

Personal Information

Name Dr. Sukhbir Singh



Designation Principal Scientist (FMP)

Division Agricultural Engineering Division

Research Area

1. Farm Machinery & Power Engineering
2. Ergonomics in agriculture

External Funded Projects

On-going

1. “Center of Excellence in Farm Machinery” 2017-2024 (PI) funded by Uttar Pradesh Council of Agricultural Research, Lucknow. Rs.40.066 lakhs
2. AICRP on FIM (Farm Implements and Machinery) - Co-PI (IISR, Lucknow center)

Completed

1. AICRP on FIM (Power tillers) as PI - HPKV, Palampur center, 2001-2002, Approx. Rs. 18.00 lakh annually.
2. AICRP on FIM, as Co-PI -HPKV, Palampur center, 2002-2012, Approx. 20-28 lakh annually.
3. Development & multiplication of sowing equipment suitable for hilly region, funded by HP State Govt, PI, 2004-2006, Rs 4.0 lakh.
4. Development & dissemination of gender friendly tools and equipment for improving low level farm mechanization in hills” funded by RKVY-GOI (PI), 2010 –2012, Rs. 88.30 lakh.

5. AICRP on ESA as PI- HPKV, Palampur center, 2010 -2012, Approxi. Rs. 24-27 lakh annually
6. Development, evaluation and promotion of harvesting equipment for seabuckthorn under NAIP “A value chain on seabuckthorn” as Co-PI , NAIP-ICAR, (2008-2012) Rs. 15.40 lakh
7. Enhancement of livelihood security through sustainable farming system & related farm enterprises in North Western Himalayas- as Associated/ Co-PI, 2008-2012, NAIP-ICAR, Rs. 321.00 lakh
8. Training in Mechanization of horticulture, PI, 2012-2013, HMNEH (MM-1), Rs. 5.0 lakh/year.
9. AICRP on PHT as PI- VPKAS, Almora center, Rs. 5.50 lakh/year (20012-2013).

Publications

International Journal

1. **Singh Sukhbir**, Sharma DN and Vatsa DK. 2003. Development and evaluation of manually operated single row sunflower planter. In abstract. AMA. 34. No.2.
2. Dixit, Jagvir; Gupta, RSR; Behl VP and **Singh, Sukhbir**. 2004. No-till seed-cum fertilizer drill in wheat crop production after paddy harvesting. Agricultural Mechanization in Asia Africa and Latin America (AMA), 35 (1):19-22.
3. **Singh, Sukhbir**; Sharma, DN; Dixit, Jagvir and Vatsa, DK. 2006. Development and evaluation of a test rig for mechanical metering of sunflower seeds. Agricultural Mechanization in Asia Africa and Latin America (AMA), 37 (1): 18-24.
4. **Singh Sukhbir** and Vatsa D K.2007. Prospects of Maize Cultivation Mechanization in Hills of Himachal Pradesh. Agricultural Mechanization in Asia Africa and Latin America (AMA), 38 (1): 74-77.
5. **Singh Sukhbir**, Vatsa DK and Upadhaya SK.2007. Present status and future scope of mechanization of horticultural crops in mountains. Agricultural Mechanization in Asia Africa and Latin America (AMA), 38 (2): 63-68.
6. **Singh Sukhbir** and Vatsa DK.2007. Development and Evaluation of a Light Weight Power Tiller Operated Seed Drill for Hilly Region. Agricultural Mechanization in Asia Africa and Latin America (AMA), 38 (3): 45-47.
7. **Singh Sukhbir**.2007. Hill Agricultural Mechanization in Himachal Pradesh– A Case Study in Two Selected Districts. Agricultural Mechanization in Asia Africa and Latin America (AMA), 38 (4): 18-25.
8. **Singh Sukhbir**, Vatsa DK and Verma H N.2008. Prospects of Paddy Cultivation Mechanization in Hills of Himachal Pradesh. Agricultural Mechanization in Asia Africa and Latin America (AMA), 39 (3): 46-49.

9. Vatsa DK and **Singh Sukhbir**. 2010. Sowing methods with different seed drills for mechanizing mountain farming. *Agricultural Mechanization in Asia Africa and Latin America (AMA)*, 41 (1): 51-54.
10. Vatsa DK and **Singh Sukhbir**. 2014. Development and evaluation of power tiller operated zero till-drill for mechanizing wheat sowing in hills. *Agricultural Mechanization in Asia Africa and Latin America (AMA)*, 45 (3): 86-89.
11. **Singh Sukhbir**. 2005. Farm mechanization in mountains-Problems and Prospects. In *proceedings of 33rd International Symposium of "Actual Task on Agricultural Engineering"* held at Agricultural Engineering Department, University of Zagreb, Croatia w.e.f February 21-25, 2005; p: 21-36.
12. **Singh Sukhbir** and Vatsa DK. 2015. Need of ergonomically mechanized interventions in selected farm operations in hills of Himachal Pradesh. *Agricultural Mechanization in Asia Africa and Latin America (AMA)*, 46 (2): 23-28.
13. Sher Singh; Pandey, B.M.; Tuti, M.D.; **Singh Sukhbir** and Bisht, J.K. 2015. Performance of rainfed wheat under different fertility levels and sowing methods in the mid hills of northwestern Himalayas. *Research on Crops* 16(1): 37-41.
14. **Singh, S.**, and D. K. Vatsa. 2015. Present status, scope and future needs for mechanization of apple cultivation in mountains of Himachal Pradesh, India. *Agric Eng Int: CIGR Journal*, 17(4):109-114.
15. **Sukhbir Singh**, D.C. Sahoo, N.K. Singh, and J.K. Bisht. 2015. Operator physiological response and bullock draughtability during primary tillage. *Agric Eng Int: CIGR Journal*, 17(4):115-120.
16. **Singh Sukhbir**; Singh P R; Singh AK and Gupta Rajendra. 2016. Present status and future need of mechanizing sugarcane cultivation in India. *Agricultural Mechanization in Asia Africa and Latin America (AMA)*, 47 (1): 75-81.
17. **Sukhbir Singh**, Ashok Tripathi and A K Singh. 2017. Effect of Furrow Opener Design, Furrow Depth, Operating Speed on Soil Characteristics, Draft and Germination of Sugarcane. *Sugar Tech*, 19(5): 476-484 (DOI 10.1007/s12355-016-0499-x).
18. **Singh, S.**, D. C. Sahoo, and J. K. Bisht. 2017. Development and performance evaluation of manual/bullock operated multicrop planter for hilly region. *Agricultural Engineering International: CIGR Journal*, 19(1): 81–86.
19. **Singh Sukhbir** and Vatsa DK. 2018. Utilization pattern of power tillers in Shivalik hills of India –a case study. *Agricultural Mechanization in Asia Africa and Latin America (AMA)*, 49 (1): 57-62.
20. Singh AK and **Singh Sukhbir**. 2017. Farm mechanization in sugarcane cultivation to enhance the income of smallholder farmers. *Current Advances in Agricultural Sciences*. 9(2):210-214.

21. **Singh, S., A. Tripathi, and A. K. Singh.** 2018. Performance evaluation of furrow openers for sugarcane planting in sub-tropical India. *Agricultural Engineering International: CIGR Journal*, 20(1): 56–62.
22. **Singh Sukhbir** and Singh AK. 2022. The recent developments in sugarcane mechanization in India. *Agricultural Mechanization in Asia Africa and Latin America (AMA)*, 53 (3): 24-30.

National Journals

23. **Singh Sukhbir** and Sharma DN. 2004. Performance evaluation of sowing techniques of sunflower in Haryana State. *Indian J. of Agric. Res.* 38(4):298-301.
24. **Singh Sukhbir** and Vatsa DK. 2004. Performance evaluation of zero-tillage seed-cum-fertilizer drill in wheat crop after paddy harvesting. *Himachal Journal of Agricultural Research*. 30(2):82-85.
25. **Singh Sukhbir** and Vatsa DK. 2004. Success of power tiller technology in adopted village. *Himachal Journal of Agricultural Research*. 30(2):86-92.
26. **Singh Sukhbir** and Vatsa DK. 2004. Present status of Post-harvest practices for horticultural crops in Himachal Pradesh. *Agricultural Engineering Today*. 28 (5-6).pp 52-58.
27. Dixit Jagvir; R.S.R., Gupta and **Singh, Sukhbir.** 2004. Techno-economic feasibility of no-till seed fertilizer drill in Haryana State for paddy-wheat rotation system. *Agricultural Science Digest*. 24(3):182-185.
28. **Singh Sukhbir.** 2005. Draught animal power utilization in mountains-a case study. *Himachal Journal of Agricultural Research*. 31(1):76-82.
29. **Singh Sukhbir** and Sharma DN. 2006. Technical feasibility of mechanical planting of sunflower seeds. *Journal of Agricultural Engineering (ISAE)*, 43(2): April-June, 62-67.
30. **Singh Sukhbir** and Vatsa DK. 2006. Performance evaluation of manual paddy transplanter in hills of Himachal Pradesh. *Agricultural Engineering Today*. 30 (3).pp19-25.
31. **Singh Sukhbir**, Vatsa DK and Verma MK. 2007. Feasibility and performance evaluation of power tiller operated reaper in hills of Himachal Pradesh. *Agricultural Engineering Today*. 31(2), pp 6-10.
32. **Singh, Sukhbir.** 2007. Mechanization Scenario with Gender Participation in Hill Agriculture -A Case Study. *Agricultural Science Digest*. 27(3):219-221.
33. **Singh Sukhbir** and Vatsa DK. 2007. Performance evaluation of manual paddy transplanter in hills (In Hindi). *Bhartiya Krishi Anusandhan Patrika*. 22(2): 140-142.
34. **Singh Sukhbir** and Vatsa D K. 2007. Performance evaluation of paddy sowing techniques in Himachal Pradesh. *Himachal Journal of Agricultural Research*. 33(1): 121-123.

35. **Singh Sukhbir** and Vatsa DK. 2010. *Scope of custom hiring of power tiller technology to enhance income of hill farmers. In proceeding of the National seminar on “Engineering interventions to enhance income of small and marginal farmers” held at New Delhi w.e.f. September 29-30, 2010.*
36. Sahoo, D.C.; Khola, O.P.S.; Samuel, Manoj P. and **Singh Sukhbir**. 2013 Drought characterization for crop planning in Nilgiris. *Journal of Agrometeorology. Vol. 15 (Special Issue-I):220-221.*
37. **Singh Sukhbir**. 2014. Farm mechanization in hills of Uttarakhand, India- A review. *Agriculture for sustainable development. 2(1): 65-70. ISSN 2347-5358 (Print)/ 2349-2228 (Online).*
38. Kharbikar H. L.; **Singh Sukhbir**; Chandra Nirmal; Roy M. L.; Joshi Pratibha, G. A., Atheequlla; Jethi Renu and Mukherjee Anirban. 2014. Economic Impact of Mechanised Post Harvest Practices: A Comparative Analysis of Vivek Millet Thresher-cum-Pearler in Almora District of Uttarakhand. *Agricultural Economics Research Review Vol. 27 (Conference Number):190.*
39. Vatsa, D.K. and **Singh, S.** Suitability and Economic Viability of Light Weight Mechanical Power Sources for Mechanizing Hill Farming. *J. Inst. Eng. India Ser. A (2017). doi:10.1007/s40030-017-0206-2 (Online)*
40. 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.*
41. **Singh Sukhbir**, Singh P.R., Singh A.K. and Rajendra Gupta. 2017. Comparative Performance Evaluation of Sugarcane Cutter Planters. *Agricultural Engineering Today. 41(3): 16-20.*
42. **Singh Sukhbir**, Tripathi Ashok and Singh A.K. 2017. Development of Tractor Operated Multipurpose Tool Frame with Attachments for Sugarcane Cultivation. *Agricultural Engineering Today. 41(4): 7-14.*
43. **Singh Sukhbir**, Sahoo D.C., Singh Sher, Tuti M.D., Bisht J.K. 2018. Development and evaluation of weed wiper for resource conservation in hills of North Western Himalayas. *Agricultural Engineering Today. 42 (2): 67-71.*
44. **Singh S.** and Singh R.Kr. 2018. Status and potential of farm mechanization in north western Himalayan state Uttarakhand of India. *Indian Journal of Hill Farming. 31(1):98-105.*
45. **Singh Sukhbir**, Sahoo D.C., Singh N.K., Bisht J.K. and Thakur T.C. 2019. Feasibility assessment of Pant-ICAR animal drawn six-in-one tillage outfit in Kumaon hills of Uttarakhand. *Agricultural Engineering Today. 43 (1): 39-45.*

Books or Chapter Published

Books authored/ edited

1. Virendra Singh and Co-authors: RK Rana**Sukhbir Singh** et al. 2010. Seabuckthorn: An Introduction, CSK HPKV, Palampur. 60p.
2. **Sukhbir Singh** and Vatsa DK. 2011. Improved tools and technology for hill agriculture ((In hindi). CSK HPKV, Palampur. 50p.
3. **Singh, Sukhbir**, Singh, A.K. and Pathak, A.D. (Eds.). 2020. Improved Sugarcane Mechanization Technologies. ICAR- Indian Institute of Sugarcane Research, Lucknow, India. 177p. ISBN: 978-93-5396-574-7.

Books chapters

1. **Singh, Sukhbir**, Singh, P.R. and Singh, A.K. 2020. Status of sugarcane mechanization in India. *In: Improved Sugarcane Mechanization Technologies*. Eds: Sukhbir Singh, AK Singh and AD Pathak, ICAR-IISR, Lucknow, pp. 14-21.
2. Singh, P.R., **Singh, Sukhbir** and Singh, A.K. 2020. Tillage equipment for sugarcane cultivation. *In: Improved Sugarcane Mechanization Technologies*. Eds: Sukhbir Singh, AK Singh and AD Pathak, ICAR-IISR, Lucknow, pp. 22-30.
3. 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, AK Singh and AD Pathak, ICAR-IISR, Lucknow, pp. 49-54.
4. **Singh, Sukhbir** and Singh, A.K. 2020. Improved hand tools and equipment for sugarcane cultivation. *In: Improved Sugarcane Mechanization Technologies*. Eds: Sukhbir Singh, AK Singh and AD Pathak, ICAR-IISR, Lucknow, pp. 63-70.
5. **Singh, Sukhbir** and Singh, A.K. 2020. Mechanization of sugarcane interculturing and earthing up operation. *In: Improved Sugarcane Mechanization Technologies*. Eds: Sukhbir Singh, AK Singh and AD Pathak, ICAR-IISR, Lucknow, pp. 71-75.
6. Singh, A.K. and **Singh, Sukhbir**. 2020. Recent development in sugarcane harvesting machinery. *In: Improved Sugarcane Mechanization Technologies*. Eds: Sukhbir Singh, AK Singh and AD Pathak, ICAR-IISR, Lucknow, pp. 105-110.
7. Singh, A.K., Singh, R.D. and **Singh, Sukhbir**. 2020. Mechanization of sugarcane ratooning management operations. *In: Improved Sugarcane Mechanization Technologies*. Eds: Sukhbir Singh, AK Singh and AD Pathak, ICAR-IISR, Lucknow, pp. 119-124.
8. **Singh Sukhbir**. 2011. Manual and animal drawn improved agricultural tools. *In: Improved tools and technology for hill agriculture ((In hindi).Eds: Sukhbir Singh and DK Vatsa. CSKHPKV, Palampur, Pp: 5-10.*

9. **Singh Sukhbir**. 2011. Operation and maintenance of farm tools and machines. In: *Improved tools and technology for hill agriculture ((In hindi).Eds: Sukhbir Singh and DK Vatsa*. CSKHPKV, Palampur, Pp: 20-22.
10. **Singh Sukhbir**. 2011. Availability of farm tools and equipment. In: *Improved tools and technology for hill agriculture ((In hindi).Eds: Sukhbir Singh and DK Vatsa*. CSKHPKV, Palampur, Pp:49-50.

Manual/Proceeding Edited

- Gupta RK and **Singh Sukhbir** (ed.). 2011. Souvenir of National Seminar on “Augmenting Productivity of Mountain Farming through Agricultural Engineering Interventions” held at CSKHPKV, Palampur w.e.f. Nov. 16-17, 2011. 68 p.
- **Singh Sukhbir**, Singh AK and Pathak AD. 2019. Advances in sugarcane mechanization technologies to reduce cost of operations and drudgery for enhancing farmers’ income. *Training Manual of ICAR Sponsored Short Course* (Sep. 16-25, 2019), ICAR-IISR, Lucknow, 144p.
- Vatsa DK and **Singh Sukhbir**, 2004. Parvatia khetibari main power tiller avam krishi yantro ka upyog tatha parchalan (Hindi), CSKHPKV, Palampur. 46p.

Awards

1. **Distinguished Service Certificate Award- 2013** for significant contribution in the field of Farm Machinery & Power Engineering by the Indian Society of Agricultural Engineers (ISAE), New Delhi.
2. **NASI-ICAR award on Innovation and Research on Farm Implants-2017** on the occasion of 90th Foundation Day & Award Ceremony on 16 July 2018 at NASC, New Delhi.
3. **“ISAE Commendation Medal Award-2020”** from Indian Society of Agricultural Engineers (ISAE), New Delhi.
4. **“Jain Irrigation Award”** for best professional paper by Rajendra Gupta, P R Singh and **Sukhbir Singh** on “Adoption of drip irrigation with fertigation to enhance irrigation water and nutrient use efficiency in sugarcane farming” during 48th ISAE Annual convention & symposium at CTAE, MPUAT, Udaipur during 21-23 February, 2014.
5. **Best oral paper presentation** during the International Seminar on Indigenous Technologies for Sustainable Agriculture and Better Tomorrow held at Lucknow on Jan 09-10, 2016 organized by Samagra Vikas Welfare Society, Lucknow and Amulya Sanchay Producer Company Ltd., Lucknow.
6. **Best poster paper** presentation by Dr. A.K. Singh and **Er. Sukhbir Singh** during 4th Uttar Pradesh Agricultural Science Congress held at Kanpur w.e.f. March02-04, 2016.

7. Co-Author of **Best Paper** (Title: Mechanization of sugarcane for sustainable sugarcane production). In National Symposium on Challenges, Opportunities and Innovative Approaches in Sugarcane: Agriculture, Bio energy and Climate Change, UPCSR Shahjahanpur, Dec. 21-23, 2016.
8. **Best stall award** -Member of the Team IISR, Lucknow during “Krishi Unnati Mela” held at ICAR-IARI, Pusa, New Delhi on March 15-17, 2017.
9. **Best poster award** received for paper entitled, “Mechanization of furrow opening, interculturing and earthing up operations in sugarcane” during International Symposium on Sugarcane research Since Co 205: 100 years and Beyond (Sucrosym 2017).