

## Curriculum Vitae\_Kumari Shubha

<b>1. Name in Full</b> (in block letters):	KUMARI SHUBHA
<b>2. Designation</b>	ARS, Scientist (Senior Scale) Vegetable Science
<b>3. Nationality:</b>	Indian



### Research experience including in-house and external projects:

#### (A) Academic career and professional attainments

(a) Degree	University/ Institution	Year of Completion	Specialization	Distinction, if any
<b>B.Sc</b>	UBKV, Cooch Behar, West Bengal	2010	Horticulture	Yes
<b>M.Sc.</b>	GBPUA&T, Pantnagar	2012	Vegetable Science	Yes
<b>Ph.D.</b>	ICAR-IARI, New Delhi	2017	Vegetable Science	No

**Total length of service: 09 years**

(b) Position held	Institution	Period (From---to)	No. of years and month
<b>Scientist (Level 10)</b>	ICAR-NAARM, Hyderabaad	January, 2016-March, 2016	3 months
<b>Scientist (Level 10)</b>	ICAR-NBPGR, New Delhi	April, 2016- August, 2018	2 years 4 months
<b>Scientist (Level 10 and 11)</b>	ICAR-RCER, Patna	September, 2018-till date	5 years 11 months

#### (B) Project handled in-house/ external funded as PI and Co-PI

S.N	Project details	Role	In-house/ external funded
<b>1</b>	Genetic enhancement of Vegetable legumes for Eastern India	PI	In-house
<b>2</b>	Enhancing Nutritional Security of Rural Households through Vegetable Based Nutri Garden in Bihar	PI	In-house
<b>3</b>	Nutritional Profiling of Low-BOAA Grass Pea ( <i>Lathyrus sativus</i> L.) Germplasm for Green Leafy Vegetables in Drought-affected Rice Fallow System	PI	Institute Corpus Fund grant
<b>4</b>	Characterization, evaluation and documentation of vegetable and ornamental crop germplasm (ICAR-NBPGR, New Delhi)	Co-PI	In-house
<b>5</b>	Characterization, evaluation and documentation of pulses	Co-	In-house

	germplasm	PI	
6	Evaluation for biotic stress tolerance in field and vegetable crops (Co-PI)	Co-PI	
5	Status of Food and Nutritional Security of Farm Households in Eastern India	Co-PI	In-house
6	Standardization of organic farming practices for middle Indo- Gangetic Plains	Co-PI	In-house
7	Standardization of hydroponic technology for horticultural crops	Co-PI	In-house
8	Development of Weather based Agriculture Advisory System	Co-PI	In-house
9	Development of location specific Integrated Farming System models for small and marginal farmers of Bihar	Co-PI	AICRP
10	Sustainable improvement in livelihood of Scheduled Caste community in Meskaur and Sirdala Blocks of Nawada district, Bihar	Co-PI	DST-Seed
11	Development and validation of need based technology Co-delivery model through Farmer Producer Organization (FPO) for eastern region of India	Co-PI	NASF

### Profile

Dr. Kumari Shubha, Scientist (Vegetable Science) at ICAR-Research Complex for Eastern Region, Patna, has made significant contributions to legume crop improvement and sustainable agriculture. Her pioneering work includes the development of two staking-free, high-yielding bush-type lablab bean (*Lablab purpureus* L.) varieties (RCPD-1 and RCPD-16) that reduce cultivation costs while maintaining pod quality, which were extensively evaluated across 34 farms in Bihar and identified by the Institute Variety Release Committee (IVRC). She co-developed climate-resilient rice varieties (Swarna Purvi Dhan-4 and -5) and the double-podded chickpea variety Swarna Lakshmi, all officially released by CVRC. She designed a vegetable-based Nutrigarden model, aligned with ICMR dietary guidelines, which has been widely adopted in Bihar and eastern India, earning her a Technology Certificate (ICAR-AEXT-RCER-Model-2024-040). Dr. Shubha identified India's first molecular marker (ISSR UBC-812) for *Fusarium* wilt resistance in garden pea and discovered a novel pea phenotype with rare black hilum seeds and triple flowers per node, enhancing yield potential. Her innovations include a vegetable-based Nutrigarden model adopted across eastern India and a patented eco-friendly biodegradable pot for microgreen cultivation. With over 40 research publications, 3 books, and active roles in scientific editorial boards, her work exemplifies excellence in translating agricultural research into practical farming solutions. Her contributions to germplasm conservation and farmer-centric breeding approaches have significantly advanced legume production and food security in India.

## Research Publications:

Sl. No	Publications
1	<b>Shubha, K.</b> , Choudhary, A.K., Dubey, A.K., Tripathi, K., Kumar, R., Kumar, S., Mukherjee, A., Tamta, M., Kumar, U., Kumar, S. and Layek, J., <b>2024</b> . Evaluation of lablab bean [ <i>Lablab purpureus</i> (L.) sweet] genotypes: Unveiling superior pod yield, nutritional quality, and collar rot resistance. <i>Frontiers in Nutrition</i> , 10, p.1243923.
2	<b>Shubha, K.</b> , Choudhary, A.K., Mukherjee, A., Kumar, S., Saurabh, K., Kumar, R., Kumar, S., Singh, D.K., Kumar, U., Kumar, S. and Das, A., <b>2024</b> . A chemometric study comparing nutritional profiles and functional attributes of two botanical forms of Lablab Bean ( <i>Lablab purpureus</i> (L.) Sweet). <i>South African Journal of Botany</i> , 173, pp.320-329.
3	<b>Shubha, K.</b> , Anup Das, Arbind Kumar Choudhary, Anirban Mukherjee, Kirti Saurabh, Saurabh Kumar, Santosh Kumar, Ajeet Kumar Pal, Sanjeev Kumar, and Ujjwal Kumar <b>2025</b> “Optimizing grass pea ( <i>Lathyrus sativus</i> L.) for rice-fallow systems: phenotypic and genetic insights for dual-purpose breeding.” <i>Frontiers in Sustainable Food Systems</i> 9: 1625927.
4	Dubey, A. K., Jha, P. K., <b>Shubha, K.</b> , Singh, R. N., Tamta, M., Sah, S., ... & Choudhary, A. K. <b>2025</b> . Predicting yellow mosaic disease severity in yardlong bean using visible imaging coupled with machine learning model. <i>Scientific Reports</i> , 15(1), 24886.
5	Saurabh, K., Roy, H.S., <b>Shubha, K.</b> , Sundaram, P.K., Prakash, V., Koley, T.K., Mukherjee, A., Sarkar, B., Singh, A.K., Das, A. and Upadhyaya, A., <b>2025</b> . Transforming rice straw into eco-friendly growing medium for microgreens: a solution for agricultural waste management. <i>Frontiers in Sustainable Food Systems</i> , 9, p.1556396.
6	Choudhary, A.K., Dwivedi, S.K., Raman, R.K., Kumar, S., Kumar, R., Kumar, S., Dubey, R., Bhakta, N. and <b>Shubha, K.</b> , 2024. Unveiling Genotypic Response of Chickpea to Moisture Stress Based on Morpho- Physiological Parameters in the Eastern Indo- Gangetic Plains. <i>Journal of Agronomy and Crop Science</i> , 210(4), p.e12728.
7	Choudhary, A.K., Kumar, S., <b>Shubha, K.</b> , Dwivedi, S.K., Iquebal, M.A., Kumar, A., Kumar, S., Kumar, R., Dubey, R. and Das, A., 2024. Ascorbic acid imparts field tolerance to heat stress in chickpea under late sown condition. <i>South African Journal of Botany</i> , 172, pp.586-597.
8	<b>Shubha, K.</b> and Singh, D., 2018. Selection of yield-associated morphological and biochemical traits using correlation and path coefficient analysis in potato ( <i>Solanum tuberosum</i> L.) in the foothills of North-Western Himalayas. <i>Potato Research</i> , 61, pp.273-281.
9	<b>Shubha, K.</b> , Choudhary, A. K., Eram, A., Mukherjee, A., Kumar, U., & Dubey, A. K. (2022). Screening of Yardlong bean ( <i>Vigna unguiculata</i> (L.) Walp. ssp. <i>unguiculata</i> cv.-gr. <i>sesquipedalis</i> ) genotypes for seed, yield and disease resistance traits. <i>Genetic Resources and Crop Evolution</i> , 69(7), 2307-2317.
10	Tripathi, K., Gore, P.G., Bansal, R., Gayacharan, C., <b>Shubha, K.</b> , Kumar, V., Singh, N., Pandey, C.D., Sharma, B.B. and Kumar, A., 2021. Identification and revealing the potential traits of the unique germplasm with extended funiculus in pea ( <i>Pisum sativum</i> L.). <i>Genetic Resources and Crop Evolution</i> , 68, pp.3125-3132.
11	Sharma, R., Thakur, N., Roy, P., Mukherjee, A. and <b>Shubha, K.</b> , 2025. Growth dynamics analysis of cauliflower in Himachal Pradesh. <i>Current Science</i> (00113891), 128(6).
12	Singh, N.R., Raizada, A., Rao, K.K., Saurabh, K., <b>Shubha, K.</b> , Dubey, R., Singh, L.N., Singh, A. and Arunachalam, A., 2023. Soil organic carbon fractions, carbon stocks and microbial biomass carbon in different agroforestry systems of the Indo-Gangetic Plains in Bihar, India. <i>Curr. Sci.</i> , 124, pp.981-987.

13	Shubha, K., Singh, N.R., Mukherjee, A., Maity, A. and Dubey, R., 2020. Controlled traffic farming. <i>Current Science</i> , 119(11), pp.1760-1766.
14	Mukherjee, A., Roy, S., Pradhan, K., Yadav, V.K., <b>Shubha, K*</b> , Singh, D.K., Anand, S., Barua, S., Rakshit, S., Raman, R.K. and Kumar, U., 2025. Current challenges and solutions for sustainability of Farmers Producer Organisations through grassroots organisational ecosystem. <i>Current Science</i> , 128(7), p.699.
15	Lamichaney, A., Chettri, P.K., Mukherjee, A., Maity, A. and <b>Shubha, K</b> (2019b). Indigenous methods of grain storage followed by the Lepcha and Limbo tribes in the Himalayan tract of Sikkim. <i>Indian Journal of Traditional Knowledge (IJTK)</i> , 18, 769-774.
16	<b>Shubha K</b> , ShriDhar, Amol K.U.Solnake, Harswardhan Choudhary, S.C.Dubey, Anirban Mukherjee., 2025. Genetic analysis and identification of molecular markers for Fusarium wilt resistance gene in Garden pea ( <i>Pisum sativum</i> (L.) var. <i>hortense</i> ). <i>AATCC Review</i> . 13(1) 534-543.
17	<b>Shubha, K.</b> , Dhar, S., Maity, A., Raman, R.K. and Mukherjee, A., 2021. Influence of leaf architecture on morpho-phenological and yield related traits of garden pea. <i>Indian Journal of Horticulture</i> , 78(2), pp.155-162.
18	<b>Shubha, K.</b> , Hedau, N.K., Pal, R.S., Mukherjee, A., Kant, L. and Pattanayak, A., 2019. Delineating bioactive properties of sweet pepper advanced breeding lines adapted to Indian mid-Himalayas: A Chemometric approach. <i>Indian Journal of Horticulture</i> , 76(4), pp.653-662.
19	<b>Shubha, K.</b> , Dhar, S., Choudhary, H., Dubey, S.C. and Sharma, R.K., 2016. Identification of resistant sources and inheritance of Fusarium wilt resistance in garden pea ( <i>Pisum sativum</i> ssp. <i>hortense</i> ). <i>Indian Journal of Horticulture</i> , 73(3), pp.356-361.
20	<b>Shubha, K.</b> , Srivastava, R., Gangopadhyaya, K.K. and Rana, J.C., 2019. Diversity analysis of bottle gourd ( <i>Lagenaria siceraria</i> (Molina) Standl.) germplasm by multivariate analysis. <i>Vegetable Science</i> , 46(1&2), pp.50-55.
21	<b>Shubha, K</b> , Dhar, S., 2015. Generation mean analysis for pod yield and its associated traits in garden pea ( <i>Pisum sativum</i> L.). <i>Vegetable Science</i> , 42(2), pp.43-46.
22	Singh, D. and <b>Shubha, K*</b> , 2016. Effect of day length and temperature on true potato seed (TPS) germination and seedling vigour. <i>Vegetable Science</i> , 43(1), pp.127-128.

### Processes/Patents/Products/Technologies & Books

(To be limited in the space provided)

#### I. Processes, Patents, Varieties, Products and Technologies

S.N	Name of Technology	Number	Role
1	Lablab bean- RCPD-1 (Swarna Vishist)	Identify by IVRC on 24.09.2024 and proposal submitted to SVRC	Developer
2	Lablab bean- RCPD-16 (Swarna Sampoorna)	Identify by IVRC on 24.09.2024 and proposal submitted to SVRC	Developer
3	Vegetable based Nutrigarden Model Addressing Anemia and Hypovitaminosis Challenges of Eastern India	ICAR-AEXT-RCER-Model-2024-040	Developer
4	Chickpea-Variety-Swarna Lakshami	Released by CVRC, Gazette Notification No. S.O. 1560(E) dated March 26, 2024	Co-developer
5	An eco-friendly biodegradable	202331061086 A (Patent file	Co-developer

	plantable pot and method of preparation thereof	number)	
6	Package of practice of upland cultivation of water spinach in Bihar	Reported in ICAR-RCER, Technology Book, Feb, 2025	Developer
7	Seed based technology delivery model through Farmers Producer Organization (FPO)	ICAR-AEXT-RCER-Model-2023-004	Co-developer
8	Strengthening export potential of farmer producer organizations (FPO) through One District One Product (ODOP): A Conceptual Model	ICAR-AEXT-RCER-Model-2024-085	Co-developer

## II. Books/ E-Book/ Technical Manual/ Book Chapters (with full citation)

Books	
S.N	Details
1	Rachana Dubey, <b>Kumari Shubha</b> , Amitava Rakshit, Sanjeev Kumar, Anup Das. (2025). Drought and Heat Stress in Agriculture: Implications, Mitigation and Policy Approaches. Springer Singapore, <b>Hardcover ISBN</b> 978-981-96-5734-6. <a href="https://doi.org/10.1007/978-981-96-5735-3">https://doi.org/10.1007/978-981-96-5735-3</a>
2	Mukherjee, A., Raman, R.K., Singh, D.K., Kumar, R., <b>Shubha, K.</b> , Kumar, U. and Kumar, A. (2023). Technological Advancement and use of Artificial Intelligence in Climate Smart Agriculture. International Books & Periodical Supply Service. ISBN 9789394023444; e-ISBN 9789394023499
3	Kumar, U., Mukherjee, A., Singh, D.K., Raman, R.K. and <b>Shubha, K.</b> (2022). Advances in Agricultural Marketing & Value Chain Management. International Books & Periodical Supply Service. ISBN 9789394023154; e-ISBN 9789394023161
Technical Manuals	
1	<b>Shubha K</b> , Choudhary, AK., Kumar, U., Kumar R., Kumar, S., Mukherjee, A. (2022). Vegetable Varieties suitable for cultivate on in Eastern India. ICAR-RCER Patna Bulletin No.-R-78/Patna-46. 75p.
2	Mukherjee A., Kumar A, Bikas Das, Pan R.S., Yadav V.K., Chandra N., Singh DK, Kumar U., <b>Shubha K.</b> , Singh A.K., Dey A., Sarma K. and Bhatt B.P. (2022) “Economic Impact of Agricultural Technologies of Eastern India”, Technical Bulletin No. R-80/Patna-48, ICAR Research Complex for Eastern Region, Patna, Bihar. 64p
3	Mukherjee A., Kumar U., Singh D.K., <b>Shubha K.</b> and Ray R.K. (2022) “Beej Utpadan evam vipanan ki vaigyanik padhhatiyani (in Hindi)”, Technical Bulletin No. R -79/Patna -47, ICAR Research Complex for Eastern Region, Patna, Bihar. 75p
4	Singh DK., Mukherjee, A., Raman RK., Kumar, U., <b>Shubha, K.</b> , Kumar R., Kumar, S., (2023). Managerial Skills for Extension Professionals. ICAR-RCER Patna. Training Manual pp-65
5	Koley TK, <b>Shubha, K.</b> , Sundaram PK, Kumar U and Bhatt BP. 2019. Recent advances in horticulture and post-harvest technologies for livelihood security. Training Manual No. TM-6/PAT-6/2019. ICAR Research Complex for Eastern Region, Patna. pp. 201
6	Kumar U, Mukherjee A, Kumar R, Singh D K, <b>Shubha K</b> , Bhatt BP and Kumar KNR. 2019. Recent innovations in climate smart technologies in agriculture and its up-scaling strategies. Training Manual No. TM-4/ PAT-4/2019. ICAR Research Complex for Eastern Region, Patna. pp. 112.
Book Chapters	
1	<b>Shubha K</b> , A Mukherjee, M Kumari, K Tiwari and VS Meena (2017) Bio stimulants: An

	Approach towards the Sustainable Vegetable Production. In: Meena V, P Mishra, J Bisht, A Pattanayak (eds) Agriculturally Important Microbes for Sustainable Agriculture, Springer, pp 259-277.
2	<b>Shubha, K.,</b> Singh, N. R., Mukherjee, A., Dubey, A. K., & Ray, R. K. (2021). Organic vegetable production and its impact on soil, environment and society. In <i>Advances in Organic Farming</i> (pp. 191-208). Wood head Publishing.
3	<b>Shubha, K.,</b> Mukherjee, A., Singh, N. R., Ray, R. K., & Choudhary, A. K. (2023). Production Technology of Underutilized Crops of Alliaceae Family. In <i>Production Technology of Underutilized Vegetable Crops</i> (pp. 11-23). Cham: Springer International Publishing.
4	<b>Shubha, K.,</b> Kumari, M., Dubey, R., Kumar, S., Das, A. (2025). Potential Impacts of Heat and Drought on Vegetable Production and Quality. In: Dubey, R., Shubha, K., Rakshit, A., Kumar, S., Das, A. (eds) <i>Drought and Heat Stress in Agriculture</i> . Springer, Singapore. <a href="https://doi.org/10.1007/978-981-96-5735-3_3">https://doi.org/10.1007/978-981-96-5735-3_3</a>
5	Mukherjee A, S Rakshit, A Nag, M Ray, HL Kharbikar, <b>Shubha, K,</b> S Sarkar, S Paul, S Roy, A Maity, VS Meena and RR Burman (2016) Climate change risk perception, adaptation and mitigation strategy: An extension outlook in Mountain Himalaya. In:JK Bisht, VS Meena, PK Mishra and A Pattanayak (eds.) <i>Conservation Agriculture: An Approach to Combat Climate Change in Indian Himalaya</i> , Springer, pp 257-292.

**Special attainment of the applicant** (any, if not covered earlier)

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| <ol style="list-style-type: none"> <li>1. Gold medalist in B.Sc. Hort Program</li> <li>2. Topper in M.Sc Program</li> <li>3. Member of editorial board of International <i>Journal of Agricultural Studies</i> Macrothink Institute, 5348 Vegas Dr.#825 Las Vegas, Nevada 89108 United States.</li> <li>4. Member of Editorial Board in Horticulture of e-magazine <i>Food and Scientific Report</i></li> <li>5. Actively engaged in the collection and conservation of vegetable germplasm, fruitfully obtaining IC numbers for two unique germplasm accessions Lablab bean and one chilli.</li> <li>6. <b>Regular reviewer of the following journals:</b><br/>Genetic Resources and Crop Evolution<br/>Euphytica<br/>Scientific Report<br/>Potato Research</li> </ol> |
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**4. Fellowships, Awards & Honours**

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| <p><b>i. Fellowships and Honours/ Awards by National Science Academies/ Societies</b><br/>Received Young Scientist Award by the Society for Scientific development in Agriculture and Technology, for contribution in the field of Vegetable Science on of National Conference on Innovative and Current Advances In Agriculture and Allied Sciences (ICAAAS-2016) during 10-11 December, 2016 held at Prof. Jayashankar Telangana State Agricultural University, Rajendranagar, Hyderabad.</p> |
| <p><b>ii. Honours/Awards by ICAR, DST, DBT, CSIR, UGC etc.</b><br/>Recipient of the prestigious DST-INSPIRE Fellowship (2012) for Ph.D. research, granted by the Department of Science and Technology, Government of India.</p>   |

**iii. Best Teacher/ Researcher/ Extension Worker Award**

- a. Received **AADEE YOUNG RESEARCHER AWARD** for his/hr significant contribution in the field of Extension Education in the National Seminar on Agricultural Extension cum Alumni Meet (AADEE BHU - 2024) organized by Department of Extension Education, **Institute of Agricultural Sciences, Banaras Hindu University, Varanasi (UP). India during November 15-17, 2024**, for developing and establishment of vegetable-based Nutri-garden model in Farmers field.
- b. Received **Research Excellence Award 2021** by Institute of Scholars (InSc) Bengaluru, Karnataka