


**ICAR –INDIAN INSTITUTE of SUGARCANE RESEARCH
LUCKNOW 226002, UTTAR PRADESH**

Personal Information

Name Dr. Akhilesh Kumar Singh					
Designation	Principal Scientist (Farm Machinery & Power)				
Division/Section	Division of Agricultural Engineering				
Research Area	1. Sugarcane mechanization 2. Processing, handling and storage of jaggery 3. Renewable energy				
Patent Details					
Patent filed “Trash manager-cum-stubble shaver” machinery					
External Funded Projects					
Sl No.	Title	Sponsoring Agency	PI/ Co - PI	Project duration	Project cost (Rs)
1.	Development and dissemination of drudgery reducing farm tools and equipment for sugarcane for small and marginal farmers of Uttar Pradesh (Centre of Excellence in Farm Machinery)	UPCAR (Gov of UP)	Co-PI	2017-2022	40.066 lakhs
2.	Establishment of quality jaggery production-cum-training unit in selected districts of Uttar Pradesh for income generation and entrepreneurship	RKVY (Govt of UP)	Co- PI	2018 - 2020	132 lakhs

	development				
3.	Entrepreneurship development and income enhancement of sugarcane farmers in Chakia, Kotwa and Ariraj pur (Bihar) through establishment of IISR model jaggery unit	National Seed Corporation (NSC)	Co- PI	2018-2020	36 lakhs
4.	Mega Seed Project/ICAR Seed Project: Seed production in agricultural crops and fisheries	ICAR	Co-PI	2009-2011	73.35 lakhs
5.	Establishment of IISR model jaggery unit at KVK Lakhimpur for entrepreneurship development and income enhancement of sugarcane farmers	RKVY (Govt of UP)	Co- PI	2019-2021	110 lakhs

Publications

1. **Singh, A.K.** and Singh, P.R. 2017. Development of a tractor operated sugarcane cutter planter for mechanisation of sugarcane planting in deep furrows. *Sugar Tech*, 19(4): 416-423.
2. **Singh, A.K.**, Singh, P.R. and S. Solomon. 2017. Design and development of a tractor operated disc type sugarcane ratoon management device. *Sugar Tech*, 19(5): 501-509.
3. **Singh, A.K.** and Solomon, S. 2015. Development of a sugarcane detrasher. *Sugar Tech*, 17(2), 189-194.
4. **Singh, A.K.**, Sharma, MP. And Gupta, R. 2017. Development of tractor operated double bottom pit digger for mechanizing ring pit method of sugarcane planting. *Sugar Tech*, 19(5): 510-516.
5. **Singh, A.K.**, Baboo, B. and Singh, R.D. 2008. Performance evaluation of two pan furnace with forced draft combustion for jaggery making. *Journal of Agricultural Engineering* 45(2) : 29-32.
6. Gupta, R., Singh, P.R. and **Singh, A.K.** 2017. Development of sugarcane-cum-potato planter for mechanization of simultaneous planting of sugarcane and potato. *Sugar Tech*, 19(5): 517-525.
7. Singh, S., Tripathi, A. and **Singh, A.K.** 2017. Effect of Furrow Opener Design, Furrow Depth, Operating Speed on Soil Characteristics, Draft and Germination of Sugarcane. *Sugar Tech*, 19(5): 476-484.
8. Shukla, S.K., Yadav, R.L., Gupta, R., **Singh, A.K.**, Awasthi, S.K. and Gaur, A. 2018. Deep tillage, soil moisture regime, and optimizing N nutrition for sustaining soil health and sugarcane yield in subtropical India. *Communications in soil science and plant analysis*, <https://doi.org/10.1080/00103624.2018.1431263>: 1-20.
9. Shukla, S K, Jaiswal, V P, Sharma, L, Pathak, A D, **Singh, A K**, Gupta, R, Awasthi, S K, Gaur, A, Zuber, A and Tiwari, R. 2021. Subsoiling affecting soil quality parameters and sugarcane yield in multiratoon system in subtropical India. *Communications in Soil Science and Plant Analysis*, <https://doi.org/10.1080/00103624.2021.1919699>: 1-20
10. Shukla, S K, Jaiswal, V P, Sharma, L, Pathak, A D, **Singh, A K**, Gupta, R, Awasthi, S K, Gaur, A, Zuber, A and Tiwari, R. 2020. Sugarcane yield using minimum tillage technology through subsoiling: beneficial impact on soil compaction, carbon conservation and activity of soil enzymes. *Sugar Tech*, 22(6): 987-1006

11. Singh, J., **Singh, A.K.**, Sharma, M.P., Singh, P.R. and Srivastava, A.C. 2011. Mechanization of sugarcane cultivation in India. *Sugar Tech* 13(4): 310-314.
12. Singh, R.K., Sharma, J. Jha, S.K. and **Singh, A.K.** 2012. Solarization technique: its use in the multiplication of *in vitro* planting materials. *Current Science*, 102(10): 1433-1436.
13. Singh, P.K., **Singh, A.K.**, Kumar, S. and Singh, J. 2010. Seed-cane marketing – a multi-million industry in the offing. *Current Science*, 99(7): 883-887.
14. Modi, R.U., Chandel, A.K., Chandel, N.S., Dubey, K., Subeesh, A., **Singh, A.K.**, Jat, D. and Kancheti, M. 2023. State-of-the-art computer techniques for automated sugarcane lodging classification. *Field Crops Research* 291, <https://doi.org/10.1016/j.fcr.2022.108797>, 1-12.
15. Singh, P., Anam, Chaurasia, S., Kumar, D., **Singh, A.K.** and Singh, P. 2022. Sugarcane blanching at specific temperature and time combination preserves juice physio-biochemical, microbial and sensory attributes. *International Journal of Food Science and Technology*, doi:10.1111/ijfs.16205, 1-9.
16. Singh, S., Singh, P.R., **Singh, A.K.** and Gupta, R. 2017. Comparative performance evaluation of sugarcane cutter planters. *Agricultural Engineering Today*, 41(3): 16-20.
17. **Singh, A.K.**, Singh, J., Kumar, D., Singh, R.D., Anwar, S.I., Singh, S. And Gupta, R. 2017. Design and development of a forced air drier for drying of jaggery. *Indian Journal of Sugarcane Technology*, 32(1): 7-12.
18. Singh, A.K., Lal, M., **Singh, A.K.**, Singh, S.N., Pathak, A.D. and Singh, E. 2016. Effect of planting methods on growth, yield and quality of sugarcane in subtropical India. *Indian Journal of Sugarcane Technology*, 32(2): 55-60.
19. **Singh, A.K.**, Singh, P.R. and Gupta, R. 2012. Mechanization of sugarcane harvesting in India. *Journal of Sugarcane Research*, 2(2): 9-14.
20. Singh, P.R., Gupta, R. and **Singh, A.K.** 2012. Culti-harrow: A time and energy saving land preparation implement for sugarcane farming. *Journal of Sugarcane Research*, 2(2): 70-72.
21. **Singh, A.K.** and Singh, J. 2012. Performance evaluation of animal operated sugarcane crushers. *Indian Journal of Sugarcane Technology* 27(01): 11-14.
22. Sharma, M.P., **Singh, A.K.** and Singh, J. 2009. Newly developed machineries for sugarcane cultivation. *Indian Sugar* (May): 23-28.
23. Singh, R.D., Baboo, B., **Singh, A.K.** and Anwar, S.I. 2009. Performance evaluation of two pan furnace for jaggery making. *Journal of the Institution of Engineers (India)*, 90(18) : 27-30.
24. **Singh, A.K.**, Sharma, M.P., Srivastava, A.C. and Singh J. 2007. Mechanization of seed cane planting. *Indian Journal of Sugarcane Technology*, 22(1-2): 55.
25. Kumar, D., Singh, R.D. and **Singh, A.K.** 2007. Production, processing and precision planting of single bud seed cane- a concept. *Indian Journal of Sugarcane Technology*, 22(1-2): 59.
26. **Singh, A.K.** and Mani, I. 2006. Computer simulation of mechanical harvesting and transportation of sugarcane. *Journal of Agricultural Engineering*, 43(3): 87-92.
27. **Singh, A.K.** and Singhal, O.P. 2001. Performance evaluation of sugarcane combine chopper harvester. *Indian Journal of Sugarcane Technology*, 16(1): 100-103.
28. **Singh, A.K.**, Singhal, O.P. and Mani, I. 2001. Mechanization of sugarcane harvesting in India. *Indian Journal of Sugarcane Technology*, 16(2): 76-79.
29. Sharma, M.P., **Singh, A.K.** and Srivastava, A.C. 1996. IISR designed sugarcane cutter

planter. RNAM News Letter, Bangkok, 55: 18.

30. Sharma, M.P., **Singh, A.K.** and Srivastava, A.C. 1995. Development of a tractor drawn sugarcane cutter planter. *Invention Intelligence*, 30(11): 518-521.

31. Singh, R.D., **Singh, A.K.**, Mishra, T.N. and Bhattacharya, T.K. 1991. Energy gain in biogas by high pressure scrubbing. *Journal of Agricultural Engineering*, 1(1): 10-12.

Books or Chapter Published

- Singh, J., Yadava, D.V., **Singh, A.K.** and Singh, R.D. 2010. Mechanization of sugarcane Cultivation. ICAR- IISR, Lucknow, 155p
- Singh, A.K., Pathak, A.D., **Singh, A.K.**, Mall, A.K. and Singh, E. 2017. Ganne me sahfalsali kheti: Ganna kisano ki aay badhane ka pramukh aayaam. ICAR- IISR, Lucknow, 79p
- Sukhbir Singh, A.K. Singh and A.D. Pathak. 2020. Improved Sugarcane Mechanization Technologies. ICAR- IISR, Lucknow, 177p
- Singh, A.K. and Singh, Sukhbir. 2020. Recent Development in Mechanization of Sugarcane Planting and Intercropping Machines. *In* Improved Sugarcane Mechanization Technologies, eds Sukhbir Singh, A.K. Singh and A.D. Pathak .ICAR-IISR, Lucknow,
- Singh, A.K. and Singh, Sukhbir. 2020. Recent Development in Sugarcane Harvesting Machinery. *In* Improved Sugarcane Mechanization Technologies, eds Sukhbir Singh, A.K. Singh and A.D. Pathak .ICAR-IISR, Lucknow,
- **Singh, A.K. 2018.** Mechanization for sustainable sugarcane production. *In* Sustainable Sugarcane Production, eds Priyanka Singh, A. K. Tiwari. Apple Academic Press, Waretown, USA, 333-348
- **अखिलेश कुमार सिंह. 2018.** गन्ने की खेती के उन्नत कृषि यंत्र । *In* गन्ना : सतत उत्पादन, (संपादक) प्रियंका सिंह, संजीव कुमार पाठक एवं अजय कुमार तिवारी. Plant Research and Educational Promotion Society, 165-175
- **Singh, A.K.** 2015. Sugarcane machines for labour and cost saving. *In*: Sugarcane Crop Management for High Cane and Sugar Productivity, (Eds) A.K. Sah and O.K. Sinha. ICAR- IISR, Lucknow, 131-137
- **Singh, A.K.**, Sharma, M.P. and Singh, J. 2010. Sugarcane harvesters and their utility in Indian conditions. *In*: Mechanization of Sugarcane Cultivation, (Eds.) J. Singh, D.V. Yadava, A.K. Singh, and R.D. Singh. ICAR- IISR, Lucknow, 58-72

Awards

- Received **NASI-ICAR Award** for Innovation and Research on Farm Implements-2017
- **Fellow** of UP Academy of Agricultural Sciences (UPAAS) - 2016
- **Fellow** of Institution of Engineers (India) -2009
- **Fellow** of Society for Sugar Research and Promotion (SSRP) - 2019
- **STAI Silver Medal** The Sugar Technologist Association of India (STAI)-2012
- **Best Paper Award** for the paper on “Mechanization of sugarcane for sustainable sugarcane production” in 2016 during National Seminar at UP Council of Sugarcane Research (UPCSR) Shahjahanpur
- **Best Paper Award** for the paper on “Mechanization of Sugarcane Cultivation in Developing Countries: IISR Efforts” in 2014 during IAPSIT International Conference on “Green Technologies for Sustainable Growth of Sugar & Integrated Industries in Developing Countries” held at Nanning, P.R. China