

**SKN AGRICULTURE UNIVERSITY  
RAJASTHAN AGRICULTURAL RESEARCH INSTITUTE DURGAPURA,  
JAIPUR**

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**Proceeding of *Kharif* -2024 ZREAC meeting of Zone IIIa  
29-30<sup>th</sup> April, 2024**

Venue	:	<b>STR Meeting Hall</b>
Date	:	April 29-30 <sup>th</sup> , 2024
Chairman	:	<b>Dr. M.L. Jakhar</b> Director Research SKNAU, Jobner
Co-Chairman	:	<b>Sh. L.N. Bairwa</b> Additional Director Agriculture (Extension), Jaipur, Division, Govt. of Rajasthan.
Convener	:	<b>Dr. Subodh Kumar Bishnoi</b> Associate Professor (Plant Physiology) & Incharge, Technical Cell, Rajasthan Agricultural Research Institute, Durgapura, Jaipur.
Rapporteurs	:	<b>Dr. Shweta Gupta</b> Assistant Professor (Agronomy), Rajasthan Agricultural Research Institute, Durgapura, Jaipur.
		<b>Dr. Bheem Pareek</b> Assistant Professor (Agronomy), Rajasthan Agricultural Research Institute, Durgapura, Jaipur

**Dr. Subodh Kumar Bishnoi, Incharge, Technical Cell, RARI, Durgapura** welcomed all the scientists of RARI, SKNCOA, Jobner, ARSS (Ajmer, Diggi and Kotputli), KVKs (Ajmer, Dausa, Bansthali, Chomu, and Kotputli), ATC, Tabiji, Ajmer, officers of state departments of Agriculture, Horticulture and other line departments engaged in research and extension activities of Zone IIIa. Then he invited, **Dr. M.L. Jakhar, Director Research, SKNAU, Jobner & Chairman** of the house for his introductory remarks.



Chairman, in his opening remarks, informed the house that two varieties of groundnut were identified for the National release during the annual group meeting of groundnut held at RARI, Durgapur this year. He showed his concern about the severe infestation of whitegrub and collar rot in groundnut crop and urged the house for discussing their pre-and post management strategies. As the groundnut cultivation is growing in our zone, so he emphasized on developing technologies for the management of rainfed groundnut. He also informed the house about the availability of the sufficient quantity of *Kharif* crops seed in the University, except pearl millet, due to its isolation distance problem. He told the SKNAU scientist to plan their research trials on the basis of the feedback received from the state government officials. He also emphasized on conducting the research trials on spraying the pesticides, particularly herbicides through drone. Incharge, Technical Cell, thanked the Director Research, SKNAU, Jobner & Chairman of the house for his encouraging remarks. Then he invited Director, RARI, Durgapura, for her remarks.

**Director RARI, Dr. Sunita Gupta** started her opening remarks by congratulating the AICRP on Groundnut team for releasing two varieties of groundnut with 43% protein and getting one seed hub at RARI, Durgapura. She encouraged the young scientist for preparing new research projects for submitting it to the various funding agencies. She emphasized on preparing the strong technical programme for research trial and told the head of the departments for identifying the grey areas of their subject for conducting the research trials. Incharge, Technical Cell, thanked the Director, RARI for her opening remarks. Then he invited Sh. L.N. Bairwa, Additional Director Agriculture (Extension), Jaipur, Division, Govt. of Rajasthan and Co-Chairman of the house, for his remarks.

**Sh. L.N. Bairwa, Additional Director Agriculture (Extension), Jaipur** in his opening remarks urged the house for listening the research findings of the scientists very carefully and also ask them to give their feedback of the problems faced by the farmers on their fields. He emphasized on collaborating the ongoing technology of the field with the research, especially in the polyhouses. He showed his concern about the excessive use of pesticides in the polyhouses and its monitoring. He told the scientists for doing research on the organic practices in the polyhouses and on drone technology. He also emphasized for the inclusion of Nano Urea and Nano DAP in the package of practices. Incharge, Technical Cell, thanked him for his influential remarks.



After the initial session, Dr. Subodh Bishnoi, Associate Professor (Plant Physiology) & In-charge, Technical Cell, RARI, invited the scientists of SKNAU and ATC, Tabiji, Ajmer for presentation of research findings of experiments conducted during *Kharif*, 2023. The results emanating from the experiments conducted at RARI, Durgapura, Jaipur and adaptability performance at ATC, Tabiji, Ajmer were presented and the decisions were made, as per following details.

Project	Discipline	Details of the Experiments Conducted	Scientist Concerned	Action
GKMS	Agromet.	Weather report, <i>Kharif</i> -2023	Dr. Rani Saxena	Presented
AICRP on Pearl millet	Breeding	Pearl millet breeding	Dr. S.K. Jain	For Farmer's awareness
		Varietal proposal of RHB-273 for ATC trial	Dr. S.K. Jain	Recommended for testing at ATC
	Crop Production	Enhancing biofortified /non-biofortified pearl millet hybrids productivity and quality through micronutrients under irrigated situation.	Dr. Seema Sharma & ATC (Failed)	Recommended for inclusion in PoP
		Response of pearl millet to split application of nitrogen at different growth stages under irrigated condition	Dr. Seema Sharma	Concluded
	Plant Pathology	Monitoring of pearl millet diseases on farmers' fields.	Dr. R. S. Sharma	For Farmer's awareness
	Entomology	Survey on insect pest at farmer's field in pearl millet.	Dr. R. S. Bajiya	For Farmer's awareness
AICRP on Groundnut	Breeding	Groundnut breeding highlights	Dr. Ashok Kumar Meena	For Farmer's awareness
	Agronomy	Enhancing productivity of groundnut through sustainable nitrogen management.	Dr. M. R. Yadav/ Dr. Bheem Pareek	Recommended for testing at ATC
		Response of groundnut to foliar nutrition of nano urea and urea phosphate.	Dr. M. R. Yadav/ Dr. Bheem Pareek	Recommended for testing at ATC
		Sustainable groundnut production through crop diversification and tillage systems.	Dr. M. R. Yadav/ Dr. Bheem Pareek	Trial will be conducted at RARI only & ATC Scientist will visit.
AINP on Soil Arthropod Pests	Entomology	Research Highlights of AINP on Soil Arthropod Pests	Dr. A.S. Baloda	For Farmer's awareness



AINP on Arid legume	Breeding	Arid Legume breeding highlights	Dr. Ved Prakash Yadav	For Farmer's awareness
		Evaluation of high yielding genotype of cluster bean: RGr 20-15 (Karan Guar 15)	Dr. Ved Prakash Yadav & ATC (Failed)	Notified and recommended for inclusion in PoP
		Varietal proposal of CPD-269 (Cowpea) and RGr-20-7 (Guar) for ATC trial	Dr. Ved Prakash Yadav	Recommended for testing at ATC
	Agronomy	Study the effect of microbial consortium and nutrient management on growth & yield of clusterbean	Dr. Ram Niwas Choudhary	Recommended for inclusion in PoP after the release of the National recommendation in the upcoming AGM
	Entomology	Management of sucking insect pests infesting clusterbean	Dr. Vipin Kumar	Recommended for testing at ATC
AICRP on MULLaRP	Breeding	MULLaRP Breeding highlights	Dr. S.S. Punia/ Dr. Manish Kumar	For Farmer's awareness
		Evaluation of high yielding genotype of moong bean: RMG 1166	Dr. S.S. Punia/ Dr. Manish Kumar & ATC	Recommended for the state release.
		Varietal proposal of RMG-1191 and RMG-1196 for ATC trial	Dr. S.S. Punia/ Dr. Manish Kumar	Recommended for testing at ATC
AICRP on Vegetables	Breeding	Vegetable Breeding highlights	Dr. Uadal Singh/ Dr. S.K. Bairwa	For Farmer's awareness
AINP on Onion & Garlic	Breeding	Onion and Garlic Breeding highlights	Dr. Uadal Singh/ Dr. S.K. Bairwa/ Dr. Y.K. Sharma	For Farmer's awareness
STR	Entomology	Survey and evaluation of seed health status of farmers' saved seed with respect to insect infestation.	Dr. Hansa Jat	For Farmer's awareness
AINP on Pesticide Residue		Research Highlights of AINP on Pesticide Residue	Dr. B.N. Sharma	For Farmer's awareness
AICRP on Weed Management (VC)	Agronomy	Efficacy of new herbicides in managing broad spectrum weed flora in groundnut.	Dr. Shweta Gupta & ATC (Failed)	Recommended for inclusion in PoP
		Efficacy of new herbicides in managing broad spectrum weed flora in clusterbean.	Dr. Shweta Gupta & ATC (Failed)	Recommended for inclusion in PoP
Adhok/ Non-Plan	Soil Science & Agril. Chem.	To Study the efficacy of nano phosphorus (P) and zinc (Zn) in groundnut ( <i>Kharif</i> 2021).	Dr. Pratibha Singh & ATC	Recommended for inclusion in PoP



		To study the response of natural mineral (Dihydrate Polyhalite) on Groundnut.	Dr. Pratibha Singh	Recommended for testing at ATC
		Effect of foliar application of Seaweed Extract on performance of Groundnut.	Dr. Pratibha Singh & ATC (Failed)	Recommended for inclusion in PoP
		Effect of application of different methods of Nano Phosphorus on crop growth and yield of Groundnut.	Dr. Pratibha Singh	Recommended for testing at ATC
	Nematology	Root-knot Nematode Management in Chilli	Dr. Hemraj Gurjar	Trial will be conducted at RARI only & ATC Scientist will visit.
	Agronomy	Effect of sea weed extract on growth and yield of cluster bean	Dr. Shweta Gupta & ATC (Failed)	Recommended for inclusion in PoP

Incharges of ARSS's (Diggi, Kotputli and Ajmer) presented the extension activities and seed production programme carried out during the *Kharif* 2023 at their ARSS's and farmer's fields. Director Research, SKNAU Jobner showed his concern about the decrease in the production at ARSS Diggi farm. He instructed to constitute a committee for enquiring about the reason for this decrease in production at ARSS, Diggi farm. He also instructed Incharge, ARSS, Kotputli to conduct research trials at their farm. Work done at ARSS Ajmer was appreciated by the house. Incharge, ARSS, Diggi presented the new research trials which will be conducted at their farm during *Kharif*, 2024.

The Programme Coordinators of KVKs (Ajmer, Chomu, Dausa, Bansthali and Kotputli) presented the extension activities and seed production programme carried out during the *Kharif* 2023 at their KVKs and farmers fields. The results presented included the front line demonstrations for the demonstration of new varieties/ hybrids, production, protection technologies and OFTs. Results revealed that all the demonstrations of improved varieties/ hybrids and technologies were economically viable and superior over farmer's practices. Programme Coordinators of KVK, Chomu showed his concern about the increasing row spacing in greengram crop as a feedback problem. Dr. M.L. Jakhar, Director Research, SKNAU Jobner, instructed Dr. Shweta Gupta and Ms. Anju Kanwar Khangarot to frame a research trial on the



row spacing on greengram crop as a Non-Plan trial, to be conducted in the upcoming *Kharif*, 2024.

Deputy Directors of Agriculture of Jaipur, Ajmer, Dausa, Tonk, Dudu, Kekri, Beawar, Kotputli districts and Deputy Director (Horticulture) presented the overall scenario of extension activities viz., seed, fertilizer, mini-kit demonstrations including rainfall situation, area, production & productivity of different *kharif* crops in the district. They also presented the feedback problems on emerging insect, pest and diseases at farmer's field.

**Dr. Shweta Gupta**, Member of the Technical Cell, RARI, summarized about the 2 days meeting. She informed the house that in two days total of 37 presentations were presented, which includes 20 presentations from SKNAU scientists, 3 from ARSS, 5 from KVK's and 9 from State Department. Two varieties (Green gram and Clusterbean) were recommended for the state release and seven agronomical technologies were recommended for the inclusion in the Package of Practices of Zone IIIa. Five varieties and seven research trials were proposed for testing at ATC.

**Dr. Subodh Kumar Bishnoi**, Incharge, Technical Cell, RARI appraised the house about the technologies approved for inclusion in the POP (Annexure-III) and research finding finalized for adaptability testing at ATC, Tabiji, Ajmer (Annexure-IV).

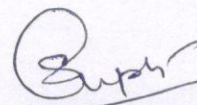
**Dr. Sunita Gupta**, Director, RARI, thanked Director Research, SKNAU, Jobner, Additional Director Agriculture (Extension), Jaipur, Division, all the scientists and government officials for their patience listening and active participation in the meeting.

**Sh. L.N. Bairwa**, Additional Director Agriculture (Extension), Jaipur, and Co-Chairman of the house in his closing remarks urged the scientists to conduct the research trials on the feedback problems raised by the extension workers. He also asked for reviewing the cost of cultivation of each crop.



**Dr. M.L. Jakhar**, Director Research, SKNAU, Jobner & Chairman of the house appreciated all the participants for the concrete discussion on each topic. He asked the agronomists for calculating the actual cost of cultivation of Groundnut (Dr. M.R. Yadav), Pearl millet (Dr. Seema Sharma) Clusterbean (Dr. R. N. Choudhary) and Sesamum (Dr. R.N. Choudhary). Further, he informed the house that in upcoming *Kharif* season, demonstration of herbicide application will be done through drone at SKNAU, Jobner. He also urged the Joint Directors of each districts to add the varietal replacement rate also with seed replacement rate in their presentation. At the end, he thanked all the participants for in depth discussion with fruitful results during the meeting.

**Dr. Subodh Kumar Bishnoi** expressed sincere thanks to Chairman Dr. M.L. Jakhar, Co-chairman Sh. L.N. Bairwa and Dr. Sunita Gupta, Director, RARI for their fruitful suggestions and guidance to bring out the final recommendations by the discussions and deliberations. He also thanked all the SKNAU scientists, ARSS Incharges, Programme Coordinators of all KVK's, ATC Incharge and their scientists, all government officials and extension workers for their active participation in the meeting. He sincerely acknowledged the rapporteurs for recording the minutes of the meeting and members of technical cell for extending valuable support. Last but not least, he expressed thanks to all the ministerial and supporting staff involved in various arrangements made for smooth conduction of the meeting.



**Director**  
**RARI, Durgapura, Jaipur**

No. F.9( )SKNAU/DIR-RARI/ZREAC/ TC/2024/ 698

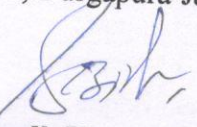
Dated: 20-5-2024

**Copy of the proceedings of Kharif, 2023 of Zone IIIa forwarded for information and necessary action to:**

1. The Director Research/Extension Education, SKNAU, Jobner.
2. The Commissioner, Deptt. Of agriculture, Govt. of Raj, Pant Krishi Bhawan, Jaipur.
3. The Director of Horticulture, Govt. of Rajasthan, Pant Krishi Bhawan, Jaipur.
4. The Director, State Institute of Agriculture Management, Durgapura-Jaipur.
5. The Director of Animal Husbandry, Govt. of Rajasthan, Pashudhan Bhawan, Tonk road, Jaipur.



6. The Director, Central Sheep and Wool Research Institute, Avikanagar-Malpura, Tonk.
7. The Director, National Research Centre on Seed Spices, Tabiji, Ajmer.
8. The Dean, SKN College of Agriculture, Jobner to kindly circulate among all the concerned scientists to attend the meeting.
9. The Dean, College of Agriculture, Lalsot (Dausa), Kotputli, Jhilai (Niwai) and College of Horticulture, Durgapura.
10. The ADR (Seeds), RARI, Durgapura, Jaipur.
11. The Addl. Director of Agriculture (Research), GOR, Pant Krishi Bhawan, Jaipur.
12. The Addl. Director of Agriculture (Extension), GOR, Pant Krishi Bhawan, Jaipur.
13. The Jt. Director of Agriculture (ATC), GOR, Pant Krishi Bhawan, Jaipur.
14. The Jt. Director of Agriculture (Extension), Jaipur Division, SIAM, Jaipur.
15. The Jt. Director of Agriculture (Oilseeds), GOR, Pant Krishi Bhawan, Jaipur.
16. The Project Director, ATMA, Director of Agriculture, GOR, Pant Krishi Bhawan, Jaipur.
17. The Dy. Director (Agronomy), ATC, Deptt. of Agriculture, Tabiji Farm, Ajmer, with the request to send the action taken report of *Kharif* 2023 research trials conducted at ATC.
18. The Dy. Director (Entomology), ATC, Deptt. of Agriculture, Tabiji Farm, Ajmer, with the request to send the action taken report of *Kharif* 2023 research trials conducted at ATC.
19. The Dy. Director Agril. (Extn), Deptt. of Agriculture, Dausa/Ajmer/Tonk/Jaipur.
20. The Dy. Director, Horticulture, Durgapura, Jaipur.
21. The Sr. Production Manager, Rajasthan State Seeds Corporation, Krishi Bhawan, Jaipur.
22. All the Heads of Departments/ Scheme Incharges, RARI, Durgapura-Jaipur.
23. The Officer Incharge, ARSS, Tabiji (Ajmer)/Diggi (Tonk)/Goneda (Kotputli).
24. The Programme Coordinator, Krishi Vigyan Kendra, Takarda, Chomu/Banasthali, Tonk/Dausa/Tabiji, Ajmer/ Kotputli, Jaipur.
25. In-charge, Technical Cell, RARI, Durgapura-Jaipur
26. Dr. Shweta Gupta and Dr Bheem Parek, Rapporteurs, RARI, Durgapura-Jaipur.

  
(Subodh Kumar Bishnoi)

Associate Professor (Plant Physiology) &  
Incharge, Technical Cell  
RARI, Durgapura-Jaipur



**ANNEXURE-I**

**Action Taken Report (ATR) on decisions taken in *Kharif, 2023* ZREAC meeting of Zone IIIa held at RARI, Durgapura, Jaipur on 20-21<sup>st</sup> April, 2023**

S.No.	Problems	Action taken
	Inclusion of recommendation in package of practices	All the thirteen production and protection recommendations have been communicated to the appropriate authority for inclusion in PoP.
2.	Conduction of experiment for adaptability performance at ATC, Tabiji, Ajmer	
	<b>Title of experiment</b>	<b>Action taken</b>
i	Enhancing biofortified /non- biofortified pearl millet hybrids productivity and quality through micronutrients under irrigated situation	Experiment was failed at ATC and ATC scientist visited the trial conducted at RARI, Durgapura.
ii	To Study the Efficacy of Nano Phosphorus (P) and Zinc (Zn) in Groundnut. (2021)	Conducted at ATC in 2021 and was kept on hold last year. ATC will present the results.
iii	Variety Proposed: RGr 20-15 (KARAN GUAR 15)	Experiment was failed at ATC and ATC scientist visited the trial conducted at RARI, Durgapura.
iv	Performance of RMG 1166 of moong bean	Experiment was conducted by ATC scientists and results presented
v	Effect of seaweed extract on growth and yield of cluster bean	Experiment was failed at ATC and ATC scientist visited the trial conducted at RARI, Durgapura.
vi	Efficacy of commercially available neem products on storage pest management during storage under ambient condition. (Green gram)**	Result will be presented in Rabi ZREAC 2024, as the experiment has not yet completed.
vii	Studies on the effect of insecticidal seed treatment on seed quality during storage under ambient condition. (Green gram)**	Result will be presented in Rabi ZREAC 2024, as the experiment has not yet completed.
viii	Efficacy of new herbicides in managing broad spectrum weed flora in groundnut.	Experiment was failed at ATC and ATC scientist visited the trial conducted at RARI, Durgapura.
ix	Efficacy of new herbicides in managing broad spectrum weed flora in clusterbean	Experiment was failed at ATC and ATC scientist visited the trial conducted at RARI, Durgapura.
x	Effect of foliar application of seaweed extract on performance of Groundnut.	Experiment was failed at ATC and ATC scientist visited the trial conducted at RARI, Durgapura.



**ANNEXURE-II**

**Progress of Research on Feedback Problems submitted in *Kharif, 2023* ZREAC meeting of  
Zone IIIa**

On all the feedback research work were initiated and results will be presented further

S. No.	Nature of problem	Progress of work/ Suggestions
1	Lacking of PoP for organic farming	Project submitted to work on organic farming
2	Recommendations for liquid bio-fertilizers in field crops	Gram, mustard chickpea, groundnut and technology incorporated and on moongbean it is going on.
3	Recommendations for Nano-fertilizers in field crops	Experiments started on Gram, mustard, chickpea, groundnut and pearl millet. Technology on ground nut and pearl millet has been developed.
4	Nematode problems in polyhouses and protected cultivation	Experiments are going on in tomato and brinjal in protected cultivation.
5	Phyllody in Sesamum	Research to be initiated
6	White grub problem in groundnut and pearl millet	Technology developed and incorporated in PoP.
7	Fall army worm in peal millet and maize	Research to be initiated
8	Parawilt disease in cotton	Research to be initiated
9.	Yellow vein mosaic in moong bean	Research to be initiated



### ANNEXURE-III

#### **Production recommendations approved in *Kharif* ZREAC Meeting -2024 of Zone-IIIa**

1. The following crop varieties are recommended for State release and inclusion in PoP of Zone-IIIa after the notification –

#### **Clusterbean Variety: Karan Guar 15 (RGr 20-15):**

- The RGr 20-15 (Karan guar-15) is a high yielding variety of cluster bean developed by hybridization between RGC-1017 and RGC-1002 followed by pedigree breeding method.
- On an average, proposed variety gives higher grain yield (1337 kg/ha) with the superiority of 13.98 % over the best check RGC 1033 (1173 kg/ha) and 23.22 % over the check RGC 1066 (1085 kg/ha)
- The variety is moderately resistant to the major diseases like Bacterial Leaf Blight, Root Rot and Alternaria Blight
- It also shows lower incidence of insect damage like White Fly, Leaf Hopper and Aphid
- It has good quality traits like protein content (28.79%), carbohydrate content (41.43%), endosperm content (32.46%) and gum content (29.75%) with high viscosity profile (3385 cp).
- The proposed variety also showed good performance in agronomical trial.
- The plants of proposed variety are erect and branched, obovate leaf with acute tip and serrated leaf margin, bearing white flower. Seeds are light grey in colour with medium bold size 3.22 g (3.17-3.31 g/100 grains).
- It is a medium maturing variety, matures in 101.33 (99-104) days
- आरजीआर 20-15 (करन ग्वार-15) ग्वार की एक उच्च उपज देने वाली किस्म है जिसे आरजीसी-1017 और आरजीसी-1002 के बीच संकरण और उसके बाद वंशावली प्रजनन विधि द्वारा विकसित किया गया है।
- औसतन, प्रस्तावित किस्म सर्वोत्तम आरजीसी 1033 (1173 किलोग्राम/हेक्टेयर) की तुलना में 13.98 % की श्रेष्ठता और चेक आरजीसी 1066 (1085 किग्रा/हेक्टेयर) की तुलना में 23.22 % की श्रेष्ठता के साथ उच्च अनाज उपज (1337 किग्रा/हेक्टेयर) देती है।
- यह किस्म बैक्टीरियल लीफ ब्लाइट, रूट रोट और अल्टरनेरिया ब्लाइट जैसी प्रमुख बीमारियों के लिए मध्यम प्रतिरोधी है।
- यह सफेद मक्खी, लीफ हॉपर और एफिड जैसे कीट क्षति की कम घटनाओं को भी दर्शाता है
- इसमें उच्च चिपचिपाहट प्रोफाइल (3385 cp) के साथ प्रोटीन (28.79%), कार्बोहाइड्रेट (41.43%), एंडोस्पर्म (32.46%) और गोंद (29.75%) जैसे अच्छी गुणवत्ता वाले गुण हैं।
- प्रस्तावित किस्म ने कृषि परीक्षण में भी अच्छा प्रदर्शन दिखाया।



- प्रस्तावित किस्म के पौधे सीधे और शाखित, नुकीले सिरे और दाँतेदार पत्ती किनारे वाले मोटे पत्ते वाले, सफेद फूल वाले होते हैं। बीज हल्के भूरे रंग के और मध्यम मोटे आकार के 3.22 ग्राम (3.17–3.31 ग्राम/100 दाने) के होते हैं।
- यह मध्यम अवधि में पकने वाली किस्म है, 101.33 (99–104) दिनों में पक जाती है



#### Mungbean Variety : RMG 1166

- RMG 1166 was evaluated at seven state locations from 2020 to 2023.
- It showed superiority over the check varieties (MSJ 118, IPM 02-3, and RMG 975) for seed yield in pooled analysis.
- The mean seed yield of genotype RMG 1166 was recorded at 1160 kg per hectare, which is 14.39%, 18.12%, and 12.07% higher than the check varieties MSJ 118, IPM 02-3, and RMG 975, respectively.
- This genotype also performed well at ATC, Ajmer over check varieties. Therefore, genotype RMG 1166 is proposed for state release.





2. Application of 75% recommended dose of phosphorus alongwith two foliar applications of Nano DAP fertilizer @ 4ml/litre at 30-35 DAS and 45-50 DAS significantly increased groundnut productivity with maximum net returns.

मूंगफली की उत्पादकता बढ़ाने एवं अधिकतम शुद्ध आय प्राप्त करने हेतु सिफारिश की गई फोस्फटिक उर्वरकों की 75 % मात्रा के साथ नैनो डीएपी उर्वरक के दो पर्णाय छिड़काव (4 मिली/ ली), पहला बुवाई के 30-35 दिन बाद दूसरा बुवाई के 45-50 दिन बाद करने की सिफारिश दी जाती है।

3. Application of recommended dose of fertilizers alongwith 2 foliar applications of seaweed based biostimulants (3 ml/L water) at 35-40 DAS and 55-60 DAS is recommended for enhancing the productivity of groundnut with maximum net returns.

मूंगफली की उत्पादकता बढ़ाने एवं अधिकतम शुद्ध आय प्राप्त करने हेतु सिफारिश की गई उर्वरकों की मात्रा के साथ सीवीड आधारित बायोस्टिमुलेंट के दो पर्णाय छिड़काव (3 मिली/ ली), पहला बुवाई के 35-40 दिन बाद दूसरा बुवाई के 55-60 दिन बाद करने की सिफारिश दी जाती है।

4. For the effective management of weeds in the Groundnut crop, post-emergence application of herbicide Sodium Acifluorfen 16.5% + Clodinofof-Propargyl 8% EC (Ready mix) @ 245 g a.i./ha at 15-20 DAS in 500 litres of water is recommended.

मूंगफली की फसल में खरपतवार के प्रबंधन हेतु खड़ी फसल में बुवाई के 15 से 20 दिन पश्चात शाकनाशी सोडियम ऐसीफ्लुओरफेन 16.5% + क्लॉडिनोफॉप प्रोपरगिल 8% (मिश्रित घोल) शाकनाशी का 245 ग्राम सक्रिय तत्व 500 लीटर पानी में मिला कर प्रति हेक्टेयर की दर से छिड़काव करें ।

5. For the effective management of weeds in the Clusterbean crop, post-emergence application of herbicide Propaquizafop 2.5% + Imazethapyr 3.75% (Ready mix) @ 125 g a.i./ha at 15-20 DAS in 500 litres of water is recommended.

ग्वार की फसल में खरपतवार के प्रबंधन हेतु खड़ी फसल में बुवाई के 15 से 20 दिन पश्चात शाकनाशी सोडियम प्रोपाक्विज़ाफ़ोप 2.5% + इमाज़ीथापर 3.75% (मिश्रित



घोल) शाकनाशी का 125 ग्राम सक्रिय तत्व 500 लीटर पानी में मिला कर प्रति हेक्टेयर की दर से छिड़काव करें ।

6. Seed treatment with seaweed based biostimulant @ 3ml/kg seed and 2 foliar applications of seaweed based biostimulant @ 2ml/litre water at 35-40 DAS and 55-60 DAS alongwith recommended dose of fertilizer is recommended for enhancing the productivity of clusterbean with maximum net returns.

ग्वार की उत्पादकता बढ़ाने एवम अधिकतम शुद्ध आय प्राप्त करने हेतु ग्वार के बीज का सीवीड आधारित बायोस्टिमुलेंट से बीजोपचार @ 3 मिली/किलो बीज से करे एवम सिफारिश की गई उर्वरकों की मात्रा के साथ सीवीड आधारित बायोस्टिमुलेंट के दो पर्णिय छिड़काव @ 2 मिली/ लीटर पानी, बुवाई के 35-40 दिन एवम बुवाई के 55-60 दिन बाद करने की सिफारिश दी जाती है।

7. Seed inoculation with microbial consortium @ 3-5 ml/kg seed and soil application of microbial consortium @ 4-5 lit/ha 5 lit/ha (Mix with FYM or organic manure) along with recommended doses of fertilizer recorded maximum seed yield, net returns and B:C ratio of cluster bean

सिफारिश की गई उर्वरकों की मात्रा के साथ ग्वार के बीजों को तरल माइक्रोबियल कंसोर्टियम (एजोटोबेक्टर + पी.एस.बी. + राइजोबियम + जस्ता गतिशील जीवाणु) के साथ 3-5 मिलीग्राम/ किलोग्राम बीज की दर से उपचारित करके एवं 4-5 लीटर/ हेक्टेयर गोबर की खाद/ फार्म क्षेत्र की खाद या केंचुआ की खाद के साथ मिलाकर बुवाई के समय मृदा में मिलाने पर ग्वार की अधिकतम उपज, शुद्ध आय एवम अधिकतम लाभ लागत अनुपात प्राप्त होता है

8. Application of  $\text{ZnSO}_4$  (25 kg/ha) and  $\text{FeSO}_4$  (20 kg/ha) at the time of sowing and 0.2 % Foliar spray of Borax at the time of tillering significantly increased pearl millet productivity with maximum net returns and B:C ratio.

बाजरे की अधिकतम उपज एवं शुद्ध आय प्राप्त करने हेतु बुआई के समय मिट्टी में  $\text{ZnSO}_4$  (25 किग्रा /हेक्टेयर और  $\text{FeSO}_4$  (20 किग्रा /हेक्टेयर ) डाले और कल्ले निकलते समय बोरेक्स का 0.2% पर्णिय छिड़काव करें।



**ANNEXURE-IV**

**Research Programme of ATC, Tabiji, Ajmer finalized in *Kharif*, 2023 ZREAC  
Meeting of Zone-IIIa**

Sr. No.	Experiments to be conducted at ATC	Name of the concerned scientist
1	Clusterbean Variety Proposed: RGr 20-7	Dr. V.P. Yadav
2	Pearlmillet Variety Proposed: RHB-273	Dr. S. K. Jain
3	Greengram Variety Proposed: RMG-1191	Dr. S.S. Punia/ Dr. Manish Kumar
4	Greengram Variety Proposed: RMG-1196	Dr. S.S. Punia/ Dr. Manish Kumar
5	Cowpea Variety Proposed: CPD-269	Dr. V.P. Yadav
6	Enhancing productivity of groundnut through sustainable nitrogen management.	Dr. M.R. Yadav/ Dr. Bheem Pareek
7	Response of groundnut to foliar nutrition of nano urea and urea phosphate.	Dr. M.R. Yadav/ Dr. Bheem Pareek
8	Sustainable groundnut production through crop diversification and tillage systems**	Dr. M.R. Yadav/ Dr. Bheem Pareek
9	Management of sucking insect pests infesting clusterbean	Dr. Vipin Kumar
10	To study the on response of natural mineral (Dihydrate Polyhalite) on Groundnut.	Dr. Pratibha Singh
11	Effect of application of different methods of Nano Phosphorus on crop growth and yield of Groundnut	Dr. Pratibha Singh
12	Root-knot Nematode Management in Chilli**	Dr. Hemraj Gurjar

\*\*Experiments will be conducted at RARI, Durgapura and ATC scientist will visit the experiments