Monthly Agromet Bulletin National Agromet Centre Pakistan Meteorological Department Islamabad

Vol: 05-2015

Highlights...

- Above normal precipitation was reported in most of the agricultural plains of KPK, Potohar region, parts of central/southern Punjab, Rohri in upper Sindh, Quetta valley in Balochistan and Skardu in GB region. Whereas below normal precipitation observed in different parts of central/southern Punjab, lower Sindh and Gilgit in GB.
- Daily mean temperature remained mostly normal in upper half and slightly warmer in the lower half of the country. Whereas day time maximum temperature showed significant rise (1-3°C) all over the country during the month. Temperature regime also observed warmer than previous year.
- ETo observed remained normal to below normal in most of the agricultural planes of the country except Khanpur in southern Punjab, GB region and Rohri in upper Sindh where it remained above normal.
- Agricultural soils showed mostly normal to cooler trend in upper half and slightly warmer trend in lower half of the country.
- Spraying/manual Weedicides operations on wheat and other Rabi crops and preparation of land/transplantation of summer vegetables nursery were the major field activities in most of the agricultural plains of the country during the month.
- Farmers are advised to complete harvesting/threshing of wheat crop in time and should be aware of weather forecast during harvesting/threshing. The best cultivation deadline of cotton for Sindh is 15May and for Punjab is up to the end of May, keeping crop water requirement of cotton crop in mind.
- Occasional heavy rainfall along with hailstorms for short periods is the regular feature of weather over Potohar region and hilly areas of KP during March/April. Farmers are advised to be aware of such expected events so that in time precautionary measures may be taken to protect standing crops.

APRIL, 2015

Contents **Explanatory Note** Pg. 2 Seasonal Rain, ETo & Water stress Maps Pg.3 **Crop Report** Pg. 4 **Moisture Regime Pg. 5 Temperature Regime Pg. 7** Solar & Wind Regime Pg.9 **Cumulative Maps Pg.10 Expected Weather** Pg. 12 **Seasonal Weather** Pg. 13 Update **Farmer's advisory** In Urdu Pg. 18

Pattern-in-Chief: **Iftikhar Ahmed Mir**, Director General, Editor-in-Chief: **Ch. Muhammad Aslam**, Director, Editor: **Muhammad Ayaz**, Meteorologist Published by: National Agromet Center (NAMC) P.O.Box:1214, Sector: H-8/2, Islamabad, PAKISTAN **Tel:** +92-51-9250592, **Fax:** +92-51-9250368Email: dirnamc@yahoo.com



EXPLANATORY NOTE

- 1. This Agrometeorological bulletin is prepared on the basis of data from 15 stations of Pakistan Meteorological Department (PMD). These stations, selected in consultation with the agricultural authorities, represent major agricultural areas of the country. There are still important agricultural areas which are not represented by the stations included in the bulletin. This may be (a) because there are no PMD stations in these areas and /or (b) the fact that we had to limit the number of stations due to the requirement of speedy data communication and processing (both of which are important for producing and dispatching timely Agrometeorological bulletins).
- 2. Due to the above, all inferences and conclusions hold true primarily for the above areas and not for Pakistan territory which include areas that may not be very important from the agricultural point of view and the climate of which may not bear directly on agriculture in the major producing areas.
- **3.** The normally expected weather of next month is prepared on the basis of premise of normal or near normal weather prevailing during the coming month. As such it should not be confused with synoptic weather of the next month.
- 4. Summer Season/ Kharif remains from April/May to October/November and Rabi season from November to April. Mean Daily Maximum Temperature images are included in summer and Mean Minimum Temperature images are included in winter in the Bulletin.
- 5. In the tables, the values in the parentheses are based on 1981 to 2010 normal. Normal values (in parenthesis) of Soil Temperatures are based upon 10 years data. Dotted line (---) means missing data. Solar radiation intensities are computed from sunshine duration using co-efficients developed by Pakistan Meteorological Department.



Crop Report during April, 2015

Harvesting/threshing of wheat and other Rabi crops and sowing of Kharif crops especially cotton and maize were the major field activities during the month. Operations of chemical spraying against pest attacks on fruit orchards and irrigation practices as per requirement were also in progress during the month. Pace of growth and development of standing crops both in irrigated and rainfed areas remained satisfactory due to favorable weather conditions.

In **Punjab:** Harvesting and threshing of wheat crop is in full swing and good yield is expected this year both in rainfed and irrigated planes. Harvesting and threshing of oilseed, Gram and Lentil is also in progress and better yield is expected due to favorable weather conditions during the season. Growth of seasonal vegetables is reported satisfactory and picking of early grown verities is in progress. Growth of fruit orchards including mangos is reported satisfactory. Mango orchards are reported mostly at fruit formation stage.

In **Sindh:** Threshing of wheat crop is almost completed throughout the province and good yield is expected. Sowing of cotton crop has been completed in most of the growing area and the crop is at germination or early growing stage. Castor oil is growing satisfactory and its picking is in progress. Safflower is near to maturity stage and its growth has reported well. Threshing of linseed has been reported in progress. Sunflower is growing well and is reported at flowering stage. Growth of summer vegetables is reported satisfactory and their picking is in full swing. Mangoes are growing at full fruit formation stage. However gusty wind reported in the last days of this month have damaged the orchards to some extent.

In **Khyber Pakhtunkhwa:** Overall growth and development of wheat crop in the province is reported satisfactory. The crop is growing at maturity stage. No pest attack has been reported so far on the crop. Harvesting/threshing of the crop has started in the lower plains of the province. Growth of summer vegetables has been reported satisfactory. Harvesting/marketing of winter vegetables is also in progress in upper hilly areas of the province. Growth of fruit orchards is also reported satisfactory and are at flowering stage. But fruit orchards and standing crops badly damaged in Peshawar division and its surrounding due to heavy rainfall/wind storm reported during the last week of the month. Chemical spraying on orchards against insects and fungus attacks was in progress. Attacks of aphids and mealy bug have been reported.

In **Balochistan:** Condition of standing crops like wheat, maize and canola has been reported satisfactory. Wheat crop is at maturity/full maturity and its growth is reported satisfactory. Growth of fruit orchards and that of seasonal vegetables is satisfactory and picking/harvesting is in progress.

In **Gilgit Baltistan**: The growth of wheat crop is in progress and is reported satisfactory. The crop is at stem extension/shooting stage in most of the regions. The growth of seasonal orchards and vegetables is also reported satisfactory.

Moisture Regime during April, 2015

Winter rains generally continue from December to March in Pakistan. April and May are comparatively drier months in the pre-monsoon period. During this April satisfactory rainfall reported in the agricultural plains of the country. Above normal precipitation was reported in most of the agricultural plains of KPK, Potohar region, parts of central/southern Punjab, Rohri in upper Sindh, Quetta valley in Balochistan and Skardu in GB region. Whreas below normal precipitation observed in different parts of central/southern Punjab, lower Sindh and Gilgit in GB.

. Heavy rain spell along with wind storm also reported during the last week of April in Peshawar and its surrounding areas of KPK, which badly damaged standing crops and orchards beside human and cattle casualties.

Overall in the country, highest amount of rainfall was reported 279.4 mm at Murree, followed by 249.2 mm at Rawalakot, 223.3 at Kotli, 206.6 mm at Parachinar, 201.1 mm at Kakul, 200.4 at Balakot and 198.3 mm at Muzaffarabad.



Number of rainy days recorded in the most of the agricultural planes ranged from 01 to 17 days. The maximum number of rainy days in the country was observed 17 days at Rawalakot, followed by 13 days at Murree, 12 days at Kotli and 11 days at Muzaffarabad.

The evaporative demand of the atmosphere represented by reference crop evapotranspiration (ETo) remained normal to below normal in most of the agricultural planes of the country except Khanpur in southern Punjab, GB region and Rohri in upper Sindh where it remained above normal.



The mean daily Relative Humidity (R.H) showed mixed trend in the country. It remained normal to above normal in most of the agriculture plains in upper half and observed mostly below normal in lower half and GB region. Maximum value of mean Relative humidity was observed 60% at Sargodha and Peshawar followed by 59% at Rawalpindi, 57% at Jhelum and 54% at D.I.Khan. The minimum value was observed 29% at Quetta and 35% at Rohri. Maximum numbers of days with mean R.H greater or equal to 80% was observed 2 days at Peshawar, D.I.Khan, Rawalpindi and Jhelum and 1 day at Sargodha, Khanpur and Skardu.



From overall analysis, it is evident that satisfactory rains were received in most of the agricultural planes of the country during the month .Overall good rains were received during this Rabi season which not only put positive impact on the standing crops but has also provided sufficient moisture for the upcoming crops at initial stages. But at the mean time expected heat waves with duststorms in this stage of pre-monsoon period may produce some moisture stress, especially in the rainfed areas in the lower half plains of the country.

Temperature Regime during April, 2015

Temperature plays vital role in the growth and development of crops. Thermal regime showed mostly normal trend in the agricultural planes of the country during the month.

Mean daily temperature remained normal in most of the agricultural planes of the country in upper half and observed normal to above normal (by 1-2°C) at lower half of the country. Mean daily temperature ranged 24 - 26°C in Khyber Pakhtunkhwa, 23 to 25°C in Potohar plateau, in remaining parts of Punjab it ranged 26-30°C, in Sindh it ranged 31-32°C, in Gilgit Baltistan region it ranged 13 to 18°C and was observed 19°C in Quetta valley.



The day time temperature represented by mean maximum remained normal to above normal by 1 to $3^{\circ}C$ in most of the agricultural planes of the country. The highest maximum temperature was recorded $48^{\circ}C$ at Larkana .

Maximum number of stress days with minimum temperature less than or equal to 0°C was observed nil in agricultural planes due to seasonal rise in temperature. Number of stress days with maximum temperature greater or equal to 40°C and R.H. less than or equal to 30% was observed for 07days at Multan 05 days at Khanpur and 03 days at Faisalabad.



Agricultural soils showed warming trend in upper half agricultural plains of the country. Whereas it observed slightly above normal in lower half of the country due to comparatively dry weather observed in lower half during the month. Shallow layers observed more cooler than deep soils all over the country.



From the general analysis of soil temperature behavior in this month, it is concluded that at the present agricultural soil is not being affected by any significant moisture stress due to satisfactory rains in most of the agricultural plains during the Rabi season. However the soil data indicates slightly dry conditions exist in lower half of the country.

Sowing of coming Kharif crops is started. At the germination stage main Kharif crop (cotton) requires sufficient moisture. The farmers are advised to make use of the available soil moisture properly so that the water /moisture requirement of the crop may be fulfilled and the crop may not damage at this initial stage.

Solar Radiation and Wind Regime during April, 2015

Total bright sunshine hours and solar radiation intensity remained below normal in most of the agricultural plains except Quetta valley in Balochistan, Rohri in upper Sindh and GB where these values observed above normal. Mean wind speed throughout agricultural plains of the country reached up to 6 km/h (recorded at Khanpur) with mainly North-Wards direction.





Cumulative Rainfall (mm) during Gupi the month of April 2015 Kalam Gilgit unji AstoreSkardu Chilas arif salpur Murres Kohat loi n n Jhelur Joharaba Sialko rgod D.I. Khan Lahore ho Jhang Okara 0 Quetta Multan D G Khan Bahawalnagar Sibbi Bahawalpur Kajat 3.2 - 30 Nokkundi Dalban Khanpur 30.1 - 100 acobabad R. Yokhai Khuzdar LarkanaRohri 100.1 - 200 Panjgu 200.1 - 300 Padidan 300.1 - 500 500.1 - 700 700.1 - 1,000 1,000.1 - 1,286 Water Stress (Rain-ETo) during the GILGIT month of April 2015 SKARDU D.I. KHAN FAISALABADLAHO SARGODHA QUETTA KHAN PUR 5 ROHR -4.8 - 10 10.1 - 30 30.1 - 50 TANDOJAM 50.1 - 100 100.1 - 164 Cumulative ETo (mm/day) during GILGIT the month of April 2015 SKARDU RAWALDINDI and 1 THEFT ms SARGODHA KHAN FAISALABADLAHORE UETTA MULTAN KHAN PUR 12.9 - 16 16.1 - 19 19.1 - 22 22.1 - 25 25.1 - 28.7

Cumulative Rainfall, ETo and water stress for Rabi Season (October to April)



Normally Expected Weather during May, 2015

According to long term average, precipitation over Potohar plateau and upper Khyber Pakhtunkhawa ranges between 25 mm and 40 mm, Central Punjab and Southern Khyber Pakhtunkhawa 10 mm to 25 mm and rest of the agricultural plains of the country less than 10 mm. The probability of occurrence of rainfall during May over Potohar plains is given below:

AMOUNT/ DATES	PERCENTAGE PROBABLITY OF OCCURANCE OF DIFFERENT AMOUNTS OF RAINFALL IN MAY						
	1-5	6-10	11-15	16-20	21-25	26-31	
10mm	20	25	16	13	26	17	
15mm	12	16	12	7	14	12	
25mm	4	8	8	5	8	4	

The evaporative demand of the atmosphere during May would shoot up as compared to April due to drier and hotter crop atmosphere. It is expected to range between 6 mm/day and 8 mm/day throughout the country.

The mean daily air temperature may range between 30-35°C in most of the lower elevated agricultural plains of the country. In high agriculture plains of Balochistan it may be close to 25°C. Mean maximum temperature may range between 35 to 40°C over most parts of Khyber Pakhtunkhwa and northern Punjab, it may range from 40 to 45°C in most of the Sindh plains and central Punjab. In Quetta valley it would be close to 30°C. Mean minimum temperature is expected to remain close to 25°C in most parts of Khyber Pakhtunkhwa and upper Punjab whereas it would be between 20 to 25°C over the agricultural plains of central Punjab and adjoining areas of Sindh. In Quetta valley it may remain around 12°C. Moderate to severe hygrothermal stress is expected over most of the low elevation agricultural areas of the country.

Duration of bright sunshine hours may increase considerably all over the country due to clear sky and higher solar angle. The duration may increase to 9.5-11 hrs/day. Direction of wind would be northwest to north with 6 km/hour speed over the plains of Punjab and Khyber Pakhtunkhwa. The intensity of solar radiation may range from 21 MJ/M²/day to 24 MJ/M²/day over most of the agricultural plains of the country. The water requirements for healthy growing, full canopied crop in different regions of the country are given below:

	Region	Water Requirements			
S.No		mm	Cubic Meter/Hectare		
1	Khyber Pakhtunkhawa, High Plains of Balochistan & Northern Punjab.	180	1800		
2	Central and Southern Punjab	200-210	2000-2100		
3	Upper Sindh and adjoining Balochistan	220	2200		
4	Lower Sindh	240	2400		

Seasonal Weather Update

Introduction

A variety of methods including dynamical models, statistical methods, regional expert judgments and combination of them have been used to generate long-range weather forecast by the different climate prediction centers around the world. National Agromet Center (NAMC), Pakistan Meteorological Department adopts an ensemble approach to formulate its seasonal weather outlook for Pakistan (on experimental basis), taking into consideration available products from major climate prediction centres and different Global Climate Models (GCMs).

Regional weather (precipitation and temperature) outlook is predicted from different global climate models by using persisted sea surface temperature on 0000 Apr 01, 2015. Model's output then tuned by applying Regional Correction Factor (RCF). RCF has computed by comparison of Long Range Averages (LRA) with model's simulation for the period (2004-2012) on monthly basis. That might be somewhat different from actual weather because of time to time variation in Sea Surface Temperature (SST) during the season. Accuracy of Outlook seasonal weather mainly depend upon SST used in global climate models. Even with use of accurate SST, still is uncertainty in the climate forecast due to chaotic internal variability of the atmosphere.

Acknowledgement

NAMC is gratefully acknowledges the International Research Institute (IRI) for climate and Society for providing access of dynamical prediction of Global Climate Model ECHAM4P5, developed and operated by European Center for Medium-Range Weather Forecasts model's simulations and hindcast data to support the formulation of seasonal weather outlook of Pakistan. Output maps have been prepared by using IRI climate software.

Synoptic situation

• Location of jet stream (U wind at 200 hPa) is at normal position with less than normal intensity. The region may prevail less than normal winds strength. The movement of higher strength winds may cover wider area than normal over the region.

Probability outlook: Below normal intensity of jet stream is associated with below normal precipitation in the region and it seems that weather systems will be focused towards central parts of the country.

• A ridge at 500 hPa is expected to be over central parts of the country. As a result, western disturbances may be de tracked from normal path.

Probability outlook: Precipitation is likely to occur less than normal precipitation over the region.

- Surface temperatures are expected to be on higher side than normal over central parts of the country as compared with normal (1981-2010). However, northern and southern parts may prevail normal surface temperature.
- North Atlantic Oscillation (NAO) is in positive phase (0.8) approaching towards neutral phase. As a result normal track of western disturbances will persist.

http://www.cpc.ncep.noaa.gov/products/precip/CWlink/pna/norm.nao.monthly.b5001. current.ascii.table

Probability outlook: Normal precipitation over all parts of the country will be expected. The focus of weather tracks may be towards central of the country.

- The model predictions of ENSO for this summer and beyond are relatively unchanged from last month. Almost all the models indicate that ENSO-neutral (Niño-3.4 index between -0.5°C and 0.5°C) will persist through the rest of the Northern Hemisphere spring 2015. While all models predict warming in the tropical Pacific, there is considerable uncertainty as to whether El Niño will develop during the summer or fall.
- If westerly winds continue to emerge in the western equatorial Pacific, the development of El Niño would become more likely. However, the lower forecast skill during the spring and overall propensity for cooler conditions over the last decade still justify significant probabilities for ENSO-neutral. The consensus forecast is for ENSO-neutral to continue through the Northern Hemisphere spring 2015, with about a 50% chance of El Niño developing during the summer or fall (http://iri.columbia.edu/our-expertise/climate/forecasts/enso/current/?enso_tab=enso-cpc_update)

Probability outlook: La Nina (4%), Neutral (68%) and El Nino (28%) during May-July, 2015 season

• Arabian Sea Surface Temperatures are expected to be slightly above normal near western coastal belt of Pakistan.

Seasonal Weather Outlook Summary (Apr, 2015)

Synthesis of the latest model forecasts for May-Jul, 2015 (MJJ), current synoptic situation and regional weather expert's judgment indicates that normal to slightly above normal precipitation is expected all over the country with above average during Jun, and average during May and Jul. Slightly below average day temperature is likely to occur during May while abruptly increasing trend in day temperature will start in June.

Weather outlook

"Average precipitation is expected during the season all over the country with normal temperature during whole predicted season."

- I. Average to slightly above average rainfall is expected over the country during May all over the country.
- II. Slightly average rainfall is expected over central western parts including FATA of the country during May.
- III. Light to moderate rainy spells over the country will persist intermittently during May. The focus of these spells would be over central parts of the country from north to south belt.
- IV. Pre-monsoonal rainfall may starts from 20th Jun and persists for one week.
- V. Main focus of pre-monsoon rainfall would be central Punjab and lower sindh.

VI. Expected data of Monsoon rainfall in the country would be 1st -3rd Jul.

- VII. Expected monsoonal system track would be towards upper Punjab and lower sindh with less to moderate intensity.
- VIII. Monsoonal current will enter in the country during last week of June; as a result moderate rain is expected during last week of June.
 - IX. Below average rainfall is expected all over the country during Jul.
 - X. Summer would be warmer with less rainfall leads to increase uncomforted in the country.
 - XI. Very limited chances of drought as a whole in the country but locally drought porn areas may expect shortage of water during upcoming months.
- XII. Day temperature may be expected above normal during July all over the country.
- XIII. Risk of mosquitoes (dengue) abundance would be higher due to higher temperature during Jul over the country.
- **XIV.** Needs more attention on water storage in water reservoir because less water is expected to fill reservoir (below normal day temperature over northern parts).

Acknowledgment: courtesy of Dr. Khalid Mahmood Malik, Director (PMD)

	May, 2015		Jun, 2015		Jul, 2015		May-Jul, 2015	
	ave	ехр	ave	ехр	ave	ехр	ave	ехр
GB	27.6	Ave	19.0	Ave	15.9	Blw. Ave	62.5	Ave
КР	41.1	Ave	40.8	Abv. Ave	99.5	Blw. Ave	181.4	Ave
AJK	57.8	Ave	76.8	Abv. Ave	181.0	Blw. Ave	315.6	Ave
FATA	29.0	Abv. Ave	28.3	Abv. Ave	61.7	Ave	119.0	Abv. Ave
PUNJAB	17.1	Abv. Ave	36.5	Abv. Ave	105.3	Blw. Ave	158.9	Ave
BALUCHISTAN	8.2	Abv. Ave	13.4	Abv. Ave	29.5	Blw. Ave	51.1	Abv. Ave
SIND	3.7	Blw. Ave	10.8	Abv. Ave	63.5	Blw. Ave	78.1	Blw. Ave
Pakistan	15.2	Abv. Ave	22.5	Abv. Ave	60.7	Ave	98.5	Ave

Monthly Quantitative Weather Forecast

Ave.: average (1981-2010), Exp.: Expected rainfall, Below Average (Blw. Ave) < -15 %, Average precipitation range (Ave) = -15 to +15 %, Above Average (Abv.Ave) > +15 %

Note: Average precipitation is computed by using Global Precipitation Climatology Centre (GPCC) gridded data by resolution $(0.5x0.5^{\circ})$ latitude by longitude. Ensembles of different climate models are used for computation of expected precipitation over the region.

Monthly expected Precipitation for May, 2015



Acknowledgment: courtesy of Dr. Khalid Mahmood Malik, Director (PMD)







Acknowledgment: courtesy of Dr. Khalid Mahmood Malik, Director (PMD)



Expected Maximum Temperature during May, 2015

Expected Dep. of Max. Temp. from normal, May-2015



Acknowledgment: courtesy of Dr. Khalid Mahmood Malik, Director (PMD)

مئی 1<u>525ء میں کاشتکاروں کے لئے زرعی موسمیاتی مشور</u>ے

ما دار بل میں ملک کے بیشتر میدانی علاقوں میں گندم کی کٹائی/ گہائی تمل ہو بھی ہے اور چنونی علاقوں میں کپاس کی کاشت جاری ہے تاہم کچھیٹا لی علاقوں میں سلسل با رشوں، ژلد با ری اور جھڑ چلنے سے گندم کی کٹائی متلز ہوئی ہے می کے مہینے میں گرمی کی شدت میں مزید اضافہ ہو جائے گااوروقنا فوقنا تیز آندھی اور ژالد با ری بھی متوقع ہے۔ اس لیے موسم کی اس غیر یقینی صورتحال کو مذخلر رکھتے ہوئے شالی علاقوں کے کسان گہائی جلد سے جلد کمل کریں یک شتکا ما پی سہولت کیلیے مند دند دیل زرق موسماتی مشور طبوط ظراحیں ۔

ا۔ کٹائی اور گہائی کاعمل موسی پیٹیکوئی کے عین مطابق کریں۔ اس سے پہلے کہ فصل ضرورت سے زیا دہ بک جائے اوردانے زین پر گرما شروع ہوجا ئیں فصل کی بروقت کٹائی اور گہائی تم کر کیں۔ اگر بارش متوقع ہوتو فصل کونہ کا میں اور گہائی کاعمل بھی روک دیں اور اکھٹی کی ہوتی گندم کا گرمکن ہوتی سے ڈھانپ لیں کیونکہ بارش سے اما جاور کھوں کا میں اور کھارت کتا تی اور گہائی تم کر کیں۔ اگر

۳۔ اگر آپ کا ذاتی تحریثر نمیں ہےتو کرائے کے تحریثر کے لئے کنائی کے دوران دی اپنانمبر لگالیں تا کہ کنائی کے بعد گہائی کیلیے آ پکوزیادہ دیرا نظار نہ کرما پڑے۔جیسا کہ ہم پہلے ذکر کر چکے ہیں کہ تک کے موسو مالات نہا یہ غیر یعنی بیٹی ہور کی ہوتی ہوتے ہوئی کہ میں کہ کر کہائی کہ میں کہ میں کہ کہ میں کہ میں کہ میں کہ کرنے ہیں کہ تک کے مول میں توقع مولی نصان یا تا خبر سے معلوں میں تعارف کر کر کر کہ میں کہ موسو کی معان کہ میں کہ میں کہ میں کہ کا خال کے دوران دی اپنی کر ایک کا تک کہ میں کہ مول کر ہے ہیں کہ میں کہ مول کر کہ کہ مول کر کہ میں کہ مول کہ مول کر دوران دی کہ میں کہ موسو کی ہیں اور کہ کہ میں کہ مول کر کہ میں کہ مول میں موقع مولی نص موجاتی ہے ۔ دور کی کا شت کیلئے زمین بھی فوری خالی ہوجاتی ہے۔

۳۔ گندم کافصل سے فارغ ہونے والے کھیت کو ٹل چلا کر کھلانہ چھوڑیں بلکہ ہما کہ چلا کر لیول کردیں تا کہ تک کے مہینے میں ہڑھتی ہوتی شرح تخیر زمین سے زیاد دوپانی کے ضیاع کا سب ند بے ۔خاص کر خود ہو جڑ کی لو ٹیوں کو زمین میں دبا دیں یا کٹھا کر کے آگ لگا دیں ۔ اگر بارش ہوتی او ڈین زیان دوپانی جنر کی کہ س بارانی علاقوں کے کسانوں کیلئے پطریقہ بے حدم خید ثابت ہوگا۔ بارش ہونے کی صورت میں ان کوچا ہے کہ کرنا کہ کو میں خاص کو رہی ہا کہ جائے گا۔

۵۔ پنجاب اور بالاتی سندھین خالی ہونے والی زیٹن کپاس اور چاول کیلئے تیار کرما شروع کر دیں۔ پنی تمام تر بحیق با ٹری موتی پیشکوئیوں کے مطابق کریں۔ موتی پیشکوئیوں کے سلسلے میں اخبار، ریڈیو، شلیویژن سے مربوط دہیں او ماگر کوئی زرقی موسمیاتی مسئلہ در پیش ہوتو جارے مند رہد دیل دفاتر آپ کی بخو کبی مدرکہ سکتے ہیں۔

- ۲- محکمه موسمیات، نیشش فودکاسنتگ سنیٹر برائے زراعت، پی، او یکس، 1214، سیکران کا پی لو، اسلا آبا دیفون نمبر: 051-9250364 151
 - ۳ . محكمه موسميات، ريجنل ايكروميد سنيشر، زدا دانى يونيورشى، مرى رود، راولينثر ك فون نمبر: 0202149-051
 - ۴ محکد موسمیات، ریجنل ایگرد مید سنیشر، ایوب ریسر بچانشینیوف، جھنگ روڈ، فیصل آبا دیہ فون نمبر: 041-265-041
 - ٥- محكمه موسميات، ريجن الكروميد سنيغر، الكريكلجر دريسر چانشيشيود، مُدُوجام فيون نمبر :- 83 7665-2222
 - ۲ ـ محکمہ موسمیات، ریجنل ایگرومیٹ سنیٹر، ایگریکلچررریسر چانسٹیٹیوٹ، سریاب روڈ، کوئنہ فون نمبر: 0211211- 081 تفصیلی موسم معلومات کیلیے محکمہ موسمیات کیا و _شب سمائٹ <u>www.pmd.gov.pk</u>طا خطہ فرمائیں۔

کیاس کی فصل پرموسمی اثر ات

تعارف:

کپاس پاکستان کی اہم نفذا ورضل ہے۔ جس کی پنجاب اور سندھ کے نہری علاقوں میں کا شت ہوتی ہے۔ گل پیدا دار کے کھا ظر سے پاکستان کپاس پیدا کرنے والے مما لک میں چو تی نمبر پر ہے جبکہ فی ایکر پیدادار کے لحاظ سے پاکستان کا شارعام طور پر آخر میں ہوتا ہے۔ پاکستان کے زیادہ تر ہر آمدات اور صنعت سے متعلق لیبر کی ایک بڑی تعداد کے دوزگا راورگز ریسر کا انحصار کپاس کے انچھی پیدا دار پر ہے۔ کپاس کی مجموعی پیدادار میں پنجاب کا حضہ تقریباً 80 فیصد اور سندھ کا تقریباً 20 ملور پر آخر میں ہوتا ہے۔ پاکستان کے زیادہ تر ہر آمدات اور صنعت سے متعلق لیبر کی ایک بڑی تعداد کے دوزگا راورگز ریسر کا انحصار کپاس کے انچھی پیدا دار پر ہے۔ کپاس کی مجموعی پیدادار میں پنجاب کا حضہ تقریباً 80 فیصد اور سندھ کا تقریباً 15 فیصد ہے جبکہ بلوچستان کے کچھ نہری علاقوں اور خیبر پختو نواہ کے جنوبی علاقوں میں بھی کپاس کی کچھوکا شدہ ہوتی سے کپاس کی نشونما اور پیدا وار میں رود جمل کا انحصار بنا دی کچھ کی ہو دونت فرا بھی ، بر وقت کا شت ، بر وقت کھادوں کی فراہ می مصر کیٹروں کے دارک کیلئے ہو دونت انہر سے متار میں پانی کی فراہ میں اور پر اس کی متان کی کھی میں ہوتیں میں میں میں میں میں میں میں میں میں ہو دونت میں ہو ہوتان کے کھی ہو دونت اور ایس کا شت ، بر وقت کھادوں کی فراہ می مصر کیٹروں کے دارک کیلئے ہو دونت انہر سے منا سر مقدار میں پانی کی فراہ ہی اور بر سات مے دوران با رشوں پر ہے۔

كاشت (آب ومواكيمطابق كاشت كاوقت):

كپا**س كافسل كوآ**يپا شى كى ضرورت:

Monthly Bulletin

آنے کے امکانات ہوتے ہیں اورا گلی فصل (رقیع) کی کا شت بھی دیر ہے ہوجاتی ہے ۔ ایسے حالات میں پودوں کو پانی کی فراہمی میں کی کیساتھ ساتھ محکمہ زراعت کے مشورے کیمطابق کمیائی مادوں کا مناسب ستعال کر نے شونما کو کم کیا جا سکتا ہے۔ تا کہ یو دے کی پنجنگی (maturity) بروفت تکمل ہو۔ کپاس کی قسم اور مومی حالات کو مذخر رکھ کر فصل کو پہلاپانی 30 سے 50 دن بعد لگا میں ۔ باقی پانی 15 تا 20 دن کے وقت سے لگا کیں اور وسطا کتو ہر سے پہلے آخری آبیا شی کریں۔ آخری آبیا شی کو کی اس کی قسم اور مومی حالات کو مذخر رکھ کر فصل کو پہلا پانی کریں۔

فصل کی زاید جڑ ی بو نیوں سے بچاؤ:

مون سون کے دوران کپاس کے کھیت میں جڑی یو ٹیاں زیا دہ اگنا شروع کردیتی ہیں۔جس سے کپاس کی فی ایکر پیدادار میں خاطر خواہ کی واقع ہوتی ہے۔کسان صغرات سے گزارش ہے کہ فصل کی بوائی ہمیشہ تر وڑ میں کریں بصورت دیگر وتر کم ہونے کی صورت میں بنج کو کڑا 6 تھنٹے بھکو کرکا شت کریں۔ جب پودے چھوٹے ہوں تو کھیت میں وتر آنے پر قطاروں کے درمیان ہل چلا کریا جب پودے ہن سے دول تو کمیائی اسپر کر کے غیر ضروری جڑ کی بو ٹیوں پر قابو پایا جا سکتا ہے۔

موسم اور کیمیا کی کھا دول کے نتائے: فصل کی کاشت کمیائی کھا دوں، آبپاشی اور ہر قسم کمیائی اسپر ے سے مثبت نہائج حاصل کرنے کمیلئے موسمی معلومات انتہائی خروری ہے ور نفصل کی کاشت، کمیائی کھا دوں کے استعال، آبیاش اوراسپر بوغیره کفور ابعد بارش نقصان کابا عث بنتی ب اس لئے سمان بھائیوں ، گرارش ب کہ ہر وقت موسم ، باخبرر ب

تحریر بحدایا ز کپیوژ کپوذنگ اسامه سندحو تضمون به کرماخذ -

 Techenical Report on "An Analysis of Weather and Cotton Crop Development in Lower Sindh (2007-2012)" Muhammad Ayaz, Meteorologist, NAMC, Pakistan Meteorological Department, Islamabad.
Techenical Report on "An Analysis of Weather and Cotton Crop Development in Faisalabad (2007-2012)" Muhammad Ayaz, Meteorologist, NAMC, Pakistan Meteorological Department, Islamabad.
Onset of Pest Attack on Cotton Crop of Punjab in Terms of Meteorological Parameters (2006-2010), MS-Dissertation by Muhammad Zeeshan, Assistant Meteorologist ,NAMC, Pakistan Meteorological Department, Islamabad.

4. Online Literature of PARC/NARC (www.parc.gov.pk/).

5. FAO/WMO online technical reports on cotton crop.

6.Monthly Agromet Bulletins (Available online "www.namc.pmd.gov.pk" Jan, 2012 to Dec,2012)