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Preface

A crop calendar is a ready-guide to the farmers to undertake different crop related activities (Land preparation, Fertilizer application, Sowing, Irrigation, Harvesting etc.) in connection with the on going weather conditions. It also helps them to be ready for the oncoming crop season to keep their field ready to grow different type of crops. The crop calendar is intended to increase the cropping intensity of the state by providing an easy outlook/reminder for various crop activities which can be taken up simultaneously or one after another depending upon the weather conditions without any wastage of time and resources.

Here, the crop growth period, starting from land preparation to harvesting, is indicated by Standard meteorological weeks' and associated probable rainfall and mean temperature for a given week are indicated along with.

E.g.

Probable rainfall (mm)
Dates
Mean temperature (°C)

The rainfall amount (mm) is indicated in the upper part and mean temperature (^oC) in the lower part of a given week. The rainfall amount is expected rainfall at 75% probability level. 75% probability means rainfall expected in a given week at three-fourth chances of the long term normal rainfall, which is found as most close to the long term normal rainfall received in this region.

There are 52 Standard Weeks in a year. The No. 1 week means 'first week' of January. One should look for the Week No. 1 to start with any crop related activities. The weeks mentioned in the calendar denotes the **most suitable period** for a particular crop activity. One can also grow a crop ahead or after the standard weeks mentioned in the calendar depending on the instant weather conditions.

The crop information incorporated in the calendar is as per the Package of Practices for Agricultural Crops of Meghalaya, published by Department of Agriculture, Govt. of Meghalaya and research inputs obtained from ICAR Research

Complex for NEH Region, Umiam, which was blended with the 20 years strong weather information of Umiam (1983-2003). Though the spatial variability of weather varies greatly in hills due to orographic effects, it was assumed, while preparing the calendar, that the Umiam weather is more or less similar with the rest of the state with height of 800-1400 m above m.s.l.

'Grow and Harvest Early' to get the maximum economic return.

S. V. Ngachan **Director**

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Agri-Profile of Ri-Bhoi district of Meghalaya

A. Agro-climatic zones of Meghalaya

The entire geographical area of Meghalaya can be classified in to five agro-climatic zones:

- 1. *Warm and humid with medium rainfall (1270-2032 mm)*: This zone occurs in the hills and northern slopes in the north and western parts of West Garo Hills, the northern parts of East and West Khasi Hills and the north eastern parts of Jaintia Hills districts. This zone features soil of light to medium texture with generally high depth. The important crops in this zone are rice, maize, wheat, jute and mesta, rapeseed-mustard, cotton and ginger. The Ri-Bhoi district falls under this zone.
- 2. *Humid and moderately cold in winter with high rainfall (2800-4000 mm)*: This zone occurs in the central plateau of the Garo Hills and a portion of the Central plateau of the West Khasi Hills. The soils are light to medium in texture and generally very deep. Maize, ginger, cotton and tea are the principal crops grown in this zone.
- **3.** *Humid with moderately warm summer and severe cold winter featuring high rainfall (2800-6000 mm)*: This zone comprises of the central plateau of the East Khasi Hills, the West Khasi Hills and the Jaintia Hills. The soil is light to medium in texture and generally very deep. The zone is suitable for vegetables, especially potato, upland rice, tea and ginger.
- 4. *Humid and warm with very high rainfall (4000-10000 mm)*: This zone occurs in the southern slope comprising of the eastern part of Jaintia Hills, the southern part of the East Khasi Hills and a portion of the southern edge of the West Khasi Hills. The soil is light to medium in texture and deep to very deep. Important crops of this zone are oragnes, turmeric and soybean.
- 5. *Humid and hot with high rainfall (2800-4000 mm)*: This zone comprises of the southern part of the West Garo Hills and a part of the southern part of the West Khasi Hills. The soil depth ranges from moderate to very deep and light to heavy in texture. Rice, jute and mesta and oilseeds are the important crops grown in this zone.

B. Land use profile of Ri-Bhoi district (including agricultural land use)

Land Classification	Area ('000 ha)
1. Geographical Area	244.800
2. Reporting Area	243.700
3. Forests	86.918
(Classed and Un-classed)	
4. Area not available for Cultivation	
(i) Area under non-agricultural uses	
a. Water Logged Land	—
b. Social forestry	2.400
c. Land Under Still Water	2.016
d. Other Land	9.545
Total (a to d)	13.961
(ii) Barren and Uncultivable Land	19.430
Total (i and ii)	33.391
5. Other Cultivated Land	
a. Permanent Pastures and Other Grazing Lands	—
b. Land under Misc. tree Crops and Grooves, etc.	29.194
c. Cultivable Wastelands	56.983
Total (a+b+c)	86.177
6. Fallow Lands	—
a. Fallow Lands other than Current Fallow	8.871
b. Current Fallows	6.181
Total $(a + b)$	15.052
Net Area Sown	22.232
Area Sown More than Once	2.901
Total Cropped Area	25.133

(Source: Department of Economics & Statistics, Govt. of Meghalaya, 2009-10;http://shillong.nic.in/Agri/agri_scenario/LandUseStats.aspx)

C. Irrigation status of Ri-Bhoi district

	Area ('000 ha)
Net irrigated area	11.6710
Gross irrigated area	12.8915
Rainfed area	208.3470

(Source: Irrigation Statistics of Meghalaya for the Year 2009)

D. Area under major field & horticultural crops in Ri-Bhoi district

	Kharif	Rabi	Grand total
Field crops	Area ('000 ha)		
Rice	9.414	0.191	9.605
Wheat		0.003	0.003
Maize	1.517		1.517
Other Cereals		0.013	0.013
Pulses	0.155	0.028	0.183
Oilseeds		0.159	0.159
Horticultural crops			
Khasi Mandarin			0.228
Assam Lemon			0.040
Pumello			0.040
Banana			0.872
Pineapple			3.654
Cowpea			0.004
Potato			0.025
Chillies			0.093
Turmeric			0.092
Ginger			0.973

3

Plantation crops	
Arecanut	0.149
Tea leaf	1.110
Black Pepper	0.146
Rubber	0.887
Coffee	0.072

E. Productivity of major field & horticultural crops in Ri-Bhoi district

Field crops	Productivity (tones/ha)
Rice	2.671
Wheat	1.788
Maize	2.498
Rapeseed & Mustard	6.661
Horticultural crops	
Khasi Mandarin	5.687
Tomato	9.965
Banana	17.554
Pineapple	39.066
Potato	9.287
Ginger	7.825

Source: 1) State Level Crop Statistics on Rabi Crops 2009-10

2) State Level Crop Statistics on Kharif Crops 2009-10

3) Directorate of Economics and Statistics, Govt. of Meghalaya

Month	Week No.	Date	Month	Week No.	Date
January	1	1 to 7	July	27	2 to 8
	2	8 to 14		28	9 to 15
	3	15 to 21		29	16 to 22
	4	22 to 28		30	23 to 29
	5	29 to 4		31	30 to 5
February	6	5 to 11	August	32	6 to 12
	7	12 to 18		33	13 to 19
	8	19 to 25		34	20 to 26
	9	26 to 4		35	27 to 2
March	10	5 to 11	September	36	3 to 9
	11	12 to 18	-	37	10 to 16
	12	19 to 25		38	17 to 23
	13	26 to 1		39	24 to 30
April	14	2 to 8	October	40	1 to 7
_	15	9 to 15		41	8 to 14
	16	16 to 22		42	15 to 21
	17	23 to 29		43	22 to 28
	18	30 to 6		44	29 to 4
May	19	7 to 13	November	45	5 to 11
-	20	14 to 20		46	12 to 18
	21	21 to 27		47	19 to 25
	22	28 to 3		48	26 to 2
June	23	4 to 10	December	49	3 to 9
	24	11 to 17		50	10 to 16
	25	18 to 24		51	17 to 23
	26	25 to 1		52	24 to 31

Standard periods and weeks

Agroclimatic sub-regions of Ri Bhoi District, Meghalaya





Figure 1: Weekly normal and Probable rainfall (75% probability) at Umiam, Ri-Bhoi, Meghalaya

Crop	Optimum temperature requirement	Optimum moisture requirement
Rice	Sprouting: $= 10^{\circ}$ C	Rainfall of 125 cm is required during vegetative
	Flowering: 22-23 ^o C	phase. Monthly rainfall of 100 and 200 mm is
	Grain formation: 20-21°C	required for upland and lowland rice, respectively.
Maize	Mean temperature of 24°C with night	75 cm of rainfall in entire growth period
	temperature above 15°C	
Lentil	Mean temperature of 18-30°C	20 cm rainfall till fruiting.
Cotton	Sprouting: 15-20°C	Minimum rainfall of 50-65 cm is required
	Growth and development: 25-30°C	
	Minimum 200 frost free days ideal	
Groundnut	Sprouting: 14-16°C	Best yield obtained with about 60 cm rainfall but
	Mean soil temperature of 23°C is ideal for	good crop can be harvested in 125-150 cm rainfall
	maximum production	regions
Jute	Growth and development: 27-34°C	170-200 cm of evenly distributed rainfall in entire
		crop period
Soybean	Sprouting: 5-40°C	65 cm rainfall
	Freezing air temperature as well as soil	
	temperature above 33°C affects crop	
	growth very adversely	
Potato	Early growth and development: 24°C	15-20 cm rainfall
	Later stage: 18°C	
Ginger	Growth and development: 28-30°C	Minimum 125-250 cm rainfall during growth period
Turmeric	Growth and development: 24-28°C	70-225 cm rainfall
	Stops growth below 20°C	
Rapeseed &	Germination: 20 ^o C	24-40 cm rainfall
Mustard	Vegetative growth: 15-20°C	
	Flowering & pod formation: 25-27°C	

Climatic normals for major crops

Growing Months for Different Crops

The calendar, given below, indicates the months, one can expect to **GROW a** specific crop in farm. It is only a guide and is accurate to our best estimation of weather factors; the best time for other intercultural operations may be adjusted based on prevailing weather at that time.

Сгор	Mar	Apl	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb
Kharif Rice		1	2	3	- 4	5	6	7	8	9		
Kharif Maize		1	2	3	4	5						
Groundnut			1	2	3	4	5	6	7			
Ginger	1	2	3	4	5	6	7	8	9	10		
Turmeric	1	2	3	4	5	6	7	8	9	10		
Lentil	7							1	2	3	- 4	5
Jute	2	3	4	5	6	7	8	9				1
Cotton	2	3	4	5	6	7	8	9	10			1
Spring Potato	3	4	5	6							1	2
Winter Potato							1	2	3	4	5	6
Rape & Mustard	7						1	2	3	- 4	5	6
Soybean			1	2	3	- 4	5	6				
Summer Vegetables	5	6	7	8	9	10			1	2	3	4
Winter Vegetables						1	2	3	4	5	6	7

(The Number indicates 'month'. E.g. 1 means first suitable month for growing a given crop)

Сгор	Recommended Varieties	Seed Rate (Kg/ha)	Fertilizer Application
Kharif Rice	Lumpnah 1, Shah Sarang 1, Bhalum-1, Bhalum-2, DR-92, Ngoba, NEH Megha Rice 1, NEH Megha Rice 2, Abore B	Direct Seeding: 80-100 Transplanting: 35-40	FYM: 10-20 t/ha N:P:K :: 60:60:40 kg/ha
Kharif Maize	RCM-76, RCM 1-1, RCM 1-3, Pop Corn, Baby Corn, Meghalaya Local Yellow, Meghalaya Local White, Vijay, Gasnga Safed 1, Krishna	10-20	FYM: 10-15 t/ha 65 kg Urea, 250 kg SSP, 67 kg MoP per ha
Ginger	Nadia, Poona, Riodegenerio, China, Wynad, Thingpui, Moran	100-120 (Rhizomes)	FYM: 6-8 t/ha 23 kg Urea, 250 kg SSP, 33 kg MoP per ha
Turmeric	Lakadong	100-120 (Rhizomes)	FYM: 6-8 t/ha 23 kg Urea, 250 kg SSP, 33 kg MoP per ha
Lentil	B 177, L 9-12, L 4147, PL 639, PL 4, VL 1, VL 125	30-40	FYM: 4-5 t/ha 75 kg DAP per ha
Jute	Capsularies: JRC 212, JRC 321, JRC 7447	Capsularies Line Seeding: 6-8 Broadcasting: 10-11	FYM: 6-8 t/ha 188 kg SSP, 50 kg MoP per ha (Capsularies)
	Olitorius: JRO 632, JRO 524, JRO 7835	Olitorius Line Seeding: 6-7 Broadcasting: 7-8	156 kg SSP, 42 kg MoP per ha (Olitorius)

Crop Varieties and Fertilizer Application

Сгор	Recommended Varieties	Seed Rate (Kg/ha)	Fertilizer Application
Cotton	D 46 2-1, G-54 1, G-135 49	10-12	FYM: 8-10 t/ha 54 kg Urea, 250 kg SSP, 50 kg MoP per ha
Potato	Kufri Megha, Kufri Jyoti, Great Scott	180-200	FYM: 10 t/ha 133 kg Urea, 312 kg SSP, 83 kg MoP per ha
Soybean	Bragg, Ankur	70-75	FYM: 4-5 t/ha 45 kg Urea, 375 kg SSP, 70 kg MoP per ha
Rape & Mustard	Rape: M 27, TS 38 Mustard: Varuna, Krishna, TM 4	10-15	FYM: 3-4 t/ha 140 kg Urea, 220 kg SSP per ha

Primary Land Preparation: 124 mm 40.2 mm 30.0 mm 14.22 Apl 32.29 Apl 30.6 May 7.13 May 11.2 Max 1			Kharif I	Rice				
12.4 mm 31.7 mm 40.2 mm 30.0 mm Probable Rainfall (mm) 16-22 Agi 23-29 Api 30-5 May 7-13 May 10 mm 10 mm 21.9 °C 21.5 °C 21.3 °C 22.0 °C 10 mm 10 mm 10 mm Final Land Preparation and Seed Sowing in Direct Seeded Rice: 31.7 mm 40.2 mm 30.0 mm 24.2 mm 31.0 mm 50.0 mm 23-29 Api 30-6 May 7-13 May 14-20 May 21-27 May 28-3 Jun 21.5 °C 21.3 °C 22.0 °C 22.8 °C 22.7 °C 23.0 °C Nursery Raising for Transplanted Rice: 402 mm 30.0 mm 24.2 mm 31.0 mm 50.0 mm 21.5 °C 21.3 °C 22.0 °C 22.6 °C 22.7 °C 23.0 °C Sum 30.0 mm 24.2 mm 31.0 mm 50.0 mm 21.3 °C 22.0 °C 22.6 °C 22.7 °C 23.0 °C Sum 40.2 mm 31.0 mm 50.0 mm 21.3 °C 22.0 °C 22.6 °C 22.7 °C 23.0 °C Sum 42.2 mm 31.0 mm 50.0 mm </th <th>1. Primary Land Preparation:</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	1. Primary Land Preparation:							
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Harvesting Of Matured Rice: 3.6 mm 1.4 mm 4.2 mm 4.5 mm 1.4 mm 0.5 mm 22-28 Oct 29-4 Nov 5-11 Nov 12-18 Nov 19-25 Nov 26-2 Dec	L	23.3 °C	23.5 °C	23.8 °C	24.0 °C	23.7 °C	23.6 °C	
3.6 mm 1.4 mm 4.2 mm 4.5 mm 1.4 mm 0.5 mm 22-28 Oct 29-4 Nov 5-11 Nov 12-18 Nov 19-25 Nov 26-2 Dec	5. Harvesting Of Matured Rice:							
22-28 OCT 29-4 NOV 6-11 NOV 12-18 NOV 19-28 NOV 26-2 Dec			3.6 mm	1.4 mm	4.2 mm	4.5 mm	1.4 mm	0.5 mm
20.0°C 19.1°C 18.3°C 17.5°C 16.9°C 15.8°C			22-28 OCt 20.0 °C	19.1 °C	18.3 °C	17.5 °C	18-25 NOV	15.8 °C
			10.0 0	10.1 5	10.0 0	112 2	10.8 0	10.0 0
The Time Fixation is based on Optimum Moisture availability and Temperature Range for Growth and Development.	The Time Fixation is based on Optim	um Moistu	ure availability	and Temper	ature Range f	or Growth an	d Developmen	t.

		ĸ	Charif Ma	ize			
1 Land Dranavatio	a and Manusines						
1. Land Preparatio	h and Manuring:						
7.4 mm	0.0 mm 0.6 mm	12.4 mm	31.7 mm	40.2 mm	•		Probable Rainfall (mm)
26-1 Apl	2-8 Apl 9-15 Apl	16-22 Apl 2	3-29 Apl 3	0-6 May	•		Dates Mean Temperature (⁰ C)
19.8 °C	20.9 C 21.7 C	21.9 C	21.5 °C	21.3 G	•		neur renperature [6/
2. Seed Sowing:				1		_	
z. occu ociniig.	12.4	mm 31.7 mm	40.2 mm 30-6 May	30.0 mm	24.2 m	m lav	
	21.9	°C 21.5 °C	21.3 °C	22.0 °C	22.6 5	2	
3. Harvesting of Ma	atured Cobs:						
		56.4 mm	32.1 mm	44.6 mm	44.4 mm	38.0 mm	
		2-8 Jul	9-15 Jul 1	6-22 Jul	23-29 Jul	30-5 Aug	
		23.7 °C	23.6 °C	24.2 °C	24.0 °C	24.1 °C	1
The Time	Fixation is based on O	ptimum Moisture	availability ar	d Temperati	ure Range f	or Growth ar	d Development.

			Gi	roundnu	t / Pean	ut			
1 Land Dranar	ation and I								
1. Land Prepara	ation and i	Manuring:							
31.0 mm	50.0 mm	54.2 mm	55.1 mm	42.5 mm	43.1 mm	•	C	Probable R	ainfall (mm)
21-27 May	28-3 Jun	4-10 Jun	11-17 Jun	18-24 Jun	25-1 Jul	•	—— F	Da Mean Terro	tes erature (^a C)
22.7 °C	23.0 °C	23.3 °C	23.5 °C	23.8 °C	24.0 °C	•		mean reing	eranne (o)
2. Seed Sowing	g:								
		54.2 mm	55.1 mm	42.5 mm	43.1 mm	55.4 mm 3	2.1 mm		
		4-10 Jun 23.3 °C	23.5 °C	23.8 °C	26-1 Jul 24.0 ⁵ C	2-5 Jul 9	-15 Jul 23.6 °C		
		20.0 0	200 0	20.0 0	21.0 0	20.1 0	23.0 0		
Harvesting o	f Matured	and Dried	Pods:						
			16 mm	1.1 mm	0.0 mm	0.0 mm	0.0 mm	0.0 mm	
			22-28 Oct	29-4 Nov	5-11 Nov	12-18 Nov	19-25 Nov	26-2 Dec	
			20.0 °C	19.1 °C	18.3 ⁶ C	17.5 °C	16.9 °C	15.8 °C	
The	Time Fixation	is based on (Dotimum Mois	ture availabili	ty and Temps	erature Range f	or Growth and	Development	

	12.4 mm	31.7 mm	40.2 mm	30.0 mm	24.2 n	nm 🖌 🔺			Probable Rainfall (mm
9-15 Apl	16-22 Apl	23-29 Apl	30-6 May	7-13 May	14-20	May			Dates
. Planting of R	hizomes:								
			31.7 mm	40.2 mm	30.0 mm	24.2	2 mm 31	.0 mm	50.0 mm
			23-29 Apl	30-6 May	7-13 May	y 14-2	0 May 21-	27 May	28-3 Jun
. Harvesting:									
			0.0	mm 0	0 mm	0.0 mm	0.0 mm	0.0 m	m 0.0 mm
			19-2	5 Nov 26	-2 Dec	3-9 Dec	10-16 Dec	17-23	Dec 24-31 Dec
				- 4		110 0	1 1110	44.00	43.0.0

9-15 A 21.7 %	pl 16-22 Apl 21.9 °C	23-29 Apl 3 21.5 °C	0-6 May 7	7-13 Mav	14-20 May			
			21.3 °C	22.0 ^I C	22.6 °C	-		Dates Mean Temperature (² C)
	2	31.7 mm 40.2 3-29 Apl 30-6	mm 30.0	0 mm 2 3 May 14	4.2 mm 3 -20 May 21	31.0 mm -27 May	50.0 mm 28-3 Jun	
		31.7 mm 40.2	mm 30.0	0 mm 2	4.2 mm 3	31.0 mm	50.0 mm	
		21.5 °C 21.	3 °C 22	0°C :	22.6 °C	22.7 °C	23.0 °C	
arvesting:		0.0 mm 19-25 Nor 16.9 °C	0.0 mm / 26-2 Det 15.8 °C	0.0 mm C 3-9 Dec 14.9 ⁵ C	0.0 mm 10-16 Dec 14.4 ⁶ C	0.0 m c 17-23 [140 ³	m 0.0 Dec 24-31 C 13/	mm <mark>I Dec</mark> D [®] C

			Le	ntil					
1. Land Preparation and	Manuring:	34.4 mm 1-7 Oct 22.0 °C	23.2 mm 8-14 Oct 21.5 °C	18.6 mm 15-21 Oct 21.0 ℃			Probat Mean T	ole Rainfall (mm) Dates 'emperature (² C)	
2. Sowing of Seeds:									
	34.4 mm	23.2 mm	18.6 mm	3.6 mm	1.4 mm				
	1-7 Oct	8-14 Oct	15-21 Oct	22-28 Oct	29-4 Nov				
	22.0 0	21.0 0	21.0 0	20.0 0	10.1 0	-			
3. Harvesting:									
	0.0 mm	0.0 mm	0.0 mm	0.0 mm	0.0 mm	0.5 mm	0.0 mm		
	15-21 Jan	22-28 Jan	29-4 Feb	5-11 Feb	12-18 Feb	19-25 Feb	26-4 Mar		
	12.1 °C	12.6 ^I C	13.8 °C	14.1 ^I C	15.4 °C	15.2 °C	16.4 °C		
The Time Fixation	n is based on O	ptimum Moi:	sture availabi	lity and Temp	erature Rang	e for Growth a	ind Developm	ient.	

				Jute	(Cap	sularie	es)					
1 Land Prenarat	ion and N	lanuring										
. cana riepara		unung										
7.4 mm 0.0	mm 0.6	mm 13	2.4 mm	31.7 mm	40.2	mm 3	0.0 mm	24.2 mm	_⊷	- Pro	bable Rainf	sil (mm)
26-1 Apl 2-8	Apl 9-18	5 Apl 16	-22 Apl	23-29 Ap	30-6	May 7-	13 May	14-20 Ma	y 🔶	<u> </u>	Dates	des
19.8 °C 20	9°C 21.	7°C 2	21.9 °C	21.5 °C	21.3	°c :	22.0 °C	22.6 ^I C	_ ←	Mes	an Temperat	ure (°C)
	7.4 mm	0.0 mm	0.6 n	nm 12	.4 mm	31.7 mm	40.2 m	m 30	0 mm	24.2 mm		
	7.4 mm	0.0 mm	0.6 n	nm 12	.4 mm	31.7 mm	40.2 m	m 30	0 mm 0.	24.2 mm		
	26-1 Ap	1 2-8 Ap	I 9-15.	Api 16-	22 Apl	23-29 Ap	I 30-6 N	lay 7-1	3 May	14-20 May		
	19.8 °C	20.9 °C	21.7	C 2	1.9 °C	21.5 °C	21.3 °	C 22	20°C	22.6 ^I C		
3. Harvesting:		46.4 mm 20-26	29.3 mm	46.7 mm	33.7 mm	49.8 mm	55.4 mm 24-30	34.4 mm	23.2 mm 8-14	18.6 mm	3.6 mm	1.4 m
		Aug	Sep	Sep	Sep	Sep	Sep	Oct	Oct	Oct	Oct	Nov
		23.6 °C	23.8 °C	23.5 °C	23.3 °C	22.7 °C	21.8 °C	22.0 °C	21.5 °C	21.0 °C	20.0 °C	19.1 %
The Ti	me Fixation	is based on	Optimun	n Moisture	availabilit	y and Tem	nperature F	ange for (Growth an	d Develop	ment.	

26-1 Ap	2-8 Apl 20.9 °C	9-15 Apl 21.7 °C	16-22 Apl 21.9 °C	23-29 Apl 21.5 °C				Probable Rain Dates Mean Tempera	ture (^o C)
2. Sowing of Seed	5:								
	0.6 m	m 12.4 m	nm 31.7 m	100 40.2 m	m av				
	21.7	C 21.9	21.5	C 21.3 °C	2				
3. Harvesting:									
					1.4 mm	0.9 mm	0.0 mm	0.0 mm	0.0 mm
	34.4 mm	23.2 mm	18.6 mm	3.6 mm	1.4 mm				

				Po	tato					
Spring Potato										
1. Land Preparation	and Manuring	;:								
0.0 mm 0.0 mm	0.0 mm	0.0 mm	0.0 mm	0.0 mm	0.0 mm	0.5 mm	0.0 mm]≁—	Pro	bable Rainfall (mm)
1-7 Jan 8-14 Jan	15-21 Jan	22-28 Jan	29-4 Feb	5-11 Feb	12-18 Feb	19-25 Feb	26-4 Mar			Dates
12.4 °C 12.1 °C	12.1 °C	12.6 °C	13.8°C	14.1 °C	15.4 °C	15.2 °C	16.4 °C		Mea	In Temperature (^d C)
2. Seed Sowing:	0.0 mm	0.0 mm	0.0 mm	0.0 mm	0.0 mm	0.0 mm	0.5 mm	0.0 mm	0.0 mm	1
	8-14 Jan	15-21 Jan	22-28 Jan	29-4 Feb	5-11 Feb	12-18 Feb	19-25 Feb	26-4 Mar	5-11 Mar	
	12.1 °C	12.1 °C	12.6 °C	13.8 °C	14.1 °C	15.4 °C	15.2 °C	16.4 °C	17.4 °C	
		56.4	mm 32.1	mm 44.6	mm 44.4 m	m 38.0 mm	٦			
3. Harvesting:		2-8	Jul 9-15	5 Jul 16-22	Jul 23-29 J	al 30-5 Aug				
		23.7	7°C 23.6	5°C 24.2	°C 24.0 °C	24.1°C	1			
Winter Potato										
Winter Potato	and Manuring	; :								
Winter Potato	and Manuring	;: 46.7 mm	33.7 mm	49.8 mm	55.4 mm	7				
Winter Potato 1. Land Preparation	and Manuring	46.7 mm	33.7 mm 10-16 Sep	49.8 mm 17-23 Sep	55,4 mm 24-30 Sep					
Winter Potato	and Manuring	46.7 mm 3-9 Sep 23.5 °C	33.7 mm 10-16 Sep 23.3 °C	49.8 mm 17-23 Sep 22.7 °C	55,4 mm 24-30 Sep 21.8 ^I C					
Winter Potato 1. Land Preparation 2. Seed Soming	and Manuring	46.7 mm 3-9 Sep 23.5 °C 7 mm 33	33.7 mm 10-16 Sep 23.3 °C	49.8 mm 17-23 Sep 22.7 °C	55.4 mm 24-30 Sep 21.8 ¹ C	14.4 mm 22	2 mm			
Winter Potato 1. Land Preparation 2. Seed Sowing:	and Manuring	46.7 mm 3-0 Sep 23.5 ^I C .7 mm 33 9 Sep 10:	33.7 mm 10-16 Sep 23.3 °C .7 mm 4 16 Sep 1	49.8 mm 17-23 Sep 22.7 °C 49.8 mm 7-23 Sep	55,4 mm 24-30 Sep 21.8 ¹ C 55,4 mm 24-30 Sep	34.4 mm 22	3.2 mm			
Winter Potato 1. Land Preparation 2. Seed Sowing:	and Manuring	46.7 mm 3-9 Sep 23.5 °C .7 mm 33. 9 Sep 10- 3.5 °C 23	33.7 mm 10-16 Sep 23.3 °C .7 mm 4 16 Sep 1 3.3 °C	49.8 mm 17-23 Sep 22.7 °c 49.8 mm 7-23 Sep 22.7 °c	55.4 mm 24-30 Sep 21.8 °C 55.4 mm 24-30 Sep 21.8 °C	34.4 mm 23 1-7 Oct 8- 22.0 °C 2	3.2 mm 14 Oct 1.5 ℃			
Winter Potato 1. Land Preparation 2. Seed Sowing: 3. Hassusting:	and Manuring 46 3	46.7 mm 3-9 Sep 23.5 °C 7 mm 33.9 9 Sep 10- 3.5 °C 23	33.7 mm 10-16 Sep 23.3 °C 7 mm 4 16 Sep 1 3.3 °C	49.8 mm 17-23 Sep 22.7 °C 49.8 mm 7-23 Sep 22.7 °C	55,4 mm 24-30 Sep 21.8 °C 55.4 mm 24-30 Sep 21.8 °C	34.4 mm 23 1-7 Oct 8- 22.0 °C 2	3.2 mm <mark>14 Oct</mark> 1.5 ℃			
Winter Potato 1. Land Preparation 2. Seed Sowing: 3. Harvesting:	and Manuring	46.7 mm 3-9 Sep 23.5 ¹ C .7 mm 33.9 Sep 10- 3.5 ¹ C 23 0.0 mm	33.7 mm 10-16 Sep 23.3 °C .7 mm 4 16 Sep 1 3.3 °C 0.0 mm	49.8 mm 17-23 Sep 22.7 °C 49.8 mm 7-23 Sep 22.7 °C 0.0 mm	55.4 mm 24-30 Sep 21.8 ¹ C 55.4 mm 24-30 Sep 21.8 ¹ C 0.0 mm	34.4 mm 23 1-7 Oct 8- 22.0 °C 2	8.2 mm 14 Oct 1.5 ℃	0.0 mm	0.0 mm	0.0 mm
Winter Potato 1. Land Preparation 2. Seed Sowing: 3. Harvesting:	and Manuring 46 23	23.5 °C 3-9 Sep 23.5 °C 3-9 Sep 10-3 3.5 °C 23 0.0 mm 3-9 Dec 1	33.7 mm 10-16 Sep 23.3 °C 7 mm 16 Sep 1 3.3 °C 0.0 mm 0-16 Dec	49.8 mm 17-23 Sep 22.7 °C 49.8 mm 7-23 Sep 22.7 °C 0.0 mm 17-23 Dec	55,4 mm 24-30 Sep 21.8 ¹ C 55,4 mm 24-30 Sep 21.8 ¹ C 0.0 mm 24-31 Dec	34.4 mm 23 1-7 Oct 8- 22.0 °C 2 0.0 mm 1-7 Jan	8.2 mm 14 Oct 1.5 ℃ 0.0 mm 8-14 Jan	0.0 mm	0.0 mm	0.0 mm 29-4 Feb
Winter Potato 1. Land Preparation 2. Seed Sowing: 3. Harvesting:	and Manuring	46.7 mm 3-9 Sep 23.5 °C 3.5 °C 3.5 °C 3.5 °C 3.9 Dec 1 14.9 °C	33.7 mm 10-16 Sep 23.3 °C .7 mm 4 16 Sep 1 3.3 °C 0.0 mm 0-16 Dec 14.4 °C	49.8 mm 17-23 Sep 22.7 °C 49.8 mm 7-23 Sep 22.7 °C 0.0 mm 17-23 Dec 14.0 °C	55.4 mm 24-30 Sep 21.8 ¹ C 55.4 mm 24-30 Sep 21.8 ¹ C 21.8 ¹ C 0.0 mm 24-31 Dec 13.0 ¹ C	34.4 mm 23 1-7 Oct 8- 22.0 °C 2 0.0 mm 1-7 Jan 12.4 °C	8.2 mm 14 Oct 1.5 °C 0.0 mm 8-14 Jan 12.1 °C	0.0 mm 15-21 Jan 12.1 °C	0.0 mm 22-28 Jan 12.6 °C	0.0 mm <mark>29-4 Feb</mark> 13.8 °C

	46.7 mm 3 3-9 Sep 10 23.5 °C 2	3.7 mm •16 Sep 23.3 °C	49.8 mm 17-23 Sep 22.7 ⁶ C	55.4 mm 24-30 Sep 21.8 ⁹ C	34.4 mm 2 1-7 Oct 8 22.0 ¹ C 3	3.2 mm 14 Oct 21.5 °C			Probable Rainfa Dates Mean Temperat	all (mm) ure (^a C)
2. See	d Sowing:									
		4	9.8 mm 5 -23 Sep 24	5.4 mm 34. -30 Sep 1-7	4 mm 23.2	nm 18.6 r Oct 15-21	Oct			
			2.16	21.0 0 22	21.0	0 210	<u> </u>			
Har	vesting:									
, na			0.0 mm	0.0 mm	0.5 mm	0.0 mm	0.0 mm	0.0 mm	0.0 mm	
v. mai					40.25 Eab	26 A Mar	5-11 Mar	12-18 Mar	19-25 Mar	
, ridi			5-11 Feb	12-18 Feb	13-20 Peu	20-4 mai	47.430	40.0 00	40.430	

				Soy	bean			
Land Preparat	ion and M	anuring:						
31.0 mm	50.0 mm	54.2 mm	55.1 mm	42.5 mm	43.1 mm] +		Prohable Rainfall (mm)
21-27 May	28-3 Jun	4-10 Jun	11-17 Jun	18-24 Ju	n 25-1 Jul	•		- Dates
22.7 °C	23.0 °C	23.3 °C	23.5 °C	23.8 °C	24.0 °C] ←		Mean Temperature (°C)
Sowing of See	ds:							
	-							
		54.2 mm	55.1 mm	42.5 mm	43.1 mm	56.4 mm	32.1 mm	
		4-10 Jun	11-17 Jun	18-24 Jun	25-1 Jul	2-8 Jul	9-15 Jul	
		23.3 °C	23.5 °C	23.8 °C	24.0 °C	23.7 °C	23.6 °C	
Harvesting:								
			34.4 mm	23.2 mm	18.6 mm	3.6 mm	1.4 mm	1
			1-7 Oct	8-14 Oct	15-21 Oct	22-28 Oct	29-4 Oct	1
			22.0 °C	21.5 °C	21.0 °C	20.0 °C	19.1 °C	1
								_
The Tir	me Fixation i	s based on O	ptimum Mois	ture availabi	lity and Temp	erature Ran	ge for Growt	h and Development.

												8	
0.9 mm	8.0 mm	19-25	26.2	3.9 U	10-16	17-23	24-31	1.7	8-14	15-21	22.28 2	9.4	
Nov	Nov	Nov	Dec	Dec	Dec	Dec	Dec	Jan	Jan	Jan	Jan F	eb	
18,3 °C	17.5 °C	16.9 °C	15.8 °C	149°C 1	4.4°C	14.0 °C 1	13.0 °C	12.4 °C	12.1 °C	12.1 °C	12.6 °C 13	8°C	
	Heb	Feb	Feb	Mar	War	Mar	Mar	Apt	Apl	Apt			
	14.1 ⁵	Feb 3 15.4 ¹ 0	15.2 °C	Mar 16.4 °C	17.4 °C	18.8 [°] C	19.4 °C	4pl 19.8 ³ C	20.9 °C	Apl 21.7 °C			
. Harve	sting:	24.2 mm 14-20	31.0 mm	50.0 mm	54.2 mm 4-10	18.8 °C	425 mi 18.4 °C	Api 198 ³ C m 43.1 m 25-1	Apt 20.9 °C m 56.4 m 2.8	API 21.7 °C 1.321m 9-10	m 44.6 mm	44.4 mm 23-29	38.0 m
. Harve:	sting:	24.2 mm 14-20 May	52°C	50.0 mm 28-3 Jun	54.2 mm Jun	18.8 ¹ C 18.8 ¹ C 18.1 mm 11-17 Jun	425 mm 19.4 ¹ C	Ani 198 °C m 43.1 m 25-1 Jul	Apr 20.9 °C m 55.4 m 2.8 Jul	AP 21.7 °C n 32.1 m 9-15 Jul	m 44.6 mm 16-22 Jul	44.4 mm 23-29 Jul	38.0 m 30-5 Aug

Winter Vegetables									
(Cabbage, Cauliflower, Knolkhol, Carrot, Radish, Coriander,									
Turnip, Peas, Garlic, Onion, Pallak etc.)									
ranny, reas, sarray smont ranan etci									
1. Land Preparation and Manuring:									
48.7 m	117.000	49.8			- 23.2 mm			Prob	able Rainfall (mm)
40.7 m	n 33.7 mm	49.0	Sec. 24-30	Sep 1.7.0	et 8-14 Oct				Dates
23.5	23.3 °C	22.7	⁰ C 21.8	9c 22.0 %	21.5 °C			Mean	Temperature (⁰ C)
	-				2				
2 Sowing of St	2. Souring of Seade/ Transplanting of Seadlings:								
z. sowing of st	cua/ mana	planung	or becaming	ja.					
	40.0		5.4 mm 1.14	4 mm 23.2	mm 196 m	- 16	mm (1	1 mm	
	47.0	Sec. 24	-20 Sec. 1	7 Oct 144	0.01 15-21	0.0	LOct 29	4 Nov	
	22.7	The Lat	21.8 °C 2	20 0 215	5c 21.05	C 20	0 ⁵ C 10		
2 Hanvasting									
3. Harvesung:									
0.0 mm	0.0 mm	0.0 mm	0.0 mm	0.0 mm	0.0 mm	0.0 mm	0.0 mm	0.0 mm	0.0 mm
19-25 Nov	26-2 Dec	3-9 Dec	10-16 Dec	17-23 Dec	24-31 Dec	1-7 Jan	8-14 Jan	15-21 Jan	22-28 Jan
16.9 °C	15.8 °C	14.9 °C	14.4 °C	14.0 ¹ C	13.0 °C	12.4 °C	12.1 °C	12.1 ¹ C	12.6 °C
The Time Fixation is based on Optimum Moisture availability and Temperature Range for Growth and Development.									

Kind of resource	Agency
Fertilizer 1	M/s Lyngdoh Enterprise, Shillong-02
2	M/s Greens, Guwahati-22
3	Veritas Trading Agency, Umsohsun, Shillong
4	Assam Agro-Industries Development Corporation Ltd., Ulubari, Guwahati-7 (Ph. 0361-2548241, 2548242)
5	Meghalaya State Cooperative Marketing & Consumer Federation (Mecofed),
	Lumdeingri, Shillong
Pesticides, 1	M/s Agros India, Aathgaon, Guwahati (Ph. 09864056324)
Bio-pesticides 2	M/s Greens, Guwahati-22
3	M/s Peak Chemicals & Industries Ltd. Siliguri, West Bengal
4	M/s Spark Enterprise, Mawlai (Ph. 9863118315)
5	M/s Stanley Roy Constructions, Mawlai, Shillong-8
6	Veritas Trading Agency, Umsohsun, Shillong
7	M/s North Eastern Agency, Shillong
Seeds 1	Assam Seed Corporation Ltd. Mathura Nagar, Guwahati (Ph. 0361-2560529)
2	ICAR Research Complex for NEH Region
3	Krishi Vigyan Kendra, ICAR, Umroi Road, Ri Bhoi, Meghalaya
4	M/s Agros India, Aathgaon, Guwahati (Ph. 09864056324)
5	M/s Spark Enterprise, Mawlai (Ph. 9863118315)
6	M/s Enbee Enterprise, Iewduh, Shillong
Polyhouse materials 1	M/s Agros India, Aathgaon, Guwahati (Ph. 09864056324)
2	M/s Spark Enterprise, Mawlai (Ph. 9863118315)

Address of institutes/agencies/companies for obtaining input materials locally