harvested. Picking of Rabi Cotton concludes. Threshing of Wheat and Jowar.
Mysore	Preliminary ploughing for Kharif and Mungar crops.	Potatoes and Sugarcane.	Rabi Paddy, Irrigated Jowar and Sugarcane.	Threshing of Ragi, picking of Cotton and harvesting of Potatoes.
P.E.P.S.U.	Preparatory tillage for Kharif Paddy and other Kharif crops.	Planting of Sugarcane completed. Sowing of Cotton, Maize (fodder) and early Paddy.	Sugarcane growing.	Harvesting and threshing of Wheat, Linseed, Grams and Barley. Harvesting of Condiments and Spices.
Rajasthan	—	Sowing of Sugarcane.	—	Harvesting of all Rabi crops. Threshing of Gram, Barley and Rabi Oilseeds.
Saurashtra	Preparatory tillage for Kharif crops.	—	Summer Jowar and Sugarcane growing.	Threshing of Wheat and harvesting of late sown Sugarcane.
Bhopal	—	—	Wheat, Tur ready for harvest.	Harvesting of Wheat and Tur.
Tripura	Tillage for Kharif Paddy and firing Juming land.	Sowing Kharif crops, planting Sugarcane	Jute, Cotton	Gram, Pulses, Tobacco, Mustard, Wheat.
Vindhya Pradesh	Preparatory tillage for Kharif crop.	—	Sugarcane growing, Tobacco ready for being cut.	Harvesting and Threshing of Wheat, Barley, Gram. Linseed threshing.
<b>MAY</b>				
Assam	Land ploughed after Rabi harvest; Field prepared for sowing Ragi and Horsegram.	Sowing of Kharif Paddy; Planting of Sugarcane continued; Sesamum sown in Manipur and Nowgong.	Weeding of Sugarcane; Early crop of Potatoes matures; germination and elongation of Jute,	Harvesting of Rabi Paddy; Plucking of Tea continued.
Bihar	Preparatory tillage for Kharif Paddy.	Kharif Castor sown; sowing of Arhar, Groundnut and Kharif Sesamum.	Growth of Jute; Sugarcane growing.	Threshing of Wheat and Barley completed.

Bombay	Land ploughed after Wheat harvest : preparatory tillage for Bajra, Jowar, Groundnut and Cotton : Preparing seed-bed for early Tobacco.	Turmeric planted : sowing of Sugarcane continued : in Ahmedabad, Kaira and Baroda, Groundnut sown.	Sugarcane growing.	Threshing of Rabi Paddy : Harvesting and threshing of Grams completed : Rabi Castor harvested.
Madhya Pradesh	Preparatory tillage for Kharif Rice, Jowar and Cotton.	Sowing of the Kharif crop in some districts by end of May.	Watering of cane and Summer Vegetables	Threshing of Wheat and Rabi Jowar completed : Cutting of early Tobacco : Threshing of Gram ends : Harvesting of Summer Vegetables begin.
Madras & Andhra	Land prepared for sowing Kharif Rice and Bajra.	Sowing of the Kharif Rice in some district : Sesamum sown : Sugarcane planted.	Growing of Cotton in Ramnad : Sowing of Kharif Paddy in Malabar.	Harvesting of Rabi Paddy in Anantapur, West Godavary, Madura, Ramnad and Chingleput : Rabi Jowar being harvested in Trichinopoly : Picking of Cotton (Rabi crop) continued in Madura and Coimbatore : Grams harvested : Threshing in progress.
Orissa	Preparatory tillage for Kharif Rice.	Sowing of Kharif Jowar and Sugarcane begun.	Sugarcane growing : Tobacco ready for being cut.	Threshing of Wheat and Rabi Paddy completed : Threshing of Grams in progress.
Punjab	Preparatory tillage for Kharif Jowar and Kharif Fodder : Manuring for Maize.	Sowing of Kharif Rice : Sowing of Desi and early varieties of Cotton.	Watering of Sugarcane and watering of all winter Vegetables : Cotton germinating in places.	Threshing of Wheat : Threshing of Gram and Barley ends : Harvesting of late Oats : Digging of Potatoes in the plains : Harvesting of all Rabi Condiments ends.
Uttar Pradesh	Land preparation for Kharif Crops continues.	Sowing of Paddy in hilly areas begins : Sowing of early Kharif crops and Minor Millets and Cotton.	Zaid Paddy matures : Sugarcane and Castor growing : Irrigation of early Kharif fodder and Sugarcane.	Harvesting of zaid Paddy begun : Harvesting and threshing of Rabi crops completed. Harvesting of zaid Tobacco.
West Bengal	Land prepared for sowing Jute (obitocius) Autumn Rice, Maize, Ragi, Turmeric, Cotton and other Kharif crops. Breaking of land for transplanted winter Rice.	Planting of Cane completed : Sowing of Jute (capsularies and obitocius) Maize, Ragi, Autumn Rice Broadcast winter Rice, Turmeric, Cotton, Sunnhemp and other Kharif crops.	Sesamum maturing : Sugarcane, Autumn Rice Broadcast winter Rice, Jute, (capsularies) and Maize growing. Inter-culturing.	Boro (summer Rice) harvested : Harvesting and threshing of Wheat completed. Harvesting of Sesamum started.
Hyderabad	Land prepared for Abi Rice and Kharif crops	Sowing of Abi Rice.	—	Harvesting of Tabi Paddy concludes.
Mysore	Preliminary ploughing for Kharif and Mungar crops.	Potatoes and Sugarcane.	Kharif Paddy, Irrigated Jowar Sugarcane and potatoes.	Rabi Rice.
P.E.P.S.U.	Preparatory tillage for Kharif Jowar and Kharif fodder. Manuring for Maize.	Sowing of Kharif Paddy and of Desi and early varieties of Cotton.	Watering of Sugarcane and all winter Vegetables. Cotton germinating in places.	Threshing of Wheat, Barley, Gram : Harvesting of late Oats. Harvesting of all Rabi Condiments of Spices. Digging of Potatoes.
Rajasthan	—	—	—	Threshing of Rabi crops.
Saurashtra	Manuring and preparing of land for Kharif crop.	Sowing of Vegetables.	Sugarcane and Summer Jowar growing.	Harvesting of Summer Jowar
Bhopal	Preparatory tillage for Rice, Cotton, Jowar and Tur.	—	Watering and Weeding of cane.	—
Tripura	Tillage for Kharif Paddy.	Sowing of Kharif Paddy, Sugarcane. Planting of Jum Paddy, Jum Til and Jum Cotton.	Weeding of Sugarcane, thinning of Jute.	Boro and Wheat.
Vindhya Pradesh	Preparatory tillage for bunding	—	Sugarcane growing.	Threshing of Wheat, Barley and gram completed.



## 8.1 CROP CALENDAR SHOWING IMPORTANT AGRICULTURAL OPERATIONS OBTAINING IN THE STATES—contd.

State	Preparation of the soil	Sowing and Transplanting	Growing and Maturing	Harvesting and Threshing
<b>JUNE</b>				
Assam	Preparation for sowing Ragi. Ploughing after Rabi harvest.	Kharif Paddy sown in Darrang, Goalpara and Kamrup: Sowing of Sesamum in Manipur and Nowgong continued.	Watering of Cane: elongation of Jute.	Threshing of Rabi Paddy: Early crop of Potatoes dug up. Plucking of Tea continued.
Bihar	Land ploughed after harvesting Wheat.	Sowing of Kharif Paddy (Aman). Sowing of Groundnut and Castor (small variety).	Elongation of Jute; Sugarcane and Arhar growing.	Threshing of summer Rice completed.
Bombay	Wheat stubbles ploughed in: Preparation for sowing Bajra: Field ploughed and harrowed for Rabi Sesamum.	Sowing of and transplantation of Kharif Paddy: Sowing of Cotton, Jowar and Groundnut: Sann Hemp sown in Khandesh.	Watering of early Cane and Turmeric.	
Madhya Pradesh	Land ploughed after Rabi harvest: Preparatory tillage for Wheat.	Sowing of Kharif Paddy, Oilseeds, Cotton and Kharif Jowar.	Watering of Cane and Summer Vegetables.	Threshing any winnowing of Wheat. Harvesting of Summer Vegetables continues.
Madras & Andhra	Land ploughed after Rabi harvest and prepared for Kharif crops.	Sowing of Kharif Paddy in South Kanara, Malabar, Nilgiris, Trichinopoly, Kurnool and Vizagapatam: Sowing of Cotton in Guntur: Turmeric planted in Coimbatore: Ragi sown: Groundnut sown in unirrigated land: Gingelly sown in Godavari.	Boll formation of Cotton in Ramnad: Watering of Sugarcane.	Threshing of Rabi Paddy in Anantapura, West Godavari and Rabi Jowar in Trichinopoly and Nellore: Picking of Cotton commences in Ramnad: Groundnut (summer variety) harvested: Threshing of Grams.
Orissa	Ploughing after Rabi harvest.	Sowing of Kharif Paddy and Jowar: Sowing of Cotton.	Germination and tillering of early Jowar: Watering of Cane.	Threshing of winnowing of Wheat. Threshing of Grams completed.
Punjab	Preparatory tillage for Kharif Fodder: Land ploughed after harvesting Wheat.	Sowing of Kharif Paddy Oilseeds, Maize, Jowar, Pulses, Desi Cotton and of Sann Hemp. Planting of Turmeric and Ginger.	Watering of Sugarcane and Cotton: Hoeing of Sugarcane and Cotton.	Threshing and winnowing of Wheat: Harvesting and curing of Tobacco begins: Harvesting of summer Vegetables continues.
Uttar Pradesh	Land ploughed after harvesting of Rabi crop: Preparation of Seedbed for Kharif still continues in some districts.	Sowing in full swing of Kharif Paddy, Jowar, Bajra: Cotton, Groundnut, Maize, Mandua, Minor Millets, Pulses, Jute, Castor and Sanai for fodders.	Sugarcane and Caster growing: Germination of Cotton and Kharif crops. Irrigation of Sugarcane, Kharif crops and Vegetables.	Harvesting of Zaid Tobacco.
West Bengal	Land prepared for Ragi, Jute (Obitorius), Cotton, Autumn Rice, Maize and other Kharif crops.	Transplantation of Autumn Paddy. Sowing of Jute (Obitorius) Maize, Ragi, Autumn Rice, Broadcast winter Rice and practically all Kharif crops completed. Sowing of Winter Rice in Seedbed started: sowing of Cotton and Sann hemp.	Sugarcane and all Kharif crops growing. Inter-culture made.	Summer Til harvested: Threshing of Boro (Summer Rice) completed.
Hyderabad	Ploughing for Rice.	Sowing of Rice Abi, Kharif Jowar, Bajra, Maize, Minor Millets, Ragi Cotton, Kharif Pulses, Kharif Oilseeds.	Jowar, Bajra, Maize, Minor Millets, Kharif Pulses, Cotton growing.	

Mysore	Preliminary Ploughing for Kharif and Mungar crops.	Jowar, Ragi and Potatoes.	Potatoes.	Rabi Rice.
P.E.P.S.U.	Preparatory tillage for Kharif fodder: Land ploughed after harvesting Wheat.	Sowing of Kharif Paddy, Oilseeds, Maize, Jowar, Pulses, Desi Cotton and Sannhemp: Planting of Gigner and Turmeric.	Watering of Sugarcane and Cotton: Hoeing of these crops.	Threshing and winnowing of Wheat; Harvesting of Summer Vegetables continues.
Rajasthan	Ploughing and preparation of land for Kharif crop: Summer ploughing in Rabi fields.	Sowing of nursery for transplanted Paddy.	—	
Saurashtra	Manuring and laying out of the soil for the Kharif crops.	Sowing of Jowar, Bajra, Cotton, Groundnut, Pulses and Paddy irrigated.	Sugarcane growing	Harvesting of Lucerne and summer Jowar.
Bhopal	Preparing land for Karif crops.	Sowing of Jowar, Cotton, Rice, Tur, etc.	Watering and weeding of Cane	
Tripura	Land prepared for Kharif crops.	Transplanting of Kharif Paddy.	Sugarcane growing: Jute elongating.	White Til.
Vindhya Pradesh	Preparatory tillage for Wheat.	Sowing of Paddy, Cotton, Oilseeds, Groundnut and Jowar.	Sugarcane and Castor growing.	Harvesting of 60 days Paddy crop and summer Mung.

## JULY

Assam	Ploughing after harvesting of Rabi Paddy.	Sowing of Ragi; Sowing and transplantation of Kharif Paddy.	Ahu Paddy and Aus highland in ears: Sesamum growing in Manipur and Nowgong.	Harvesting of Murali and Sali Bura Paddy: Plucking of Tea continued: Early Potato gathered: Cutting and retting of Jute.
Bihar	Ploughing of Wheat stubble.	Sowing and transplantation of Paddy: Bajra sown; Sowing of Groundnut and Castor.	Sugarcane and Aus Paddy growing.	Cutting and retting of Jute.
Bombay	Ploughing and harrowing for Wheat: Ploughing for Potatoes.	Transplantation of Kharif Paddy: Sowing of Jowar, Bajra and late Groundnut: Tobacco and Castor sown.	Watering of Rice: Germination of Jowar and Kharif Cotton: Turmeric growing in Khandesh: Sugarcane tied in clumps.	Curing of Tobacco: Harvesting of all summer Vegetables.
Madhya Pradesh	Preparatory tillage for Wheat.	Transplantation of Kharif Rice: Sowing of Bajra and Jowar.	Watering of Rice: Germination of Jowar: Growing of Sugarcane, Cotton and Turmeric.	Harvesting of summer Vegetables nearing completion.
Madras & Andhra	Ploughing after Rabi harvest.	Transplantation of Kharif Paddy in South Kanara, Nilgiris, Trichinopoly, Chittoor, North and South Arcot districts: Sowing of Cotton in Guntur district.	Watering of Rice and Sugarcane: Cotton and Ragi growing: Gingelly and Groundnut sown in unirrigated land: Turmeric growing in Coimbatore.	Picking of Cotton in Ramnad: Groundnut (summer variety) harvested.
Orissa	Preparatory tillage for Wheat.	Transplantation of Kharif Rice: Sowing of Ragi in Ganjam: Sowing of Jowar and Bajra.	Watering of Rice and Sugarcane: Cotton, Groundnut and Til growing.	Harvesting of early Cotton and Sesamum.
Punjab	Ploughing and harrowing for Wheat: Preparatory tillage for Pulses and Oilseeds continues: Also for winter Vegetables.	Transplantation of Kharif Rice: Sowing of Maize, Jowar Bajra, Pulses and Oilseeds continues.	Watering of Sugarcane, Cotton and Rice: Watering and hoeing of all Kharif condiments: Manuring of Sugarcane fields with chemical fertilizer.	Harvesting and curing of Tobacco ends: Harvesting of all summer Vegetables continues.

## 8.1 CROP CALENDAR SHOWING IMPORTANT AGRICULTURAL OPERATIONS OBTAINING IN THE STATES—*contd.*

State	Preparation of the Soil	Sowing and Transplanting	Growing and Maturing	Harvesting and Threshing
<b>JULY—<i>contd.</i></b>				
Uttar Pradesh	Preparation of land for Kharif crops completed: Ploughing after Rabi harvest continues.	Sowing and transplantation of Paddy: Sowing of Jowar, Bajra, Maize, Pulses, Minor Millets, Sesamum, Groundnut, Castor and Tobacco: Transplantation of Sweet Potatoes and Vegetables.	Earthing of Sugarcane.	
West Bengal	Preparation of land for transplanted autumn Rice and winter Rice continued.	Transplantation of autumn Paddy completed. Transplantation of winter Rice taken up; Sowing of Cotton and Sann-hemp completed.	Autumn Paddy maturing: All Kharif crops growing: Jute (capsularies) becoming ready for harvest.	Harvesting of autumn Rice and Jute (capsularies) taken up.
Hyderabad	—	Sowing of Rice Abi, Castor, Sugarcane, Chillies and Turmeric.	Kharif Jowar, Sesamum, Groundnut and Cotton growing.	—
Mysore	Preliminary ploughing for Kharif and Mungar crops.	Jowar, Ragi, Paddy, Kharif pulses, Groundnut, Cotton, Coffee, Tobacco.	Potatoes	Potatoes.
P.E.P.S.U.	Ploughing and harrowing for wheat: Preparatory tillage for Pulses, Oilseeds and winter Vegetables.	Transplanting of Kharif Paddy and sowing of Maize, Jowar, Bajra, Pulses and Cilseeds.	Watering of Sugarcane, Cotton and Paddy: Watering and hoeing of all Kharif condiments.	Harvesting of all summer Vegetables.
Rajasthan	Preparation of land for sowing Paddy: Ploughing of Wheat fields.	Sowing of Gram, Jowar, Bajra, Til and Pulses: Sowing and transplantation of Paddy.	Sugarcane growing.	—
Saurashtra	Harrowing of soil for Wheat, Gram, Lucerne, etc.	Sowing of Jowar, Bajra, Pulses, Groundnut, Cotton, Paddy, Sesamum and Castorseed etc.	Sugarcane and Paddy growing: Germination of Kharif crop.	—
Bhopal	Preparatory tillage for Kharif crops.	Sowing of Rice, Jowar, Cotton, Maize and other Kharif crops: Transplantation of Rice.	Weeding of all Kharif crops: Germination of Jowar and other crops.	—
Tripura	Land ploughed after harvesting of Rabi Paddy.	Transplantation of Kharif Paddy, Tobacco seed sown.	Earthing of Sugarcane.	Harvesting of Jute and Aus Paddy.
Vindhya Pradesh	Preparatory tillage for wheat	Sowing and transplanting of rice: Sowing of Jowar.	Germination of Jowar: Sugarcane and Cotton growing.	
<b>AUGUST</b>				
Assam	Preparation of land for winter Vegetables, particularly Potatoes.	Sail Rice transplanted in Brahmaputra Valley: Transplantation of Kharif Rice in general: Sowing of Sesamum in Brahmaputra Valley: Potato (second crop) sown.	Kharif Rice growing in Cachar: Weeding of Sugarcane plant.	Cutting and retting of Jute: Tea plant begins to yield.

Bihar	Land prepared for Wheat.	Sowing of Paddy: Transplantation of Aghani (winter): Paddy begun towards the close of the month: Bajra being sown.	Ragi is getting ripe: Sugarcane is growing up: Sesamum maturing.	Cutting of Jute crops: Tea plant begins to yield.
Bombay	Preparation for Rabi cultivation: Preparation and ploughing of land for Potatoes.	Transplantation of Kharif Rice in Nasik: In Karnatak sowing of Dharwar Cotton.	Germination and elongation of Cotton: Tillering and elongation of Jowar and Bajra.	Harvesting of summer Vegetables.
Madhya Pradesh	Preparatory tillage for Wheat and Rabi Jowar.	Transplantation of Paddy: Minor Kharif crops like Kutki and Til sown: Sowing of Jowar completed.	Weeding of Paddy: Intercultural operations in Cotton tracts: Groundnut and Sugarcane growing: Tillering and elongation of Kharif Jowar.	Harvesting of summer Vegetables completed.
Madras & Andhra	Preparation for Rabi crops.	Sowing and transplantation of Kharif Rice: Sowing of Rabi Rice in South Kanara and Trichinopoly: Rabi Jowar sown in West Godavari and Vizagapatam: Sowing of Cotton in Bellary (towards close) and of Kharif Cotton in Anantapur and Cuddapah: Groundnut sown from middle of August.	In Guntur and other places elongation of Cotton: Ragi, Cotton, black Gram and green Gram maturing.	Harvesting of Sugarcane: Harvesting of Rice in parts of Malabar.
Orissa	Land prepared for Rabi crops.	Transplantation of winter Paddy in all districts and sowing of Ragi in Ganjam.	Weeding of Winter Paddy: Sugarcane, Ragi, Maize, Til, Groundnut, Cotton, black Gram and green Gram growing.	Harvesting of Cotton, Paddy and Jute in Cuttack district: Harvesting of Sesamum in Ganjam may commence towards close.
Punjab	Ploughing and harvesting of land for Toria and Wheat: Preparation of land for Potatoes and winter Vegetables.	Sowing of Maize, Jowar and Kharif Pulses: Transplanting of Rice: Sowing of seeds of all Vegetables in nursery.	Watering of all Kharif crops: Hoeing of Maize and weeding of Rice: Cotton and Sesamum growing.	Harvesting of early Potatoes: Harvesting of all summer Vegetables.
Uttar Pradesh	Preparation of land for Rabi crops.	Transplantation of Paddy: Tobacco, Bajra, Castor and Til sown.	All Kharif crops growing: Paddy, Maize, Turmeric and Cotton maturing: Earthing of Sugarcane.	Harvesting of Maize, Jowar, Fodder and early Paddy begins in some parts.
West Bengal	Preparation of land for transplanting winter Rice continued: Preparatory tillage for Sesamum (winter).	Transplantation of winter Rice is in full swing: Sowing of Sesamum and Kalai.	Autumn Rice, Maize and Jute (Olitorius) maturing: Threshing of Sugarcane: All other Kharif crops growing.	Harvesting and threshing of autumn Rice continued: Harvesting of Jute (Olitorious) and extraction of Jute fibres (capsularies) continued: Harvesting of Maize taken up.
Hyderabad	Preparation of land for Tobacco and Rabi crops.	Sowing of late Abi Paddy and Castor.	Flowering and ear head formation of Jowar: Sesamum, Groundnut and Cotton flowering.	Harvesting of early Moong.
Mysore	Preliminary ploughing for Kharif and Mungar crops.	Sowing of Jowar, Ragi, Paddy, Kharif pulses, Groundnuts, Coffee, Cotton, Tobacco and transplanting of Rice and Tobacco.	Potatoes and Kharif crops.	Potatoes and Mungar Jowar and Coriander.



**8'1 CROP CALENDAR SHOWING IMPORTANT AGRICULTURAL OPERATIONS OBTAINING IN THE STATES—contd.**

State	Preparation of the Soil	Sowing and Transplanting	Growing and Maturing	Harvesting and Threshing
-------	-------------------------	--------------------------	----------------------	--------------------------

**AUGUST—contd.**

P.E.P.S.U.	Ploughing and harrowing of land for Toria and Wheat: Preparation of land for Potatoes and winter Vegetables.	Sowing of Maize, Jowar and Kharif Pulses: Transplanting of Paddy: Sowing of seeds of all Vegetables in nursery.	Watering of all Kharif crops. Hoeing of Maize and weeding of Paddy: Cotton and Sesamum growing.	Harvesting of early Potatoes and all summer Vegetables.
Rajasthan	—	—	Paddy, Jowar, Bajra, Pulses, Sugarcane and Til growing.	—
Saurashtra	Harrowing for Wheat, Lucerne etc.	Interculturing of Kharif crop and sowing of Rabi Sesamum.	Growing of Paddy, Sugarcane and other Kharif crops: Flowering of Bajra, Jowar and Groundnut.	Harvesting of Summa.
Bhopal	Preparing land for Rabi.	Transplantation of Paddy.	Weeding of all Kharif crops: Elongation and cabbing of Maize.	—
Tripura	Land ploughed after harvesting of Rabi Paddy.	Transplantation of Kharif Paddy: Tobacco seed sown.	Earthing of Sugarcane.	Jute, Aus and Jum Paddy.
Vindhya Pradesh	Preparatory tillage for rabi.	Sowing of Paddy: Castor sown: Sowing of Jowar completed.	Sugarcane and Castor growing: Weeding of Paddy.	Harvesting of summer Vegetables.

8

**SEPTEMBER**

Assam	Land ploughed for sowing Pulses, Vegetables and winter crops.	Transplanting of Sail Paddy: Horsegram sown for Fodder.	Final weeding and earthing of Sugarcane: Potatoes growing.	Harvesting of early hill Paddy and Aus in Cachar district: Harvesting of Asra crop commences in Kamrup: Harvesting of autumn Rice and Jute: Plucking of Tea continued.
Bihar	Preparatory tillage for Wheat and Linseed.	Transplantation of Aghani Paddy in progress.	Sugarcane and Bajra growing: Ragi crop ripe.	Bhadoi crop being harvested: Harvesting and retting of Jute: Harvesting of Kharif Sesamum.
Bombay	Preparation for Rabi cultivation.	Transplantation of Kharif Rice completed.	Kharif Rice flowering: Elongation of Jowar: Flowering of Cotton.	Harvesting of Kharif crops begun: Bajra being reaped in some districts.
Madhya Pradesh	Preparation for Rabi sowing	Sowing of Rabi Til.	Flowering of Kharif Rice: Elongation of Jowar: Elongation and flowering of Cotton: unirrigated Sugarcane maturing.	Harvesting of Kharif Pulses and of early Kutki and harvesting of Groundnuts, Urad and Mung begun: Harvesting of Maize, minor Pulses and early Paddy.

Madras & Andhra	Preparation for Rabi cultivation viz., Rice, Jowar and Cotton in some districts.	Sowing of second Rice crop in Malabar: Sowing of Groundnut till middle of month: Rabi Rice sown in South Kanara, Trichinopoly, Madura, Ramnad, Chittoor, Tinnevely and Tanjore: Sowing of Rabi Jowar in East Godavari, West Godavari and Vizagapatam: Transplantation of Kharif Rice in Malabar, Salem, Coimbatore, North and South Arcot and sowing of Cotton (Kharif) in Anantapur and Cuddapah.	Bajra growing: Kharif Rice growing and flowering in Nilgiris, West Godavari, Kistna: Elongation of Cotton in Guntur: Tillering of Rabi Jowar in Madura.	Harvesting of Kharif Rice in Trichinopoly, Chingleput and Tinnevely.
Orissa	Preparation for Rabi sowing.	Transplantation and weeding of winter Paddy: Sowing of Til in Sambalpur district.	Sugarcane, Mung and Groundnut growing.	Harvesting of autumn Paddy: Harvesting of Jute in Cuttack: Harvesting of Ragi, Maize and Til begins.
Punjab	Tillage of land for Rabi crops: Preparatory tillage for winter Vegetables: Preparation of land for Rabi Condiments: Burying in of Guara etc. for green manuring.	Sowing of Gram, Oilseeds, Barley and Oats: Planting of Potatoes.	Watering of Sugarcane, Cotton and other Kharif crops: Watering and hoeing of all Kharif Condiments.	Harvesting of autumn crops, Maize, Rice, Jowar, Til and Kharif Pulses: Harvesting of summer Vegetables: Harvesting of Potatoes in the hills: Picking of Desi Cotton.
Uttar Pradesh	Preparation of land for Rabi crops continues.	Transplantation of late Paddy completed and of Tobacco continues: Sowing of Gram, Potato, Peas, Oats, Rape and Mustard, Rai.	Irrigation of late Paddy and Sugarcane: Boll formation and flowering of Cotton: Bajra and Turmeric maturing.	Harvesting of Maize, Jowar Fodder, Guar, Ragi, Minor Millets, early Paddy and Jute: Picking of Cotton begins: Harvesting of Kharif Vegetables.
West Bengal	Preparatory tillage for Rabi crops.	Transplantation of winter Paddy completed: Sowing of Sesamum and Kalai.	Autumn Rice, Maize and Jute maturing. Sugarcane, Ragi, winter Rice Cotton, Sannhemp growing: Interculture in winter Rice.	Harvesting and threshing of autumn Rice continued: Harvesting of Jute and extraction of Jute fibre continued: Harvesting of Maize continued.
Hyderabad	Ploughing for Tabi Paddy.	Transplanting of Abi paddy, Gram Lentil, Rabi Cotton, Onions and Wheat are sown in later half of Sept.	Rice Abi growing, Jowar, Bajra, Maize, Minor Millets, Groundnut and other Kharif Oilseeds maturing.	Minor Millets, Moong, Mash and other Kharif Pulses are harvested.
Mysore	Ploughing of fields where Mungar Jowar and Kar Ragi had been sown.	Sowing of Bengal Gram and Horsegram: Transplanting of Kharif Rice and Tobacco.	All Kharif crops including Sugarcane.	Potatoes, Mungar Jowar and Coriander.
P.E.P.S.U.	Tillage of land for Rabi crops: Preparatory tillage for winter Vegetables.	Sowing of Gram, Oilseeds, Barley and Oats: Planting of Potatoes.	Watering of Sugarcane, Cotton and other Kharif crops: Watering and hoeing of condiments.	Harvesting of early Paddy, Maize, Jowar, Til and Kharif Pulses: Harvesting of summer Vegetables: Harvesting of Potatoes in hills: Picking of Desi Cotton.
Rajasthan	Ploughing and preparation of land for Rabi sowing.	—	Paddy, Jowar, Bajra, Pulses, Sugarcane and Til growing.	—
Saurashtra	Harrowing of the fields for Rabi crops.	Sowing of winter Vegetables.	Flowering in Cotton, Jowar Bajra, Groundnut and Pulses: Paddy maturing: Sugarcane growing.	Harvesting of early Sesamum.
Bhopal	Preparation for Rabi sowing.	—	Weeding of Paddy: Maize ready for harvest.	Harvesting of Maize.
Tripura	Tillage for Wheat	Transplanting of Aman Paddy completed: Transplanting of Tobacco.	Sugarcane and Cotton growing.	Harvesting of late Aus Paddy and Jum Paddy.

# 8.1 CROP CALENDAR SHOWING IMPORTANT AGRICULTURAL OPERATIONS OBTAINING IN THE STATES—contd.

State	Preparation of the Soil	Sowing and Transplanting	Growing and Maturing	Harvesting and Threshing
SEPTEMBER—contd.				
Vindhya Pradesh.	Preparation for Rabi crop.	Transplantation of Paddy completed. Tobacco sowing in seed-beds.	Ragi crop and Sannhemp ripen.	Paddy being harvested : Harvesting of early Kharif crops.
OCTOBER				
Assam	Preparation for Rabi cultivation in many districts.	Sowing of Matikalai, Vegetables and Rabi crops begins : Sowing of Horsegram.	Sail Paddy maturing in Brahmaputra Valley : Sugarcane being tied in clumps : Potato second crop maturing.	Harvesting of Paddy in Khasi and Jaintia Hills, Cachar, Manipur and Balipara Frontier Tract : Harvesting and retting of Jute continued : Plucking of Tea continued : Sesamum harvested in Brahmaputra Valley.
Bihar	Preparation for Rabi crop still in progress.	Sowing of Rabi crops begun.	Flowering and grain formation of Kharif Paddy : Sugarcane and Cotton growing.	Harvesting of autumn Rice begun : Harvesting of Bhadoi crops and Gora Paddy completed : Harvesting and retting of Jute completed : Ragi harvested.
Bombay	Preparation for some Rabi crops including Rabi Paddy continued.	Sowing of wheat in progress : Bengal Gram sown : Other Grams also sown.	Grain formation of Kharif Paddy : Flowering of Jowar (Kharif) : Tillering of Rabi Jowar : Flowering and boll formation of Cotton : Turmeric growing : Seething operations on Sugarcane.	Harvesting of Kharif Paddy, Jowar and Bajra in some districts : Picking of Groundnut in Dharwar and Ahmednagar begun : Sannhemp reaped in Khandesh.
Madhya Pradesh	Preparation for Rabi crops continues in some places.	Sowing of Rabi crops (Linseed, Gram, Masur, Lac and Peas) and Wheat.	Flowering and grain formation of Jowar : Flowering and boll formation of Cotton. Unirrigated Sugarcane maturing.	Harvesting of Kharif Paddy : Harvesting of Groundnut, Urad and Mung continued : Also Maize and minor Pulses.
Madras & Andhra	Preparation for cultivation of Rabi crops in many districts.	Sowing of Rabi Paddy and transplantation in Chingleput, South Kanara, Malabar, Madura, Ramnad, Chittoor, North and South Arcot, Tinnevely, Tanjore, and Ceded districts : Sowing of Rabi Jowar begins : Sowing of Rabi Cotton and Potato.	Flowering and grain formation of Kharif Paddy in many districts : Germination and tillering of Kharif Jowar : Elongation of Kharif Cotton, Bajra and Tobacco growing.	Harvesting of Kharif Paddy in Trichinopoly and some other districts : Gingelly and also Groundnut sown in July being harvested.
Oriassa	Preparation for Rabi cultivation.	Sowing of Rabi crops (Wheat, Jowar, etc.)	Boll formation of Cotton : Sugarcane maturing.	Harvesting of Kharif crops.
Punjab	Tillage for Rabi continued.	Sowing of Wheat begins : Planting of Potatoes continued : Sowing of other Rabi crops.	Kharif Paddy in ears : Flowering and grain formation of Bajra and Jowar in some districts.	Harvesting of Kharif Paddy begins : Picking of Cotton continued : Harvesting of early Sugarcane : Harvesting of all winter Vegetables.
Uttar Pradesh	Preparation of land for Rabi crops (Wheat, Barley, Gram, etc.)	Sowing of Rabi crops such as Wheat, Barley, Gram, Peas, Linseed, Garlic, Oats, Masoor, Potato, Rape and Mustard : Transplantation of Tobacco and Rabi Vegetables.	Bajra and Sugarcane maturing : Turmeric ripe : Flowering and boll formation of Cotton : Irrigation of Tobacco, Sugarcane and Rabi Vegetables.	Harvesting of Kharif Rice, Jowar, Bajra, Maize, Ragi, Sesamum, Groundnut, Minor Millets : Picking of Cotton continues.

West Bengal	Preparation of land for Rabi crops.	Sowing of Pulses : Sowing of Boro in seed-bed : Sowing of Linseed, Rape and Mustard and Sesamum : Tobacco sown in seed-beds : Sowing of Wheat and Barley.	Flowering of winter Rice: Sann Hemp ripe for harvest: Turmeric, Cotton and Sugarcane growing : Ragi matured.	Harvesting of Ragi and Jowar : Harvesting and threshing of autumn Rice completed : Harvesting and extraction of Jute fibre completed.
Hyderabad		Sowing of Wheat, Rabi Jowar, Barley, Gram and other Pulses and Rabi Oilseeds.	Rice Abi growing.	Harvesting of Sugarcane, Bajra, Maize, Kharif, Jowar, Groundnut and Sesamum.
Mysore	Ploughing of fields from which Mungar Jowar and Kar Ragi had been reaped.	Wheat, Horsegram, Bengalgram, Potatoes.	All Kharif crops including Sugarcane and Tobacco.	Potatoes, Mungar Jowar and Coriander and Kar Rice.
P.E.P.S.U.	Preparatory tillage for Rabi crops continued.	Sowing of Wheat begins : Planting of Potatoes continued : Sowing of other Rabi crops.	Kharif Paddy in ears : Flowering and grain formation of Bajra and Jowar.	Harvesting of Kharif Paddy : Picking of Cotton continued : Harvesting of early Sugarcane and all winter Vegetables.
Rajasthan	Preparation of land for sowing Wheat, Barley and Rabi Oilseeds.	Oilseeds	Gram, Pulses, Jowar, Bajra, Sugarcane and Til maturing.	Harvesting of Paddy, Bajra and Til and Jowar for green fodder : Threshing of Paddy at places.
Saurashtra	Harrowing of the fields for Rabi crops.	Sowing of Wheat, Mustard and Lucerne.	Flowering and boll formation of Cotton : Grain formation of Kharif Paddy.	Harvesting of Paddy, Jowar, Bajra, Pulses, Vegetables and picking of Groundnut and Cotton.
Bhopal	Preparation of land for Rabi sowing.	Sowing of Wheat, Gram and other Rabi crops.	Paddy ready for harvesting : Elongation and cabbing of Jowar.	Harvesting of Maize and Paddy.
Tripura	Preparation for Rabi crops.	Sowing Pulses : Transplanting Tobacco : Potato sown in plains.	Cotton and Sugarcane growing : Flowering of Aman Paddy.	Harvesting Jum Til.
Vindhya Pradesh	Preparation for Rabi crops.	Sowing of Wheat and Gram : Tobacco planted.	Sugarcane maturing : Flowering and boll formation of Cotton.	Paddy harvested : Harvesting of Kodo continued.

## NOVEMBER

Assam	Ploughing of lands for Rabi crops may continue in some districts.	Sowing of Rabi Paddy, Grams, Pulses, Mustard seeds and winter Vegetables : Potatoes sown.	Kharif Paddy in grains in some districts: Horsegram growing: Sugarcane maturing.	Harvesting of Kharif Paddy in some districts: Harvesting of Jute completed: Plucking of Tea continued: Potato second crop harvested.
Bihar	Land prepared for sowing of Gora Paddy and Rabi crops.	Sowing of Wheat: Transplantation of Tobacco: Linseed sown.	Grams and Pulses beginning to grow: Sugarcane ready for being harvested.	Harvesting of Kharif Paddy: Picking of Cotton begun.
Bombay	Preparation of land for Rabi cultivation being completed.	Sowing of Rabi Rice, Jowar, and Gram: Pulses sowing commenced.	Tillering and elongation of Wheat and elongation of Rabi Jowar: Boll formation of Cotton in some districts: Turmeric ripe.	Harvesting of Kharif Paddy continued: Also Kharif Jowar: Picking of Cotton begun and picking of Groundnut completed: Also Bajra.
Madhya Pradesh	Preparation of Rabi sowing in some districts.	Sowing of Wheat and other Rabi crops: Sowing of Linseed and Grams.	Tillering of Wheat and Rabi Jowar: Irrigated Sugarcane maturing.	Harvesting and threshing of Kharif Paddy and Kharif Jowar: Groundnut picked and also Cotton: Unirrigated Sugarcane harvested.

## 8:1 CROP CALENDAR SHOWING IMPORTANT AGRICULTURAL OPERATIONS OBTAINING IN THE STATES—contd..

State	Preparation of the Soil	Sowing and Transplanting	Growing and Maturing	Harvesting and Threshing
<b>NOVEMBER—contd.</b>				
Madras & Andhra	Preparation for Rabi cultivation in some places continued.	Sowing and transplantation of Rabi Paddy in South Kanara, Madura, Ramnad, etc. and Rabi Jowar in Nellore: Grams and Pulses sown.	Tillering of Rabi crops: Elongation and flowering of Cotton: Elongation of Jowar: Potato growing in Nilgiris: Tobacco maturing.	Harvesting of Kharif Paddy in Nilgiris, Chittoor, West Godavari and Kistna: Groundnut harvested in Vizagapatam, Kurnool, Cuddapah, Chingleput, South Arcot, Chittoor, North Arcot, Salem and Ramnad.
Orissa	Preparation for Rabi cultivation in some places.	Sowing of Rabi crops (Mustard, Grams and Linseed).	Tillering of Jowar: Cotton, Groundnut and Ragi maturing.	Harvesting and threshing of Kharif Paddy: Til, Urad and Ragi also harvested in places.
Punjab	Preparation of seed-bed for Rabi Condiments.	Sowing of Wheat and other crops: Sowing of Grams completed: Sowing of seed of Tobacco.	Watering of Sugarcane and Cotton: Watering and earthing up of Potatoes.	Harvesting and threshing of Kharif Cereals and Pulses: Picking of Desi Cotton continues: Harvesting and crushing of early varieties of Sugarcane: Harvesting of Jowar.
Uttar Pradesh	Land preparation for Rabi crops continues.	Sowing of Rabi crops and transplantation of Vegetables continues.	Germination of Rabi crops begins in some districts: Tobacco growing: Irrigation of newly sown Rabi crops.	Harvesting and threshing of Paddy, Jowar, Bajra and Pulses: Picking of Cotton: Turmeric gathered: Harvesting of Sugarcane, Sweet Potato, Sanai, Ragi, Til, Groundnut and Vegetables.
West Bengal	Preparation of land for Rabi sowing.	Sowing of Pulses, Wheat, Barley, Potato continued: Sowing of Linseed and Rape & Mustard seeds completed: Transplantation of Tobacco:	Flowering and grain formation of winter Rice: Germination and growth of Pulses: Wheat, Barley, Potato, Oilseed, Turmeric and Sugarcane ready for harvest: Sesamum becoming ready for harvest.	Harvesting of winter Paddy and Sugarcane started: Harvesting of Sannhemp: Picking of Cotton begun: Harvesting of Sesamum begun.
Hyderabad	—	Sowing of Wheat continues at places.	Rice Abi ripens: Wheat, Rabi, Jowar, Barley, Bengal Gram, Kulthi, Linseed and Safflower growing.	Harvesting of early varieties of Abi Rice, Jowar, Bajra Ragi, Urd, Groundnut, Kharif Cotton and Sugarcane.
Mysore	—	Bengal Gram and Potatoes.	All Kharif crops including Sugarcane and Tobacco.	Mungar Jowar, Potatoes, Rice, Ragi, Cotton, Groundnut, Coffee, Minor Millets and Kharif Pulses.
P.E.P.S.U.	Preparation of seed-beds for Rabi condiments.	Sowing of Wheat and other crops: Sowing of Gram completed.	Watering of Sugarcane and Cotton: Watering and earthing up of Potatoes.	Harvesting and threshing of Kharif cereals and Pulses: Picking of Desi Cotton continues: Harvesting and crushing of early varieties of Cane: Harvesting of Jowar.
Rajasthan	—	Sowing of Wheat and Barley.	Gram growing.	Harvesting of Paddy, Jowar, Bajra, Pulses, Sugarcane and Til: Threshing of Paddy and Til.
Saurashtra	Ploughing the fields which are harvested.	Transplanting of Vegetables and tillering of Wheat.	Sugarcane and Cotton maturing.	Harvesting of Jowar and late Groundnuts and threshing of Jowar, Bajra, Paddy and Pulses.
Bhopal	Preparing Land for Rabi sowing.	Sowing of Wheat and Gram.	Jowar maturing.	Harvesting of Mung, Mash, Groundnut, Cotton and Sugarcane etc.
Tripura	Preparation for Rabi and Boro Paddy.	Boro sown in seed-beds. Sowing of Rabi crops. Transplanting Tobacco and sowing of Potatoes, Chillies and Mustard.	Flowering of Aman: Sugarcane and Chillies ready for harvesting.	Harvesting of Kharif Paddy and picking of Cotton begins.



Vindhya Pradesh	Preparation for Rabi sowing.	Sowing of Wheat completed	Germination and tillering of Wheat: Gram and Tobacco growing : Sugarcane matures.	Picking of Cotton begins: Harvesting of millets and Paddy.
-----------------	------------------------------	---------------------------	---	--

### DECEMBER

Assam		Sowing and transplantation of Rabi Paddy.	Grams and Pulses, Mustard and Potatoes growing.	Harvesting and threshing of Kharif Paddy continued: Pressing of Sugarcane begun: Plucking of Tea continued.
Bihar	Land ploughed for Gora and Kutki Paddy in Ranchi.	Sowing of Rabi crops completed.	Germination and elongation of Wheat: Tobacco, Linseed, Grams and Pulses growing.	Aghani Paddy being harvested: Paddy threshed: Cutting of Sugarcane begun in Saran and crushing in other places.
Bombay	Land ploughed after Kharif harvest in places.	Sowing of Wheat, Rabi Jowar, Pulses and other Rabi crops continued.	Elongation and flowering of Wheat in most districts and of Rabi Jowar also.	Threshing of Kharif Paddy continued: Harvesting and threshing of Kharif Jowar: Picking of Cotton and of Groundnut continued: Harvesting of Sugarcane continued.
Madhya Pradesh	Land ploughed after Kharif harvest in places.	Sowing of Rabi crops completed.	Elongation of Wheat and Rabi Jowar: Tur, Urad, Gram and Linseed growing. Irrigated Sugarcane maturing.	Threshing and winnowing of Kharif Paddy: Harvesting of Kharif Jowar continued: Picking of Cotton continued: Harvesting of unirrigated Cane continued: Harvesting of irrigated Cane begins.
Madras & Andhra	Land ploughed after Kharif harvest in places and preparation for Rabi sowing in others.	Sowing and transplantation of Rabi Paddy in Anantapur, West Godavari, etc.	Flowering of Rabi Paddy: Elongation and flowering of Rabi Jowar: Grams and Pulses growing: Elongation, flowering and boll formation of Cotton: Tuber development of Potatoes.	Harvesting of Kharif Paddy and of Jowar (Cholam) begun: Harvesting of Ragi in East Godavari, Guntur, Bellary, Anantapur, Cuddapah, Nellore, Salem, Trichinopoly etc.: Picking of Groundnut continued.
Orissa	Land ploughed after Kharif harvest in places.	Sowing of Wheat, Barley, green Gram, Linseed and summer Paddy continued in some places.	Rabi crops (Wheat, Gram, Barley etc.) growing: Black Grams and green Grams in pods: Cotton, Arhar and Groundnut mature.	Harvesting of winter Paddy: Pressing of Sugarcane: Picking of Cotton and Groundnut begun.
Punjab	Ploughing of land after harvest of Kharif crops in some places.	Sowing of Wheat, Barley and Gram completed: Sowing of Rabi Condiments also completed.	Watering of early sown Wheat and Rabi crops: Watering and weeding of Tobacco: Hoeing and weeding of all Rabi Condiments.	Threshing of Kharif Paddy and Jowar: Threshing and winnowing of Toria: Harvesting and crushing of Cane: Harvesting of Turmeric, Ginger and Chillies.
Uttar Pradesh	Preparation of fields for Sugarcane, Hill Potato, Zaid Rice, Onion and Zaid Vegetables.	Sowing of Peas, Hill Potato and nursery for Zaid Tobacco	All Rabi crops growing and being irrigated.	Harvesting of Sugarcane, Vegetables and Sanai for seed. Threshing of Kharif Paddy, Jowar and Bajra: Turmeric gathered.
West Bengal	Preparation of land for Rabi crops continues.	Sowing of Rabi crops completed. Sowing of summer Rice in seed-bed: Transplanting of summer Rice taken up: Chillies sown: Transplanting of Tobacco.	Gram, Pulses, Wheat, Barley, Potatoes, Tobacco, Linseed, Rape & Mustard and Chillies growing: Winter Rice maturing.	Harvesting and Threshing of winter Rice, Sann Hemp harvested: Picking of Cotton continued: Harvesting of Turmeric, Sugarcane, Sesamum continued.
Hyderabad	—	—	Rice Abi continues to ripen: Whcat, Rabi, Jowar, Barley, Gram and other Rabi Pulses flowering and maturing.	Harvesting of Abi Rice, Kharif Jowar, Sugarcane (Ad-Sali and Ek-sali) and Groundnut.
Mysore	Tillage for Rabi Rice.	Potatoes.	All Kharif crops including Sugarcane and Tobacco.	Rice, Ragi, Cotton, Groundnut, Coffee, Kharif Pulses Minor Millets and Tobacco

## 8·1 CROP CALENDAR SHOWING IMPORTANT AGRICULTURAL OPERATIONS OBTAINING IN THE STATES—*concl'd.*

State	Preparation of the Soil	Sowing and Transplanting	Growing and Maturing	Harvesting and Threshing
<b>DECEMBER—<i>cont'd.</i></b>				
P.E.P.S.U.	Ploughing of land after harvesting of Kharif crops.	Sowing of Wheat, Barley and Gram completed; Sowing of condiments also completed.	Watering of early sown Wheat and Rabi crops; Watering and weeding of Tobacco; Hoeing and weeding of Rabi condiments.	Threshing of Kharif Paddy and Jowar; Threshing and winnowing of Toria; Harvesting and crushing of Cane; Harvesting of Turmeric, Ginger and Chillies.
Rajasthan	—	—	Rabi crops growing.	Harvesting and threshing of Jowar; Harvesting of Sugarcane continues.
Saurashtra	Ploughing of Land under Kharif crops.	Planting of Sugarcane.	Wheat, Mustard, Gram and winter Vegetables growing; Sugarcane maturing.	Harvesting of Sugarcane; Threshing of Jowar, Bajra, Paddy and Groundnut.
Bhopal	Preparing Land for Sugarcane.	Sowing of Sugarcane and Vegetables.	Jowar ready for harvesting. Elongation of Rabi crops.	Harvesting and threshing of Jowar etc.
Tripura	Preparation for Rabi crops and Boro Paddy.	Boro sown in seed beds; Sowing of Rabi crops; Transplanting Tobacco, Chillies and Mustard.	Gram, Pulses, Potato, Aman Paddy.	Aman Paddy; Picking of Cotton.
Vindhya Pradesh	Land ploughed after Kharif harvest.	Sowing of Rabi crops completed.	Gram and Pulses growing; Potato cultivation in progress; Tobacco growing; Elongation of Wheat.	Picking of Cotton continued; Harvesting of Cane.

- \* Sources :
- i) Dictionary of Economic Products of India by George Watts.
  - ii) State Gazettes — Weekly Weather and Crop Reports.
  - iii) Crop Calendars published by the Indian Meteorological Department.
  - iv) "Field Crops of India" by Yagna Narayana Iyer.
  - v) "Principles and Practices of Crop Production in India" by Dutt and Pugh.

## 8'2. CROP CALENDAR SHOWING THE DIFFERENT AGRICULTURAL OPERATIONS FOR IMPORTANT CROPS—MONTHLY

States	Rice	Wheat	Jowar	Gram & Pulses	Barley	Cotton	Jute	Sugarcane	Oilseeds
<b>JANUARY</b>									
Assam	Harvesting and threshing of rainfed (Kharif) Rice: Transplantation of irrigated Rice (Rabi) in Lushai Hills: Sowing of lowland Aus Paddy begins.	Unimportant.	Unimportant.	Flowering period for Pulses (Rabi).	Unimportant.	Unimportant.	Preparation of the soil.	Cutting and crushing of Cane begins: Preparatory tillage.	Linseed maturing.
Bihar	Rainfed Kharif Rice being threshed.	Growing up and beginning to flower.	Unimportant.	Bengal Gram growing up: Horsegram being harvested: Arhar ready for harvesting.	Crop is growing.	Harvesting of early Cotton completed.	Preparatory tillage.	Preparatory tillage; Planting in places.	Linseed harvesting begins towards the close: Harvesting of Kharif Castor: Linseed ready for harvesting.
Bombay	Harvesting and threshing of winter Rice (Kharif) completed: Sowing of summer Rice completed.	Crop in ears.	Kharif crop harvesting and threshing being completed: Rabi grain ripe for harvesting.	Bengal Gram growing up.	Unimportant.	Picking in progress in most districts.	—	Previous year's crop being harvested: Planting for current year begins.	Linseed ready for harvesting.
Madhya Pradesh	Threshing and harvesting of Kharif completed: Preparatory tillage for Rabi Paddy.	Threshing and grain formation in many places.	Threshing of Kharif crop: Rabi crop growing up and beginning to flower.	Bengal Gram ready for harvesting: Horsegram and Arhar growing up.	Unimportant.	Kharif picking being completed.	—	Planting of un-irrigated Cane completed: Harvesting of irrigated Cane: Preparatory tillage for irrigated Cane begins.	Linseed, Rape and Kharif Castor ready for harvesting.
Madras & Andhra	Harvesting of Kharif in most districts and of Rabi in South Kanara, Trichinopoly and North Arcot: Transplantation of Rabi in Anantapur and West Godavari districts.	Unimportant: Crop grown on Black Cotton soil (dry cultivation) will be ready for harvesting by about the middle of the month.	Elongation of the stalk and flowering in East Godavari, Nellore and Guntur: Harvesting in Vizagapatam and Madura: Threshing in West Godavari.	Bengal Gram ready for harvesting: Horsegram growing up.	Unimportant.	Flowering and boll formation of Rabi Cotton in Anantapur, Cuddapah, Guntur, Coimbatore, Madura and other districts: Picking may commence in Bellary, Cuddapah and Guntur: Kharif Cotton picking completed.	—	Planting begins: Previous season's crop being harvested.	Linseed ready for harvest: Growing in places.
Orissa	Harvesting of winter Rice completed.	Growing up.	Rabi crop is in ears (Flowering and grain formation).	Bengal Gram ready for harvesting.	Unimportant.	Picking in progress.	—	Harvesting completed.	Linseed ready for harvesting.



**8.2. CROP CALENDAR SHOWING THE DIFFERENT AGRICULTURAL OPERATIONS FOR IMPORTANT CROPS—MONTHLY—contd.**

States	Rice	Wheat	Jowar	Gram & Pulses	Barley	Cotton	Jute	Sugarcane	Oilseeds
<b>JANUARY—contd.</b>									
Punjab	Threshing and harvesting of the Kharif crop is over.	Watering and weeding of the crop which is growing.	Threshing of the Kharif crop (irrigated) may continue till the 2nd week of January in some districts.	Bengal Gram Growing up.	Gram Sowing may extend to the 1st week.	Picking of American Cotton completed. Removal of Cotton sticks and ploughing up of Cotton 'wadhs'.	—	Harvesting and crushing of previous year's Cane; Preparatory tillage for current year's Cane. Application of F. Y. manure to these fields.	Linseed growing up; Harvesting and threshing of Toria.
Uttar Pradesh	Harvesting and threshing of winter Rice completed; Hot weather Rice (Rabi) sown and in some districts transplanted also.	Growing up and beginning to flower from 4th week.	Kharif crop threshing completed by the 1st week of January in Jhansi and in other districts earlier.	Bengal Gram growing up.	Gram Crop is growing.	Picking continues.	—	Sowing may commence in January (though usually in February); Harvesting of the previous year's crop	Linseed growing up.
West Bengal	Harvesting of Aman continued; Threshing begins; Boro sown in the swamps; Transplantation of Boro Rice in some places.	Crop is on the ground and growing up.	Unimportant.	Bengal Gram growing up; Horsegram being harvested; Arhar ready for harvesting.	Gram Unimportant.	Bhadoi Cotton sown; The completion of the harvesting of the cold weather crop.	Preparation of the soil by ploughing.	Sowing begins; Harvesting of previous year's Cane completed.	Linseed and Castorseed maturing.
Hyderabad	Harvesting of Abi Rice; Land prepared for transplanting Tabi Rice.	Maturing.	Rabi Jowar maturing.	Growing.	Growing.	Picking of Kharif Cotton.	—	Preparation of land for sowing; Harvesting of old crop.	Rabi Oilseeds growing.
Mysore	Transplanting of Rabi Rice and Harvesting of Kharif Rice.	Harvesting.	Sowing.	Harvesting of Bengal Gram and other Pulses.	Unimportant	Picking	—	Planting, cutting and crushing.	Harvesting of Groundnut.
P.E.P.S.U.	Threshing and Harvesting of Kharif crop is over.	Watering and weeding of the crop which is growing.	Threshing of irrigated crop may continue till the 2nd week.	Bengal Gram growing up.	Gram Sowing may extend to first week.	Picking of American Cotton; Preparatory tillage of fallow land.	—	Harvesting of previous year's crop; Preparatory tillage for current crop.	Linseed growing up.
Rajasthan	—	Growing.	—	—	Growing.	—	—	Harvesting.	Linseed, Rape & Mustard growing.

Saurashtra	Threshing of winter Rice continued.	Crop in ears.	Ploughing and uprooting the stubbles of Kharif Jowar.	—	—	First picking of Cotton.	—	Harvesting starts: Preparatory tillage and planting of new crop.	Sesamum sown in Sept. ready for harvest: Ploughing the Groundnut fields.
Bhopal	—	Grain in ears.	Threshing completed.	Flowering and growing up.	Unimportant.	Picking being completed.	—	Harvesting of old crop. Planting of new crop.	Til ready for harvesting: Linseed growing up.
Tripura	Ploughing for low land Aus Paddy: Boro sown and transplanted: Harvesting of Aman Paddy.	—	—	—	—	Cotton maturing.	Preparatory tillage.	Preparatory tillage for new crop: Old crop being harvested.	—
Vindhya Pradesh	Threshing and harvesting of Kharif Rice completed.	Flowering begins.	—	Bengal Gram growing up: Horse gram being harvested: Arhar ready for harvest.	Crop is growing.	Unimportant.	—	Planting of Sugarcane begins: Harvesting of previous year's Cane.	Linseed growing up.

## FEBRUARY

Assam	Aus lowland and Murali sown: Rabi Rice transplanted in Lushai Hills, Manipur and Cachar: Growing in places: Threshing of Kharif Rice.	Unimportant.	Unimportant.	Flowering and grain formation of Gram and Pulses: Harvesting of Horsegram.	Unimportant.	Unimportant.	Preparation of soil.	Ploughing of land: Previous year's Cane harvesting and crushing completed.	Linseed, Rape and Mustard harvested.	§
Bihar	Summer Rice sown: Harvesting and threshing of winter Rice.	Matures (flowering and grain formation).	Unimportant.	Bengal Gram growing up: Horsegram being harvested: Harvesting of Arhar begins towards the end of the month.	Crop is maturing.	Picking in progress.	Jute sown.	Land prepared.	Sowing of Sesamum (Rabi): Kharif Castor gathered: Harvesting of Linseed, Rape and Mustard.	
Bombay	Rabi Rice maturing after transplantation.	Harvesting begun.	Harvesting of Rabi Jowar begun.	Growing in progress and ready for harvest in places.	Unimportant.	Picking of Cotton continued in some districts.	—	Preparatory tillage: Planting of Cane in some districts.	Linseed harvesting begins.	
Madhya Pradesh	Sowing of Rabi Rice.	Grain formation in most places.	Flowering and grain formation of Rabi Jowar: Harvesting in some districts begins: Threshing of Kharif crop over.	Harvesting of Bengal Gram begins: Horsegram and Arhar maturing.	Unimportant.	Picking of Cotton completed.	—	Preparatory tillage continues: Planting in some districts: Cutting and crushing of irrigated Cane.	Harvesting of linseed begins.	

## 82. CROP CALENDAR SHOWING THE DIFFERENT AGRICULTURAL OPERATIONS FOR IMPORTANT CROPS—MONTHLY—*contd.*

States	Rice	Wheat	Jowar	Gram & Pulses	Barley	Cotton	Jute	Sugarcane	Oilseeds
<b>FEBRUARY—<i>contd.</i></b>									
Madras & Andhra	Preparatory tillage after harvesting of Kharif Rice: Threshing of Paddy continued: Harvesting of Rabi Rice in South Kanara.	Sowing of Summer wheat in hills.	Sowing of Rabi Jowar in Trichinopoly and harvesting in most districts.	Harvesting of Bengal Gram commences: Horsegram and Arhar maturing.	Unimportant.	Sowing of Kharif Cotton in Ramnad; Boll formation and flowering of Rabi Cotton: Picking continues in Bellary.	—	Planting in progress in places: Growth in places.	Linseed harvesting begun.
Orissa	Sowing of Rabi Rice.	Wheat maturing.	Harvesting of Rabi Jowar.	Growing progress.	Unimportant.	Picking completed.	—	Planting of Cane begins.	Sesamum growing: Harvesting of Linseed, Rape and Mustard.
Punjab	No activity.	Watering, flowering and grain formation.	No activity.	Growing progress.	Unimportant.	Preparatory tillage.	—	Preparatory tillage: Sowing of thick variety of Sugarcane: Harvesting and crushing of previous year's Cane.	Watering of Linseed.
Uttar Pradesh	Land prepared for Kharif Rice Transplantation of Boro and hot weather Rice.	Flowering and grain formation.	No activity.	Growing progress.	Crop is maturing.	Picking of Cotton completed.	—	Planting of Cane.	Picking of Castor.
West Bengal	First ploughing for Aus Paddy. Sowing of Boro in swamps: Threshing of Kharif Paddy completed.	Flowering and grain formation.	Unimportant.	Grain formation of Gram and Pulses.	Unimportant.	Bhadoi Cotton sown: Picking of Cotton in progress.	Sowing of Jute.	Harvesting of sugarcane nearing completion.	Land ploughed and harrowed for Sesamum: Castor harvested: Harvesting of Linseed, Rape and Mustard in progress.
Hyderabad	Rice Tabi growing.	Harvesting of early Wheat.	Growing.	Harvesting of Gram, Kulthi and lakh begins: Tur harvested.	Growing.	Rabi Cotton maturing.	—	Planting and harvesting continues.	Rabi Oilseeds harvested: Castor picking started.
Mysore	Transplanting of Rabi Rice & harvesting of Kharif Rice.	Harvesting.	Sowing.	Harvesting of Bengal Gram & other Pulses.	Unimportant.	Picking.	—	Planting of Sugarcane and Crushing.	Harvesting of Groundnuts.

P.E.P.S.U.	No activity.	Watering, flowering and grain formation.	No activity.	Growing.	Watering.	Preparatory tillage.	—	Preparatory tillage and sowing; Harvesting and crushing of previous year's crop.	Watering of Linseed.
Rajasthan	—	Growing	—	Gram maturing.	Growing.	—	—	Ploughing and preparation of Land.	Linseed Rape & Mustard growing.
Saurashtra	Ploughing the Rice fields.	Early Sown Wheat ready for harvest.	Sowing of Kharif Jowar. Ploughing in Kharif Jowar.	—	—	Picking.	—	Harvesting of old crop and planting of new crop.	Harvesting of Sept. Sesamum.
Bhopal	—	In ears, growing and maturing.	No activity.	Maturing and growing: Harvesting at places.	—	—	—	Planting continues at places.	Til being harvested and threshed.
Tripura	Ploughing for Aus and Aman paddy: Boro transplanted: Threshing of Kharif Paddy.	Growing and maturing.	—	—	—	Maturing.	—	Harvesting.	—
Vindhya Pradesh	No activity	Grain formation in most places.	Unimportant	Harvesting of Bengal Gram begins: Horsegram and Arhar maturing.	Maturing begins.	Picking of Cotton completed.	—	Planting completed: Harvesting in progress.	Harvesting of linseed begins: Picking of castor.

### MARCH

Assam	Sowing of Ahu (highland) Paddy and Boro; Rabi Paddy in ears.	Unimportant.	Unimportant.	Maturing in places: Harvesting begun in some districts.	Unimportant.	Unimportant.	Sowing of Jute continued.	Land prepared for Sugarcane planting: Crushing of previous year's Cane completed.	Harvesting of Black Til sown in October begun.
Bihar	Preparation for sowing Paddy.	Wheat crop in ears: Harvesting begins in places.	Unimportant.	Bengal Gram maturing.	Harvesting.	Cotton pickings completed.	Sowing of Jute continued.	Planting of Cane: Harvesting of previous year's Cane completed.	Linseed harvesting completed.
Bombay	Flowering and grain formation of Rabi Rice.	Harvesting of Wheat nearing completion: Threshing begins.	Harvesting of Jowar (Rabi) continues: Threshing begins in places.	Bengal Gram ready for harvest in most places.	Unimportant.	Picking of Cotton.	—	Planting of Sugarcane.	Picking of Castor.
Madhya Pradesh	Rabi Rice in ears.	Harvesting of Wheat commences.	Harvesting of Rabi Jowar in most places.	Harvesting of Grams in most places: Arhar ready for harvesting.	Unimportant.	Preparatory tillage.	—	Cutting and crushing of irrigated Sugarcane.	Picking of Castor.

## 82. CROP CALENDAR SHOWING THE DIFFERENT AGRICULTURAL OPERATIONS FOR IMPORTANT CROPS—MONTHLY—*contd.*

States	Rice	Wheat	Jowar	Gram & Pulses	Barley	Cotton	Jute	Sugarcane	Oilseeds
<b>MARCH—<i>contd.</i></b>									
Madras & Andhra	Rabi Rice in ears in some districts.	Unimportant.	Elongation of Rabi Jowar; Threshing of Kharif Jowar.	Harvesting of Grams in most places: Arhar ready for harvesting.	Unimportant.	Sowing of Kharif Cotton in Ramnad: Picking of Rabi Cotton in some districts.	—	Planting continues: Growing in places.	Linseed harvesting in progress.
Orissa	Rabi Rice in ears.	Wheat in ears.	Harvesting and threshing of Rabi Jowar.	Harvesting and threshing of Grams.	Unimportant.	Preparatory tillage.	—	Planting of Cane.	Sesamum growing: Harvesting of Linseed, Rape and Mustard nearing completion.
Punjab	No activity.	Grain formation of Wheat crop: Harvesting begins in places towards the end of the month.	No activity.	Harvesting of Grams.	Harvesting.	Preparatory tillage: Sowing of American Cotton.	—	Preparatory tillage: Planting of Sugarcane in some districts: Late varieties harvested.	Linseed maturing.
Uttar Pradesh	Transplantation of Rabi Rice: Boro Rice maturing.	Grain formation of Wheat crop: Harvesting commences in some districts.	No activity.	Grams Harvested.	Harvesting.	Land ploughed for Kharif Cotton.	—	Planting of cane.	Linseed ready for harvest: Harvesting commences in some districts: Picking of Castor.
West Bengal	Preparation of land for sowing Paddy.	Crop in ears.	Unimportant.	Maturing in places: Harvesting begun in some districts.	Unimportant.	Bhadoi Cotton sown in most places.	Sowing of Jute continued.	Planting of Sugarcane: Harvesting completed.	Sowing of Sesamum: Harvesting of Linseed completed.
Hyderabad	Rice Tabi maturing.	Harvesting started.	Rabi Jowar harvesting begins.	Bengal Gram, Tur and Lentil harvesting continues.	Harvesting started.	Picking of Rabi Cotton started.	—	—	Castor picking continues.
Mysore	Rabi Rice transplanted.	—	—	—	—	Picking.	—	Planting and crushing.	—
P.E.P.S.U.	No activity.	Grain formation: Harvesting begins at places.	No activity.	Harvesting of Gram.	Harvesting.	Preparatory tillage for American Cotton.	—	Preparatory tillage: Planting of Cane: Harvesting of late varieties.	Linseed maturing.
Rajasthan	—	Maturing	—	Gram maturing and harvesting.	Maturing and harvesting.	—	—	Preparation of land and sowing.	Maturing and harvesting of Linseed, Rape and Mustard.

Saurashtra	Harrowing the Rice fields.	Harvesting and threshing of Wheat.	Sowing of summer Jowar and irrigation of early crop.	—	—	Picking.	—	Harvesting and Gur making; Planting of new crop.	—
Bhopal	—	Harvesting at places.	—	Harvesting being completed.	—	—	—	Watering and weeding.	—
Tripura	Land ploughed for sowing.	Wheat in ears.	—	Maturing; Harvesting at places.	—	Maturing.	Land ploughed for sowing; Sowing starts.	Planting of Cane; Harvesting of old crop.	—
Vindhya Pradesh	No activity	Harvesting commences.	Unimportant.	Gram harvesting; Arhar ready for harvest.	Harvest commences.	No activity.	—	Harvesting completed; Watering new Cane,	Picking of Cotton.

#### APRIL

Assam	Sowing of Boro and Sail in Cachar; Rabi Paddy in ears; Harvesting of Sail Bura Paddy.	Unimportant.	Unimportant.	Threshing of Grams & Pulses (Rabi) completed.	Unimportant.	Unimportant.	Sowing of Jute continues.	Planting of Cane in Brahmaputra Valley.	Sesamum growing.
Bihar	Sowing commences.	Harvesting & threshing of Wheat.	Unimportant.	Harvesting and threshing of Grams and Pulses.	Harvesting nearing completion; Threshing completed.	—	Germination and growth of Jute.	Planting continues; Growth of Cane in places.	Sowing of Kharif Castor begins.
Bombay	Land prepared for sowing Kharif Paddy; Harvesting of Rabi Paddy commences.	Threshing of Wheat completed.	Threshing of Rabi Jowar over; Preparatory tillage for Kharif Jowar.	Harvesting of Bengal Gram begins.	Unimportant.	Picking of Cotton continues.	—	Sugarcane growing.	Harvesting of Rabi Castor.
Madhya Pradesh	Harvesting of Rabi Rice begins; Land prepared for Kharif Paddy.	Harvesting and threshing of Wheat continues.	Threshing of Rabi Jowar.	Harvesting of Grams and Pulses.	Unimportant.	Preparatory tillage for Kharif Cotton nearing completion.	—	Sugarcane maturing in some places; Cutting and crushing of irrigated Cane nearing completion.	Castor pickings over.
Madras & Andhra	Sowing of Kharif Paddy begins; Harvesting of Rabi Paddy in most districts.	Harvesting of irrigated Wheat.	Elongation of Rabi Jowar in Trichinopoly continues; Harvesting in places.	Harvesting of Grams continues.	Unimportant.	Sowing of Kharif Cotton in Ramnad continues and also in other districts; Picking of Rabi Cotton continues.	—	Planting nearing completion; Watering in places.	Preparatory tillage for Sesamum.
Orissa	Harvesting and threshing of Rabi Paddy.	Harvesting and threshing of Wheat begins.	Land being prepared for Kharif Jowar.	Harvesting and threshing of Grams continue.	Unimportant.	Preparation of land for sowing Paddy.	—	Sugarcane growing.	Sesamum maturing; Linseed, Rape and Mustard harvested.



**8.2. CROP CALENDAR SHOWING THE DIFFERENT AGRICULTURAL OPERATIONS FOR IMPORTANT CROPS—MONTHLY—contd.**

States	Rice	Wheat	Jowar	Gram & Pulses	Barley	Cotton	Jute	Sugarcane	Oilseeds
<b>APRIL—contd.</b>									
Punjab	Preparatory tillage for Kharif Paddy.	Harvesting of Wheat crop continues; Threshing begins.	Preparatory tillage for Kharif Jowar.	Sowing of Arhar; Harvesting of Grams continued.	Harvesting continued.	Sowing of Cotton in most districts.	—	Planting completed; Cane growing in places.	Linseed harvesting begins.
Uttar Pradesh	Preparatory tillage for Kharif Paddy; Sown in some parts; Rabi Paddy in ears.	Harvesting of Wheat crop continues; Threshing begins.	Preparatory tillage for Kharif Jowar.	Gram harvesting continues.	Harvesting continued; Threshing also begins.	Preparatory tillage for Kharif Cotton.	—	Planting of Sugarcane.	Preparatory tillage for Sesamum; Castor sown; Linseed, Rape, Mustard and Castor (spring crop) being harvested.
West Bengal	Preparatory tillage for Kharif Paddy; Boro Rice ready for harvest.	Harvesting begins.	Unimportant.	Threshing of Gram and Pulses (Rabi) completed.	Unimportant.	Bhadoi Cotton sowing completed; Growing in places.	Germination and growth of Jute.	Planting continues.	Sowing of Sesamum continues; Harvesting of Rabi Castor begins; Rape and Mustard harvested.
Hyderabad	Tabi Paddy harvesting started.	Harvesting continues.	Rabi Jowar harvest continues.	—	—	Rabi Cotton picking continues.	—	—	—
Mysore	Harvesting of Rabi Rice.	—	—	—	—	—	—	Planting and Crushing.	—
P.E.P.S.U.	Preparatory tillage for Kharif Paddy; Sowing at places.	Harvesting continues; Threshing begins.	Preparatory tillage for Kharif Jowar.	Sowing of Arhar; Harvesting of Gram continues.	Harvesting continues.	Sowing of Cotton.	—	Planting completed; Cane growing.	Linseed harvesting begins.
Rajasthan	—	Harvesting.	—	Gram harvesting and threshing.	Harvesting and threshing.	—	—	Sowing.	Harvesting and threshing of Linseed, Rape and Mustard.
Saurashtra	Ploughing and harrowing continued.	Threshing completed; Fields being ploughed.	Summer Jowar growing; Ploughing for Kharif Jowar.	—	—	Ploughing of Cotton fields.	—	Harvesting of late crop; Irrigation of new crop.	Preparation of land.
Bhopal	—	Harvesting and threshing being completed.	—	Harvesting and threshing being completed.	—	—	—	Watering and weeding.	—
Tripura	Tillage for Kharif Paddy; Sowing at places.	Harvesting.	—	Harvesting.	—	Maturing.	Growing.	Planting of Cane continues.	Harvesting of Mustard.
Vindhya Pradesh	Preparatory tillage for Kharif Paddy.	Harvesting completed; Threshing in progress.	Unimportant.	Harvesting of Gram and Pulses.	Harvesting and threshing finished.	No activity.	—	No activity.	Castor picking over.

MAY

Assam	Sowing of Kharif Paddy continues: Harvesting of Rabi Paddy nearing completion.	Unimportant.	Unimportant.	Field prepared for sowing Horsegram.	Unimportant.	Unimportant.	Germination and elongation of Jute.	Planting of Sugarcane continues: Weeding of Sugarcane in places.	Sesamum sown in Manipur and Nowgong.
Bihar	Preparatory tillage for Kharif Paddy.	Threshing of Wheat completed.	Unimportant.	Sowing of Arhar.	Harvesting and threshing of Barley completed.	—	Jute growing.	Sugarcane growing.	Kharif Castor and Sesamum sown.
Bombay	Threshing of Rabi Paddy completed.	Land ploughed after threshing of Wheat.	Land prepared for Kharif Jowar.	Pengal Gram harvesting and threshing completed.	Unimportant.	Preparatory tillage for Kharif Cotton.	—	Sugarcane planting continues: Growing in places.	Rabi Castor harvested: Land prepared for Rabi Groundnut.
Madhya Pradesh	Preparatory tillage for Kharif Rice in a few places.	Threshing of Wheat completed.	Preparatory tillage for Kharif Jowar: Threshing of Rabi Jowar completed.	Threshing of Grams completed.	Unimportant.	Land ready for sowing Kharif Cotton.	—	Sugarcane growing in places: Maturing in others.	—
Madras & Andhra	Sowing continues in some places: Preparatory tillage for Kharif Paddy in others: Growing in Malabar: Harvesting of Rabi Paddy continues.	Unimportant.	Harvesting of Rabi Jowar begins in Tichinopoly.	Harvesting of Grams completed: Threshing in progress.	Unimportant.	Kharif Cotton growing in Ramnad: Picking of Rabi Cotton continues.	—	Sugarcane planted.	Sesamum sown.
Orissa	Threshing of Rabi Paddy completed.	Threshing of Wheat completed.	Sowing of Kharif Jowar begun.	Threshing of Grams continued.	Unimportant.	Land ready for sowing Kharif Cotton.	—	Sugarcane planting begun in places: Growing in others.	—
Punjab	Kharif Paddy sown.	Threshing of Wheat continues.	Preparatory tillage for Kharif Jowar nearing completion.	Threshing of Grams ends.	Threshing of Barley ends.	Sowing of Desi and early varieties of Cotton: Germination in places.	—	Watering of Sugarcane.	—
Uttar Pradesh	Field prepared for Kharif Paddy: Sowing begins in places: Rabi Paddy matures and harvesting begins in places.	Threshing of Wheat continued.	Field prepared for Kharif Jowar.	Bengal Gram harvested and threshed.	Harvesting and threshing of Barley completed.	Sowing of Kharif Cotton: Germination in places.	—	Planting of Sugarcane continued: Growing in places.	Sesamum sown: Castor growing



## 8.2. CROP CALENDAR SHOWING THE DIFFERENT AGRICULTURAL OPERATIONS FOR IMPORTANT CROPS—MONTHLY—*contd.*

States	Rice	Wheat	Jowar	Gram & Pulses	Barley	Cotton	Jute	Sugarcane	Oilseeds
<b>MAY—<i>contd.</i></b>									
West Bengal	Land prepared for sowing Kharif Paddy (Aman); Kharif Paddy sown in some districts: Boro Rice harvested.	Harvesting completed: Threshing begins.	Unimportant.	Field prepared for sowing Horsegram.	Unimportant.	Bhadoi Cotton grown.	Germination and elongation of Jute.	Planting of Sugarcane continues: Weeding of Sugarcane in places.	Kharif sown: Sesamum growing.
Hyderabad	Ploughing of land. Sowing of nurseries.	Harvesting completed.	Preparatory tillage for Kharif Jowar.	Preparatory tillage for Kharif Pulses.	—	Preparatory tillage for Kharif Cotton.	—	Preparation of land for Adsal Sugarcanes.	Preparatory tillage for Groundnut and other Kharif Oilseeds.
Mysore	Harvesting of Rabi Rice.	—	Sowing of Jowar.	—	—	—	—	—	—
P.E.P.S.U.	Transplantation of Kharif Paddy at places.	Threshing continues.	Preparatory tillage near completion.	Threshing of Gram ends.	Threshing.	Sowing of Desi and early varieties. Germination at places.	—	Watering of Sugarcane.	—
Rajasthan	—	Threshing.	—	—	Threshing.	—	—	—	—
Saurashtra	Preparation of land.	Ploughing and Harrowing.	Land prepared for Kharif Jowar.	—	—	Harrowing and manuring.	—	Ploughing the harvested fields: Irrigating new crops.	Preparatory tillage.
Bhopal	Manure spreading in fields.	Harvesting continues at places.	Preparatory tillage.	Mowing being completed.	—	Preparatory tillage.	—	Weeding and watering.	Preparatory tillage.
Tripura	Tillage for Kharif Paddy: Sowing of Kharif and Jum Paddy: Boro harvested.	Harvesting.	—	—	—	Sowing of Jum Cotton.	Thinning of Jute.	Weeding of cane fields.	Sowing of Jum Til.
Vindhya Pradesh	Preparatory tillage for rice.	Threshing of Wheat completed.	Unimportant.	No activity.	No activity.	No activity.	—	Weeding in Sugarcane: Watering.	—
<b>JUNE</b>									
Assam	Sowing of Kharif Paddy continues: Threshing of Rabi Paddy continues.	Unimportant.	Unimportant.	—	Unimportant.	Unimportant.	Elongation of Jute continues.	Watering of Cane.	Sowing of Sesamum in Manipur and Nowgong continues

Bihar	Sowing of Kharif Paddy (Aman): Threshing of summer Rice completed.	No activity.	Unimportant.	Arhar growing.	No activity.	—	Elongation of Jute.	Sugarcane growing.	Growing of Groundnut and Castor (Small variety).
Bombay	Sowing and transplantation of Kharif Paddy.	Preparatory tillage.	Sowing of Kharif Jowar begins.	—	Unimportant.	Sowing of Kharif Cotton begins.	—	Watering of early Cane.	Field ploughed and harrowed for Rabi Sesamum: Groundnut sown.
Madhya Pradesh	Sowing of Kharif Paddy begins.	Preparatory tillage for Wheat.	Kharif Jowar sown.	—	Unimportant.	Sowing of Kharif Cotton begins.	—	Cane maturing: Watering in most places.	Sowing of Oilseeds begins.
Madras and Andhra	Sowing of Kharif Paddy: Threshing of Rabi Paddy in places.	Unimportant.	Threshing of Rabi Jowar in places.	Threshing of Grams completed.	Unimportant.	Kharif Cotton sown in Guntur: Boll formation in Ramnad: Picking of Rabi Cotton completed.	—	Watering of Cane.	Groundnut sown in unirrigated land: Gingelly sown in Godavari: Groundnut (summer crop) harvested.
Orissa	Sowing of Kharif Paddy begins.	Threshing and winnowing of Wheat.	Sowing of Jowar in progress: Germination and tillering of early Jowar: Elongation in places.	Threshing of Grams completed.	Unimportant.	Kharif Cotton sown.	—	Watering of Cane.	—
Punjab	Sowing of Kharif Paddy continues: Transplantation in places.	Threshing and winnowing of Wheat completed in most places.	Kharif Jowar grown.	Kharif Pulses sown.	No activity.	Sowing of Desi Cotton continues: Watering of early varieties of Cotton in places: Hoeing in places.	—	Watering of Sugarcane continues: Hoeing in places.	Kharif Oilseeds sown.
Uttar Pradesh	Sowing of Kharif Paddy: Harvesting and threshing of Rabi Paddy.	Threshing of Wheat completed.	Kharif Jowar sown.	—	No activity.	Germination of Cotton in most places.	—	Sugarcane growing in almost all places.	Castor growing.
West Bengal	Transplanting of Kharif (Aman) Paddy: Sowing continued in places: Threshing of Boro Rice.	Threshing completed.	Unimportant.	—	Unimportant.	Early Cotton growing.	Elongation of Jute continues.	Sugarcane growing.	Sowing of Kharif Castor continues: White Til harvested: Sesamum growing.
Hyderabad	Manuring and preparation of seed beds: Abi Rice sown.	—	Kharif Jowar sown.	Kharif Pulses sown.	—	Kharif Cotton sown.	—	Adsali Sugarcane planted.	Groundnut and Sesamum sown.
Mysore	—	—	Sowing of Mungar Jowar.	—	—	—	—	—	—

**8'2. CROP CALENDAR SHOWING THE DIFFERENT AGRICULTURAL OPERATIONS FOR IMPORTANT CROPS—MONTHLY—contd.**

States	Rice	Wheat	Jowar	Gram & Pulses	Barley	Cotton	Jute	Sugarcane	Oilseeds
<b>JUNE—contd.</b>									
P.E.P.S.U.	Transplantation of Kharif Paddy.	Threshing and winnowing completed at most places.	Kharif Jowar sown.	Kharif Pulses sown.	No activity.	Sowing of Desi Cotton continues.	—	Watering and hoeing of Cane at places.	Kharif Oilseeds sown.
Rajasthan	Preparation of land: Sowing of nursery for transplanted paddy.	Summer ploughing.	Ploughing and preparation of land for sowing.	Ploughing and preparation of land for sowing Gram and Pulses.	Summer ploughing.	—	—	—	Preparation of land for sowing Til.
Saurashtra	Sowing	Ploughing and harrowing.	Sowing begins.	—	—	Sowing if there are early rains.	—	Watering and earthing up.	Sowing begins.
Bhopal	Preparatory tillage and sowing.	Preparatory tillage.	Preparatory tillage.	Preparatory tillage.	—	Preparatory tillage.	—	Watering and weeding.	Preparatory tillage and sowing.
Tripura	Transplanting of Kharif Paddy.	—	—	—	—	—	Jute elongating.	Sugarcane growing.	Harvesting of White Til.
Vindhya Pradesh	Sowing of Paddy begins in the end of the month.	Preparatory tillage for Wheat.	Unimportant.	—	No activity.	No activity.	—	Sugarcane growing: Watering.	—
<b>JULY</b>									
Assam	Sowing and transplantation of Kharif Paddy: Ahu and Aus highland Paddy in ears: Harvesting of Murali and Sail Bura Paddy.	Unimportant.	Unimportant.	—	Unimportant.	Unimportant.	Cutting and retting of Jute.	—	Sesamum growing in Manipur and Nowgong.
Bihar	Sowing and transplantation of Kharif Paddy: Aus Paddy growing.	Ploughing for Wheat.	Unimportant.	—	No activity.	—	Cutting and retting of Jute.	Sugarcane growing.	Sowing of Castor and Groundnut continues.
Bombay	Transplantation of Kharif Paddy: Watering in places.	Ploughing and harrowing for Wheat.	Sowing of Kharif Jowar continues: Germination and tillering in places.	—	Unimportant.	Germination of Kharif Cotton.	—	Sugarcane tied in clumps.	Sowing of late Groundnuts.

Madhya Pradesh	Transplantation of Kharif Paddy: Sowing in places: Watering in some others.	Preparatory tillage for Wheat.	Sowing of Kharif Jowar continues: Germination in places.	—	Unimportant.	Germination of Kharif Cotton.	—	Sugarcane growing.
Madras and Andhra	Transplantation of Kharif Paddy in some districts: Watering in places.	Unimportant.	Threshing of Rabi Jowar completed in all places.	—	Unimportant.	Sowing of Kharif Cotton in Guntur continues: Cotton growing in places: Picking of Cotton in Ramnad.	—	Watering of Cane. Sowing of Gingelly and Groundnut in unirrigated areas continues: Groundnut (summer variety) harvested.
Orissa	Transplantation of Kharif Paddy: Sowing in places: Watering in some others.	Preparatory tillage for Wheat.	Sowing of Kharif Jowar completed: Elongation almost all over the State.	—	Unimportant.	Kharif Cotton growing: Harvesting of early Cotton.	—	Cane growing. Groundnut and Til growing: Harvesting of early Sesamum.
Punjab	Transplantation of Kharif Paddy: Watering in places.	Ploughing and harrowing for Wheat: Threshing completed in all places.	Sowing of Kharif Jowar continued: Germination and tillering in places.	Preparatory tillage for Kharif Pulses in progress in others.	No activity.	Watering in places: Elongation in progress.	—	Watering of Cane continues. Application of chemical fertilizers and hoeing. Preparatory tillage in places: Sowing continues in others.
Uttar Pradesh	Sowing and transplantation of Kharif Paddy: Broadcast Paddy growing: Harvesting of Broadcast Paddy begins in places.	Preparatory tillage for Wheat.	Tillering and Germination of Jowar.	—	No activity.	Kharif Cotton growing: Germination and elongation.	—	Sugarcane growing. Sowing of late Sesamum.
West Bengal	Transplantation of Kharif Paddy (Aman): Aus Paddy growing.	No activity.	Unimportant.	—	Unimportant.	Early Cotton maturing. Cutting and retting of Jute.	Sugarcane tied in clumps.	Sowing of Kharif Castor continues.
Hyderabad	Sowing and transplanting.	—	Sowing of Kharif Jowar crop growing at places.	Kharif Pulses growing.	—	Growing.	—	Planting of Ad-sali Sugarcane continues. Castor sown: Sesamum and Groundnut growing.
Mysore	Sowing of Kar Paddy.	—	Sowing of Mun-gar Jowar.	Sowing of Minor Pulses.	—	Sowing.	—	Sowing of Groundnut.
P.E.P.S.U.	Transplantation of Kharif Paddy: Watering at places.	Ploughing and harrowing of fields after harvest.	Sowing continues: Germination and termination at places.	Preparatory tillage for Kharif Pulses: Sowing at places.	No activity.	Watering in places: Germination and elongation at places.	—	Watering of Cane continues. Preparatory tillage in places: Sowing in others.
Rajasthan	Preparation of land for sowing: Transplantation and sowing.	Ploughing.	Sowing.	Sowing.	—	—	—	Growing. Sowing of Til.

**8'2. CROP CALENDAR SHOWING THE DIFFERENT AGRICULTURAL OPERATIONS FOR IMPORTANT CROPS—MONTHLY—contd.**

States	Rice	Wheat	Jowar	Gram & Pulses	Barley	Cotton	Jute	Sugarcane	Oilseeds
<b>JULY—contd.</b>									
Saurashtra	Sowing and irrigating the fields.	Harrowing.	Sowing continued: Germination at places.	—	—	Sowing: Germination at places.	—	Watering.	Sowing continued.
Bhopal	Sowing and transplanting.	Preparatory tillage.	Sowing and weeding.	Preparatory tillage.	—	Sowing and weeding.	—	Weeding.	Sowing and weeding.
Tripura	Transplantation of Kharif Paddy: Harvesting of Aus.	—	—	—	—	—	Harvesting of Jute.	Earthing of Sugarcane.	—
Vindhya Pradesh	Transplantation and sowing of Paddy.	Preparatory tillage for Wheat.	Unimportant.	—	No activity.	Kharif Cotton growing.	—	Cane growing.	—
<b>AUGUST</b>									
Assam	Sali Paddy transplanted in Brahmaputra Valley: Transplantation of Kharif Rice in General: Growing in Cachar.	Unimportant.	Unimportant.	—	Unimportant.	Unimportant.	Cutting and retting continues.	Weeding of Cane.	Sesamum sown in Brahmaputra Valley.
Bihar	Transplantation of Aghani (winter Paddy) begun towards the end of the month.	Land prepared for Wheat.	Unimportant.	—	No activity.	—	Cutting and retting continues.	Sugarcane growing.	Kharif Sesamum maturing.
Bombay	Transplantation of Kharif Paddy in Nasik.	Land being prepared for Wheat.	Tillering and elongation of Kharif Jowar: Preparatory tillage for Rabi sowings.	—	Unimportant.	Dharwar Cotton sown in Karnatic: Germination of Cotton in places.	—	Cane tied in clumps.	Late Groundnut sown: Sowing of Rabi Til begins.
Madhya Pradesh	Transplantation of Kharif Paddy in progress: Weeding in places.	Preparatory tillage for Wheat.	Preparatory tillage for Rabi Jowar: Sowing of Kharif Jowar completed: Tillering and germination in places.	—	Unimportant.	Intercultural operations in Cotton tracts.	—	Sugarcane growing.	Groundnut growing.

Madras & Andhra	Sowing and transplantation of Kharif Paddy: Sowing of Rabi Paddy in places: Harvesting of Kharif Rice in places in Malabar.	Harvesting of summer Wheat in hills.	Rabi Jowar sown in places.	Black Gram and Green Gram maturing.	Unimportant.	Rabi Cotton sown towards end in places: Kharif Cotton sown in some districts: Elongation of Kharif Cotton in places: Boll formation in places.	—	Harvesting of Sugarcane b-gins.	Irrigated Groundnut sown from middle of month.
Orissa	Transplantation of winter Paddy in all districts: Weeding also: Harvesting in places.	Preparatory tillage for Wheat.	Flowering and grain formation of Kharif Jowar.	Black and Green Grams growing.	Unimportant.	Cotton growing: Harvesting in places.	—	Sugarcane growing.	Til and Groundnut growing: Harvesting of Sesamum in Ganjam towards the end of the month.
Punjab	Transplantation of Kharif Paddy continues: Watering in places: Weeding also.	Ploughing and harrowing of land for Wheat.	Elongation of Kharif Jowar continues.	Sowing of Kharif Pulses continues.	No activity.	Flowering and boll formation in progress.	—	Watering of Sugarcane continues.	Kharif Sesamum growing.
Uttar Pradesh	Sowing of Kharif Paddy continues: Broadcast Paddy ready for cutting.	Land prepared for Wheat.	Elongation of Kharif Jowar.	—	No activity.	Flowering and boll formation in places: Elongation in others.	—	Sugarcane growing.	Kharif Castor sown with Bajra: Sesamum sown in July growing.
West Bengal	Early varieties of Aus harvested: Transplantation of Aman and Boro.	Ploughing of land for Wheat.	Unimportant.	—	Unimportant.	Reaping of Bha-doi Cotton.	Cutting and retting continues.	Cane tied in clumps.	Castor growing.
Hyderabad	Late sown crop being transplanted.	Preparation of land.	Kharif Jowar growing and flowering.	Kharif Pulses growing: Harvesting of Mung begins.	—	Cotton flowering.	—	—	Sowing of Castor continues: Sesamum and Groundnut flowering.
Mysore	Transplanting of Kharif Rice.	—	Harvesting.	Sowing of Minor Pulses.	—	Sowing.	—	—	Sowing of Groundnut.
P.E.P.S.U.	Transplantation continues: Watering and weeding: Harvesting starts at places.	Ploughing & harrowing of land.	Jowar elongating.	Sowing of Kharif Pulses continues.	No activity.	Kharif Cotton growing: Flowering & boll formation in progress.	—	Cane growing: Watering continues.	Sesamum growing.
Rajasthan	Growing.	—	Growing.	Pulses Growing.	—	—	—	Growing.	Til growing.
Saurashtra	Watering, manuring & interculturing.	Harrowing.	Tillering and interculturing.	—	—	Weeding and interculturing.	—	Watering and supporting the Canes.	Interculturing.

**8.2. CROP CALENDAR SHOWING THE DIFFERENT AGRICULTURAL OPERATIONS FOR IMPORTANT CROPS—MONTHLY—contd.**

States	Rice	Wheat	Jowar	Gram & Pulses	Barley	Cotton	Jute	Sugarcane	Oilseeds
<b>AUGUST—contd.</b>									
Bhopal	Transplanting and weeding.	Preparatory tillage.	Watering and weeding.	Preparatory tillage.	—	Weeding	—	Weeding and watering.	Weeding and watering.
Tripura	Transplantation of Kharif Paddy: Harvesting of Aus & Jum: Ploughing of land after Rabi Paddy.	—	—	—	—	—	Harvesting of Jute.	Earthing of Sugarcane.	—
Vindhya Pradesh	Sowing of Paddy finished.	Preliminary cultivation for Wheat.	Unimportant.	—	No activity.	Intercultural operations in Cotton.	—	Sugarcane growing: Tied in clumps.	Groundnut growing.
<b>SEPTEMBER</b>									
Assam	Transplantation of Sali Paddy: Harvesting of early hill Paddy & Aus in Cachar district and of autumn Rice in places.	Unimportant.	Unimportant.	Land ploughed for sowing Rabi Pulses: Horse gram sown.	Unimportant.	Unimportant.	Retting of Jute.	Final weeding and earthing of Sugarcane.	Sesamum maturing in Brahmaputra Valley.
Bihar	Transplantation of Aghani Paddy in progress.	Preparatory tillage for Wheat.	Unimportant.	—	Barley sown.	—	Harvesting & retting of Jute.	Sugarcane growing	Preparatory tillage for Linseed: Harvesting of Kharif Sesamum.
Bombay	Transplantation of Kharif Rice completed: Flowering in places: Harvesting in places.	Land prepared for Wheat. Sowings commenced.	Elongation of Jowar (Kharif): Flowering and grain formation in places: Rabi Jowar sown.	—	Unimportant.	Flowering of Kharif Cotton.	—	—	Rabi Til sown.
Madhya Pradesh	Flowering of Kharif Rice: Harvesting of early Paddy.	Land prepared of Wheat sowings.	Elongation of Kharif Jowar: Rabi sown in places.	Harvesting of Kharif Pulses and early Kutki,	Unimportant.	Elongation and flowering of Cotton.	—	Sugarcane maturing.	Rabi Til sown: Harvesting of Groundnuts begins.



Madras & Andhra	Preparation for Rabi Paddy in districts: Scwing of second Paddy crop in Malabar: Harvesting of Kharif Rice in some districts: Rabi Rice sown in places: Kharif Rice growing and flowering in places.	Unimportant.	Preparation for Rabi Jowar in some districts: Sown in places: Tillering in places.	—	Unimportant.	Preparation & sowing of Rabi Cotton in districts: Sowing of Kharif Cotton in some districts: Elongation and boll formation in places: Pickings also commence.	—	Harvesting of Sugarcane in progress.	Sowing of Groundnut and Til in the middle of the month.
Orissa	Transplantation and weeding of winter Paddy: Harvesting of autumn Paddy.	Land prepared for Wheat.	Flowering and grain formation: Harvesting commences in places.	—	Unimportant.	Harvesting of Cotton in places.	—	Sugarcane growing.	Sowing of Til in places: Groundnut growing.
Punjab	Harvesting of autumn Paddy: Flowering and grain formation of Kharif Paddy.	Land prepared for Wheat sowing. San or Guava sown for green manuring buried.	Flowering and boll formation of Kharif Jowar.	Grams sown: Harvesting of Kharif Pulses.	Barley sowing started.	Watering of Kharif Cotton in places: In others pickings of Desi Cotton: Boll formation of Kharif Cotton in full progress.	—	Watering of Sugarcane.	Oilseeds sown: Harvesting of Kharif Til.
Uttar Pradesh	Transplantation of Kharif Paddy completed: Irrigation of late varieties: Broadcast Paddy (Bhadoi) cut.	Land ready for Wheat sowing.	Flowering and grain formation.	Sowing of Grams begins.	Barley sown.	Boll formation and flowering of Kharif Cotton.	—	Irrigation of Cane.	Kharif Sesamum ripe.
West Bengal	Land ploughed for Boro Rice: Transplantation of Aman Paddy being completed: Aus Paddy harvesting towards close.	Preparatory tillage for Wheat.	Unimportant.	—	Unimportant.	Cotton growing.	Harvesting & retting of Jute being completed.	Sugarcane growing.	Deep ploughing for Linseed: Castor medium variety being sown.
Hyderabad	Late sown Abi Paddy transplanted: Preparation of land for Tabi sowing.	Sowing begins.	Kharif Jowar flowering and maturing.	Sowing of Gram, Lentil and harvesting of Moeng.	—	Rabi Cotton sown.	—	—	—
Mysore	Transplanting of Kharif Rice.	—	Harvesting of Mungar Jowar.	Sowing of Horse gram and Minor Pulses.	—	Picking.	—	—	Sowing of Groundnut.



**82. CR. OP CALENDAR SHOWING THE DIFFERENT AGRICULTURAL OPERATIONS FOR IMPORTANT CROPS—MONTHLY—contd.**

States	Rice	Wheat	Jowar	Gram & Pulses	Barley	Cotton	Jute	Sugarcane	Oilseeds
<b>SEPTEMBER—contd.</b>									
P.E.P.S.U.	Harvesting of Autumn Paddy: Flowering and grain formation of Kharif Paddy.	Land ready for sowing.	Flowering and grain formation.	Gram sown: Harvesting of Kharif Pulses.	Barley sown.	Picking of Desi Cotton. Boll formation of Kharif Cotton. Watering of the crop at places.	—	Watering of Sugarcane.	Rabi Oilseeds sown: Harvesting of Sesamum.
Rajasthan	Growing.	Preparation of land.	Growing.	Growing	Ploughing.	—	—	Growing.	Til growing. Ploughing and preparation of land for Linseed, Rape and Mustard.
Saurashtra	Flowering begins: Watering.	Preparation of land.	Flowering and grain formation.	—	—	Flowering.	—	Watering continued.	Sowing of Rabi and harvesting of Kharif Til: Flowering and pod formation of Groundnut.
Bhopal	Crop in ears, growing, maturing.	Preparatory tillage.	Elongation.	Preparatory tillage.	—	Elongation and flowering.	—	Weeding.	Harvesting of Kharif Til.
Tripura	Transplanting of Aman completed. Harvesting of late Aus and Jum Paddy.	Preparatory tillage for Wheat.	—	—	—	Cotton growing.	—	Sugarcane growing.	—
Vindhya Pradesh	Flowering of Kharif crop.	Land prepared for Wheat.	Unimportant.	Sowing of Gram begins.	Barley sown.	Boll formation and flowering of Cotton.	—	Irrigation of cane.	Rabi Til sown: Harvest of Groundnut begins.
<b>OCTOBER</b>									
Assam	Sali Paddy maturing in Brahmaputra Valley: Harvesting of Kharif Paddy in places.	Unimportant.	Unimportant.	Sowing of Horsegram.	Unimportant.	Unimportant.	Harvesting & retting of Jute continues.	Sugarcane being tied in clumps.	Sesamum harvested in Brahmaputra Valley.

Bihar	Flowering and grain formation of Kharif Paddy: Harvesting of autumn Rice begins: Harvesting of Goa and Bhadoi Paddy completed: Aus Paddy harvested.	Sowing of Wheat commences.	Unimportant.	—	Barley sown: Growing in places.	Cotton growing.	Harvesting & retting of Jute completed.	Sugarcane growing.	Land ready for sowing Linseed.
Bombay	Preparation for Rabi Paddy sowing: Grain formation of Kharif Paddy: Harvesting in places.	Sowing of Wheat in progress.	Flowering and grain formation of Kharif Jowar: Tillering of Rabi Jowar: Harvesting of Kharif Jowar in places.	Bengal Gram sown with other varieties also: Rabi Pulses also sown.	Unimportant.	Cotton maturing in most places: Picking in places.	—	Harvesting of Cane begins.	Picking of Groundnuts begins.
Madhya Pradesh	Harvesting of Kharif Paddy in places: Grain formation in others.	Wheat sowing commences: Germination & tillering begins in places.	Flowering and grain formation of Kharif Jowar: Rabi sowings in progress: Tillering and germination in places.	Gram sown.	Unimportant.	Flowering and boll formation of Cotton: Picking commences in places.	—	Sugarcane maturing.	Rabi Linseed sown: Harvesting of Kharif Groundnut.
Madras & Andhra	Sowing of Rabi Paddy and transplantation in places: Flowering and grain formation of Kharif Paddy in many districts: Harvesting in places.	Sowing of irrigated Wheat.	Sowing of Rabi Jowar begins: Germination and tillering of Kharif Jowar.	Grams and Pulses sown.	Unimportant.	Sowing of Rabi Cotton: Germination in places: Elongation of Kharif Cotton: Boll formation in progress in places: In others, pickings continue.	—	—	Harvesting of Gingelly and Groundnut sown in July.
Orissa	Harvesting of Kharif Paddy.	Wheat sown.	Rabi Jowar sown: Kharif Jowar harvested: Threshing in progress.	Sowing of Grams.	Unimportant.	Boll formation of Kharif Cotton.	—	Sugarcane maturing.	Sowing of Mustard and Linseed: Groundnut maturing: Til harvesting in progress.
Punjab	Kharif Paddy in ears: Harvesting in places.	Sowing of Wheat begins.	Flowering and grain formation of Kharif Jowar in most places.	Sowing of Grams in progress: Harvesting of Kharif Pulses in places: Threshing also begins.	Sowing of Barley completed.	Picking of Cotton continued in places: In others growing.	—	Harvesting of early Sugarcane.	—
Uttar Pradesh	Harvesting of Kharif Rice.	Sowing of Wheat begins.	Harvesting of Kharif Jowar commences.	Bengal Gram sown.	Barley growing.	Flowering and boll formation of Kharif Cotton: Picking in places.	—	Sugarcane maturing.	Harvesting of Kharif Sesamum begins.

## 8'2. CROP CALENDAR SHOWING THE DIFFERENT AGRICULTURAL OPERATIONS FOR IMPORTANT CROPS—MONTHLY—*contd.*

States	Rice	Wheat	Jowar	Gram & Pulses	Barley	Cotton	Jute	Sugarcane	Oilseeds
<b>OCTOBER—<i>contd.</i></b>									
West Bengal	Sowing of Rabi Boro in seed-beds: Flowering and grain formation of Aman Paddy.	Sowing may commence in rocky soils.	Unimportant.	Sowing of Rabi Pulses, Horsegram and Bengal Grams.	Unimportant.	Cotton growing.	Cutting and retting of Jute completed.	Sugarcane tied in clumps.	Linseed sown.
Hyderabad	Growing: Sown.	Rabi Jowar Sown: Kharif Jowar maturing: Harvesting at places.	Gram, Kulthi and Lakh Sown	Barley Sown.	—	—	—	Harvesting of Ad-Sali Sugarcane starts.	Linseed, Rape and Mustard & Safflower are sown.
Mysore	Harvesting of Kar Paddy.	Sowing of Wheat.	—	Sowing of Horse gram and Bengal Gram.	—	Sowing.	—	—	—
P.E.P.S.U.	Kharif Paddy in ears: Harvesting at places.	Sowing begins.	Flowering and grain formation.	Sowing of Grams in progress: Harvesting and threshing of Kharif Pulses.	Barley growing.	Picking continues: Kharif Cotton growing.	—	Harvesting of early Sugarcane.	—
Rajasthan	Maturing, harvesting and threshing.	Preparation of land for sowing.	Harvesting for green fodder.	Gram Growing: Pulses maturing.	Preparation of land and sowing.	—	—	Growing.	Maturing and harvesting of Til: Sowing of Rabi Oilseeds.
Saurashtra	Grain formation.	Sowing of Wheat.	Harvesting begins.	—	—	Boll formation: Picking started at places.	—	Earthing up and Watering.	Harvesting of Til: Picking of Groundnut.
Bhopal	Harvesting	Preparatory tillage and sowing.	Elongation.	Sowing in progress.	—	Boll formation and picking.	—	Watering and weeding.	Threshing of Kharif Til.
Tripura	Flowering of Aman Paddy.	Preparatory tillage.	—	Preparatory tillage: Sowing of Pulses.	—	Cotton growing.	—	Sugarcane growing.	Harvesting of Jum Til.
Vindhya Pradesh	Harvesting of Paddy.	Wheat sowing commences.	Unimportant.	Gram sown.	Barley sown.	Picking of Cotton begins.	—	Sugarcane maturing.	Linseed sown. Harvesting of Groundnut.
<b>NOVEMBER</b>									
Assam	Sowing of Rabi Paddy: Kharif Paddy in grains in some districts: Harvesting in some districts.	Unimportant.	Unimportant.	Sowing of Grams and Rabi Pulses: Horsegram growing.	Unimportant.	Unimportant.	Harvesting and retting of Jute completed.	Sugarcane maturing.	Sowing of Mustard seed.

Bihar	Land prepared for sowing Gora Paddy: Harvesting of Kharif Paddy begins.	Wheat sown.	Unimportant.	Grams and Rabi Pulses beginning to grow.	Barley growing.	Picking of Cotton begins.	No activity.	Sugarcane ready for harvest.	Linseed sown.
Bombay	Sowing of Rabi Rice: Harvesting of Kharif Paddy begins and continues.	Tillering and elongation of Wheat.	Sowing of Rabi Jowar: Elongation and germination in places: Harvesting of Kharif Jowar commences.	Sowing of Grams and Rabi Pulses.	Unimportant.	Boll formation in some districts: Picking of Cotton begins in places.	—	Harvesting of Cane begins in all places: In progress in places.	Picking of Groundnut completed.
Madhya Pradesh	Harvesting and threshing of Kharif Paddy.	Sowing of Wheat: Tillering in many places.	Tillering of Rabi Jowar: Harvesting of Kharif Jowar begins.	Gram sown.	Unimportant.	Cotton picked in places: In others flowering and boll formation.	—	Irrigated Sugarcane maturing: Unirrigated harvested.	Sowing of Linseed: Groundnut picked.
Madras and Andhra	Sowing and transplantation of Rabi Paddy in places: Harvesting of Kharif Paddy in places.	Unimportant.	Sowing of Rabi Jowar in progress: Elongation of Kharif Jowar.	Grams and Pulses sown.	Unimportant.	Elongation and flowering of Rabi Cotton: Picking of Cotton (Kharif) in most places in progress.	—	—	Groundnut harvested in many districts.
Orissa	Harvesting and threshing of Kharif Paddy.	Sowing of Wheat in places: Growing in places.	Germination and tillering of Rabi Jowar: Threshing of Kharif Jowar completed.	Grams sown.	—	Rabi Cotton maturing.	—	Pressing of Cane begins.	Mustard and Linseed sown: Groundnut maturing: Til harvested in places.
Punjab	Harvesting and threshing of Kharif Paddy.	Sowing of Wheat in progress: Germination and tillering in places.	Harvesting of Kharif Jowar commences.	Harvesting and threshing of Kharif Pulses.	Barley growing	Watering of Rabi Cotton: Picking of Desi Cotton continues.	—	Watering, harvesting and crushing of early varieties of Cane.	—
Uttar Pradesh	Land ploughed for hot weather Rice: Sowing of Rabi Paddy: Harvesting and threshing of Kharif Paddy continues.	Sowing of Wheat: Germination and tillering of Wheat in places.	Harvesting and threshing of Kharif Pulses.	Bengal Gram growing.	Barley growing.	Ploughing of Kharif Cotton continues in places: Boll formation nearing completion in others.	—	Sugarcane maturing: Harvesting in places.	Kharif Sesamum harvesting in progress.
West Bengal	Flowering and grain formation of Aman Paddy: Harvesting of Kharif Paddy (Aman) in places.	Wheat sown.	Unimportant.	Germination of Grams and Pulses.	Unimportant.	Picking of Cotton begins.	No activity.	Sugarcane ready for harvest.	Sowing of Mustard seeds and Linseeds.

**8.2. CROP CALENDAR SHOWING THE DIFFERENT AGRICULTURAL OPERATIONS FOR IMPORTANT CROPS—MONTHLY—contd.**

States	Rice	Wheat	Jowar	Gram & Pulses	Barley	Cotton	Jute	Sugarcane	Oilseeds
<b>NOVEMBER—contd.</b>									
Hyderabad	Harvesting of early varieties of Paddy.	Growing.	Harvesting of Kharif Jowar: Rabi Jowar growing.	Urd harvest- ing.	—	Picking of Kharif cotton starts.	—	Harvesting of Adsali Sugar- cane continues.	Harvesting of Groundnut.
Mysore	Harvesting of Kharif Rice.	Sowing of Wheat.	—	Harvesting of Minor Pulses.	—	Picking.	—	—	Groundnut dig- ging.
P.E.P.S.U.	Harvesting and threshing of Kharif Paddy.	Sowing in progress: Ger- mination and tillering at places.	Harvesting continues.	Sowing com- pleted: Harve- sting and thre- shing of Kharif Pulses conti- nues.	Barley matur- ing.	Picking of Desi: Kharif crops growing and being watered.	—	Harvesting and threshing of early crop: Watering con- tinues.	—
Rajasthan	Harvesting and threshing.	Sowing.	Harvesting green for fodder and seed.	Gram growing. Harvesting and threshing of Pulses.	Sowing.	—	—	Harvesting.	Harvesting and threshing of Til: Sowing of Rabi Oil- seeds.
Saurashtra	Harvesting and threshing.	Sowing conti- nued.	Harvesting and threshing Jowar.	—	—	Picking in pro- gress.	—	Watering con- tinued.	Picking of Groundnut.
Bhopal	Threshing	Sowing conti- nued.	Maturing.	Sowing of Gram complet- ed. Harvesting of Kharif Pulses.	—	Picking conti- nues.	—	Watering and weeding.	Digging of groundnut.
Tripura	Boro Sown in Seed beds: Flowering of Aman: Har- vesting of Kharif Paddy.	Sowing.	—	Sowing.	—	Picking of Cot- ton begins.	—	Sugarcane maturing.	Mustard sown.
Vindhya Pradesh	Harvesting and threshing of Paddy.	Wheat sown.	Unimportant.	Germination of Gram and Pulses.	Barley grow- ing.	Cotton picking.	—	Sugarcane ready for har- vest.	Sowing of Mus- tard and Linseed.
<b>DECEMBER</b>									
Assam	Sowing and transplanting of Rabi Paddy: Harvesting and threshing of Kharif Paddy continues.	Unimportant.	Unimportant.	Grams and Rabi Pulses growing.	Unimportant.	Unimportant.	No activity.	Pressing of Sugarcane be- gins.	Mustard grow- ing.

Bihar	Land ploughed for Gora and Kucki Paddy in Ranchi: Aghani Paddy being harvested: Kharif Paddy threshed.	Wheat sown: Germination and elongation of Wheat.	Threshing of Kharif Jowar.	Grams and Rabi Pulses growing.	Crop growing and maturing.	Cotton pickings in progress.	No activity.	Cutting and crushing of Sugarcane continues.	Linseed growing.
Bombay	Threshing of Kharif Paddy: Sowing of Rabi Paddy.	Sowing of Wheat continues: Elongation in many places: Harvesting and grain formation in places.	Sowing of Rabi Jowar continues: Elongation in many places: Harvesting and threshing of Kharif Jowar.	Sowing of Rabi Pulses continues.	Unimportant.	Picking of Kharif Cotton continues.	—	Harvesting of Sugarcane in progress.	Picking of Groundnut continues.
Madhya Pradesh	Threshing and winnowing of Kharif Paddy nearing completion.	Elongation of Wheat.	Elongation of Rabi Jowar: Harvesting of Kharif Jowar continues: Threshing also commences.	Grams growing.	Unimportant.	Picking of Cotton continues: Cotton ready for harvest in almost all places.	—	Harvesting of Sugarcane continues.	Linseed growing unirrigated.
Madras & Andhra	Harvesting of Kharif Paddy.	Unimportant.	Elongation and flowering of Rabi Jowar: Harvesting in places.	Gram and Rabi Pulses growing.	Unimportant.	Elongation, flowering and boll formation of Cotton (Rabi): Kharif Cotton pickings nearing completion.	—	Harvesting of Cane in progress.	Picking of Groundnut continues.
Orissa	Sowing of Summer Paddy continues: Harvesting of winter Paddy.	Sowing of Wheat in places continues: Growing in places.	Rabi Jowar growing up.	Sowing of Green Grams continues: Growing in places: Black Gram and Gram in pods.	Sowing of Barley continues: Growing in places.	Cotton matures: Picking begins.	—	Pressing of Cane.	Sowing of Linseed continues: Groundnut matures: Picking begins in places.
Punjab	Threshing of Kharif Paddy nearing completion.	Sowing of Wheat completed: Watering of early sown Wheat: Tillering and germination in all places.	Threshing of Kharif Jowar begins: Harvesting nearing completion in most places.	—	Sowing of Barley completed: Maturing in places.	Pickings of Kharif Cotton in full swing.	—	Harvesting and crushing of Cane.	Linseed growing.
Uttar Pradesh	Land ploughed for hot weather Rice: Sowing of Rabi Paddy continues: Threshing of Kharif Paddy.	Elongation of Wheat.	Threshing of Kharif Jowar begins: Harvesting nearing completion in most places.	Grams growing.	Crop is growing in most places.	Picking of Kharif Cotton continues.	—	Cutting of Cane begins.	Linseed growing.

**8'2. CROP CALENDAR SHOWING THE DIFFERENT AGRICULTURAL OPERATIONS FOR IMPORTANT CROPS—MONTHLY—concl'd.**

States	Rice	Wheat	Jowar	Gram & Pulses	Barley	Cotton	Jute	Sugarcane	Oilseeds
<b>DECEMBER—cont'd.</b>									
West Bengal	Aman Paddy growing and maturing in places: Harvesting in places: Threshing of Kharif Paddy commences.	Wheat sowing continues.	Threshing of Kharif Jowar continues: Rabi Jowar sown.	Sowing of Grams and Rabi Pulses continues: Growing in places.	Unimportant.	Picking of Cotton continues.	No activity.	Harvesting of Sugarcane begins.	Linseed and Mustard maturing.
Hyderabad	Harvesting of late maturing varieties of Paddy.	Growing.	Harvesting of Kharif Jowar continues. Rabi Jowar growing.	—	Growing.	Picking continues.	—	Harvesting of Adsali Sugarcane continues, that of Eksali starts.	—
Mysore	Harvesting of Kharif Rice.	—	—	Harvesting of Minor Pulses.	—	Picking.	—	—	Groundnut digging.
P.E.P.S.U.	Threshing nearing completion.	Sowing completed: Watering of early crop: Germination & tillering at places.	Threshing begins: Harvesting nearly completed.	Sowing of Grams completed.	Sowing completed: Maturing at places.	Picking of Kharif Cotton in full swing.	—	Harvesting & crushing.	Linseed growing.
Rajasthan	—	—	Harvesting & threshing.	—	Growing.	—	—	Harvesting.	Linseed, Rape and Mustard growing.
Saurashtra	Threshing of Paddy continued.	Tillering and harrowing.	Threshing of Kharif Jowar. Preparation of land for summer Jowar.	—	—	Picking completed.	—	Harvesting of early sown crop.	Land ploughing after harvest.
Bhopal	Growing and flowering.	harvesting & threshing continues.	Growing and flowering.	—	—	Picking continues.	—	Harvesting of old crop: Planting of current year's crop.	—
Tripura	Boro sown: Aman Paddy maturing: Harvesting at places.	Sowing.	—	Gram and Pulses growing.	—	Picking continues.	—	—	Mustard sown.
Vindhya Pradesh	Threshing and winnowing of Kharif Paddy completed.	Sowing at some places continues.	Unimportant.	Gram and Pulses growing: Sowing at some places.	Crop growing.	Picking begins.	—	Harvesting of Sugarcane begins.	Linseed and Mustard growing.

Source: The same as for 8'1.



## 9. MISCELLANEOUS

## 9.1. RELATIVE IMPORTANCE OF STATES FOR EACH PRINCIPAL CROP

Rice	Bihar (16.6%); West Bengal (14.5%); Madhya Pradesh (13.1%); Uttar Pradesh (12.9%); Madras (9.3%); Orissa (8.1%); Andhra (6.6%); Assam (6.1%); Bombay (4.7%); Hyderabad (2.0%); Vindhya Pradesh (1.6%); Travancore-Cochin (1.5%); Mysore (1.2%); Others (1.8%).
Wheat	Bombay (31.5%); Hyderabad (16.8%); Madhya Pradesh (13.2%); Madhya Bharat (7.6%); Andhra (6.7%); Uttar Pradesh (6.5%); Rajasthan (4.6%); Madras (4.2%); Saurashtra (3.5%); Mysore (2.6%); Punjab (1.5%); Others (1.3%).
Bajra	Bombay (29.1%); Rajasthan (21.2%); Uttar Pradesh (12.5%); Punjab (9.2%); Madras (5.4%); Andhra (5.1%); Saurashtra (4.9%); Hyderabad (4.6%); PEPSU (2.8%); Madhya Bharat (1.9%); Others (3.3%).
Maize	Uttar Pradesh (26.3%); Bihar (20.5%); Punjab (9.7%); Rajasthan (8.6%); Bombay (6.7%); Madhya Bharat (6.1%); Hyderabad (4.4%); Jammu & Kashmir (3.8%); Madhya Pradesh (3.4%); Himachal Pradesh (2.9%); P.E.P.S.U. (2.3%); West Bengal (1.2%); Vindhya Pradesh (1.0%); Others (3.1%).
Ragi	Mysore (34.6%); Madras (16.0%); Bombay (13.8%); Bihar (10.0%); Andhra (9.2%); Uttar Pradesh (7.8%); Orissa (4.8%); Hyderabad (1.7%); Others (2.1%).
Wheat	Uttar Pradesh (36.3%); Punjab (12.2%); Bombay (9.3%); Madhya Pradesh (9.3%); Madhya Bharat (8.1%); Bihar (5.9%); Rajasthan (5.2%); P.E.P.S.U. (3.5%); Vindhya Pradesh (3.3%); Bhopal (1.6%); Hyderabad (1.3%); Himachal Pradesh (1.3%); Saurashtra (1.0%); Others (2.0%).
Barley	Uttar Pradesh (60.7%); Bihar (14.1%); Rajasthan (8.7%); Punjab (5.0%); Vindhya Pradesh (4.6%); P.E.P.S.U. (2.3%); Madhya Bharat (1.8%); Others (2.8%).
Gram	Uttar Pradesh (31.7%); Punjab (15.8%); Madhya Pradesh (8.1%); Bihar (7.3%); Madhya Bharat (7.1%); Rajasthan (6.8%); P.E.P.S.U. (6.4%); Hyderabad (4.6%); Bombay (4.2%); Vindhya Pradesh (2.7%); Bhopal (1.6%); West Bengal (1.1%); Others (2.6%).
Sugarcane	Uttar Pradesh (57.2%); Bihar (9.8%); Punjab (8.5%); Bombay (4.9%); Hyderabad (2.7%); Madras (2.5%); Andhra (2.3%); P.E.P.S.U. (1.7%); Assam (1.6%); West Bengal (1.6%); Mysore (1.5%); Madhya Pradesh (1.4%); Madhya Bharat (1.2%); Others (3.1%).
Tobacco	Andhra (30.0%); Bombay (26.1%); Bihar (10.4%); Uttar Pradesh (6.4%); West Bengal (5.6%); Madras (5.0%); Orissa (3.4%); Hyderabad (3.1%); Mysore (2.4%); Assam (2.2%); Others (5.4%).
Sesamum	Hyderabad (18.5%); Rajasthan (16.0%); Madhya Pradesh (10.5%); Madras (8.4%); Andhra (7.8%); Bombay (7.3%); Vindhya Pradesh (6.5%); Madhya Bharat (6.2%); Uttar Pradesh (4.2%); Saurashtra (2.8%); Orissa (2.6%); Bihar (1.7%); Travancore-Cochin (1.7%); Punjab (1.2%); Mysore (1.0%); Bhopal (1.0%); Others (2.6%).
Groundnut	Bombay (26.2%); Andhra (18.9%); Madras (17.1%); Hyderabad (16.9%); Madhya Pradesh (6.5%); Mysore (4.4%); Uttar Pradesh (2.6%); Saurashtra (2.6%); Madhya Bharat (2.3%); Others (2.5%).
Rape & Mustard	Bihar (20.6%); Punjab (14.7%); Assam (14.5%); Rajasthan (10.9%); Uttar Pradesh (9.6%); West Bengal (8.0%); Madhya Pradesh (7.6%); Madhya Bharat (3.0%); P.E.P.S.U. (3.0%); Bombay (1.9%); Vindhya Pradesh (1.9%); Jammu & Kashmir (1.1%); Orissa (1.0%); Others (2.2%).
Linseed	Madhya Pradesh (34.9%); Hyderabad (16.5%); Bihar (15.0%); Madhya Bharat (8.8%); Rajasthan (5.8%); Vindhya Pradesh (5.8%); Uttar Pradesh (5.6%); Bombay (2.1%); Bhopal (1.9%); West Bengal (1.5%); Jammu and Kashmir (1.0%); Others (1.1%).
Castor-seed	Hyderabad (59.3%); Andhra (13.5%); Bombay (8.6%); Mysore (7.6%); Madras (2.7%); Madhya Pradesh (2.0%); Bihar (2.0%); Saurashtra (1.8%); Orissa (1.6%); Others (0.9%).
Cotton	Madhya Pradesh (25.1%); Bombay (21.3%); Hyderabad (17.6%); Madhya Bharat (9.2%); Madras (6.0%); Andhra (5.1%); Saurashtra (4.1%); Mysore (2.6%); Punjab (2.5%); Rajasthan (2.1%); P.E.P.S.U. (1.7%); Vindhya Pradesh (1.1%); Others (1.6%).
Jute	West Bengal (41.9%); Assam (26.1%); Bihar (24.1%); Orissa (3.8%); Tripura (1.5%); Others (2.6%).
Tea	Assam (48.9%); West Bengal (25.8%); Travancore-Cochin (11.5%); Madras (10.2%); Tripura (1.4%); Others (2.2%).
Coffee	Mysore (49.6%); Madras (27.3%); Coorg (18.9%); Travancore-Cochin (4.2%).

NOTE : Based on figures of average area under crop during 1947-1950.



## 9.2. RELATIVE IMPORTANCE OF PRINCIPAL CROPS IN EACH STATE

Andhra	Rice (25.4%) ; Jowar (15.1%) ; Groundnut (11.0%) ; Bajra (6.2%) ; Cotton (3.4%) ; Ragi (3.0%) ; Sesamum (1.8%) ; Tobacco (1.5%) ; Castor (1.1%) ; Others (31.5%).
Assam	Rice (64.8%) ; Tea (6.2%) ; Rape and Mustard (5.0%) ; Jute (3.7%) ; Sugarcane (1.0%) ; Others (19.3%).
Bihar	Rice (44.6%) ; Maize (6.7%) ; Gram (6.1%) ; Wheat (5.4%) ; Barley (4.6%) ; Ragi (2.3%) ; Linseed (2.0%) ; Rape & Mustard (1.8%) ; Sugarcane (1.5%) ; Tur (1.4%) ; Others (23.6%).
Bombay†	Jowar (27.7%) ; Bajra (14.7%) ; Fodder Crops (10.0%) ; Rice (7.4%) ; Groundnut (6.3%) ; Cotton (5.9%) ; Wheat (4.9%) ; Gram (2.1%) ; Ragi (1.9%) ; Tur (1.7%) ; Maize (1.3%) ; Others (16.1%).
Madhya Pradesh	Rice (27.4%) ; Jowar (11.4%) ; Cotton (9.1%) ; Wheat (6.5%) ; Gram (5.1%) ; Linseed (3.5%) ; Tur (2.5%) ; Groundnut (2.0%) ; Fodder Crops (1.5%) ; Sesamum (1.3%) ; Others (29.7%).
Madras	Rice (35.3%) ; Groundnut (10.0%) ; Jowar (9.2%) ; Bajra (6.6%) ; Cotton (4.0%) ; Ragi (3.5%) ; Sesamum (2.0%) ; Others (29.4%).
Orissa	Rice (71.8%) ; Ragi (3.6%) ; Gram (1.7%) ; Sesamum (1.1%) ; Others (21.8%).
Punjab	Gram (23.4%) ; Wheat (19.9%) ; Fodder Crops (13.9%) ; Bajra (13.9%) ; Maize (5.6%) ; Jowar (3.6%) ; Barley (2.9%) ; Rice (2.8%) ; Sugarcane (2.3%) ; Rape & Mustard (2.3%) ; Cotton (2.0%) ; Others (7.4%).
Uttar Pradesh	Rice (17.6%) ; Wheat (16.7%) ; Gram (13.3%) ; Barley (9.7%) ; Bajra (5.4%) ; Jowar (4.6%) ; Sugarcane (4.4%) ; Maize (4.3%) ; Fodder Crops (3.8%) ; Tur (3.2%) ; Others (17.0%).
West Bengal	Rice (73.5%) ; Jute (2.8%) ; Gram (1.8%) ; Tea (1.6%) ; Rape & Mustard (1.3%) ; Others (19.0%).
Hyderabad	Jowar (26.7%) ; Cotton (8.7%) ; Groundnut (7.2%) ; Rice (5.5%) ; Tur (4.5%) ; Bajra (4.1%) ; Gram (4.0%) ; Castor (3.4%) ; Sesamum (3.1%) ; Linseed (2.3%) ; Maize (1.5%) ; Wheat (1.2%) ; Others (27.8%).
Jammu & Kashmir‡	Rice (27.8%) ; Maize (20.8%) ; Wheat (12.3%) ; Barley (3.1%) ; Bajra (2.8%) ; Linseed (2.2%) ; Rape & Mustard (1.6%) ; Fodder Crops (1.5%) ; Sesamum (1.1%) ; Others (26.8%).
Madhya Bharat‡	Jowar (26.5%) ; Wheat (17.2%) ; Gram (13.8%) ; Cotton (10.1%) ; Maize (6.6%) ; Bajra (3.8%) ; Linseed (2.7%) ; Rice (2.6%) ; Tur (2.5%) ; Sesamum (2.4%) ; Groundnut (2.2%) ; Barley (1.4%) ; Others (8.2%).
Mysore	Ragi (23.7%) ; Jowar (11.0%) ; Rice (9.5%) ; Groundnut (5.5%) ; Cotton (3.7%) ; Bajra (2.1%) ; Coconut (2.1%) ; Castor (1.3%) ; Coffee (1.1%) ; Others (39.9%).
P.E.P.S.U.	Gram (26.5%) ; Fodder Crops (16.6%) ; Wheat (15.9%) ; Bajra (12.2%) ; Cotton (4.0%) ; Maize (3.9%) ; Barley (3.8%) ; Jowar (2.8%) ; Rape & Mustard (1.3%) ; Sugarcane (1.3%) ; Others (11.7%).
Rajasthan†	Bajra (25.7%) ; Jowar (8.9%) ; Gram (8.0%) ; Wheat (6.8%) ; Fodder Crops (6.3%) ; Maize (4.0%) ; Barley (4.0%) ; Sesamum (3.7%) ; Cotton (1.4%) ; Rape & Mustard (1.3%) ; Linseed (1.1%) ; Others (28.8%).
Saurashtra†	Jowar (32.5%) ; Bajra (28.2%) ; Cotton (13.0%) ; Groundnut (7.2%) ; Wheat (5.5%) ; Sesamum (3.0%) ; Gram (2.1%) ; Others (8.5%).
Travancore-Cochin	Rice (34.1%) ; Coconut (19.9%) ; Tea (3.0%) ; Sesamum (2.2%) ; Fodder Crops (1.5%) ; Tur (1.2%) ; Others (38.1%).
Ajmer	Jowar (24.8%) ; Maize (15.7%) ; Bajra (9.3%) ; Barley (9.1%) ; Wheat (7.0%) ; Gram (5.9%) ; Sesamum (4.2%) ; Cotton (2.8%) ; Fodder Crops (2.1%) ; Others (19.1%).
Bhopal	Wheat (22.0%) ; Gram (21.1%) ; Fodder Crops (17.0%) ; Jowar (12.2%) ; Linseed (3.8%) ; Rice (2.6%) ; Sesamum (2.6%) ; Tur (1.8%) ; Cotton (1.4%) ; Maize (1.0%) ; Others (14.5%).
Bilaspur	Maize (38.0%) ; Wheat (28.1%) ; Gram (10.7%) ; Rice (9.1%) ; Others (14.1%).
Coorg	Rice (52.7%) ; Coffee (24.6%) ; Ragi (1.9%) ; Others (20.8%).
Delhi	Gram (21.6%) ; Wheat (18.6%) ; Bajra (16.8%) ; Jowar (12.4%) ; Fodder Crops (11.3%) ; Barley (5.2%) ; Sugarcane (1.8%) ; Rape & Mustard (1.5%) ; Others (10.6%).
Himachal Pradesh	Wheat (30.8%) ; Maize (25.4%) ; Rice (10.3%) ; Barley (8.4%) ; Ragi (3.7%) ; Rape & Mustard (2.2%) ; Others (19.2%).
Kutch	Fodder Crops (30.2%) ; Jowar (24.9%) ; Bajra (12.5%) ; Cotton (4.8%) ; Wheat (3.8%) ; Others (23.8%).
Manipur†	Rice (87.4%) ; Others (12.6%).
Tripura	Rice (83.4%) ; Cotton (5.4%) ; Jute (2.7%) ; Tea (2.4%) ; Linseed (2.4%) ; Rape & Mustard (2.4%) ; Sugarcane (1.1%) ; Others (0.2%).
Vindhya Pradesh‡	Rice (22.6%) ; Wheat (15.2%) ; Gram (11.2%) ; Barley (7.6%) ; Gram (6.3%) ; Tur (5.8%) ; Sesamum (5.3%) ; Linseed (3.9%) ; Maize (1.7%) ; Fodder Crops (1.2%) ; Others (19.2%).
Andamans & Nicobar Islands†	Rice (44.4%) ; Coconut (44.4%) ; Others (11.2%).
All-India	Rice (23.2%) ; Jowar (13.2%) ; Wheat (7.8%) ; Bajra (7.4%) ; Gram (7.2%) ; Cotton (4.1%) ; Fodder Crops (3.7%) ; Groundnut (3.5%) ; Maize (2.8%) ; Barley (2.8%) ; Ragi (2.0%) ; Tur (1.8%) ; Sesamum (1.4%) ; Sugarcane (1.3%) ; Linseed (1.1%) ; Others (16.7%).

NOTE : Based on figures of average area under crop during 1947—50.

† Relate to 1949-50 only.

‡ Relate to 1948-50 only.

## 9'3. DUE DATES OF ALL-INDIA ESTIMATES OF CROPS

A. Monthwise				B. Cropwise				
Month	Crop	Estimate	Date	Crop	Estimate	Month	Date	
January	Linseed, Rape and Mustard.	First	1	Rice	... .. First	October	20	
	Sesamum	Final	15		... .. Second	December	20	
	Wheat, Other Rabi Pulses.	First	25		... .. Final	February	20	
	Tobacco	First	25	Jowar	... .. First	November	21	
	Tur	Second	25		... .. Second	February	21	
	Other Kharif Pulses.	Final	25	Bajra	... .. First	November	21	
	Barley, Gram	First	30		... .. Final	March	21	
February	Potato	First	5	Maize	... .. First	November	21	
	Minor Millets	Second	15		... .. Final	March	21	
	Cotton	Final	15	Ragi	... .. First	November	15	
	Groundnut	Final	15		... .. Final	March	15	
	Rice	Final	20	Minor Millets	... First	November	15	
	Castor	Final	20		... .. Second	February	15	
	Jowar	Second	21		... .. Final	May	30	
March	Wheat	Second	6	Wheat	... .. First	January	25	
	Linseed, Rape and Mustard.	Second	15		... .. Second	March	6	
	Ragi, Mesta	Final	15		... .. Third	April	15	
	Ginger	Final	15		... .. Fourth	May	20	
	Bajra	Final	21		... .. Final	August	6	
	Maize	Final	21	Barley	... .. First	January	30	
	Barley, Gram	Second	30		... .. Second	March	30	
April	Tobacco	Second	1		... .. Final	May	30	
	Pepper, Chillies	Final	5	Gram	... .. First	January	30	
	Wheat	Third	15		... .. Second	March	30	
	Sesamum	Final	20	Tur	... .. First	May	30	
	Jowar	Final	21		... .. Second	September	25	
					... .. Final	January	25	
					Other Kharif Pulses.	Final	May	25
May	Cotton	Final	10	Other Rabi Pulses	First	September	25	
	Wheat	Fourth	20		Final	January	25	
	Tur, Other Rabi Pulses, Sugar-cane.	Final	25	Potatoes	... First	January	25	
	Barley, Gram	Final	30		... .. Second	May	5	
	Minor Millets	Final	30		... .. Final	February	20	
	Tobacco	Third	31	Sugarcane	... First	June	20	
					... .. Second	October	20	
June	Linseed, Rape and Mustard	Final	1		... .. Final	July	1	
	Potato	Second	20	Ginger (dry)	... Final	October	31	
	Sugarcane	First	1	Pepper (black)	... Final	May	1	
				Chillies (Dry)	... Final	August	20	
				Tobacco	... First	August	20	
					... .. Second	October	20	
					... .. Third	February	15	
August	Wheat	Final	6		... .. Final	February	20	
	Cotton	First	15	Castorseed	... Final	February	20	
	Jute, Mesta	First	15	Sesamum	... First	September	1	
	Groundnut	First	20		... .. Second	October	20	
	Tobacco	Final	20		... .. Third	January	15	
					... .. Final	April	20	
					Rape & Mustard	First	January	1
September	Sesamum	First	1		... .. Second	March	15	
	Tur, Other Kharif Pulses.	First	25		... .. Final	June	1	
				Linseed	... First	January	1	
					... .. Second	March	15	
					... .. Final	June	1	
					Cotton	... First	August	15
						... .. Second	October	15
October	Cotton	Second	15		... .. Third	December	15	
	Rice	First	20		... .. Fourth	February	15	
	Sesamum	Second	20		... .. Final	May	10	
	Groundnut	Second	20	Jute	... First	August	15	
	Potato	Final	20		... .. Final	November	7	
	Sugarcane	Second	31	Mesta	... First	August	15	
					... .. Second	November	7	
November	Jute	Final	7		... .. Final	March	15	
	Mesta	Second	7					
	Ragi	First	15					
	Minor Millets	First	15					
	Jowar	First	21					
	Bajra	First	21					
	Maize	First	21					
December	Cotton	Third	15					
	Rice	Second	20					

94. ESTIMATES OF AREA AS GIVEN IN SUCCESSIVE ESTIMATES (REVISED)  
EXPRESSED AS PERCENTAGE OF THE REVISED FINAL ESTIMATES

Crop	Forecast	1950-51	1951-52	1952-53
Rice	First	89.1	85.2	87.8
	Second	—	94.8	92.8
Jowar	First	57.4	59.2	58.6
	Second	—	90.4	93.4
Bajra	First	88.6	85.8	85.2
Maize	First	86.5	90.9	88.4
Ragi	First	80.9	85.6	85.3
Wheat	First	91.7	91.6	92.2
	Second	92.6	92.1	92.1
	Third	—	95.9	94.6
	Fourth	96.9	97.5	96.0
Barley	First	94.5	90.9	97.5
	Second	96.2	91.0	102.3
Gram	First	103.4	96.3	92.3
	Second	101.9	100.4	92.7
Tur	First	—	87.0	91.6
	Second	97.4	91.0	93.6
Potatoes	First	87.5	83.0	80.7
	Second	96.8	98.2	100.8
Sugarcane	First	85.6	92.3	95.4
	Second	93.1	90.3	97.1
Tobacco	First	90.0	102.1	92.1
	Second	95.3	105.1	93.1
	Third	97.6	92.5	96.2
Groundnut	First	34.2	44.1	44.0
	Second	80.4	83.5	80.6
Sesamum	First	41.2	46.4	51.2
	Second	60.5	67.8	70.5
	Third	91.0	94.4	96.3
Linseed	First	79.3	74.9	74.1
	Second	76.9	71.0	72.3
Rape and Mustard	First	36.1	38.0	39.8
	Second	36.0	38.6	40.2
Cotton	First	44.5	54.4	59.4
	Second	70.0	76.2	78.5
	Third	83.1	84.8	87.7
	Fourth	92.5	93.4	95.9
Jute	First	84.4	93.3	95.8

NOTE.—Figures for 1950-51 and 1951-52 are the latest revised estimates while 1952-53 figures are subject to revision.

95. GLOSSARY OF ENGLISH, BOTANICAL AND VERNACULAR NAMES OF CROPS

English	Botanical	Hindustani	Gujerati	Marathi	Tamil	Telugu	Bengali	Malayalam	Kannada	Orya	Punjabi
<b>I. Cereals</b>											
1. Wheat	Triticum Vulgare or Triticum Sestivum	Gehum, Gandam	Ghat, Poparia	Gahu, Khapli	Godumai	Godumalu	Gnum	Kotampam	Godhi, Khapli-godhi	Gahama	Kanak
2. Rice or Paddy	Oryza Sativa	Chaval	Dangar, Bhat Vari	Bhat Sal	Nellu	Vadlu	Chal, Chanvol	Nellu	Bhatta, Nellu	Chaul or Dhana	Chawal or Dhan
3. Chole m (Great Millet)	Sorghum Vulgare or Andropogon Sorghum	Jowar	Jowar	Jvari, Jondhala, Shalu	Cholam	Jonnalu	Juar	Cholem	Jola, Kenjol, Bilejol, Yenajera, Shalu	Jowar or Joba	Jowar
4. Bajra (Bulrush or spiked Millet)	Pennisetum typhoideum	Bajra, Bajri, Lahra, Kasa Jonar	Bajri, Bajro	Bajri, Sajgure	Cumbu	Sajjalu or Gantelu	—	Kampam	Sajje	Bajra	Bajra
5. Barley	Hordeum Vulgare	Jao, Jav, Java, Suj	Jav	Jav, Satu	Barli, Arishi	Pachcha Yava	Jav	—	Barley	Bali	Jou
6. Maize or Indian Corn	Zea Mays	Makki	Makkai	Maka	Makka, Cholem or Thulukka Cholam	Mokka Jonnalu	—	Makka Cholam	Goinjola, Makkejola	Maca	Makai
7. Ragi	Eleusine Coracana	Mandua	Bevto, Nagli	Nagli, Nachoni	Kayar, Kalvaregu	Ragulu, Tamidelu	Marua	Muttari	Ragi	Mandia	Mundhal
<b>II. Pulses</b>											
8. Bengal Gram	Cicer arietinum	Channa	Chana	Harbbara, Chana	Kadalai	Sanagulu	Chola, but but Kalai	Kaddo- lakka	Kadle	Bunta	Chholai
9. Green Gram	Phaseolus radiatus	Mung, Mungi,	Mag	Mug	Pacha payiru	Pesalu or Pacha pasalu	Mug	Cheru payeru	Hesuru	Muga	Mungi
10. Black Gram	Phaseolus radiatus	Urad, Mash	Adad	Chavli	Ulundu	Minmulu	Kalokalai	Uhunnu	Alsandi	Biti	Manh
11. Red Gram (Pigeonpea)	Cajanus indicus	Tur, Arhar	Tuver	Tuti	Tuvarai	Kandulu	Arhar oror, Orol	Tuvera	Togari	Harad	Arhar
12. Horsegram	Phaseolus Mun	Kulthi	Kulthi	Kulith, Kulthi	Kollu or Kanam	Ulavalu	Kurti-kalai	Muthira	Hurli	Kolacha	Kulth
13. Lentil	Ervum lens or lens Esculante	Masur	Masur	Masur	Misur-pari- pur	Misur-pappu Chiri- sangulu	Mashur	—	Chanangi, Masur Bija	Mashur	Masur
<b>III. Sugars</b>											
14. Sugarcane	Sachburum offici-narum	Ganna	Sherdi	Us	Karembu	Cheruku	Ak	—	Khabbu	Akhu	Kamad or Ganna

95. GLOSSARY OF ENGLISH, BOTANICAL AND VERNACULAR NAMES OF CROPS—contd.

English	Botanical	Hindustani	Gujerati	Marathi	Tamil	Telugu	Bengali	Malayalam	Kannada	Oriya	Punjabi
<b>IV. Fruits</b>											
15. Plantain	Musa Sepientum or M. Paradisiaca	Kela	Kel	Kele	Vazahaipazham	Aratipandu	Kola	Vezha	Bale	Kadali	Kela
16. Mango	Magnifera indica	Aam, Amb	Ambu	Amba	Mambezham	Mamidi-pandu	Aam, Ambra	—	Mavu	Amba	Amb
17. Grapes	Vitis Vinifera	Angur	Darakh	Draksh	Drakshapayam	Drakshapanda	—	—	Draksh	Angur	Angoor
18. Orange	Citrus aurantium	Narangi Sangtara	Narangi	Narange Santra	Kichilipayam	Kichilipandu or Narinzapandu	—	—	Kittale	Kamala	Sangtra
19. Lemon	Citrus medica var. Acida	Nimbu, Limbu	Limboi	Limbu	Elimicham Kayi	Nimmapandu, Dabba-pandu	Nebu, Lebu	Metulengaphalapura	Nimbe	Kagaji or Lembu	Nimboo
20. Pomegranate	Punica Granatum	Anar	Dadamdi	Dalimb	Nadalaippazham	Danimapandu	Anar, Dalim, Darim	Matalampazham	Dalimb	Dalimba	Anar
<b>V. Vegetables</b>											
21. Potato	Solanum tuberosum	Alu	Batara	Batate	Urulaikizhangu	Urulagedda	Alu	Urailakizhangu	Batate, Allugadde	Gola Alu	Aloo
22. Onions	Allium Cepa	Piyaz	Kanda, Dungli	Kanda	Vengayam	Ulligedda	Piyanz Palandu	Urnala	Ullegaddi, Nirulli	Piyaz	Gundda
23. Cabbage	Brassica oleracea	Gobhi	Kobij.	Kobi	Gosmuttai	Gos-Godda	Kopi	—	Kaybij	Bandhar Kobi	Band gobi
24. Tomato	Lycopersicum	Tamuter	Tomata	Vel Vangi Tamate	Simie-Takaliepalam	—	Timoti	—	Tomato	Bilati Baigane	Tamatar
25. Carrot	Danceos Carota	Gajar	Gajar	Gajar	—	—	—	—	Thakkali Hannu, Gajjare	Gajar	Gajar
<b>VI. Drugs and Narcotics</b>											
26. Tobacco	Nicotiana Tobacum	Tambaku	Tambakhu	Tambokhu	Pugaiyilai	Pogaku	Temak	Pukayila, Pukala	Tambaku, Hogesoppu	Dhuanpatra	Tambaku
27. Opium	Papayer somniferum	Afim Afhiyun	Afim	Afu	Abini	Abini	Post	Afiyun	Afimu	Afima	Haphim
28. Betel leaves	Piper betel	Pan	Pan	Vidychi-Pane	Verthilai	Tamala paku	Pan	Veta vetrila, Vettila	Villyadele	Pan	Pan
29. Betelnut (Arecanut)	Areca catechu	Supari	Sopari	Supari	Pakku	Vakka	Shupari, Gua	Adaka Kavugu	Adike	Gua Kaira	Supari

**VII. Condiments and Spices**

30. Chillies	Capsicum annuum	Lal mirch	Marcha	Mirchya Mirsinga	Milagai	Mirapakaya	Lanka	Kappal-Meleka	Mertsinkai	Lanka-mircha	Lal mirch
31. Black Pepper	Piper nigrum	Kali mirch	Mari	Miri	Milagu	Miriyalu	Gol Mirch Kalo Mirch	—	Menasu, Mirialu	Gol Mirch	Kali Mirch
32. Turmeric	Curcuma longa	Haldi	Halad	Halad	Manjal	Pasupu	Halud	Mannal. Marinalu	Arashina Belloli	Haldi	Huldi
33. Garlic	Allium Sativum	Lasan	Lasan	Lasunas	Vellaipundu	Tellegadda Vellul	Lashan Rasun	—	—	Rasuna	Lassan or Thom
34. Cardamom	Elettaria cardamomum	Alaichi	Elchi	Veldode	Yelakka	Yelakayalu	Elachi	Yelem	Yelakki	Alaich	Alaichi

**VIII. Oilseeds**

35. Sesamum	Sesamum Indicum	Til	Tal	Til	Yellu	Navvalu	Til	Yellu	Yellu	Khasa	Til
36. Linseed	Linum usitatissimum	Alsi	Alai	Javas, Alsi	Alivirai	Avisi	Tisi, Masina	Cheru-Chana-vittente-Vitta	Yellu, Wollellu	Pesi	Alsi
37. Rapeseed	Brassica napus	Sarsoon	Sarsav	Shiraz	—	—	Shwet-rai	—	Agashe, Alasi	Sweta Soris	Saron
38. Castor	Ricinus Communis	Arend	Diveti Erande	Erandyaj	Amanakku Kottaimuthu	Amudalu	Bheranda	Avanakku	Harulu	Jada or Gaba	Arind
39. Mustard	Brassica nigra	Rai, Taramira	Rai	Mohri	Kadagho	Avalu	Rai-Sarisha	—	Sasvi	Soris	Rai
40. Groundnut	Arachis hypogea	Mung Pali Vilayati Mung	Bhoising, Maghpali	Bhuimug	Nillakadalai, Verkadalai	Verusana-galu	Chinar Badam	Nalak-Katala, Verk-Kela	Nelgadle	China-badam	Mungphali
41. Coconut	Cocos Nucifera	Narial	Nalleri	Naral	Thengai	Tenkaya or Kobbarikaya	Nari Kel	Tenga, Tennai Nur	Tengu	Nadia	Narail

**IX. Fibres**

42. Cotton	Gossypium herbaceum	Kapas, Rui	Kapas	Kapus	Paruthi	Patti	Kapas, rula,	Puruti	Hatti	Kapa	Kapah
43. Jute	Corchorus Capsularis	Patson, Jute	Jut	Jut	—	—	Pat, Pata Kushta	—	Goni naru, Chunchala Gidadinara	Jhota	Patsan
44. Sunn-Hemp	Crotolaria Junecea	—	—	—	Sanappu or Shanai	Janumu	—	—	—	Chhana-pata	Sann

- Sources : 1. Dictionary of Economic Products of India by George Watts.  
 2. Manual of Revenue Accounts for the villages, talukas and districts of Bombay Presidency.  
 3. Madras Season and Crop Reports.

**DIRECTORATE OF ECONOMICS & STATISTICS**  
**MINISTRY OF FOOD AND AGRICULTURE, GOVT. OF INDIA**

**SOME IMPORTANT PUBLICATIONS**

	Price			s.	d.
	Rs.	As.	P.		
<b>Agricultural Statistics—</b>					
1. Andhra, Madras and Mysore Agricultural Statistics .. .. .	7	4	0	1	6
2. Estimates of Area and Production of Principal Crops in India 1953-54, Vol. I (Summary Tables) .. .. .	1	0	0		6
3. Estimates of Area and Production of Principal Crops in India 1952-53, Vol. II (Detailed Tables) .. .. .					
4. Indian Agricultural Statistics 1951-52, Vol. I (Summary Tables) .. .. .	2	8	0	4	0
5. Indian Agricultural Statistics, 1949-50, Vol. II (Detailed Tables) .. .. .	20	0	0	52	0
6. Indian Agriculture in Brief .. .. .	0	8	0		11
<b>Livestock—</b>					
7. Indian Livestock Census, 1951, Vol. I (Summary Tables) .. .. .	5	0	0	8	0
8. Indian Livestock Census, 1951, Vol. II (Detailed Tables) .. .. .	15	0	0	23	6
<b>Prices and Wages—</b>					
9. Agricultural Prices in India, 1951 and 1952 .. .. .	10	0	0	15	8
10. Bulletin of Agricultural Prices (Weekly) .. .. .	0	3	0	0	4
(Annual Subscription) .. .. .	7	8	9	12	0
11. Farm (Harvest) Prices of Principal Crops, 1947-48 to 1951-52— Supplement to, Agricultural Prices in India, 1951 & 1952 .. .. .	5	14	0		3
<b>Commodity Series—</b>					
12. Bulletin on Food Statistics, 1955 .. .. .	1	4		2	0
13. Coffee in India, 1952-53 .. .. .	2	6	0	4	0
14. Cotton in India, 1952-53 .. .. .	4	10	0	7	3
15. Food Situation in India, 1939-53 .. .. .	4	14	0	7	9
16. Jute in India, 1952-53 .. .. .	3	10	0	5	9
17. Lac in India 1952-53 .. .. .	1	4	0	2	0
18. Oilseeds in India, 1951-52 and 1952-53 .. .. .	6	0	0	9	10
19. Sugar in India, 1951-52 and 1952-53 .. .. .	4	10	0	7	3
20. Tea in India, 1952 .. .. .	4	12	0	7	3
21. Tobacco in India, 1951-52 and 1952-53 .. .. .	4	6	0	7	0
<b>Abstract—</b>					
22. Abstract of Agricultural Statistics—India, 1953 .. .. .					**
<b>Agricultural Legislation Series—</b>					
23. Agricultural Legislation in India, Vol. I—Regulation of Money-lending .. .. .	4	14	0	7	9
24. Agricultural Legislation in India, Vol. II—Consolidation of Holdings .. .. .	1	4	0	2	0
25. Agricultural Legislation in India, Vol. III—Agricultural Production and Development .. .. .	12	4	0	19	0
26. Agricultural Legislation in India, Vol. IV—Land Reforms (Abolition of Intermediaries) .. .. .	12	0	0	14	0
27. Agricultural Legislation in India, Vol. V—Village Panchayats .. .. .	14	10	0	23	0
28. Agricultural Legislation in India, Vol. VI—Land Reforms (Reforms in Tenancy) .. .. .	15	0	0	23	6
<b>Guides—</b>					
29. Guide to Cotton Statistics .. .. .	1	8	0	2	3
30. Guide to Current Agricultural Statistics .. .. .	1	10	0	2	6
31. Guide to Jute Statistics .. .. .	0	5	0	0	6
32. Guide to Oilseeds Statistics .. .. .	1	2	0	1	9
33. Guide to Sugar Statistics .. .. .	0	12		1	0
<b>Miscellaneous—</b>					
34. A Bibliography of Indian Agricultural Economics .. .. .	3	6	0	5	6
35. Agricultural Situation in India (Monthly) .. .. .	1	0	0	1	6
36. Indian Agricultural Atlas (Ordinary Edition) .. .. .	12	0	0	19	0
(Dé-Luxe Edition) .. .. .	15	0	0	23	6
37. Indian Cotton Pressing Factories and Returns, 1951-52 .. .. .	3	12	0	6	0
38. Indian Crop Calendar (Hindi Version) .. .. .	3	12	0	6	0
39. Studies in Agricultural Economics, Vol. I .. .. .	3	2	0	5	0

\* In Press.

\*\* Price not yet fixed.

Copies of the above publications are available from:—

1. The Manager of Publications, Civil Lines, Delhi-1
2. The Secretary to the High Commissioner for India 'India House', Aldwych, London, W.C. 2.