

8. Employment Status

Designation	Pay scale (Rs)	Nature of work	University/Institution	Period (From - To)
Professor(PBG)	37400-67000+ 10000	ADR (Seeds), Research & Teaching	SKNAU, Jobner	28-02-2021 to Cont..
Associate Professor (PBG)	37400-67000 + 9000	Teaching & Research	SKNAU, Jobner	28-02-2017 to 27-02-2021
Assistant Professor (PB&G)	15600-39100 + 7000	I/c, AICRP on MULLaRP(Research & extension)	AU, Kota (Raj.)	14-09-2013 to 27-02-2018.
Assistant Professor (PB&G)	15600-39100/- + 7000	I/c, AICRP on MULLaRP/Chickpea*(Research & extension)	MPUAT, Udaipur (Raj.)	23-06-2005 to 13-09-2013

* Also working as chickpea breeder for three years (2011 to 2013).

II. PROFESSIONAL ACHIEVEMENTS

9. Salient achievements (Concept/technology/patents/variety/recommendations)

A. Varieties released & Notified at National Level

S N	Crop	Varieties	Year of Release & Notification No.	Releases for Zone	Contr. (Major/ Associate)
1.	Lentil	Kota Masoor 1	S.O. 399(E) 2018	CZ	Major
2.	Lentil	Kota Masoor 2	S.O. 1379(E) 2018	CZ	Major
3.	Lentil	Kota Masoor 3	S.O. 99(E)-2020	CZ	Major
4.	Lentil	Kota Masoor 4	S.O. 500(E)-2021	CZ	Major
5.	Lentil	Kota Masoor 6	S.O. 4388(E)-2024	NWPZ & CZ	Major
6.	Urdbean	Mukundra Urd 2	S.O. 1379(E) 2018	NWPZ	Major
7.	Urdbean	Kota Urd 4	S.O. 99(E) 2020	NEPZ	Major
8.	Urdbean	Kota Urd 5	S.O. 8(E)-2021	SZ	Major
9.	Urdbean	Kota Urd 6	S.O. 1560(E)-2024	NWPZ	Major
10.	Rajmash	Kota Rajmash 1	S.O. 1379(E) 2018	CZ	Major
11	Chickpea	Kota Kabuli Chana 2	S.O. 500(E)-2021	NWPZ	Major
12	Chickpea	Kota Kabuli Chana 3	S.O. 8(E)-2021	WCZ	Major
13	Chickpea	Kota Kabuli Chana 4	S.O.4222(E)-2023	SZ	Major
14	Fennel	Karan Saunf 1 (RF 289)	S.O.4917(E)-2024	Raj, UP, MP, Gujrat, Bihar, Haryana	Major
15	Fennel	Karan Saunf 2 (RF 290)	S.O.4917(E)-2024	Raj, UP, MP, Gujrat, Bihar, Haryana	Major
16	Fenugreek	RMt 354	S.O. 3254(E) 2022	Raj, UP, MP, Gujrat, Bihar, Haryana	Major

B. Varieties released & Notified at State Level (Rajasthan)

SN	Crop	Varieties	Year of Rel. & Notification Number	Contribution (Major/Associate)
1.	Urdbean	Pratap Urd 1	S.O.2815 (E) 2013	Major
2.	Urdbean	Kota Urd 3	S.O. 99(E)-2020	Major
3.	Fieldpea	Kota Matar 1	S.O. 99(E)-2020	Major
4.	Chickpea	Kota Desi Chana 1	S.O. 99(E)-2020	Major
5.	Chickpea	Kota Kabuli Chana 1	S.O. 99(E)-2020	Major
6.	Lentil	RLG 5	S.O. 3540(E) 2016	Associate
7.	Mungbean	MSJ 118	S.O. 3540(E) 2016	Associate
8.	Mungbean	RMG 975	S.O. 3540(E) 2016	Associate
9	Fieldpea	RFP 4	S.O. 3540(E) 2016	Associate
10	Lentil	Kota Masoor 5	S.O. 4388(E)-2024	Major
11	Chickpea	Kota Desi Chana 4 (RKG 13- 380)	S.O. 4388(E)-2024	Major
12	Chickpea	Kota Desi Chana 5 (RKG 13- 515-1)	S.O. 4388(E)-2024	Major
13	Chickpea	Kota Desi Chana 6 (RKG 19-1)	S.O. 4388(E)-2024	Major

C. Varieties Identified for released & Notification

SN	Crop	Varieties	National/State (Adaptability)	Proceedings
1.	Fennel	RF 231	All the fennel growing states of the country	35 th Annual Group Meeting of ICAR- AICRP on Spices to held at CCSHAU, Hisar during 15-17 October, 2024
2.	Fenugreek	RMt 259	All the fenugreek growing states of the country	
3.	Coriander	RCr 565	All the coriander growing states of the country	
4.	Wheat	Raj 4548	Wheat growing areas (normal sown) of Rajasthan	Rabi ZREAC 2023-24 held at RARI, Durgapura during 23-24 September, 2024
5.	Wheat	Raj 4581	Wheat growing areas (late sown) of Rajasthan	
6.	Barley	RD 3064 (Malt)	North Western Plain Zone of India	64 th Annual Group Meeting of ICAR- AICRP on Wheat & Barley to held at RVSKVV, Gwalior during 25-27 Aug, 2025
7.	Barley	RD 3067 (Malt)	Malt barley growing areas of the Rajasthan	Rabi ZREAC 2023-24 held at RARI, Durgapura during 23-24 September, 2024
8.	Barley	RD 3053 (Feed)	Feed barley growing areas of the Rajasthan	
9	Barley	RD 3080 (Feed)	Feed barley growing areas of the Rajasthan	
10	Mungbean	RMG 1166	Mungbean growing areas of Rajasthan	Kharif ZREAC 2024 held at RARI, Durgapura during 29-30 April, 2024

10. Externally funded projects (details with funding agency, amount, duration etc.)

S. No.	Project Title	Status (PI/Co-PI)	Project Budget	Funding Agency	Duration
1.	Enhancing breeder seed production for increasing indigenous production of pulses in India	PI	Rs. 180.00 lakh/	NFSM (Govt of India)	03 years (2016-17 to 2018-19)
2.	Isolation of efficient plant type mutants with durable resistance to MYMV in urdbean	PI	Rs. 26.99 lakh/	BRNS, BARC, Trombay, Mumbai	03 years (2017-18 to 2019-20)
3.	PM RKVY Project on "Maintenance Breeding for Enhancing Seed Quality of Wheat and Barley" (2025)	CO-PI	Rs. 64.57 lakh	PM RKVY	03 years (2024-25 to 2027-28)
4.	PM-RKVY Project on "Strengthening and Mechanization of University Farms to Enhance Quality Seed Production" (2025).	PI	Rs. 422.20 lakh	PM RKVY	02 years (2024-25 to 2025-26)
5.	PM-RKVY Project on Establishment of Medium-Term Storage Module for Germplasm Storage, funded under PM-RKVY	CO-PI	Rs. 140 lakh	PM RKVY	02 years (2024-25 to 2025-26)

11. Impact of scientific contributions

- After joining the post of Assistant Professor (PBG) in AICRP on MULLaRP at ARS, Kota (MPUAT, Udaipur) in June 2005, I started work on crop improvement in crops *viz.*, urdbean, lentil, chickpea, rajmash and fieldpea. I have contributed to the development of 26 varieties in different pulse crops.
- Significant expansion in area and productivity of urdbean in the last ten years has increased from 1.22026 lakh ha (2015-16) to 3.46 lakh ha (2024-25) in Zone V of Rajasthan by the adoption of high-yielding varieties of urdbean.
- Supply of required breeder seed (**594.3 qt against the indent of 422.5qt during 2016-17 to 2017-19**) of different pulse varieties under EBSP (Enhancing breeder seed production for increasing indigenous production of pulses in India, 2016-17 to 2018-19 at ARS, Kota) and ensured the availability of quality seed to pulse growers in the country.
- Awarded Best Centre Award (AICRP on MULLaRP, ARS, Kota) during 2019 by IIPR-ICAR for the development of varieties in urdbean, lentil and rajmash.
- Development of a hyper-variable genetic stock of lentil: The hyper-variable genetic stock was developed from a single plant (spontaneously mutant) **and** is

utilised by breeders at different institutes, viz., ARS, Kota, IIPR Kanpur, CCS HAU Hisar, etc., to improve lentil for different traits.

- Development of India's first extra-early variety of lentil, **Kota Masoor 1** in 2018 from ARS, Kota.
- Developed the world's first spontaneous mutant variety of lentil, **Kota Masoor 4** (RKL 58F-3715) in 2021 from ARS, Kota.
- Identification and reports of the first open-flower semi-leafless mutant of lentil: First to report open flower in lentil to the global scientific community. The open-flower trait offers an opportunity to explore hybrid technology in lentils, and mutant alleles can play a crucial role in understanding the genetics of the target trait and improving lentils.
- The quality seed production of SKNAU, Jobner, increased from 5376 quintals (2019-20) to 10457 quintals (2024-25).

12. Academic Contributions:

A. Students Guided as Major Advisor					
	Name of Student	Title of thesis	University	Degree	Year
1	Mr. Narendra Kumar Jain	Agro-morphological Characterization of Spontaneous Mutants in Lentil (<i>Lens culinaris</i> Medik L.)”.	Department of Genetics and Plant Breeding, Institute of Agriculture Science, Bundelkhand University Jhansi - 284128 (UP)	M.Sc. (PBG)	2015
2.	Mr. Harshit Chaturvedi	Variability and Character Association in M ₃ generation of urdbean [<i>Vigna mungo</i> (L.) Hepper]	Department of Plant Breeding & Genetics, SKNCOA, (SKNAU, Jobner)	M.Sc. (PBG)	2020
3.	Dr. Dalip	Gene Action for Quantitative Traits in Mungbean [<i>Vigna Sadiate</i> (L.) Wilczek] Under Different Environments”.	Department of Plant Breeding & Genetics, SKNCOA, (SKNAU, Jobner)	Ph.D. (PBG)	2024
4.	Dr. Rubina Khan	Induction of genetic variability by physical and chemical mutagens in Fenugreek (<i>Trigonella foenum-graecum</i> L.)	Department of Plant Breeding & Genetics, SKNCOA, (SKNAU, Jobner)	Ph.D. (PBG)	2024
5.	Dr. Priyesh Verma	Triple Test Cross Analysis for Heat Tolerance, Yield and its Contributing Traits in Bread wheat (<i>Triticum aestivum</i> L.em. Thell)	Department of Genetics and Plant Breeding, RARI, Durgapura, Jaipur (SKNAU, Jobner)	Ph.D. (PBG)	2025
6.	Dr. Gopikrishan Gaur	Genetic Architecture for Drought Tolerance, Yield and its Contributing Traits in	Department of Genetics and Plant Breeding, RARI, Durgapura, Jaipur (SKNAU, Jobner)	Ph.D. (PBG)	2026

		Biparental Progenies of Feed Barley (<i>Hordeum vulgare</i> L.)			
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13. Research Publications: More than 6 NAAS rated only

S.No.	Publications	NAAS rating
1.	Ola, M.P., Jain, S.K., Choudhary, R., Punia, S.S. and Bharadwaj, C., 2025. Dissecting gene action for heat stress-responsive traits in chickpea (<i>Cicer arietinum</i> L.) across heat stress environments. <i>INDIAN JOURNAL OF GENETICS AND PLANT BREEDING</i> , 85(04), pp.675-679.	6.00
2.	Ola, M.P., Jain, S.K., Choudhary, R., Punia, S.S. and Bharadwaj, C., 2025. Physio-biochemical trait characterization using generation mean analysis in chickpea (<i>Cicer arietinum</i> L.) under timely and late sown conditions. <i>INDIAN JOURNAL OF GENETICS AND PLANT BREEDING</i> , 85(02), pp.321-324.	6.00
3.	Parihar, A. K., Tripathi, S., Hazra, K. K., Lamichaney, A., Gupta, D. S., Kumar, J., Punia, S. S. , ... & Dixit, G. P. (2025). Environmental adaptation of small-seeded lentils (<i>Lens culinaris</i>) in Indian climates: Insights into crop–environment interactions, mega-environments, and breeding approaches. <i>Crop Science</i> , 65(3). https://doi.org/10.1002/csc2.70090 .	7.90
4.	Shekhawat, P.K., Mohan Lal, J., Sumer Singh, P. , Singh, J., Ravikiran, K.T. and Singh, V., 2025. Insights Into the Salt Tolerance of Lentil (<i>Lens culinaris</i> Medik): Characterisation of Germplasm Resource to Accelerate Crop Improvement. <i>Journal of Agronomy and Crop Science</i> , 211(3), p.e70056.	8.80
5.	Parihar, A.K., Hazra, K.K., Lamichaney, A., Gupta, D.S., Kumar, J., Singh, A.K., Das, S.P., Jeberson, M.S., Sofi, P.A., Lone, A.A. and Dev, J., Punia, S.S. 2025. Adaptive responses of large-seeded lentils across diverse Indian climates. <i>Heliyon</i> , 11(3), p.e42184.	9.60
6.	Parihar, A.K., Hazra, K.K., Lamichaney, A., Gupta, D.S., Kumar, J., Mishra, R.K., Singh, A.K., Bhartiya, A., Sofi, P.A., Lone, A.A., Das, S.P., Punia, S.S. 2024. Multi-location evaluation of field pea in Indian climates: eco-phenological dynamics, crop-environment relationships, and identification of mega-environments. <i>International journal of biometeorology</i> , 68(10), pp.1973-1987.	8.60
7.	Khan, R., Punia, S.S., RAM, M., GUPTA, D., BHATT, B., AHMAD, S., DHEER, M., RAJPUT, S. and KUMAWAT, G., 2024. Determination of lethal dose (LD50) and sensitivity of fenugreek (<i>Trigonella foenum-graecum</i>) to sodium azide for induction of mutation. <i>The Indian Journal of Agricultural Sciences</i> , 94(4), pp.440-443.	6.00
8.	Jain, S.K., von Wettberg, E.J., Punia, S.S., Parihar, A.K., Lamichaney, A., Kumar, J., Gupta, D.S., Ahmad, S., Pant, N.C., Dixit, G.P. and Sari, H., 2023. Genomic-Mediated Breeding Strategies for Global Warming in Chickpeas (<i>Cicer arietinum</i> L.). <i>Agriculture</i> , 13(9), pp.1-32.	9.60
9.	Ahmad, S., Belwal, V., Punia, S.S., Ram, M., Dalip, Rajput, S.S., Kunwar, R., Meena, M.K., Gupta, D., Kumawat, G.L. and Hussain, T., 2023. Role of plant secondary metabolites and phytohormones in drought tolerance: a review. <i>Gesunde Pflanzen</i> , 75(4), pp.729-746.	10.30
10	Dheer, M., Punia, S.S., Ram, B. <i>et al.</i> Morphological features of an open flower mutant plant and characterization of their progenies in lentil (<i>Lens</i>	6.00

	<i>culinaris</i> Medik.). <i>Genet Resour Crop Evol</i> 61 , 879–886 (2014). https://doi.org/10.1007/s10722-014-0100-y	
11	Sheth, <u>B. P.</u> , Punia S. , Dheer, M., Rakhashiya Purvi M., Patel, <u>Pooja P.</u> , Thaker, Vrinda, S. 2019. Phylogenetic implications and secondary structure analyses of <i>Vigna mungo</i> (L.) Hepper genotypes based on nrDNA ITS2 sequences. <i>Computational Biology and Chemistry</i> , 78 : 389-397.	9.74
12	Punia S. , Singh, K., Ram, B., Dheer, M., Jain, N. K. and Meena, M. 2021. Notification of crop varieties and registration of germplasm: Lentil Variety RKL 58F-3715 (Kota Masoor 4). <i>Indian Journal of Genetics and Plant Breeding</i> , 81 (3):493.	6.00
13	Preeti Verma, S. S. Punia , P. Rokaria and S.N. Meena. 2021. Notification of crop varieties and registration of germplasm: Chickpea Variety RKGK 13-499 (Kota Kabuli Chana 2). <i>Indian Journal of Genetics and Plant Breeding</i> , 81 (4):612.	6.00
14.	Punia, S.S., Ram, B., Dheer, M., Jain, N.K., Koli, N.R. and Khedar, O.P., 2014. Hyper-variable spontaneous genetic variation for earliness, seed characters and other yield-contributing traits in lentil (<i>Lens culinaris</i> Med.). <i>Current Science</i> , pp.75-83.	7.00
15.	Punia, S.S., Gautam, N.K., Ram, B., Verma, P., Dheer, M., Jain, N.K., Koli, N.R., Mahavar, R. and Jat, V.S., 2014. Genetic variability and correlation studies in urdbean (<i>Vigna mungo</i> L.). <i>Legume Research-An International Journal</i> , 37 (6), pp.580-584.	6.00
16.	Punia, S.S., Ram, B., Koli, N.R., Ranwha, B.R. and Maloo, S.R., 2013. Genetic studies in relation to yield and its components in field pea (<i>Pisum sativum</i> L.). <i>Legume Research: An International Journal</i> , 36 (2).	6.00
17	Koli, N.R., Prakash, C. and Punia, S.S., 2012. Biparental mating in early segregating generation of aromatic rice (<i>Oryza sativa</i>). <i>Indian Journal of Agricultural Sciences</i> , 82 (1), p.63.	6.00
18	Punia, S.S., Shah, M.A. and Mittal, G.K., 2005. Heterosis in bread wheat [<i>Triticum aestivum</i> (L.) Em. TheiL]. <i>Indian journal of genetics and plant breeding</i> , 65 (04), pp.284-286.	6.00
Smarika/At a Glance/Books		
1	Amar Singh and S S Punia , 2019. “Smarika 2013 -2019” College of Agriculture, Bharatpur, Publisher: Amar Singh, Dean & S S Punia, ADSW, Pages,1-36.	
2.	S S Punia , NC Pant, RK Meena, Jitendra Singh and Rahul Kumar. 2020. “At a Glance” 2013 -2020” College of Agriculture, Bharatpur, Publisher: Dr. Swaroop Singh, Dean, Pages,1-60. (English)	
3.	S S Punia , NC Pant, Jitendra Singh and Rahul Kumar. 2020. “At a Glance” 2013 -2020” College of Agriculture, Bharatpur, Publisher: Dr. Swaroop Singh, Dean, Pages,1-71. (Hindi)	
4.	S.S. Rajput, S.S. Punia , R.R. Choudhary, M. Kumar and S.L. Kajla (2024). Sacred Status and Cultural Impact of Barley in Hindu Heritage .Additional Director Research (SKNAU), Durgapura, Jaipur (Rajasthan). <i>SKNAU/2024/72</i> : 1-24.	
5.	S.S. Punia , S.S. Rajput, R.R. Choudhary, Manish Kumar, S.K. Jain, Roshan Choudhary and N.K. Gupta (2025). Seed Production At SKNAU: Assessing Current Status & Outlining Future Directions .Additional Director Research (SKNAU), Durgapura, Jaipur (Rajasthan). <i>SKNAU/2025/77</i> : 1-42	
6.	S.S. Punia , S.S. Rajput, S.K. Jain, Manish Kumar, R.R. Choudhary, R.N. Choudhary and S.L. Kajla (2025). Pulses: Nutritional Value, Cultivation and Global Impact .ICAR-AICRP on Kharif Pulses, Rajasthan Agricultural Research Institute (SKNAU), Durgapura,	

	Jaipur (Rajasthan). SKNAU/2025/91: 1-111.
7.	S.S. Punia , S.K. Jain, S.S. Rajput, Manish Kumar, R.R. Choudhary and S.L. Kajla (2025). The Scenario of Pulses in Rajasthan: Scope and Opportunity .ICAR-AICRP on Kharif Pulses, Rajasthan Agricultural Research Institute (SKNAU), Durgapura, Jaipur (Rajasthan). SKNAU/2025/92: 1-85.

PUBLICATIONS



14. Collaborations/linkages with national and international institutes:

A. Collaborations/linkages with national institute:

IIPR, Kanpur; PAU, Ludhiana; HAU, Hisar, JNKVV, Jabalpur; Centre for advanced Studies in Plant Biotechnology and Genetic Engineering, Saurashtra University, Rajkot, Gujarat, IARI, New Delhi, AU, Kota; SKRAU, Bikaner; MPUAT, Udaipur

B. Collaborations/linkages with international institute:

ICARDA, Beirut, Lebanon

15. Recognitions/Honors/Awards

S.N.	Name of Award/ Honour	Conferred by (Name of body/organization, etc.)	Year of Award	Proof at Page No.
1.	Appreciation award of University for significant contribution in research project	Agriculture University, Kota	2016	73
2.	Appreciation award for sanction of BRNS project entitles “Isolation of efficient plant type mutants with durable resistance to MYMV in urdbean” for Rs. 26.99 lakh.	Agriculture University, Kota	2017	74
3.	Best Centre Award to AICRP on MULLaRP, ARS, Kota for outstanding Contribution in development of High Yielding Varieties of Lentil, Urdbean and Rajmash.	AICRP on MULLaRP, ICAR-IIPR, Kanpur	2019	75

16. Life membership of scientific/ professional societies and offices held

- **Fellow** of Indian Society of Pulses Research and Development (ISPRD), ICAR-IIPR, Kanpur (UP)
- **Life membership** of Indian Society of Pulses Research and Development

(ISPRD), ICAR-IIPR, Kanpur (UP)

- **Life membership** of National Society of Plant Science, Hisar
- **Life membership** of Indian Society of Genetics and Plant Breeding, New Delhi.
- **Zone 4 Councilor** of Indian Society of Pulses Research and Development (ISPRD), ICAR-IIPR, Kanpur (UP) for 2020-21 to 2022-23.

17. **Workshop organized:** Annual Group Meet on Kharif Pulses (Pigeonpea, Mungbean, Urdbean, Cowpea, Guar, Horse Gram, Mothbean, Rajmash and Ricebean) during May 7-9, 2025 at Rajasthan agricultural Research Institute, Durgapura, Jaipur (Rajasthan).



(Sumer Singh Punia)