

CROP WEATHER CALENDARS

FOR

WEST BENGAL

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DIRECTOR GENERAL OF METEOROLOGY

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PREFACE

Information on normal weather conditions and water requirement of crops is of vital importance for effective crop planning and management. From this point of view, the India-Meteorological Department had compiled Crop Weather Calendars for major cereals, pulses and oilseed crops in the country on a districtwise basis. These calendars provide numerical as well as pictorial information on factors favourable or unfavourable to crops at various stages of their growth.

As and when new strains are introduced by plant breeders and bio-technologists, agricultural practices change accordingly, the crop weather calendars tend to lose some of their relevance. A periodical updating of these calendars thus becomes necessary. This publication which is the tenth in the new series of crop weather calendars is for the state of West Bengal for Paddy, Jute, Wheat, Potato and Mustard crops.

It is hoped that the crop weather calendars would prove useful in a wide range of applications such as plant breeding, crop adaptation, drought proofing and irrigation management, ultimately resulting in maximizing the yield.

The preparation of the calendars would not have been possible without the close co-operation of the Department of Agriculture, Govt. of West Bengal, which is gratefully acknowledged. These calendars were prepared by the Division of Agricultural Meteorology, Meteorological Office, Pune. I have great pleasure in acknowledging the work done by Shri S. K. Banerjee, DDGM (Agrimet), Dr. H. P. Das, Director; Shri S. Sengupta, Meteorologist Grade I; Smt A. S. Nair, Smt A. A. Kale, Smt M. V. Kamble, Smt S. M. Shaikh, Smt V. J. Patwardhan, Smt V. B. Raskar, and Smt V. C. Thakur in preparing these calendars.

PUNE : 411 005
Dated : 20th January 2003.

(R. R. KELKAR)
Director General Of Meteorology

Introduction

1. General

The State of West Bengal is located in the northeastern part of India with northern side bounded by the Himalayan range with Sikkim, Bhutan as its neighbourhood states and southern end of the state is surrounded by the Bay of Bengal. Perhaps the distance between the sea and the Himalayan range is shortest in this part of India. In the west, the continuation of southern slope of Bihar plateau constitute some of the districts of West Bengal and the east has the international border with Bangladesh while southeastern part is famous for being largest delta in the world i.e. Sunderbans. On the northeast, it is bordering with Assam and southwest by the state of Orissa. The Gangetic plains of West Bengal is highly fertile region and variation of altitude and its topography from south to north and east to west causes various types of severe weather phenomena in this region. The state has 18 districts covering an area of 88,752 sq. km. with population nearly 68 million (as per 1991 census) with population density of 767 per sq. km which is highest in India.

Agriculture has a pivotal role in the states's income and 75% of its population are directly or indirectly engaged in agriculture. It is one of the leading state in production of jute and rice. As per State Agricultural Department report (1999-2000) the yield/ productivity of two important crops in the state are Rice-2237 kg/ha and Wheat-2236 kg/ha respectively. The state contributes 15.8 % of total rice production of India.

Meteorological and Agroclicmatic division/zone

West Bengal has two meteorological subdivisions namely :

- a) Gangetic West Bengal consisting of districts of Bankura, Birbhum, Burdwan, Howrah, Kolkata, Hooghly, Murshidabad, East and West Midnapore, Nadia, North and South 24 - Parganas, Purulia.
- b) Sub-Himalayan West Bengal consisting of districts of – Coochbehar, Darjeeling, Jalpaiguri, Malda, North and South Dinajpur.

On the basis of agro-climatic condition, the state has been broadly divided into following six regions:

- a) **Hill region of the north** : This region comprises of the district of Darjeeling excluding Siliguri subdivision and northern fringe of Jalpaiguri district. The altitude varies from 60 meters in the foothills regions to 3700 meters above msl. The rivers namely Teesta, Torsha, Jaldhaka, Mahananda etc. originating from the Himalayas flow through this region towards south east. The average annual rainfall varies from 250 to 350cm. and the maximum temperature during summer is 24⁰ C and the minimum temperature goes even below 0⁰ C in winter.
- b) **Tarai and teesta alluvial region** : This region consists of alluvial plains of Jalpaiguri and Coochbehar and Siliguri subdivisions of Darjeeling district and Islampur subdivision of West Dinajpur district formed by rivers Teests, Torsha, Jaldhaka, Mahananda and others. The

area is chronically flood affected areas where about 20% of the lands are subjected to inundation annually. Coarse sands are deposited on the cultivated lands making it almost barren for the next few years. The annual average rainfall varies from 200 to 350 cm in this region.

- c) **Red, laterite and gravelly undulating region** : This region comprises of western part of Birbhum, Burdwan, Bankura, Midnapur districts and entire Purulia district. This area is undulated with ridges and valleys which represent the eastern fringe of the Vindhya ranges and are characterised by presence of low hills like Ayodhya, Susunia and others. The altitude varies from 60 to 600 meters above msl. Seasonal rivers namely Kansabati, Ajoy, Damodar, Silabati, Mayurakshi flow through these region towards southeast and ultimately discharge into the river Ganges. Here, the average annual rainfall is varied from 110 cm to 130 cm. The minimum temperature during winter is as low as 7-9⁰ C and the maximum goes as high as 46⁰ C in the summer.
- d) **Gangetic alluvial region** : This is non saline recent alluvial region mostly on the north and eastern part of the river Ganges comprising of Nadia, Part of Malda, West Dinajpur, Murshidabad, Burdwan, Hooghly and 24 Parangas districts. Topography is flat with number of basins where drainage is extremely difficult causing perpetual problem. A considerable area is subjected to inundation due to river overflow and impeded drainage condition. The average annual rainfall varies from 130 to 160 cm and maximum temperature during summer 38⁰ C with minimum temperature varying from 10⁰ C to 26⁰ C during winter.
- e) **Vindhya alluvial regions** : This region is centrally located, comprising of western part of Murshidabad, eastern part of Birbhum and Bankura, western part of Hooghly, central part of Burdwan and Midnapur and northern part of Howrah. The soils are formed from deposits brought down mostly by river Mayurakshi, Ajoy, Damodar, Kangsabati and other rivers originating from eastern fringe of the Vindhya ranges. A considerable area is subjected to floods annually caused by impeded drainage and river overflows during rainy season. The average annual rainfall varies from 120 to 150 cm and the maximum temperature during summer is 37⁰ C.
- f) **Coastal region** : The southern portion of 24 Paraganas, Howrah and Midnapur constitutes the coastal region of the state which includes numerous islands. Deposits from tidal currents in the estuarine region resulted into formation of clusters of Islands. The area is crisscrossed by numerous rivers, mainly the Ganges and their rivulets and natural creeks which are highly active due to tidal action. The vast forests known as the Sunderbans which has great biodiversity of flora and fauna, lie in this region covering an area of 4300 sq km. The average annual rainfall varies from 150 to 170 cm.

2. Climate

The climate over the state is of tropical monsoon type. The average annual precipitation varies from 250 to 350 cm in hill region of north, 200 to 350 cm in Tarai, 110 to 130 cm in red laterite, 130 to 160 cm in gangetic alluvial, 120 to 150 cm in Vindhya alluvial and 150 to 170 cm in coastal alluvial regions. The minimum temperature goes even below 0⁰C in winter in hill region and as high as 46⁰C in summer in red laterite region. During winter, temperature is as low as 7 to 9⁰C in red, laterite region and between 10 to 26⁰C in Gangetic region.

3. Soils

The soils in hill region of north come under the group brown forest soil. Soils are mostly sandy loam in texture. However, sandy clay loam soils are also found in same areas. Soils are porous, shallow in depth with poor water holding capacity. Red soil is in the districts of Midnapur, Bankura, Burdwan, Birbhum, Malda and West Dinajpur. Laterite and lateritic soils and gravelly soils also dominate in Midnapur, Bankura, Burdwan and Birbhum. Gangetic alluvial soils are in Nadia and Murshidabad districts. Jalpaiguri and central part of Darjeeling have terai soils.

4. Temperature

In the state of West Bengal, the annual averages of mean daily temperature are between 25°C to 27°C. January is the coldest month of the year with minimum temperature of 10°C to 13°C, except for coastal areas, where they are of the order of 15°C. May is the hottest month of the year with mean daily temperatures between 30°C to 33°C. Temperatures decrease by December. April to June are the hottest period of the year.

5. Land Use

About 63 % (5.56 million hectare) of the total geographical area of the state has been brought under cultivation and nearly three out of four persons in the state are directly or indirectly involved in agriculture. About 2.14 million hectare area is under irrigation which constitute about 28 % of gross cropped area under irrigation. The important crop in irrigated area is rice which shares about 80 % of the total area under irrigation. There has been substantial increase in cropping intensity which is about 140 %. In the alluvial region irrigation resources are best utilized and cropping intensity has already reached to 160 %.

6. Rainfall

The annual rainfall varies widely from 150 to 160 cm in the southern districts, 130 to 140 cm in the central districts, 150 to 160 cm in Malda and West Dinajpur, 300 to 400 cm in the northern districts and 200 to 300 cm in the hill districts. June to September are the rainy months.

7. Potential Evapotranspiration (PE)

Potential Evapotranspiration is the water transpired from a uniform, short, green, actively growing vegetation when water is unlimited. The concept assumes that there is ample supply of water at the site of evaporation and the rate is governed by evaporating capacity of the atmosphere. The highest values of PE are over coastal belt of the state and are about 160 cms annually. In the southern districts, annual PE values are 140 to 150 cms, in Nadia to Murshidabad they are 130-140 cm while in other places they are 120-125cm.

8. Cropping Pattern

In the context of increasing production, it is necessary to examine the cropping pattern from a scientific angle and find out possible alternative pattern having higher potential. The cropping pattern primarily depends on the soil and climatic factors, but the evolution of cropping pattern in course of time is the combined effect of soil, climate, food habits and requirements and economic factors.

The important crops grown in the state are Paddy (kharif, rabi and summer), Wheat, Potato, Mustard and Jute. The area under cultivation and production of these crops are given below :

Table

Year	Crop	Area (lakh hectares)	Production
1996-97	Paddy	58.0	126.37 lakh tonnes
1996-97	Wheat	3.5	8.39 lakh tonnes
1998-99	Potato	2.45	60.0 lakh million tonnes
1996-97	Mustard	3.2	2.8 lakh million tonnes
1996-97	Jute	6.3	75.7 lakh bales

9. Crop Weather Calendars

In preparation of crop weather calendars, information collected from state agricultural departments have been analysed in relation to agro-climatic factors.

There are critical periods in the life history of a crop from the date of sowing to the date of harvesting. Sowing time is also one of no small anxiety to the farmer. He knows that a heavy shower just after sowing will wash away the seed and seedlings and depress germination considerably. Again, if after sowing is completed, a prolonged drought follows, the tender seedlings would wither away necessitating resowing. It is well known that the weather at sowing time determines even the nature and variety of the crop that the farmer decides to grow in his field. If conditions are favourable during the first phase (germination and the early vegetative growth) the crop gets a good start. Thereafter, intervals of

clear weather are required for interculture and weeding. During the period of rapid vegetative growth, the water requirement and need for sunshine for photosynthesis are maximum. Then follows the period of flowering and reproduction with little vegetative growth.

During the period of flowering and grain-formation, clear weather and minimum cloudiness are favourable. Cloudy wet weather during this period can ruin an otherwise promising crop. When the grains are forming and/or are in the milk stage, one day's hot wind can shrivel up the grains. Even after the entire season has been passed safely, the crop is not free from the danger of adverse and unexpected weather. A heavy shower of rain and hail can do incalculable damage to a standing crop ready for harvest. If warned in time, the farmer would hurry up his harvesting operations. Later, when the harvested crop is lying on the threshing floor, it is again on the mercy of any sudden shower. Here, also timely warning may help the farmer a lot.

In order to provide the farmer with an efficient weather service, it is essential that the weather forecaster is familiar with the farmer's special needs. The farmer should, on his part become familiar with the weather bulletins and learn how to interpret them. One of the function of Division of Agricultural Meteorology, Pune is to tell the farmer how the "Weather forecaster" can come to his aid and to tell the "Weather expert" on the other hand what the exact weather warning requirements of the farmers are. With this object in view, the detailed information regarding the major crops in different districts of the country, their date of sowing, the dates of commencement and duration of the important cultural operations and the important epochs in the life history of the crops during each season and their probable weather requirements have been collected from the agricultural departments in the various states.

The information collected have been condensed and represented in a pictorial form in what is called the "Crop Weather Calendars". The crop weather calendar consists of three parts. At the bottom of the calendar is shown diagrammatically the life history of the crop from the date of sowing to the date of harvest and threshing. The important "phases" like sowing, germination, transplantation (in the case of rice), tillering, elongation, flowering, grain formation and harvest are also indicated. These "phases" cover certain time intervals indicated by horizontal arrows, which depend upon variations in (a) crop variety, (b) sowing dates from place to place and from year to year, and (c) in the nature of the crop itself. For ready reference the months and standard weeks are marked at the bottom of the diagram.

The middle of the calendar shows the normal weather conditions of rainfall, temperature and sunshine hours. Normal phasewise water requirement are also indicated here.

The uppermost portion of the calendar indicates the nature of the weather warnings and the periods during which they are to be issued by the forecasting office concerned.

The weather has also another indirect control over the crops. Crops are liable to attacks of various diseases and pests. The intensity of their incidence is dependent upon certain weather conditions. These have also been depicted in the diagram.

It will be obvious that these diagrams is of immense help to the weather forecaster to decide, what warnings are to be issued for a particular district during a given weather situation and during a particular phase of the crop growth. These calendars are of equal interest to the agricultural and general public as well as various departments of Government concerned with agriculture and food production.

The homogeneous districts having similar weather and soil conditions and growing the same type of crop have been clubbed together in preparing the diagrams. Information to be available from this may be demonstrated with the help of the following illustration.

Illustration :-

The crop weather calendars on page 1 for a group of districts viz. Malda, Murshidabad and Birbhum for non-irrigated Paddy (Kharif) crop is given as an example. The sowing period in this group of districts varies from 25th to 29th weeks (18th June to 20th July), transplanting from 28th to 34th weeks (12th July to 24th August) Vegetative from 30th to 36th weeks (25th July to 7th September) and flowering from 36th to 43rd weeks (8th September to 23rd October). Grain formation in these areas occur from 41st to 47th weeks (12th October to 20th November), while harvesting is accomplished from 44th week onwards. One of the critical phases of the crop is grain formation. During 44th week, the average rainfall recorded is 8.6 mm. The mean daily maximum and minimum temperatures are 31.1⁰C and 20.5⁰C respectively. While the average number of sunshine hours is 8.1. Rains normally in this period adversely affect the yield. Similarly drought of > 15 days exert adverse influence. Also maximum temperature of > 40⁰C and minimum temperature < 15⁰C are harmful to the crops. Warnings may be issued, if these types of adverse weather are anticipated.

Under favourable conditions of humid and hot weather, diseases like Bacterial Leaf Blight, Blast, Brownspot may appear. Pest infestations like Rice Hispa, Stem Borer, Rice Caseworm can also affect paddy if high humidity and high temperature prevail during the grain formation stage.

CONTENTS

Crop	Page No	Districts	Crop	Page No	Districts
Kharif/ Aman Paddy	1	Malda, Murshidabad, Birbhum	Jute	12	Nadia, Murshidabad, 24 Parganas (North & South)
	2	Jalpaiguri, Coochbehar, Dinajpur		13	Jalpaiguri, Malda, Coochbehar, Dinajpur (North & South)
	3	Bankura, Purulia, Burdwan		14	Burdwan, Hoogly, Howrah
	4	Midnapore (East), Hoogly, Howrah			
	5	24 Parganas (North & South), Nadia	Wheat	15	Purulia, Bankura, Birbhum
Rabi/ Boro Paddy	6	Malda, Murshidabad, Birbhum			
	7	24 Parganas (North & South), Nadia			
	8	Howrah, Hoogly, Midnapore			
	9	Jalpaiguri, Dinajpur, Coochbehar			
Aus/ Summer Paddy	10	Jalpaiguri, Dinajpur, Coochbehar, Malda	Potato	16	Burdwan, Hoogly, Howrah
	11	Bankura, Purulia, Midnapore			
			Mustard	17	Purulia, Birbhum, Bankura

CROP WEATHER CALENDAR

1

STATE : WEST BENGAL

CROP : KHARIF/AMAN PADDY

VARIETY : IR-36, IET- 1444, IET-4094, MTU-7029,
IET-2233,IET-5656,IR-42,SALIBAHAN

SOIL CLAY TO CLAY LOAM / SANDY LOAM/
LATERITE/ALLUVIAL

DISTRICTS : MALDA, MURSHIDABAD, BIRBHUM

NON-IRRIGATED

DURATION : 110-140 DAYS

DISTRICTS :MALDA, MURSHIDABAD, BIRBHUMNON-IRRIGATEDDURATION : 110-140 DAYS

Weather warnings	Rain	>150 MM/DAY										> 250 MM/DAY										>150 MM/DAY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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Weekly normal weather	Rainfall(mm) total				52.3	60.2	78.5	70.5	69.4	87.2	59.3	57.9	61.6	55.6	51.1	62.2	81.7	36.0	80.7	50.7	27.8	11.8	9.2	8.6	3.8	2.5	1.0	3.8	0.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										</

CROP WEATHER CALENDAR

2

STATE : WEST BENGAL

CROP : KHARIF/AMAN PADDY

VARIETY : LOCAL.MTV- 7029, IET- 1444, IET-4094, MALA,
IR-36,JAYA.PNR-381.IET-5656.NC-492.SADU.MASURI

SOIL : CLAY,CLAY LOAM
TO SANDY LOAM

DISTRICTS : JALPAIGURI, COOCHBEHAR, DINAJPUR

NON-IRRIGATED

DURATION : 120-150 DAYS

Weather warnings	Rain	> 150 MM/DAY										> 250 MM/DAY										>120 MM/DAY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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	Temperature	MAX. TEMP. > 40 ^o C. MIN. TEMP < 15 ^o C										MAX. TEMP > 40 ^o C. MIN. TEMP < 15 ^o C										MAX. TEMP > 40 ^o C. MIN. TEMP < 15 ^o C																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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Weather conditions favourable for incidence of pests and diseases	Pests	YELLOW STEM BORER. STEM BORER										RICE HISPA. STEM BORER. RICE- CASEWORM. LEAF ROLLER. GALL MIDGE. LEAF FOLDER										EAR CUTTING CATERPILLAR. STEM BORER. GUNDHI BUG.RICE BUG. RICE HISPA.RICE PLANT HOPPER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
	Weather	HIGH HUMIDITY. CLOUDY WEATHER										WARM HUMID CLIMATE										WARM HUMID CLIMATE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
	Diseases	BLAST. BROWN SPOT										BLB. BLAST. BROWN SPOT.STEM ROT. SHEATH BLIGHT										BLB. BROWN SPOT. SHEATH BLIGHT. BLAST																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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Normal phase wise water requirement(mm)		93.8										214.9										156.7										71.1										54.2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Weekly normal weather	Rainfall(mm) total		124.0	158.2	131.6	151.7	171.8	108.8	100.1	82.9	130.9	89.5	99.1	147.5	82.6	90.9	69.1	39.6	19.7	8.4	3.5	3.4	1.4	1.1	4.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						</

CROP WEATHER CALENDAR

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STATE : WEST BENGAL

CROP : KHARIF/AMAN

VARIETY : MTU- 7029, IET- 1444, IET-4094,IR-36

SOIL SANDY LOAM TO CLAY

PADDY

PANKAJ, SWARNA, RATNA, PALMON-579

ALLUVIAL / LATERITE

DISTRICTS : BANKURA, PURULIA, BURDWAN

NON-IRRIGATED

DURATION : 110-140 DAYS

Weather warnings	Rain	> 50 MM/DAY										> 150MM/DAY										> 190 MM/DAY									
	Duration of wet spell	> 25 MM FOR 6 DAYS										> 50MM FOR 5 DAYS										> 50 MM FOR 2 DAYS									
	Cloudy weather											CLOUDY WEATHER										CLOUDY WEATHER									
	Drought	>10 DAYS										>15 DAYS										> 15 DAYS									
	High winds											> 50 KM/HR										> 40 KM/HR									
	Temperature	MAX. TEMP > 35°C, MIN.TEMP.< 15°C										MAX. TEMP.> 35°C, MIN.TEMP.< 15°C										MAX. TEMP.> 35°C, MIN.TEMP.< 18°C									
	Hail Storm											HAIL STORM										HAIL STORM									
Weather conditions	Pests	HISPA,STEM BORER,GALL MIDGE, GLH										GALL MIDGE,BPH,HISPA,LEAF ROLLER,GLH, MEALY BUG, LEAF FOLDER,STEM BORER										STEM BORER, EAR CUTTING CATERPILLARE									
favourable for	Weather	HIGH HUMIDITY,HIGH TEMP.DRY SPELL										HIGH HUMIDITY,HIGH TEMP.DRY SPELL										HIGH HUMIDITY,HIGH TEMP.DRY SPELL									
incidence of	Diseases	BLAST,BACTERIAL LEAF BLIGHT, LEAF BROWN SPOT										SHEATH BLIGHT, BLAST,TUNGRO VIRUS,LEAF BROWN SPOT										BLAST,SHEATH BLIGHT,LEAF BROWN SPOT									
pests and diseases	Weather	WARM AND HUMID CLIMATE,CLOUDY WEATHER WITH RAIN										WARM AND HUMID CLIMATE,CLOUDY WEATHER WITH RAIN,WATER LOGGING										WARM AND HUMID CLIMATE,CLOUDY WEATHER WITH RAIN									
Normal phase wise water requirement(mm)		189.6										207.6										151.0									
Weekly normal weather	Rainfall(mm) total			32.6	44.3	62.1	64.1	60.1	76.0	54.8	59.3	66.2	63.8	48.0	88.6	72.4	56.5	33.8	62.3	33.9	25.0	11.3	11.6	7.6	2.8	4.4	1.1				
	Max. temp. °C			36.6	35.5	34.3	33.8	33.1	32.8	33.1	32.8	32.5	32.4	32.8	32.6	32.7	32.6	33.0	32.8	32.6	32.7	32.3	31.8	30.8	30.5	30.0	29.6				
	Min. temp. °C			25.6	25.3	24.9	24.8	24.7	24.5	24.7	24.7	24.7	24.4	24.8	24.4	24.3	24.3	24.2	23.8	23.1	22.5	21.6	20.3	19.2	18.1	17.0	15.7				
	Sunshine hours			6.8	3.6	3.8	4.1	4.7	4.6	4.4	5.1	5.2	5.3	5.4	5.6	5.0	4.9	6.6	5.9	6.3	7.4	8.4	8.8	8.5	8.4	8.9	8.4				
Life history and mean dates of important epochs of crop growth																															
Standard weeks				24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47				
Months				JUNE			JULY				AUGUST				SEPTEMBER				OCTOBER			NOVEMBER									

CROP WEATHER CALENDAR

STATE : WEST BENGAL CROP : KHARIF/AMAN PADDY VARIETY: IET-5656.MTV-7029,IET-5636,IR-36,SR-26-B,CR-1009, SOIL LATERITE AND ALLUVIUM/ SANDY LOAM TO CLAY

DISTRICTS : MIDNAPORE(EAST),HOOGHLY,HOWRAH NON-IRRIGATED DURATION : 140-160 DAYS

Weather warnings	Rain	> 100 MM/DAY										> 200 MM/DAY										> 100 MM/DAY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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	Temperature	MAX. TEMP > 38°C.MIN. TEMP <12°C										MAX. TEMP > 40°C. MIN. TEMP < 10°C										MAX. TEMP > 35°CMIN. TEMP < 10°C																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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Weather conditions favourable for incidence of pests and diseases	Pests	HISPA,STEM BORER,GLH										LEAF ROLLER,GLH,STEM BORER,GALL MIDGE,HISPA,LEAF FOLDER,MEALY BUG										GLH,STEM BORER,BPH,ECC,RICE BUG																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	Weather	CLOUDY WEATHER.HIGH TEMP.HIGH HUMIDITY.HEAVY RAIN										CLOUDY WEATHER.HIGH TEMP.HIGH HUMIDITY.HEAVY RAIN										CLOUDY WEATHER.HIGH TEMP.HIGH HUMIDITY.HEAVY RAIN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	Diseases	SHEATH BLIGHT,BLAST,BLB,BROWN SPOT,BLIGHT										SHEATH BLIGHT,ROOT ROT,BLAST,BLB,SHEATH BLIGHT,ROOT,TUNGRO VIRUS										BROWN SPOT.FALSE SMUT,BLAST,SHEATH BLIGHT,NECK BLAST																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	Weather	CLOUDY AND RAINY DAYS WITH LOW NIGHT TEMP										CLOUDY AND RAINY DAYS WITH LOW NIGHT TEMP										CLOUDY AND RAINY DAYS WITH LOW NIGHT TEMP,HIGH HUMIDITY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
Normal phase wise water requirement(mm)								192.5						251.3						182.9						115.2						72.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Weekly normal weather	Rainfall(mm) total				26.8	30.3	60.2	45.7	74.6	72.2	74.4	66.4	64.8	71.0	86.1	63.1	63.6	53.8	106.4	74.2	58.8	33.9	64.8	47.9	24.1	17.0	18.5	9.0	13.4	3.2	0.9	3.8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							

CROP WEATHER CALENDAR

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STATE : WEST BENGAL

CROP : KHARIF/AMAN PADDY

VARIETY

IET-5656, RATNA, NC-492, IET-4094,

SOIL SANDY LOAM/CLAY/

DISTRICTS : 24 PARGANAS(NORTH & SOUTH)
NADIA

NON-IRRIGATED

DURATION 140-160 DAYS

CLAY LOAM

			NADIA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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		Weather	CLOUDY WEATHER,HIGH HUMIDITY,HIGH TEMP															CLOUDY WEATHER,HIGH HUMIDITY,HIGH TEMP															CLOUDY WEATHER,HIGH HUMIDITY,HIGH TEMP																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
		Diseases	BROWN SPOT															BROWN SPOT,BLB,BLAST,SHEATH BLIGHT															SHEATH ROT,NECK BLAST,BLB,BLS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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Normal phase wise water requirement(mm)					203.4							263.6							189.7							113.0							68.6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
Weekly normal weather	Rainfall(mm) total			57.3	54.2	75.7	80.2	72.0	63.5	85.0	86.8	58.1	68.9	61.0	69.6	61.4	57.9	32.4	77.7	41.0	28	24.2	11.5	4.5	14.8	6.0	1.3	8.5	1.2	3.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				

CROP WEATHER CALENDAR

6

STATE : WEST BENGAL CROP : RABI/BORO PADDY VARIETY : IET-4094,PNR-381 SOIL : CLAY TO CLAY LOAM/ALLUVIAL
DISTRICTS : MALDA, MURSHIDABAD, IRRIGATED DURATION : 110 - 140 DAYS
BIRBHUM

Weather warnings	Rain																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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	Weather	WARM.HUMID AND CLOUDY WEATHER								WARM.HUMID AND CLOUDY WEATHER								WARM.HUMID AND CLOUDY WEATHER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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Normal phase wise water requirement(mm)						77.8				112.6				106.2				108.7				83.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Weekly normal weather	Rainfall(mm) total				1.0	3.8	0.4	2.4	0.4	8.0	1.3	0.9	2.1	3.1	2.6	3.3	2.0	24.7	3.2	3.1	2.7	3.8	5.6	4.1	11.7	11.8	10.3	19.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

SOIL SANDY LOAM / CLAY AND CLAY
LOAM / LOAM

DURATION : 120 -140 DAYS

GLH - Green Leaf Hopper, BPH - Brown Plant Hopper, BLB - Bacterial Light Blight

CROP WEATHER CALENDAR

8

STATE : WEST BENGAL

CROP : RABI/BORO PADDY VARIETY : RATNA. IET-1444(RASI). IR-36.IET-2233
KITISH.SANKAR.IR-64

SOIL : SANDY LOAM TO CLAY,
ALLUVIAL / LATERITE

DISTRICTS : HOWRAH, HOOGHLY,
MIDNAPORE

IRRIGATED

DURATION : 115-140 DAYS

Weather warnings	Rain	> 75 MM / DAY										> 100 MM / DAY										> 25 MM/DAY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	Duration of wet spell	> 25 MM FOR 3 DAY										> 50 MM FOR 4 DAYS										> 20 MM FOR 4 DAYS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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	High winds	> 50 KM/HR										> 40 KM/HR										> 30 KM/HR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	Temperature	MAX. TEMP. > 35° C. MIN. TEMP. < 12° C										MAX. TEMP. > 40° C. MIN. TEMP. < 10° C										MAX. TEMP. > 35° C. MIN. TEMP. < 15° C																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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	Diseases	BLAST, BACTERIAL LEAF BLIGHT, SHEATH BLIGHT,BROWN SPOT,BLIGHT										BLAST, BACTERIAL LEAF BLIGHT										BLAST, BACTERIAL LEAF BLIGHT, NECK BLAST																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	Weather	HOT,HUMID. CLOUDY WEATHER WITH RAINFALL, LOW TEMP										HOT,HUMID.CLOUDY WEATHER WITH RAINFALL,LOW TEMP,HIGH WIND										HOT, HUMID, CLOUDY WEATHER WITH RAINFALL, LOW TEMP, HIGH WIND, HIGH TEMP																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Normal phase wise water requirement(mm)										75.8				200.9				161.2				112.4			89.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
Weekly normal weather	Rainfall(mm) total		9.0	13.4	3.1	0.8	3.7	3.0	6.2	0.6	2.9	1.0	0.1	2.7	8.4	4.2	6.1	7.2	8.2	8.3	5.4	3.3	6.6	15.0	8.3	7.5	14.3	17.4	20.5	24.4	26.7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													</

CROP WEATHER CALENDAR

STATE : WEST BENGAL

CROP : AUS/SUMMER PADDY

VARIETY : PARIJAT, IET-4094, IET-1444, IR-36, BAGUNBICH,
DULAR, KAJALI, IET-2233

SOIL : SANDY LOAM,
CLAY/ CLAY LOAM

DISTRICTS : JALPAIGURI, DINAJPUR,
COOCHBEHAR, MALDA

NON-IRRIGATED

DURATION : 110-140 DAYS

[illegible]

CROP WEATHER CALENDAR

11

STATE : WEST BENGAL
DISTRICTS : BANKURA, PURULIA,
MIDNAPORE

CROP : AUS/SUMMER PADDY
NON-IRRIGATED

VARIETY : IET-1444, IET-4786, IR-36
DURATION : 115-140 DAYS

SOIL : LATERITE AND ALLUVIAL

Weather warnings	Rain	> 100 MM DAY										> 150 MM DAY										> 150 MM DAY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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	Temperature	MAX. TEMP > 42°C, MIN. TEMP < 26°C										MAX. TEMP > 42°C, MIN. TEMP < 15°C										MAX. TEMP > 40°C, MIN. TEMP < 15°C																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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Weather conditions favourable for incidence of pests and diseases	Pests	HISPA, WHITE ANT, STEM BORER, BROWN PLANT HOPPER, LEAF ROLLER, GLH										STEM BORER, RICE HISPA, LEAF ROLLER										STEM BORER, HISPA, LEAF SPOT, GUNDHI BUG, ECC																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	Weather	RAINFALL WITH LOW TEMPERATURE																				HIGH HUMIDITY, DRY SPELL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	Diseases	BLAST, BROWN SPOT, HELMINTHOSPORIUM, BLS, FOOT WORM										LEAF SHEATH, BLAST, BROWN SPOT, HELMINTHOSPORIUM, BLS										BLAST, LEAF SHEATH, BROWN SPOT, HELMINTHOSPORIUM, BLS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	Weather	RAINFALL, LOW SSH, HIGH HUMIDITY, FALL OF NIGHT TEMPERATURE										RAINFALL, LOW SSH, HIGH HUMIDITY, FALL OF NIGHT TEMPERATURE										RAINFALL, LOW SSH, HIGH HUMIDITY, FALL OF NIGHT TEMPERATURE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Normal phase wise water requirement(mm)												153.9			285.2							196.9							123.1							61.8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Weekly normal weather	Rainfall(mm) total										17.0	21.1	14.9	49.6	40.2	59.6	66.5	68.0	63.8	65.3	59.2	71.7	68.1	62.2	46.7	102.9	64.6	62.8	35.7	72.3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

CROP WEATHER CALENDAR

12

STATE : WEST BENGAL
DISTRICTS : NADIA, MURSHIDABAD,
24 PARGANAS (NORTH & SOUTH)

CROP : JUTE
NON-IRRIGATED

VARIETY : JRO-524, JRO-7835, JRO-632
DURATION : 110-115 DAYS

SOIL : SANDY LOAM/
CLAY LOAM

Weather warnings	Rain	> 75 MM / DAY																																															
	Duration of wet spell	> 5 MM FOR 30 DAYS												> 10 MM FOR 30 DAYS												> 20 MM FOR 30 DAYS																							
	Cloudy weather	CLOUDY WEATHER																		CLOUDY WEATHER																													
	Drought	> 15 DAYS												> 25 DAYS												> 20 DAYS																							
	High winds	> 50 KM/HR												> 40 KM/HR												> 40 KM/HR																							
	Temperature	MAX. TEMP. > 45°C. MIN. TEMP.< 25°C																		MAX. TEMP. > 45°C																		MAX. TEMP. > 45°C											
	Hail Storm	HAIL STORM																		HAIL STORM																		HAIL STORM											
Weather conditions favourable for incidence of pests and diseases	Pests	RICE HISPA, JUTE APION, MOLE CRICKET, MITE, SEMILOOPER,																		YELLOW STEM BORER, GLH, MITE, SEMILOOPER, HAIRY CATER PILLAR, STEM WEEVIL (APION)												BPH, EAR CUTTING CATERPILLAR, MITE, HAIRY CATER PILLAR, WEEVIL																	
	Weather	HIGH TEMP., HIGH HUMIDITY, CLOUDINESS																		HIGH TEMP., HIGH HUMIDITY, CLOUDINESS												HIGH TEMP., HIGH HUMIDITY, CLOUDINESS																	
	Diseases	BROWN SPOT, STEM ROT																		STEM ROT, NEMATODE, BROWN SPOT, BLB, BLAST												STEM ROT, NEMATODE, SHEATH BLIGHT, NECK BLIGHT																	
	Weather	CLOUDY WEATHER WITH HIGH RAINFALL, HIGH TEMP., HIGH HUMIDITY																		CLOUDY WEATHER WITH HIGH RAINFALL, HIGH TEMP., HIGH HUMIDITY												CLOUDY WEATHER WITH HIGH RAINFALL, HIGH TEMP., HIGH HUMIDITY																	
Normal phase wise water requirement(mm)								207.7						310.1						120.9						96.0																							
Weekly normal weather	Rainfall(mm) total						6.7	9.6	20.0	15.4	18.4	28.8	31.6	30.4	29.2	60.4	45.9	53.1	64.3	75.0	80.8	66.6	89.3	72.3	55.1	65.8	52.6	64.7	62.8																				
	Max. temp. °C						36.8	37.2	36.6	36.8	36.4	36.3	36.2	36.7	36.3	36.1	35.0	34.2	33.6	33.2	32.9	32.8	32.7	32.8	32.8	32.7	32.9	33.1	32.8																				
	Min. temp. °C						22.9	23.6	23.7	24.2	24.0	24.2	24.7	25.0	25.4	25.4	25.5	25.4	25.2	25.1	25.3	25.1	25.1	25.3	25.2	25.4	25.0	25.1																					
	Sunshine hours						8.2	8.5	7.9	8.8	8.6	7.7	8.2	8.0	7.3	5.2	4.1	3.4	3.8	3.8	3.9	4.2	3.8	3.7	4.2	4.5	4.5	4.7	4.3																				
Life history and mean dates of important epochs of crop growth																																																	
Standard weeks			10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36																				
Months		MARCH					APRIL					MAY					JUNE					JULY					AUGUST																						

13

SOIL : SANDY LOAM/
CLAY LOAM

DURATION : 110-125 DAYS

D.D.G.M.(AGRIMET), I.M.D., PUNE 2003

13

**SOIL : SANDY LOAM/
CLAY LOAM**

DURATION : 110-125 DAYS

D.D.G.M.(AGRIMET), I.M.D., PUNE 2003

CROP WEATHER CALENDAR

14

STATE : WEST BENGAL CROP : JUTE VARIETY : JRO-632, JRO-524, JRO-7835, JRO-878 SOIL SANDY LOAM/CLAY LOAM/
DISTRICTS : BURDWAN, HOOGHLY, HOWRAH NON-IRRIGATED DURATION : 110-125 DAYS LATERITE

DISTRICTS :		BURDWAN, HOUGHLY, HOWRAH										NON-IRRIGATED										DURATION : 110-125 DAYS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Weather warnings	Rain																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
	Duration of wet spell	> 25 MM FOR 2 DAYS										> 50 MM FOR 3 DAYS										> 100 MM FOR 3 DAYS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	Cloudy weather																					CLOUDY WEATHER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	Drought	>10 DAYS										> 15 DAYS										> 25 DAYS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	High winds	> 35 KM/HR										> 40 KM/HR										> 35 KM/HR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	Temperature	MAX. TEMP > 45 ^o C										MAX. TEMP. > 45 ^o C. MIN. TEMP. < 20 ^o C										MAX. TEMP. > 45 ^o C																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	Hail Storm																					HAIL STORM																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Weather conditions	Pests	JUTE APION. JUTE WEEVIL										HAIRY CATERPILLAR. SEMILOOPER. JUTE APION. MITES										HAIRY CATERPILLAR. SEMILOOPER. CATERPILLAR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
favourable for	Weather	DRY WEATHER WITH CLEAR SKY										LIGHT RAINFALL. DRY AND HOT WEATHER WITH CLOUDINESS										LIGHT RAINFALL. DRY AND HOT WEATHER WITH CLOUDINESS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
incidence of pests and diseases	Diseases	BACTERIAL WILT										BACTERIAL WILT. STEM ROT										STEM ROT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	Weather	DRY SPELL										HOT HUMID ALONGWITH WARM SPELL OF CLOUDINESS										HOT HUMID ALONGWITH WARM SPELL OF CLOUDINESS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Normal phase wise water requirement(mm)												209.7					326.1					178.6					103.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
Weekly normal weather	Rainfall(mm) total										8.0	8.2	15.3	17.1	17.3	26.3	30.5	23.7	31.0	54.9	38.1	59.3	67.9	70.5	62.8	75.5	66.6	73.8	61.2	65.2	51.5	92.1	82.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			

CROP WEATHER CALENDAR

15

STATE : WEST BENGAL CROP : WHEAT VARIETY : SONALIKA SOIL : LATERITE AND ALLUVIAL
DISTRICTS : PURULIA, BANKURA, BIRBHUM IRRIGATED DURATION : 115-120 DAYS

Weather warnings	Rain	ANY RAIN																																							
	Duration of wet spell	50 MM FOR 1 DAY														50 MM FOR 2 DAYS																									
	Cloudy weather	CLOUDY WEATHER																																							
	Drought	> 15 DAYS														> 20 DAYS												> 25 DAYS													
	High winds																																								
	Temperature	MAX.TEMP. > 32 ⁰ C, MIN. TEMP <10 ⁰ C														MAX TEMP > 30 ⁰ C, MIN TEMP. <10 ⁰ C												MAX TEMP. > 35 ⁰ C, MIN. TEMP.<10 ⁰ C													
	Hail Storm	HAJL STORM														HAIL STORM												HAIL STORM													
Weather conditions	Pests	TERMITE														TERMITE																									
favourable for	Weather																																								
incidence of pests and diseases	Diseases	SEEDLING BLIGHT														ALTERNARIA, LEAF BLIGHT																									
	Weather	PROLONGED RAIN WITH HIGH HUMIDITY														PROLONGED RAIN WITH HIGH HUMIDITY																									
Normal phase wise water requirement(mm)								26.4				134.9								112.3								25.3													
Weekly normal weather	Rainfall(mm) total						2.0	3.9	0.8	2.7	0.2	3.8	3.8	0.8	1.8	3.8	5.9	5.3	6.5	3.9	7.2	3.7	3.4	5.6	8.4	5.1	5.8	11.9	9.3	14.9											
	Max. temp. ⁰ C						29.3	27.7	26.8	26.2	25.9	25.4	25.0	25.7	25.8	26.2	26.8	26.7	28.7	30.2	31.2	32.2	34.2	35.9	36.4	37.7	38.5	38.3	38.8	38.6											
	Min. temp. ⁰ C						16.4	15.0	13.1	12.8	11.9	11.3	10.7	7.9	11.7	12.3	12.9	12.8	14.7	15.4	16.4	17.6	18.6	20.4	21.3	22.7	23.5	23.5	24.3	24.2											
	Sunshine hours						8.3	8.3	8.8	8.3	8.4	8.0	7.8	8.6	8.9	8.9	8.1	8.5	8.3	8.8	8.6	7.5	8.5	8.4	8.2	8.4	8.8	8.4	8.7	8.9											
Life history and mean dates of important epochs of crop growth																																									
Standard weeks							48	49	50	51	52	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19											
Months								DECEMBER					JANUARY				FEBRUARY				MARCH				APRIL				MAY												

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SOIL SANDY LOAM/
CLAY LOAM/LATERITE

DURATION : 80-120 DAYS

D.D.G.M.(AGRIMET), I.M.D., PUNE - 411 003

