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Field of Specialization and Research interest

Plant Genomics, abiotic and biotic stresses of plants. The overriding objective is to understand molecular basis of abiotic stress tolerance/sensitivity in agricultural crops with emphasis on reproductive biology.

Educational Qualification

Ph.D.

Employment Record along with Professional Experience (in years)

Post held	Period	Organization
1. Head	26.08.2020 to till date	CSKHPKV, Palampur
2. Professor	04.01.2010 to till date	CSKHPKV, Palampur
2. Associate Professor	04.01.2004 to 03.01.2010	CSKHPKV, Palampur
3. Adjunct Assistant Scientist	18.02.2002 to 31.10.2003	Washington State University, Pullman, USA
4. Assistant Professor	03.01.1995 to 03.01.2004	CSKHPKV, Palampur

Research Projects handled

As PI: Ten
As Co-PI: Five

Research Publications

Total publications in Journals: 61

Ten best publications:

1. Priya M, Bhardwaj A, Jha UC, HanumanthaRao B, Prasad PV, Sharma KD, Siddique KH, Nayyar H. 2023. Investigating the influence of elevated temperature on nutritional and yield characteristics of mung bean (*Vigna radiata* L.) genotypes during seed filling in a controlled environment. *Frontiers in Plant Science* 14: 1233954.
2. Devi P, Awasthi R, Jha U, Sharma KD, Prasad PV, Siddique KH, Roorkiwal M, Nayyar H. 2023. Understanding the effect of heat stress during seed filling on nutritional composition and seed yield in chickpea (*Cicer arietinum* L.). *Scientific Reports* 13(1):15450.
3. Chandel SS, Gaikwad DS, Rathour R, Dohru VK, Sirari A, Jha U, Parida S, Sharma KD. 2024. Differential expression of antimicrobial metabolites, phenylpropanoid and phytohormone metabolic pathway genes determines resistance or susceptibility to *Ascochyta rabiei* in chickpea. *Plant Pathology* 73(5): 1247-1263.
4. Chaudhary S, Jha UC, Paul PJ, Prasad PV, Sharma KD, Kumar S, Gupta DS, Sharma P, Singh S, Siddique KH, Nayyar H. 2022. Assessing the heat sensitivity of Urdbean (*Vigna mungo* L. Hepper) genotypes involving physiological, reproductive and yield traits under field and controlled environment. *Frontiers in Plant Science* 13:1042999.
5. Rani A, Kiran A, Sharma KD, Prasad PVV, Jha UC, Siddique KHM, Nayyar H. 2021. Cold Tolerance during the Reproductive Phase in Chickpea (*Cicer arietinum* L.) Is Associated with Superior Cold Acclimation Ability Involving Antioxidants and Cryoprotective Solutes in Anthers and Ovules. *Antioxidants* 10: 1693.
6. Kiran A, Sharma PN, Awasthi R, Nayyar H, Seth R, Chandel SS, Siddique KH, Zinta G, Sharma KD. 2021. Disruption of carbohydrate and proline metabolism in anthers under low temperature causes pollen sterility in chickpea. *Environmental and Experimental Botany* 188: 104500.
7. Asha Kiran, Sanjeev Kumar, Harsh Nayyar, and Kamal Dev Sharma. 2019. Low temperature induced aberrations in male and female reproductive organ development cause flower abortion in Chickpea. *Plant, Cell & Environment* 42: 2075-2089.
8. Sharma KD, W Chen and FJ Muehlbauer. 2005. Genetics of chickpea resistance to five races of *Fusarium* wilt and a concise set of race differentials for *Fusarium oxysporum* f. sp. *ciceris*. *Plant Disease* 89: 385-390.
9. Rajesh PN, C Coyne, K Meksem, KD Sharma, V Gupta and FJ Muehlbauer. 2004. Construction of a HindIII bacterial artificial chromosome library and its use in identification of clones associated with disease resistance in chickpea. *Theoretical and Applied Genetics* 108: 663-669.
10. Sharma KD, P Winter, G Kahl and FJ Muehlbauer. 2004. Molecular mapping of *Fusarium oxysporum* f. sp. *ciceris* race 3 resistance gene in chickpea. *Theoretical and Applied Genetics* 108: 1243-1248.

Books published/Book Chapters/Manual (Teaching/Trainings)	Book: One Book chapters: Nine
Conference/Seminar/Symposium papers	Twenty three
Extension activity including Popular articles/pamphlets/leaflets	Popular lectures: Four Popular articles: One
Students Guided	PG : 9
	Ph.D. : 3
Awards/Fellowships (Three best awards)	
<ol style="list-style-type: none"> 1. Biotechnology Overseas Associateship Award (Long Term), Department of Biotechnology, GOI, New Delhi 2. Senior Research Fellowship, Council of Scientific & Industrial Research, GOI, New Delhi 3. Dr. K. S. Krishanan Department of Atomic Energy Fellowship, Bhabha Atomic Research Centre, GOI, Bombay 4. Fellow, Indian Phytopathological Society 	
1. Editor, Indian Phytopathology, Springer	
International exposure/Visits abroad	Washington State University, Pullman, USA (Feb 2002 to Oct 2003)
Miscellaneous achievements/activities	
<ul style="list-style-type: none"> • Flower and anther development stages in chickpea • Anther development under cold stress in chickpea and mechanisms of low temperature tolerance • Development of “first” BAC library in chickpea • Genetic mapping of five wilt resistance genes governing resistance in chickpea to races 1A, 2, 3, 4 and 5 of <i>Fusarium oxysporum</i> f. sp. <i>ciceris</i> • “Slow Wilting”: A new kind of host resistance to fusarium wilts in plants and differential set based on vertical resistance genes for identification of races of <i>Fusarium oxysporum</i> f. sp. <i>ciceris</i> • DNA-based diagnostics for pea wilt pathogen <i>Fusarium oxysporum</i> f.p. <i>pisi</i> • Development of technology for <i>in vitro</i> cormlet development in saffron (<i>Crocus sativus</i>). • Development of a new medium and improved protocol for <i>in vitro</i> grain production from spikelets of wheat 	