

Division of Land and Water Management

Personal Details

Dr. Anil Kumar Singh
Principal Scientist



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Research Complex for Eastern Region, P. O.: Bihar Veterinary
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Research Interest

Natural Resource Management and PGR Management

Research Highlights

Developed two nutritionally superior faba bean varieties, the Swarna Suraksha for rainfed and Swarna Gaurav for irrigated condition. Developed faba bean-based efficient cropping system for Eastern region. Developed hormone based technology for improving late sown lentil production. Standardized rice cum fish production through multiple use of pond water. Refined planting time and crop duration for rice - wheat cropping system. Refined RCT technologies viz. ZT wheat. Standardized direct seeded rice cultivation through zero tillage for Eastern Indo Gangetic plains. Completed 12 Institute projects (04 as PI& 08 as Co-PI); 03 externally funded projects (01 as PI & 02 as Co-PI) and 03 internationally funded projects as Co-PI.

Memberships / Fellowships

1. Fellow, Indian Society of Plant Genetic Resources (ISPGR), New Delhi
2. Associate, National Academy of Agricultural Science, New Delhi
3. Associate Indian Society of Agronomy, New Delhi
4. Life member, The Indian Science Congress Association , Kolkata (L-32035)
5. Life member, Indian Society of Plant Genetic Resources, New Delhi
6. Life member, Indian Society of Agronomy, New Delhi
7. Life member, Indian Society of Horticulture, New Delhi
8. Life member, Indian Society for Arid Horticulture, Bikaner (Rajasthan),
9. Life member, Society for Upliftment of Rural Economy Varanasi (UP)
10. Life member, Association of Plant pathologist Akola (MS)
11. Life member, Society for Recent Development in Agriculture, Meerut (UP)
12. Life member, *Biospectra* Research Journal Ranchi (Jharkhand)
13. Life member, Biosciences & Agriculture Advancement Society (BAAS), Meerut (UP)
14. Life member, Journal of Progressive Science Ballia (UP)

Technology Developed

1. Developed agronomic package for scientific faba bean production
2. Developed technology for latesown lentil production
3. Developed two faba bean variety namely Swarna Suraksha and Swarna Gaurav
4. Faba bean based cropping system
5. Summer maize production technology for south Bihar
6. Developed efficient water management in garden pea
7. Developed efficient land and water management strategies for lentil
8. Developed efficient land and water management strategies for summer mung bean
9. Developed sulphur and zinc management in rice-lentil cropping system
10. Standardized planting time of wheat under south Bihar conditions
11. Developed efficient crop and cropping system for arsenic affected area of Bihar

Publication Details

Articles in Peer Reviewed Journals

1. Singh AK, Pedapati A and Manibhushan. 2015. Assessment of exchange of crop in view of change climate and International treaties. *J. Environ. Biol.* 36: 309-317.
2. Singh AK, Kumar P and N Chandra. 2013. Studies on yield production of mung bean (*Vigna radiata*) sown at different dates. *J. Environ. Biol.* 34: 1007-1011.
3. Singh AK, Bhatt BP and Manibhushan. 2013. Occurrence of Phytoplasma phyllody and witches' broom disease of faba bean in Bihar. *J. Environ. Biol.* 34: 837-84.
4. Singh AK, Bhatt BP, Sundaram PK, Gupta AK and Singh Deepak. 2013. Planting geometry to optimize growth and productivity faba bean (*Vicia faba* L.) and soil fertility. *J. Environ. Biol.* 34 (1): 117-122.
5. Singh AK and Bhatt BP. 2013. Effects of foliar application of zinc on growth and seed yield of late-sown lentil. *Indian J. Agril. Sci.* 83 (6): 622-626.
6. Singh AK, Pedapati A. and Manibhushan N Chandra N and Narayan B. 2015. Extent and pattern of diversity in saffron germplasm of Indian Kashmir. *Bangladesh J. Bot.* 44 (4): 635-642.
7. Singh AK, Singh KA, Bharati RC and Chandra N. 2013. Response of intercrops and nutrient management on the performance of tobacco based intercropping system and assessment of system sustainability. *Bangladesh J. Bot.* 42(2): 343-348.
8. Singh AK. 2013. Studies on faba bean growth, yield attributes and yield in response to varying planting pattern, geometry and seeding depth. *Indian J. Hort.* 70 (2): 238-242.
9. Singh AK, Ajay Kumar, Rahman A, Sundaram PK and Upadhyaya A. 2019. Evaluation of faba bean-based crop diversification in Eastern India. *Indian J. Hort.* 76 (4): 707-713.
10. Singh AK, Meena MK, Bharati RC and Gade RM. 2013. Effect of sulphur and zinc management on yield, nutrient uptake, changes in soil fertility and economics in rice (*Oryza sativa*) – lentil (*Lens culinaris*) cropping system. *Indian J. Agril. Sci.* 83 (3): 344-348.
11. Singh AK, Bhakta N and Manibhushan. 2017. Diversity analysis of Faba bean (*Vicia faba* L.) germplasm of Bihar using agromorphological characteristic. *Bangladesh J. Bot.* 46 (4): 635-642

12. Singh AK and Bhatt BP .2015.Late sown lentil performance in response to foliar application of zinc. *Bangladesh J. Bot.*44(1):125-128.
13. Singh AK, Singh KM, Bharati RC, Chandra N, Bhatt BP and Pedapati A.2014.Potential of Residual Sulphur and Zinc Nutrition in Improving Powdery Mildew (*Erysiphe trifolii*) Disease Tolerance of Lentil (*Lens culinaris*L.).*Communication in Soil Science and plant analysis.*45: 2807-2818.
14. Ved Prakash, Singh AK, Kumar R, Mishra JS, Kumar S, Dwivedi SK, Rao KK, Samal SK and Bhatt BP.2018.Thermal regimes: The key to phenological dynamics and productivity of faba bean (*Vicia faba* L.). *Journal of Agrometeorology.* 20 (1): 36-39.
15. Mishra DS, Kumar A, Prajapati CR, Singh AK, and Sharma SD.2013.Identification of compatible bacterial and fungal isolate and their effectiveness against plant disease. *J. Environ. Biol.* 34 (2): 183-189.
16. Yadav SK, Verma N, Singh AK, Singh N, Rana SC, Ranga SS, Kumar K.2016.*Diversity and development in Faba bean.**Legume Research.*39 DOI: 10.18805/lr.v0iOF.6200.
17. Nidhi Verma, Surendra Singh, Yasin Jeshima Khan, Sushil Kumar and AK Singh.2015.Chickpea genetic resources to enhance production in changing climatic scenario. *Legume Research.* 38 (5):710-713.
18. Singh D, Kumar A, Singh AK.2014.Influence of planting time, planting geometry, intercropping and row direction on rust (*Uromyces viciaefabae*) pers. de bary of field pea (*Pisum sativum* L.).*Legume Research.*37 (5): 542-546.
19. Meena BL, Singh AK, Phogat BS and Sharma HB.2013.Effects of nutrient management and planting systems on root phenology and grain yield of wheat. *Indian J. Agril. Sci.*83 (6): 627-632.
20. Dwivedi SK, Kumar S, Bhakta N, Singh SK, Rao KK, Mishra JS and Singh AK.2017. Improvement of submergence tolerance in rice through efficient application of potassium under submergence-prone rainfed ecology of Indo-Gangetic Plain. *Functional Plant Biology.* 44(9):907-916. <http://dx.doi.org/10.1071/FP17054>.
21. Meena MK, Singh AK, Prasad KI, Islam Adul, Meena MD, Dotaniya ML, Singh Harvir and Yadav B L.2020.Impact of arsenic-polluted groundwater on soil and produce quality: a food chain study.*Environ Monit. Assess.* 192:785 <https://doi.org/10.1007/s10661-020-08770-9>.
22. Singh D, Gupta AK, Singh AK, Singh AK and Kumar S .2015. Evaluation of field pea germplasm against rust disease caused by *Uromyces viciaefabae* de bary in glass house and field conditions. *Bangladesh J. Bot.* 44 (3): 443-449.
23. Singh AK, Singh KA, Bharati RC and Chandra N .2013.Response of intercrops and nutrient management on the performance of tobacco based intercropping system and assessment of system sustainability. *Bangladesh J. Bot.* 42(2): 343-348.
24. Manibhushan, Anil Kumar Singh, S Mondal and N Chandra .2019. Land suitability analysis based on soil properties and GIS For improving rice productivity in Bihar. India. *Bangladesh J. Bot.*48(2): 221-227.

Books

Singh AK.2009.**Tobacco.**ISBN 8189 304 836. Satish Serial Publishing House, New Delhi. XXII + 447p.

Singh AK.2010.**Encyclopedic Dictionary of Agriculture.** ISBN 97-8818360153-5.Jain

Brothers Publishing House, New Delhi, X + 918 p.

Singh AK, Khan MA, Singh KM and Subash N. 2010. **Forages and fodder - Indian Perspective** ISBN 81-70356679. Daya Publishing House, New Delhi, XXVIII + 458 p.

Singh AK and Bhatt BP .2012. **Faba Bean** (*Vicia faba* L.): A potential leguminous crop of India ISBN 9789350677735. ICAR, RC for ER, Patna, XIV + 518 p.

Bharati RC and **Singh AK**. 2014. **Elements of Agricultural Statistics**. ISBN: 9789381226-698, Satish Serial Publishing House, New Delhi, VII + 168p.

Bharati RC and **Singh AK**. 2014. **Designing Agricultural Research**. ISBN: 9789381226834, Satish Serial Publishing House, New Delhi, VII + 178p.

Singh AK, Bhakta N, Sangale UR, Manibhushan, Sundaram PK, Kumar S and Yasin JK. 2018. **Scientific Lentil Production**, ISBN: 978936200518. Society for Upliftment of Rural Economy Varanasi, XX + 669 p.

सिंह अनिल कुमार, अजय सिंह कुमार एवं कुमारी आराधना. 2018. वैदिक कृषि का वैज्ञानिक स्वरूप: जैव गतिशील कृषि ISBN 9788183602563. जैन ब्रदर्स, नई दिल्ली 110005. XV+224p.

सिंह अनिल कुमार, सिंह अजय कुमार, कुमारी आराधना, सिंह अंजनी कुमार, उपाध्याय आशुतोष, कुमार संजीव, यादव राकेश कुमार एवं सुंदरम प्रेम कुमार. 2018. आधुनिक जैविक कृषि: जलवायु परिवर्तन एवं जैव विविधता के संदर्भ में। ISBN: 978 93 880 20268, सतीश सीरियल पब्लिशिंग हाउस, दिल्ली-110033, XXII+ 252 p.

Awards and recognition

- **Rajbhasha Gaurav Award** For writing the technical book "वैदिक कृषि का वैज्ञानिक स्वरूप: जैव गतिशील कृषि" in Hindi, Deptt. of Official Languages, MHA, Govt. of India, New Delhi in 2017.
- **Ganesh Shankar Vidyarthi Hindi Patrikapurskar** by ICAR, New Delhi for "अक्षय खेती" अर्धवार्षिक पत्रिका worked as प्रधान संपादक
- **Editor in Chief: Journal of AgriSearch** (2014 to till date) <https://jsure.org.in/>
- प्रधान संपादक: "कृषिमञ्जूषा" अर्धवार्षिक पत्रिका (2018 to till date) <http://krishi-manjusha.jsure.org.in/> प्रधान संपादक: "अक्षय खेती" अर्धवार्षिक पत्रिका (2014-2017) ICAR RCER, Patna