

BIO-DATA

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2. Email and contact number: sumitbarupal9079803886@gmail.com and +919079803886
3. Past Institution: ICAR-Central Arid Zone Research Institute, Jodhpur, Rajasthan
4. Date of Birth: 15-08-1992
5. Gender: Male
6. Whether differently abled: No
7. Academic Qualification (Undergraduate Onwards)

	Degree	Year	Subject	University/Institution	% of marks
1.	Doctorate	Dr YS Parmar University of Horticulture and Forestry Nauni Solan HP India	Seed Science & Technology	2022	73.40
2.	Master of Science (Agriculture)	Dr YS Parmar University of Horticulture and Forestry Nauni Solan HP India	Seed Science & Technology	2018	70.20
3.	Graduation (B.Sc Agriculture)	University of Agricultural Sciences Raichur Karnataka (UAS-Raichur) India	Agriculture	2016	74.20

8. Ph.D thesis title, Guide's Name of University, Year of Award.

Ph.D thesis title: Seed quality enhancement in tomato using atmospheric plasma treatment

Guide's Name: Dr. Manish Kumar (Dean, College of Horticulture)

University: Dr YS Parmar University of Horticulture and Forestry Nauni Solan HP India

Year of Award: 2022

9. Work experience

S.No.	Positions held	Name of the Institute	From	To	Pay Scale
1.	Junior Research Fellow (JRF)	ICAR-Central Arid Zone Research Institute, Jodhpur Rajasthan	14-10-2022	29-07-2025	37000+HRA (Fixed)

10. Professional Recognition/ Award/ Prize/ Certificate, Fellowship received.

S.No	Name of Award	Awarding Agency	Year
1	National Talent Scholarship (NTS) for UG	Indian Council of Agriculture Research	2012
2	Junior Research Fellowship (JRF) for PG	Indian Council of Agriculture Research	2016
3	Senior Research Fellowship (SRF) for Ph.D	Indian Council of Agriculture Research	2018

11. Publications

S.No.	Author(s)	Title	Name of Journal	Volume	Page	Year
1	Sumit Barupal, Rajender Sharma, Manish Kumar, BS Dilta, CL Sharam, Rohit Verma, Mohit Kumar, Priya Thakur, Alok Kumar Singh, Nitiin Yadav	Standardization of priming duration of okra seed	The Pharma Innovation	11(2):	428-431	2022
2	Sumit Barupal, Rajender Sharma, BS Dilta, NK Bharat, Manish Kumar	Effect of seed priming and storability onokra	The Pharma Innovation	11(2):	428-431	2022
3	Sumit Barupal, Rajender Sharma, Manish Kumar, BS Dilta, CL Sharam, Rohit Verma	Priming: a effective method for enhancing seed quality and plant stand establishment in okra	The Pharma Innovation	12(2):	1-9	2022
4	Sumit Barupal, Rajender Sharma, Manish Kumar YR Shukla, NK Bharat	Effect of seed priming and field performance in okra	International Journal of Farm Science	11(2)	1359-1365	2018
5	Pooran mal Menna, Sumit Barupal Madhurjeet Singh, Sanjay Kumar Attar, Ramu Meena, Vinod Fogawat	Effect of different environmental conditions on biometric parameters and yield of broccoli	Biological Forum – An International Journal	8(4)	144-149	2023
6	Pooran Mal Menna, Sumit Barupal, Madhur Jeet Singh, Sanjay Kumar Attar, Ramu Meena, Vinod fogawat	Effect of sowing dates, black polythene mulch and irrigation on phenophase and yield attributes in broccoli	Biological Forum – An International Journal	15(2)	897-908	2023
7	Rajender Sharma, Manish Kumar YR Shukla, NK Bharat, Sumit Barupal	Seed priming tools; for effective crop management in vegetable crops	International Journal of Farm Science	12(3)	253-254	2021
8	Thakur Narender Singh, Happy Dev, Vipin Sharma, BS Dogra, RK Dogra, Dharminder Kumar, Sakshi Prashar, Sumit Barupal, Prakash	Correlation and path coefficient analysis in white fruited Brinjal genotypes	Journal in Advances in Biology and Biotechnology	28(6)	1638-1645	2025

12. Trainings

Title of training	Organized by	Subject	From	To
Use of nanotechnology in seed production	Agri-environment Education and Farmer Welfare Scocity	Seed Science and Technology	04-10-2021	11-10-2021
Nursery management of seed production	Agri-environment Education and Farmer Welfare Scocity	Seed Science and Technology	10-02-2021	25-02-2021
Seed production technology of vegetable crops	Agri-Environment Education and Farmer Welfare Scocity	Seed Science and Technology	06-12-2-21	15-12-2021

13. Books/Reports/Chapters/General articles etc.

S.No	Title	Author's Name	Publisher	Year of Publication
1	Seed priming tools; for effective crop management in vegetable crops	Rajender Sharma, Manish Kumar, YR Shukla, NK Bharat, Sumit Barupal	International Journal of Farm Science	2022
2	Defiance priming	Sumit Barupal	Agri-article	2022
3	Use of nanotechnology in agriculture	Sumit Barupal	Agri-article	2022
4	Seed ageing and there mechanism	Sumit Barupal, Pranjaya, Mohit Kumar	Agri-article	2022
5	सब्जियों की संरक्षित खेती: किसानों की आय दोगुनी करने का प्रभावी तरीका	सुमित बरूपाल ^{*1} , प्रदीप कुमार ² , प्रदीप भारद्वाज ³ , कैलाश सैनी ⁴ विजय कुमार ⁵	मरुधरा कृषि	2025
6	प्लाज्मा बीज प्राइमिंग: बदलते जलवायु परिक्षेत्र में सब्जियों में गुणवत्ता वाले बीज उत्पादन का एक नवीन दृष्टिकोण	सुमित बरूपाल ^{*1} , प्रदीप कुमार ² , महेश कुमार ³ , प्रदीप भारद्वाज ⁴ , कैलाश सैनी ⁵	मरुधरा कृषि	2025
7	Seed priming: a seed invigoration technique for. germination and vigor enhancement in vegetable crops.	Pradeep Kumar ¹ , Sumit Barupal ² and Archana Sanyal ^{3*} .	Agri-india Today	2024

14. Participation in symposium/ seminars/conferences etc.:

Title of Event	Organized by	Durations
International webinar on translating physiological tools to augment crop breeding	ICAR- Indian Institute of Wheat and Barley Research, Karnal, Haryana, India	17-19 March ,2021
3 rd international conference on global initiatives in agricultural and applied sciences for eco-friendly environment (siase-2019)	Agricultural Technology Development Society (ATDS) Ghaziabad, UP, India at Conference Hall, Tribhuvan University, Kathmandu, Nepal.	16-18 June,2019
National seminar on organic farming for sustainable agriculture	School of Agricultural Sciences Baba FGard Institute of Technology, suddhowala, Deharadun-248007, Uttarakhand	27 th April 2018
Use of Neno-technology in Seed Production	Agri-Environmental Education and Farmar WelfareScocity	04-10-2021 to 11-10-2021
Nursery Management of Seed production	Agri-Environmental Education and Farmar WelfareScocity	10-02-2021to 25-02-202
Seed production of Vegetablecrops	Agri-Environmental Education and Farmar WelfareScocity	6-12-2021 to 15-12-2021
National Seminar on Doubling income through sustainable and holistic agriculture	Society for Advancement of Human and Nature Solan,HP, India	5-07-2019

15. Any other Information (maximum 500 words)

Professional: I am a young and dynamic researcher with a Ph.D. in Seed Science and Technology, with specialized experience in protected cultivation systems, biostimulant-based agronomy, and sustainable horticultural practices. My research is driven by the goals of climate-resilient agriculture, with a focus on optimizing resource use efficiency through soil-less and sensor-based cultivation systems under controlled environments.

Research and Technical Experience: I served as a Junior Research Fellow at ICAR–Central Arid Zone Research Institute (CAZRI) under the DST-funded research project “*Enhancing Food and Water Security in Arid Region through Improved Understanding of Quantity, Quality and Management of Blue, Green and Grey Water*” (Sub Account Code: 1011012; Project Code: 4001-649). My responsibilities included designing and conducting experiments in both open-field and protected conditions with a special focus on soil-less cultivation of vegetables. I evaluated various strategies to enhance yield, quality, and abiotic stress resilience in vegetable crops using biostimulants and precision fertigation methods. As part of the project, I explored the application of commercial bio stimulant products including protein hydrolysates, amino acids, seaweed extracts and microbial formulations. These treatments were studied for their role in improving water and nutrient use efficiency, crop productivity, and resilience to salinity and water stress in crops such as tomato, chilli pepper, broccoli, cabbage, cauliflower, and leafy vegetables. I am proficient in managing research experiments in greenhouse and open-field environments, performing plant physiological and biochemical assessments, and utilizing advanced analytical tools HPLC, AAS. Data analysis and statistical interpretation are carried out using software such as SPSS and RStudio. I have contributed significantly to scientific reporting, manuscript writing, and the development of externally funded proposals.

Academic and Capacity-Building Engagements: I have actively participated in and presented my work at various international and national seminars, symposiums, and conferences focused on horticultural innovation, seed science, and sustainable cultivation systems. I have also completed multiple trainings and workshops related to seed production, protected cultivation, hydroponics, and soilless farming organized by reputed institutions. My outreach work includes organizing and facilitating farmer trainings, particularly on low-cost protected cultivation, hydroponics, and the use of bio stimulants in arid and semi-arid regions. In the academic sphere, I have been involved in conducting practical examination for undergraduate students, particularly in plant nutrition, plant physiology. I contributed to RAW (Rural Agricultural Work Experience) programs, providing field-level exposure and giving training to the farmer about use of improved practices.

Research Interests and Vision: My research interests centre around resource-efficient and climate-smart production of high-value horticultural crops particular under in protected cultivation and soil less cultivation. I am particularly interested in integrating plant physiology, fertigation, and environmental sustainability to develop innovative and scalable technologies suitable for protected cultivation.

Declaration: I declare that the information given above is true to the best of my knowledge.

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