



SUPARCO

# PAK-SCMS BULLETIN

PAKISTAN: SATELLITE BASED CROP MONITORING SYSTEM

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SUPARCO, the National Space Agency of Pakistan, started the program on "Monitoring of Crops through Satellite Technology" during the year 2005. This is a perpetual study encompassing all growing seasons around the year. The purpose of this initiative is to reinforce support for policy makers, planners and private sector for food security, stocking, marketing, trade and industrial management. The final crop estimates are released by end of March for Rabi crops and mid of October for Kharif crops.

Food and Agriculture Organization of United Nations, (FAO-UN) provided technical backstopping for analytics and transfer of technology. Wheat, cotton, rice, sugarcane, maize and potato crops are being covered under this program. In addition, large scale geospatial applications of satellite remote sensing technology have been made for monitoring/mitigation of natural disasters (floods, flash floods, and drought) and providing reconnaissance detailed information ordained for the uplift of agriculture and allied pursuits.

# INSIDE THIS ISSUE

	CROP SITUATION: JANUARY, 2024	0
	AGRO-MET CONDITIONS: JANUARY, 2024	-0
Y	IRRIGATION WATER SUPPLY SITUATION: JANUARY, 2023	1
	FERTILIZER SITUATION	1
×	AGRI. RECOMMENDATIONS	1
	IS III	



### CROP SITUATION: JANUARY 2024 Summary

By the end of January 2024, increasing values of satellite based Normalized Difference vegetation Index (NDVI) manifested the active growth of Rabi crops. Generally, below normal night temperatures were observed in most parts of the country especially in Punjab, Khyber Pakhtunkhwa and Sindh. However, above normal minimum temperatures were observed in most parts of Baluchistan and Gilgit Baltistan.

This year government has set a higher wheat production target of 32.2 million tons from an area of 8.9 million hectares to meet country wheat requirements.

During January 2024, below normal rains were reported from most parts of the country. Light rainfall was reported from all over the country. Moderate rainfall was observed in Upper KP, Kashmir, the Potohar region, north-western and coastal areas of Baluchistan while, dry weather in Sindh province. Fog conditions prevailed in agricultural plain areas mainly in Punjab, parts of Sindh, Khyber Pakhtunkhwa and Balochistan

throughout January.

By the end of January 2024, wheat crop is at different growth stages from tillering, booting, anthesis depending upon the sowing time according to its cropping season gradient from South to North. Generally, crop condition was satisfactory in most parts of country. However, satellite based analysis shows stressed crop in rainfed areas as compared to last year. Dry spells during November 2023 to 3rd decade of January 2024 developed moderate drought condition. Wheat crop in rainfed areas faced water deficit at early growth stage however rains during last decade of January compensated the developing drought condition in most of the areas.

According to Pakistan Cotton Ginning Association (PCGA) report of 1st February 2024, cotton arrivals in the ginning factories of Pakistan were 8.349 million bales as compared to 4.763 million bales during last year (up by 75.28 percent). In Punjab and Sindh, the cotton arrivals during the reported period were higher by 46.50 and 119.79 percent, respectively,

### **CROPS SITUATION**

as compared to the same period of last year.

Sugarcane crop harvesting remained in momentum during January in almost all parts of the country due to amplified sugar mills operations.

Rice remained the promising crop for Kharif season 2023-24. Rice area was significantly increased this year due to attractive rice prices during 2022-23. Significant increase in export of rice was achieved during FY 2023-24 from July 2023 – January 2024. Pakistan exported 3323.25 thousand tons of rice earning worth of 2115 million USD showing an export increase of 67.6 percent in terms of quantity and 95.3 percent in terms of values.

As per report of Indus River System Authority (IRSA) for January 2024, the irrigation water supply was 1.50 MAF against the last year's supply of 1.65 MAF, down by 9.39 percent. As compared to the same period of last year, the irrigation water supplies in Punjab, Khyber Pakhtunkhwa and Balochistan were higher by 8.24, 157.69, 1.68 percent, respectively Whereas, the irrigation water supplies in Sindh were lower by 22.22 percent than last year.

As per report of National Fertilizer Development Centre (NFDC), total availability of Urea in December 2023 was 732 thousand tons whereas total availability of DAP was170 thousand tons. During December 2023, offtake of Nitrogen and Phosphate was lower by 27.2 and 25.9 percent respectively, as compared to same period of last year.



Normalized Difference Vegetation Index (NDVI) 10<sup>th</sup> February 2024

# Rabi 2023-24

## Wheat Crop 2023-24

By the end of January 2024, wheat crop was at different growth stages of tillering, booting and anthesis depending upon the sowing time according to its cropping season gradient from South to North. Dry spells during November 2023 to 3rd decade of January 2024 developed moderate drought condition. Wheat crop in rainfed areas faced mild water deficit at early growth stage however rains in the last decade of January compensated the developing drought condition in most of the areas. The graphs below show 10-daily rainfall for few selected stations during October 2023 - January 2024.



Source: PMD

Generally, crop condition was satisfactory in most parts of country. However, satellite-based analysis shows stressed crop in rainfed areas as compared to last year. The figure below shows satellite-based vegetation change for 1st decade of February 2023 and 2024.



Generally, the major critical stages in wheat production that affect the productivity include (i) tillering- 20 to 30 days (ii) booting/flowering- 80 to 95 days (iii) grain filling -110 to 130 days and ripening (end of season). A moisture stress at the earlier stages affects the crop productivity. The ripening is, however, mostly affected by heat waves at the end of March. The heat wave incident affects the grain filling and limits crop productivity. Cool temperatures at this stage are imperative to harvest good crop yields. This year government has set a higher wheat production target to meet country wheat requirements.

Federal Committee on Agriculture in its 21st meeting on 11th October, 2023 fixed the wheat production targets of 32.2 million tons from an area of 8.9 million hectares in consultation with provinces. Province wise wheat targets are as follows:

FCA Targets 2023-24						
Province	Production (Million Tons)					
Punjab	25.0					
Sindh	4.0					
Khyber Pakhtunkhwa	1.6					
Balochistan	1.5					

Despite the ample availability of Urea and DAP, higher fertilizer prices and less nitrogen and phosphate offtakes in current month, wheat crop however may face limitation of fertilizer shortage in some parts. Moreover, continuous dry weather conditions, and prolonged fog prevalence persisting more than 20 days especially in Punjab may favor rust disease incidence and spread in coming days. The situation needs a proactive vigilant approach for crop husbandry measures to mitigate above factors to have maximum possible wheat production during 2023-24.

### Potato Crop 2023-24

Potato is one of the major staples after wheat, rice, and corn. It has not only a significant contribution to national food basket but also has an important potential role in Pakistan's exports. Trade map figures of 2021, showed Pakistan export share of around 2.5 % (\$112 million) in global potato market (\$4.4 billion). Thus, comprehensive policies and due attention is required to enhance this share to boost exports to manage trade deficit. Graph showing country production and export statistics is given below. Continuous increase in potato production is indicative of surplus potato production in the country highlighting the export potential.



Three crops of potato are sown in Pakistan viz. autumn (80%) spring (12%) and hill crop (8%). Autumn crop is grown mainly in Punjab and to some extent in Khyber Pakhtunkhwa. In Punjab, the crop is mainly sown in Okara, Sahiwal, Pakpattan, Kasur, Chiniot, Jhelum, Lahore and Sialkot districts. By the end of January 2024, potato crop was satisfactory. Pakistan may have good potato crop harvest during the year due to increase in area and per acre production. Potato crop is generally harvested at the end of December or start of January as frost injury destroyed potato leaves causing stoppage of photosynthesis activity. This year frost free days favored prolonged photosynthetic activity having a positive effect to increase potato yield. This high production however, may result in lower market price squeezing the grower's net profitability in addition to high input costs. Graph below shows the monthly potato price trend in few selected markets in Punjab.



# Kharif Crops 2023-24

## Cotton Crop 2023-24

During current Kharif season, cotton crop showed better crop health and production as compared to last year. This was mainly due to increase in cotton area due to better price during 2022-23 and better weather conditions (no flood or heavy rains) during current season. As per Federal Committee on Agriculture (FCA) report dated 11th October, 2023, cotton production of 11.5 million bales was estimated by relevant departments against the production estimation of 8.8 million bales by SUPARCO. Province wise cotton area and production estimates by Crop Reporting Services (CRSs) and SUPARCO are given below;

Cotton Crop 20203-24 Estimates Comparison (CRSs vs SUPARCO)								
Province	Area (n	nillion ha)	Production (million bales)					
Trovince	CRSs	SUPARCO	CRSs	SUPARCO				
Punjab	1.7	1.39	7.0	5.07				
Sindh	0.6	0.78	3.9	3.66				
Khyber Pakhtunkhwa	0.0	-	0.0	-				
Balochistan	0.1	0.03	0.7	0.07				
Total	2.4	2.20	11.5	8.80				

Source: FCA working paper dated 11th October, 2023

As per report of Pakistan Cotton Ginning Association (PCGA) on 1st February 2024, cotton arrivals in ginning factories of Pakistan were 8.349 million bales as compared to 4.763 million bales during same period of last year showing an increase of 75.28 percent. In Punjab and Sindh, the cotton arrivals during the reported period were higher by 46.50 and 119.79 percent respectively, as compared to the same period of last year. The details of cotton arrivals Punjab and Sindh are given below:

Province	2024	2023	Diffe	rence	
		Percent			
Punjab	4238.434	1345.34	46.50		
Sindh	4111.119	1870.515	2240.604	119.79	
Total	8349.553	4763.609	3585.944	75.28	

Source: PCGA

As per PCGA reports of 1st February, 15 years comparison of cotton arrivals shows that Pakistan had maximum cotton arrivals during 2014-15 at the level of 14.435 million bales. During current year total cotton arrivals at national level up to 1st February 2021 were 8.350 million bales. It shows a decrease of 6.086 million bales over the maximum cotton production achieved during 2014-15. Punjab province had the maximum arrival of 11.029 million bales during the year 2011-12 while the current year arrivals are 4.238 million bales. Sindh province had the maximum arrival of 4.252 million bales during the year 2017-18 and the current year arrivals are 4.111 million bales. This situation necessitates immediate policy measures for the revival of cotton crop in the country. Graph below showing 15 years cotton arrival upto 1st February;



### **CROPS SITUATION**



#### Market Prices for Cotton during January 2023

In the international market, average approx. cotton price during January 2024 was 91.93 cents per lb as compared to average price of 98.43 cents per lb during January 2023, showing a decrease of 6.50 cents per lb (lower by 7.07 percent).

In local market, average ex-gin cotton price during January 2024 was lower by about 1.84 percent compared to January 2023. Approximate average ex-gin price during January 2024 was Rs.18971.4 per 40 kg against Rs.19321.4 during January 2023 showing a decrease of Rs. 350 per 40 kg. Graphs showing compariative International (Cotlook A index) and local Ex-gin prices are given below;



### Sugarcane Crop 2023-24

Sugarcane crop is at its harvest momentum due to full functionality of sugar mills in the country. Government of Punjab notified sugarcane support price at Rs. 400.0 per 40 kg whereas Govt of Sindh set sugarcane support price at Rs. 425 per 40 kg.

Sugar price in the international market (White Sugar Price Index) during January 2024 was approximately 17.65 percent higher compared to January 2023. Average sugar price during January 2024 was 638.4 USD per ton against the average sugar price of 542.6 USD per ton during January 2023, showing average increase of 95.80 USD per ton.

Sugar prices in the local market (Akbari Mandi) increased during January 2024 as compared to January 2023. Average sugar price during January 2024 was around Rs. 14117.85 per 100 kg as against the average sugar price of Rs. 8612.14 per 100 kg during January 2023 showing an increase of around Rs. 5505.7 per 100 kg (63.92 percent).

Graphs showing daily white sugar price index in the International market (International Sugar Organization) and daily average sugar price in the local market (Akbari Mandi) are given below:

### **CROPS SITUATION**



### Rice Crop 2023-24

Rice remained the promising crop for Kharif season 2023-24. Rice area was significantly increased this year due to attractive rice prices during 2022-23. Significant increase in export of rice is achieved during FY 2023-24 from July 2023 to January 2024. Pakistan exported 3323.25 thousand tons of rice earning worth of 2115 million USD showing an export increase of 67.6 percent in terms of quantity and 95.3 percent in terms of values.

Pakistan Rice Export Statistics (July-January)									
Rice Type	Qu	ality (000 Tons	5)	Value (Million USD)					
	2023-24	2022-23	% Change	2023-24	2022-23	% Change			
Basmati	398.8	320.8	24.3	457.0	337.0	35.6			
Others	2924.5	1661.5	76.0	1658.6	746.4	122.2			
Total	3323.3	1982.3	67.6	2115.6	1083.4	95.3			

Source: TDAP

During Janaury 2024, 752.0 thousand tons rice of worth 477.5 million USD were exported against the export of 249.4 thousand tons of rice during Janaury 2023 up by 201.5 percent.

Pakistan Rice Export Statistics (January)									
	Qu	ality (000 Tons	5)	Value (Million USD)					
Rice Type	2024	2024 2023 % Change		2024	2023	% Change			
Basmati	80.3 52.2		53.9	89.4	54.5	64.1			
Others	671.7	197.2	240.6	388.1	101.1	284.1			
Total	752.0	249.4	201.5	477.5	155.5	207.0			

Source: TDAP

# Drought Prevalence: Rabi 2023-24

Below normal rains and dry weather during December 2023 to 3rd decade of January 2024 developed mild to moderate drought condition in rain-fed areas especily potohar region. Wheat crop in rainfed areas faced mild water deficit at early growth stage however rains in the last decade of January compensated the developing drought condition in most of the areas. Below map of Standardised Precipitation Index based on satellited derived rainfall from 01<sup>st</sup> October 2023 to 26<sup>th</sup> january 2024 shows a mild/moderate drought for this period over pothohar zone, parts of Khyber pakhtumkhwa and Balochistan.



Comparative rainfall for November to Janaury in rainfaed areas

Below maps show the comparative spatail distribution and amount of cummulative rainfall from November to January for last three years

![](_page_7_Figure_6.jpeg)

# FOG Persistance: January 2024

This year, fog conditions prevailed in agricultural plain areas throughout month of January mainly in Punjab, parts of Sindh, Khyber Pakhtunkhwa and Balochistan. Most of the areas of Punjab province witness the thick FOG for more than 20 days. Map below shows satellite based daily analysis for spatial distribution and no of days for FOG persistance.

![](_page_8_Picture_4.jpeg)

# Monthly Rainfall (mm): January (2023 & 2024)

![](_page_9_Figure_2.jpeg)

# Irrigation Water Supply: January, 2024

The irrigation water supply during January 2024 was 1.49 MAF against the last year's supply of 1.65 MAF, lower by 0.15 MAF (9.33 percent). During January 2024, as compared to the same period of last year, the supply in Punjab was 0.46 MAF (lower by 21.45 percent), Sindh was 0.84 MAF(lower by 21.45 percent), Khyber Pakhtunkhwa was 0.067 MAF (higher by 159.38 percent) while Balochistan received water supply 0.121 MAF (higher by 1.68 percent).

	Month Year		Pun	jab		Cindh	Khuhar Dakhtunkhua	Palachistan	Total
			Jhelum-Chenab	Indus	Total	Sinun		Dalochistan	
						Million Ac	re Feet		
		2023	2.413	2.111	4.524	3.884	0.116	0.175	8.699
		2022	2.50	1.58	4.08	3.14	0.05	0.13	7.39
	UCI	Change	-0.09	0.54	0.44	0.74	0.07	0.05	1.31
		% change	-3.47	34.02	10.89	23.69	127.91	39.64	17.70
	2023-24 voN	2023	1.81	1.73	3.55	2.27	0.13	0.21	6.15
3-24		2022	1.84	1.78	3.62	2.50	0.05	0.15	2.70
202		Change	-0.03	-0.05	-0.08	-0.23	0.08	0.07	3.46
Sabi		% change	-1.42	-2.88	-2.14	-9.35	164.47	45.73	128.29
-		2023	1.72	1.29	3.00	1.94	0.12	0.16	5.23
	Dec	2022	1.55	1.15	2.70	1.92	0.08	0.15	4.85
	Dec	Change	0.17	0.14	0.30	0.02	0.04	0.01	0.38
		% change	11.05	11.77	11.19	1.13	54.47	6.58	7.87
		2024	0.17	0.28	0.46	0.84	0.07	0.12	1.50
	lan	2023	0.17	0.26	0.43	1.08	0.03	0.12	1.65
	Jan	Change	0.00	0.02	0.04	-0.24	0.04	0.00	-0.16
		% change	0.00	9.38	8.24	-22.22	157.69	1.68	-9.39

![](_page_10_Figure_5.jpeg)

![](_page_10_Figure_6.jpeg)

![](_page_10_Figure_7.jpeg)

![](_page_10_Figure_8.jpeg)

Source: Indus River System Authority (IRSA)

# Fertilizer Offtake

As per report of NFDC, the month of December 2023 started with opening inventory of 156 thousand tons of Urea. During December 2023, domestic Urea production was 565 thousand tons with total availability of 732 thousand tons. Urea offtake during December remained 628 thousand tons leaving behind closing balance of 105 thousand tons.

The opening inventory of DAP for December 2023 was 33 thousand tons. During December 2023 domestic production of DAP was 73 thousand tons. The total availability of DAP was 170 thousand tons. DAP offtake during December 2023 was 138 thousand tons leaving behind closing balance of 32 thousand tons.

During December 2023, offtake of Nitrogen, Phosphate and Potash decreased by 49.2, 0.5 and 63.2 percent respectively, as compared to same period of last year.

Product	Opening Inventory	Domestic Production	Imports	Total Availibility	Offtake	Write On/Off	Closing Bal- ance				
		000 Tons									
Urea	156	565	48	732	628	0	105				
DAP	33	73	65	170	138	0	32				

	Fertilizer Offtake Rabi 2022-23				Fertilizer Offtake Rabi 2021-22				% Change			
Month	Nitrogen	Phosphate	Potash	Total	Nitrogen	Phosphate	Potash	Total	Nitragen	Dhaanhata	Detech	Tatal
		(000 Tons)							Nitrogen	Phosphate	Potash	lotal
Oct	260.0	86.1	2.6	348.7	234.7	42.7	1.6	280.0	10.81	96.9	61.5	24.5
Nov	380.0	160.8	2.2	543.1	351.0	131.0	0.6	482.6	8.3	22.8	266.7	12.5
Dec	350.8	79.3	2.5	432.5	482.0	107.0	0.4	589.4	-27.2	-25.9	516.3	-26.6

Source: MRR.01/2024 NFDC

![](_page_11_Figure_8.jpeg)

![](_page_11_Figure_9.jpeg)

Source: MRR.01/2024 NFDC

زرعی سفار شات (ماہِ فروری)

گندم:-1۔ گندم کودوسرایانی گوبھ کی حالت برلکائیں۔ اس لیے موزوں وقت اکیتی گندم کے لیے کاشت سے تقریباً 80 تا 90 دن بعد جبکہ بچینی کاشتہ گندم کے لیے 70 تا 80 دن کے بعد آتاہ۔ 2۔ گندم کو تیسر ایانی دود صباحالت پر لگائی۔ جو کہ کاشت کے 110 تا 115 دن بعد آتاہے۔ 3۔ زیادہ بار شیں گندم کی فصل پر کا تگیاری کے جملے اور بیاری کے پھیلائو کا سب بنتی ہیں۔ اس لیے فصل پر بیاریوں سے بیائو کے لیے بر وقت س ر -05 4 خشک موسمی اثرات کی صورت میں بہترے دوسرے اور تیسرے پانی کے در میان گند م کی حالت کو مد نظرر کھتے ہوئے ایک اضافی پانی بھی لگائیں۔ 5۔ اگر فصل کار تک دیرے کاشت اور کم کھاد کی وجد سے پیلا ہور باہو تود وکلو گرام پور یا کو 100 لٹر پانی میں ملا کر فی ایکڑ سیرے کریں۔ بارانی علاقہ جات میں 2 کلو گرام کے ساتھ 2 کلو گرام سیلفیٹ آف یو ٹاش (ایس اونی) یا میوریٹ آف یو ٹاش (ایم اونی) ضرور استعمال کریں۔ کماد:۔ 1۔اچھے نگاس والی میر اما بحاری میر از مین کماد کی اچھی پیدادار کے لیے موزوں ہے۔ 2۔ کماد کی کاشت کے لیے زمین کی تیاری پر خصوصی توجہ دیں۔ چزل بل یامٹی والابل ضر ور چلائیں تاکہ زمین گہرائی تک نرم ہو سکے۔اس کے بعد 3 - 4 بارعام بل جلاكرزين كوبحرا بحراكر ليس ادر سباكه دي-3 ـ رجر کے ذریعے ہے 8 سے 10 ایٹ گیر کی کھیلیاں 4 فٹ کے فاصلے یہ بنائیں۔ 4۔ صحت مند بنج بنی صحت مند فصل کاضامن ہوتا ہے اس لیے بیاریوں سے پاک صحت مند بنج استعمال کریں۔ مونڈ حی فصل کی بجائے لیر کی (یکساں) فصل ہے 🕄 حاصل کری۔ 5۔ بنج پر میز ہتوں پاکھور کی کاغلاف نہ ہو۔ بصورت دیگر دیمک کے حملے کاخطر دیڑھ جاتا ہے۔ 6۔ آنکھوں کوز خی ندہونے دی۔ در ندیج کا گاؤمتا ثر ہوتاہے۔ 7 به بروقت کاشت اور دیگر موزون حالات کی موجود گی بی فی ایکزد دوآ تکھوں دالے 25 تا 31 ہزار سے با120 من وزن استعال کر س۔ 8۔ کاشت سے پہلے بیج کو پیچیوندی کش زہر کے محلول میں 3تا5 منٹ تک رہنے دیں۔ تاکہ بیاریوں سے محفوظ رہے۔ 9۔ کماد کی اچھی پیدادار کے لیے علاقائی طور پر تجویز کردہ منظور شدہ اقسام کاشت کریں۔ کیونکہ غیر منظور شدہ ادر ممنوعہ اقسام کی کاشت نقصان دہ ادر بیاریوں کے پھیلاؤ کاسب بن سکتی ہے۔

10۔ کماد کی کاشت کاوقت فروری ہے وسط مار بچ تک ہے۔ تاخیر سے کاشت فصل کی پیدادار میں کمی کا باعث بنتی ہے۔ 11۔ زمین کی زر خیز ی کو ید نظر رکھتے ہوئے کھاد وں کا مناسب اور متوازن استعال پیدادار کاکلیدی عضرے۔ کمز در زمین میں 4 بوری یوریا، 3 بوری ڈی ا بی اور 2 بوری یو ناشیم سلفیٹ جبکہ زر خیز زمین میں 2.5 بوری یوریا، 1 بوری ڈی اب پی اور 1 بوری یو ناشیم سلفیٹ کی سفارش کی جاتی ہے۔ 12۔ مونڈ ھی فصل کی کھاد کی ضرورت لیر افصل سے زیادہ ہوتی ہے۔ لٰہذامونڈ ھی فصل کے لیے 30 فیصد زیادہ کھاد ڈالنے کی ضرورت ہے۔ 13۔ مونڈ ھی فصل میں کاشتی امور اور موسمی اثرات کی وجہ ہے مڈھ مرسکتی ہیں۔اس لیے یو دوں کی تعداد کو یورا کرنے کے لیے اسی قشم کے مڈھ لاکر ناغے پر کرناانتہائی ضروری ہے۔ 14 \_فروری، مارچ کاموسم موند حی فصل کے لیے موزوں بادر زیادہ اچھاجاڑ بنے میں مد ددیتے ہیں۔ اس لیے موند حی فصل رکھنے کاارادہ ہو تو فصل کی کٹائی فرور کی پارچ میں کریں ادرایک اچچ زمینی گہرائی ہے کا ٹیس۔ تاکہ آنکھوں کو صحت مندماعول میسر آ سکے۔ كمكى (بماريد كاشت):-1 - بھاری میر از بین پر کمکی کاشت کریں۔ تاکہ زیادہ سے پیدادار کے ساتھ منافع بخش فصل کا حصول ممکن ہو۔ 2۔ تین پاچار پار بل اور سپاکہ دے کر زمین اچھی طرح تیار کرلیں۔ 3۔15 جنوری تاافتتام فرور کی کاشت کے لیے موزوں وقت ہے۔ جبکہ راولینڈ کی ڈویژن (پراڑی علاقوں کے علاوہ)20 مارچ تک فصل کاشت کی جا عتى ہے۔ 4۔ اچھی پیدادار کے لیے سفارش کر دوہا نہر ڈاقسام کا 12 تا 15 کلو گرام (ڈرل کاشت کے لیے) یا 8 تا 10 کلو گرام (وٹوں پر کاشت) فی ایکڑ چی استعال -05 5۔ زمین کی زر خیز ی کو ید نظر رکھتے ہوئے 2.5 تا 2.5 یوری ڈی اے بی اور 1 تا 5.1 یوری یو ناشیم سلفیٹ فی ایکڑ یوقت کاشت استعمال کریں۔ 6۔ایسے بارانی علاقہ جات جہاں بارش کم ہوتی ہو وہاں ایک بوری پوریا،ایک بوری ڈیاہے بی اور آ دھی بوری یو ناشیم سلفیٹ استعال کریں۔ جبکہ زیادہ بارش والے بارانی علاقوں میں ڈیڑھ بوری یوریا، ڈیڑھ بوری ڈی اپ بی اورا یک بوری یو ٹاشیم سلفیٹ فی ایکڑ ڈالیں۔

![](_page_14_Picture_0.jpeg)

![](_page_14_Picture_1.jpeg)

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