

Division of Land and Water Management

Personal Details



Dr. Prem Kumar Sundaram
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Research Interest

Farm Machinery, Conservation Agriculture and Biofuel

Research Highlights

Manual tool/equipment design and modification, ergonomics, energy in agriculture, Resource conservation technologies

Memberships / Fellowships

- Indian Society of Agricultural Engineering (ISAE) since 2010
- Society for Upliftment of Rural Economy (SURE) since 2014
- Indian Science Congress since 2019

Technology Developed

- Prototype Manual weeder for row spaced crop
- Makhana seed grader (Pedal and Hand operated)
- Tractor operated liquid fertilizer applicator

Publication Details

A. Research papers published

1. Rahman A and **Sundaram PK**. 2020. Performance of Small Capacity Solar Pump in Eastern Region of India. *Journal of AgriSearch* **7**(1): 32-34
2. **Sundaram P K**, Mani I, Lande SD, Parray RA and Khura T K.2019.Design and development of fertilizer metering system for tractor drawn liquid fertilizer applicator. *Journal of AgriSearch* **6**(4): 211-214
3. **Sundaram PK**, Mani I and Parray RA.2019. Effect of UAN fertilizer on corrosion of different metals. *International Journal of Chemical Studies* **7**(5): 2256-2259
4. **Sundaram P K**, Sarkar B, Raghav DK, Kumar U, Anurag AP and Mali S.2019.Constraints in Adoption of Modern Farm Machines by Tribal Farmers in Ramgarh District of Jharkhand. *Journal of AgriSearch* **6**(3): 146-149
5. **Sundaram PK**, Mani I, Lande SD and Parray RA.2019. Evaluation of Urea Ammonium Nitrate application on the performance of Wheat. *International Journal of Current Microbiology and Applied Sciences* **8**(1):1956-1963.
6. Sarkar B, AK Singh, Kumar R, Reddy RB, **Sundaram PK**, Mishra JS and Bhatt BP.2019. Performance evaluation of some selected weeding tools in faba bean. *Indian Journal of Weed Science* **51** (1):92-94.
7. **Sundaram PK**, Mani I, Kumar A, Lande SD, Sarkar SK, Manjaiya KM Sahoo RN and Lal SK. 2017.Effect of liquid urea ammonium nitrate application at varying depths on root and shoot growth in wheat (*Triticum aestivum*). *Indian Journal of Agricultural Sciences* **87**(10):1288-1294.
8. **Sundaram PK**, Singh J, Bhattacharya TK and Patel SK.2015.Fuel properties of rice bran oil methyl ester-ethanol blends.*Environment and Ecology* **33**(1A):362-366.
9. Sarkar B, **Sundaram P K**, Dey A, Kumar U, Sarma K and Bhatt B P.2015. Traditional Agricultural Tools used by Tribal Farmers in Eastern India. *Research Journal of Agricultural Sciences* **6**(1): 215-9.
10. Khura T, **Sundaram P K**, Lande S D, Kushwaha H L and Chandra R.2015. Biochar for Climate Change Mitigation and

- Ameliorating Soil Health—A Review. *Journal of AgriSearch*.2(1).1-6.
11. **Sundaram PK**, Sarkar B and Mondal S.2014. Design and Performance Evaluation of Pedal Operated Makhana (*Euryale ferox*Salisb) Seed Grader. *Research Journal of Agricultural Sciences*. 5(3)
 12. Sarkar B, **Sundaram P K**, Mondal S, Kumar U, Haris AA and Bhatt B P.2014. Effect of Zero energy cool chambers on storage behavior of tomato under warm and humid climate. *Research Journal of Agricultural Sciences* 5(5): 1021-24.
 13. Singh S S, Singh A K, Sundaram P K.2014. Agro-technological options for up-scaling agricultural productivity in Eastern Indo Gangetic plains under impending climate change situations: A Review. *Journal of AgriSearch* 1(2):55-65
 14. **Sundaram P K**, Singh A K and Kumar S. 2014. Studies on some engineering properties of faba bean seeds. *Journal of AgriSearch* 1(1):4-8.
 15. **Sundaram PK**, Singh J, Bhattacharya TK and Patel SK.2014. Response of an engine to biofuel ethanol blends. *Agricultural Mechanization in Asia, Africa, and Latin America*45 (3): 44-.
 16. Patel SK, Mani I, Srivastava AP, **Sundaram P K** and Singh A K. 2012. Multivariate analysis to determine soil hard pan layer. *J. Agricult. Stat. Sci.* 8(1):283-291.
 17. Patel SK, Varshney BP, Singh RR and **Sundaram P K**.2010. Field Evaluation of Experimental Plot Drill. *Agricultural Mechanization in Asia. Africa. And Latin America* 41(3) : 46-51

B. Books

1. अनिल कुमार सिंह, अजय कुमार सिंह, आराधना कुमारी, अंजनी कुमारसिंह, आशुतोष उपाध्याय, संजीव कुमार, राकेश कुमार यादव एवं प्रेम कुमार सुन्दरम. 2018. *आधुनिक जैविक कृषि: जलवायु परिवर्तन एवं जैव विविधता के संदर्भ में*. सतीश सीरियल पब्लिशिंग हाउस, दिल्ली p253. ISBN: 978 93 880 20268
2. Singh AK, Bhakta N, Sangale UR, Manibhushan, **Sundaram PK**, Kumar S and Yasin JK.2018. Scientific Lentil Production. Satish Serial Publishing House, New Delhi, p669. ISBN: 978-9-362-00518
3. **P K Sundaram**, Jayant Singh and Sanjay K Patel .2012. Engine Response to Biodiesel-Ethanol Blends. LAMBERT Academic Publishing, Saarbrucken, Germany.p154. ISBN 978-3-659-22595-6

C. Training Manual

1. Tanmay K Koley, Kumari Shubha, Prem K Sundaram, Ujjwal Kumar and B P Bhatt.2019. Recent Advances in Horticulture and Postharvest Technologies for Livelihood Security. ICAR Research Complex for Eastern Region, Patna.p201.

D. Technical Bulletins

1. Kumar S, Singh SS, **Sundaram P K**, Shivani and Bhatt BP.2012. Agronomic Management and Production Technology of Unpuddled Mechanical Transplanted Rice. ICAR-RCER, Patna (Technical bulletin No:R-37/PAT-24).p51
2. Kumar S, Singh SS, Kumar U, **Sundaram P K** and Bhatt BP.2012. राईस मैट नर्सरी उगाने एवं मशीन द्वारा रोपनी की विधि. ICAR-RCER, Patna. (Technical bulletin No:R-37/PAT-25).p27
3. प्रेम कुमार सुन्दरम एवं राजेश कुमार.2011. आधुनिक कृषि यन्त्र :इन्द्रधनुषी क्रांति का मंत्र. बामेती प्रकाशन . बिहार सरकार द्वारा प्रकाशित.p16

E. Extension folders

1. प्रेम कुमार सुन्दरम, विकास सरकार, उज्जवल कुमार, दुष्यंत कु० राघव, इंद्रजीत, रामकेवल एवं अनुकूल प्र० अनुराग .2020. हैप्पी सीडर: उपयोगिता एवं रखरखाव. id kj i fLrdk l a% bE167@i Vuk@91
2. विकास सरकार, प्रेम कुमार सुन्दरम, दुष्यंत कु० राघव , उज्जवल कुमार, मांधाता सिंह, देवकरण एवं अनुकूल प्र० अनुराग .2019. शून्य जुताई-बीज-सह-उर्वरक ड्रिल उपयोगिता एवं रखरखाव. id kj i fLrdk l a% bE118@i Vuk@75
3. cø dq l ŋnje] l atho døk] f'kokuh] l rh 'kødj fl g] mTtoy døk] , oa l rksk døk].2014. id kj i fLrdk l a% bE 118@i Vuk@74

F. Patent

PG Journal Number	Publication Date	Patent Number	Grant Date	Title of Invention	Date Of filing
36/2012	07/09/2012	253920	03/09/2012	"A fuel for compression ignition engine"	12/12/2006

G. Book Chapters

Sr no	Contributors	Title	Year	Book authors (eds) and Name	Publisher	Page no
1	Prem K Sundaram , Bikash Sarkar, Rakesh Kumar, Sanjay K Patel and Pawan Jeet	Farm Mechanization for Small and Marginal Farmers	2019	Kole T, Kumari S, Sundaram PK, Kumar U and Bhatt B P (eds). <i>Recent advances in horticulture and post-harvest technologies for livelihood security</i> . 201p. Training Manual.	ICAR Research Complex for Eastern Region, Patna	82-91
2	Bikash Sarkar, Prem K Sundaram and Anukul P Anurag	Processing equipment for small scale processing enterprises	2019	Kole T, Kumari S, Sundaram PK, Kumar U and Bhatt B P (eds). <i>Recent advances in horticulture and post-harvest technologies for livelihood security</i> . Training Manual.	ICAR Research Complex for Eastern Region, Patna	99-108
3	Arti Kumari, Tanmay K Koley and Prem K Sundaram	Technological options for horticultural crops in cold desert areas	2019	Kole T, Kumari S, Sundaram PK, Kumar U and Bhatt B P (eds). <i>Recent advances in horticulture and post-harvest technologies for livelihood security</i> . Training Manual.	ICAR Research Complex for Eastern Region, Patna	146-151
4	Sundaram P K, Sarkar B, Patel SK and Sharma SC.	Mechanization: An important tool for drudgery reduction in Conservation Agriculture	2019	Mishra JS, Kumar Rakesh, Saurabh Kirti and Bhatt BP (eds). <i>Conservation Agriculture for Climate Resilient Farming & Doubling Farmers' Income</i> , 246p.	ICAR Research Complex for Eastern Region, Patna	82-86
5	Singh R and Sundaram PK	Moisture-dependent engineering properties of lentil seed.	2018	Singh AK, Bhakta N, Sangale UR, Manibhushan, Sundaram PK, Kumar S and Yasin JK (eds) <i>Scientific Lentil Production</i> .	Satish Serial Publishing House, New Delhi	481-490
6	Khura T K, Lande S D, Kushwaha HL, Sundaram PK , Parray R A and Ram Chandra	Improved equipment and technologies for lentil cultivation in India.	2018	Singh AK, Bhakta N, Sangale UR, Manibhushan, Sundaram PK, Kumar S and Yasin JK (eds) <i>Scientific Lentil Production</i> .	Satish Serial Publishing House, New Delhi	579-597
7	Singh AK, Bhakta N, Sangale U R,	Lentil: Introduction.	2018	Singh AK, Bhakta N, Sangale UR, Manibhushan,	Satish Serial	1-44

	Manibhushan, Sundaram P K , Kumar S and Yasin JK.			Sundaram PK, Kumar S and Yasin JK (eds) <i>Scientific Lentil Production</i> .	Publishing House, New Delhi	
8	Sundaram P K , Sarkar B, Jeet P, Parray R A and Jyoti B	Role of Farm Mechanization in Mitigating Climate Change Effects.	2018	Mishra JS, Bhatt BP, Kumar R and Rao KK (eds). <i>Conservation Agriculture: Mitigating Climate Change Effects & Doubling Farmers' Income</i> (p269)	ICAR Research Complex for Eastern Region, Patna	115-121
9	Sarkar B, Sundaram PK and Bhatt BP	Tools and implements for weed management	2018	Mishra JS, Bhatt BP, Kumar R and Rao KK (eds). <i>Conservation Agriculture: Mitigating Climate Change Effects & Doubling Farmers' Income</i> (p269)	ICAR Research Complex for Eastern Region, Patna	205-210
10	Prem K Sundaram , Bikash Sarkar, Roaf A Parray and BikramJyoti	Role of Farm Mechanization in Reference to Market Led Extension	2017	Kumar U, Singh D K, Bhatt BP, Sarkar B, Koley TK and Gupta S.(eds) <i>Market Led Agricultural Extension-Concept & Practices</i>	ICAR Research Complex for Eastern Region, Patna	1-184
11	Sundaram P K	Women friendly agricultural engineering technologies for reducing drudgery	2013	Meena M S, Singh K M, Bhatt B p and Kumar U (eds): <i>Gender perspective in Integrated farming system</i> . Published by ICAR-RCER, Patna. Pp158-166.	ICAR Research Complex for Eastern Region, Patna	158-166
12	Sundaram PK , Upadhyaya A and Singh AK	Mechanising faba bean cultivation: Challenges and opportunities in India.	2012	Singh, A.K. and Bhatt, B.P. (eds.): <i>Faba bean (Vicia faba L.): A Potential Leguminous crop of India</i>	ICAR RCER, Patna	485-492
13	Sundaram P K and Patel SK	Some engineering properties of Faba bean grain.	2012	Singh, A.K. and Bhatt, B.P. (eds.): <i>Faba bean (Vicia faba L.): A Potential Leguminous crop of India</i>	ICAR RCER, Patna	485-492
14	Sundaram PK , Singh S S, Sharma SC and Rahman A	Prospect of farm mechanization.	2012	Bhatt, B.P.; Sikka, A.K.; Mukherjee, J.; Islam, A. and Dey, A. (eds.): <i>Status of agricultural development in Eastern India</i> .	ICAR RCER, Patna	279-292
15	Rahman A, Mukherjee J and Sundaram, P.K.	Solar Photovoltaic System for Groundwater Pumping.	2012	Bhatt, B.P.; Sikka, A.K.; Mukherjee, J.; Islam, A. and Dey, A. (eds.): <i>Status of agricultural development in Eastern India</i> .	ICAR RCER, Patna	407-415

H. Popular articles

1.	çe dɛkj ʋnʃe jkd'sk dɛkj , oɑ iou thr. 2019. gʃih hMj :l d k/ku ʃ {k.k dh e'khu. कृषि मञ्जूषा 2(1):10-12.
2.	बिक्रम ज्योति, ओम प्रकाश, मनमोहन देव, पवन जीत, प्रेम कुमार सुंदरम , सत्य प्रकाश, राहुल पोतदार एवं पी सी जेना. 2019. तमिलनाडु में कसावा की कटाई के लिए यन्त्र. कृषि अभियांत्रिकी दर्पण 35:52-53
3.	बिक्रम ज्योति, ओम प्रकाश, मनमोहन देव, पवन जीत, प्रेम कुमार सुंदरम , आशुतोष पंदिरवार, चेतन सावंत एवं अजय राउल. 2019. विकासशील देशों में कॉफी के फसल की कटाई के लिए मशीन की जरूरत. कृषि अभियांत्रिकी दर्पण 35:54-55.
4.	पवन जीत, प्रेम कुमार सुंदरम , राकेश कुमार, विक्रम ज्योति, रविंद्र रांधे, हितेश बिजारणिया, ओम प्रकाश एवं मनमोहन देव. 2019. सिंचाई दक्षता में सुधार के लिए प्रबंधन तकनीक. कृषि अभियांत्रिकी दर्पण 35:56-59
5.	पवन जीत, रविंद्र रांधे, विक्रम ज्योति, प्रेम कुमार सुंदरम , राकेश कुमार, ओम प्रकाश एवं मनमोहन देव. 2019. संयोजित जल उपयोग क्षेत्रों में कुशल जल प्रबंधन के लिए संतुलित जलाशय. कृषि अभियांत्रिकी दर्पण 35:60-63
6.	प्रेम कुमार सुंदरम, संजय कुमार पटेल एवं अनुकूल प्रकाश अनुराग. 2019. फसल उत्पादन प्रणाली के अनुकूलन में मशीनीकरण की भूमिका. कृषि मञ्जूषा 1(2):16-19.
7.	Kumar S, Dwivedi S K, Singh S S and Sundaram P K . 2015. Aerobic Rice-Growing Rice successfully in Water –shortage Areas of Eastern India. <i>Indian Farming</i> . 64(10). 10-12,15.
8.	çe dɛ ʋnʃe fcdk'k jdkj , o ri u [kj k. 2014. [krh ds e'khuka dk gh bLreky , oɑ nʃkky.v{k; [krh 1(1).84-86
9.	Sundaram, P.K. 2013. मैट नर्सरी और राइस ट्रांसप्लांटर .फार्म एन फूड (दिल्ली प्रेस). 16 मई pp 8
10.	Kumar, S.; Singh, S.S.; Elanchezhian, R.; Singh, A.K. and Sundaram, P.K. 2012. बिहार में सुखाड़ के समय आपात कालीन खरीफ फसल योजना. आत्मा सन्देश (पटना प्रेस) July- September. pp. 10-11.
11.	Kumar, S.; Sundaram, P.K , Singh, S.S. and Shivani. 2012. Unpuddled mechanical transplanting of rice: A way towards conservation Agriculture. <i>Indian Farming</i> 62(12) pp. 21-26.
12.	Sundaram, P.K. 2012. पानी बचाएं और पैसा कमाएं. फार्म एन फूड (दिल्ली प्रेस). 16 April pp. 11
13.	Sundaram, P.K. 2012. मशीनों की उम्र बढ़ाएँ. फार्म एन फूड (दिल्ली प्रेस). 16 Jan pp 8
14.	Sundaram, P.K. 2011. तेल बचत के कारगर नुस्खे. फार्म एन फूड (दिल्ली प्रेस). 16 Dec pp 39
15.	Sundaram, P.K. 2011. सबसोयलर-बड़े काम की चीज. फार्म एन फूड (दिल्ली प्रेस). 1 Nov pp 13.
16.	Sundaram, P.K. 2011. खेती की कारगर मशीनें. फार्म एन फूड (दिल्ली प्रेस). 1 March pp 06-08