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Personal Information

Name	Dr. Syed Sarfaraz Hasan	
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Division/Section	Agricultural Knowledge Management Unit	
Research Area	<ul style="list-style-type: none">• Internet technologies• Database management• Artificial Intelligence	
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External Funded Projects		
<ul style="list-style-type: none">✓ Strengthening statistical computing for NARS [Nodal Officer, NAIP]✓ Developing, commissioning, operating and managing online system for NET / ARS – Prelim Examination in ASRB, ICAR [Nodal Officer, NAIP]✓ Soil test and resource based integrated plant nutrient supply system for sustainable sugarcane production (Co-PI, AICRP on STCR Project)		
Technologies Developed		
<ul style="list-style-type: none">✓ AICRP Reporter: A solution for decision support in AICRP (Sugarcane) trials A web based application has been developed to provide an effective data recording and reporting platform for decision support in AICRP (Sugarcane) trials. Software facilitates AICRP data profile management, observation recording, data analysis, report generation; security management and settings.		

<p>✓ Fertilizer Calculator: App to estimate fertilizer requirements in sugarcane for North India</p> <p>App asks for current soil test values of N, P, K, FYM rate and target yield required for plant or ratoon crop. It calculate desired N, P and K. and further estimates quantity of Urea, DAP and MoP to be applied at various stages of crop.</p> <p>✓ Ikshu Kedar: App for irrigation scheduling in sugarcane cultivation of sub-tropical India</p> <p>App enables farmer to predict next date of irrigation and gives advisory for irrigation date compliance in sugarcane farming. It will be beneficial for high sugarcane yield along with water saving in North Indian conditions.</p> <p>✓ CaneDES: A Web-Based Expert System for Disorder Diagnosis in Sugarcane.</p> <p>A web-based expert system has been developed for disorder diagnosis in sugarcane crop caused by 40 major insect-pests, diseases and nutrient deficiency factors.</p> <p>✓ An integrated approach of MAS-CommonKADS, Model–View–Controller and web application optimization strategies for web-based expert system development.</p> <p>A framework for development of web based expert system with usability concern has been developed using Agent-Oriented methodology (MAS-CommonKADS), Model-View-Controller architecture and Optimization approaches.</p> <p>✓ Application for estimation of juice quality parameters viz. Sucrose %, CCS %, Sugar Yield and Purity, etc using ASP and RDBMS technologies.</p> <p>✓ Application tor estimation of optimum sample size for evaluation and prediction of cross performance.</p> <p>✓ Software for management of meteorological data.</p>
Patent Details/Copy rights
Raj,C.,Singh,S.,Sushil,S.N.,Baitha,A., Hasan,S.S. ,Modi,R and Rathod,K.K.2022.Image Database of Sugarcane Insect, Pest and Diseases (L-117221/2022)
Publications
<p>Srivastava T K, Hasan S S, Verma R R. (2022). Mobile ‘app’ for Precise Irrigation Scheduling in Sugarcane Cultivation under Indian Subtropics. Sugar Tech. https://doi.org/10.1007/s12355-021-01100-4</p> <p>Gangwar L S, Singh, A K, Hasan S S and Pathak A D. (2022). Economic Analysis of Sugarcane Production, Processing of Sugar and Bio-energy for enhancing Farmers’ Income and Financial Viability of Indian Sugar Sector. Bhartiya Sugar, 10th Annual Symposium, 2022, pp 110-120</p> <p>Hasan S S, Pathak A D, Shukla S K, Gangwar L S and Kumar R. (2020). Web-Based Data Management Techniques for Coordinated Trials of Sugarcane Technologies.</p>

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<p>Techniques and Practices (Ed. A.K. Roy), ISSN No. 978-93-81450-62-8. New India Publishing Agency, New Delhi, pp. 455-461.</p> <p>Sushil S N, Sah A K, Kumar S, Singh M R, Baitha A, Hasan S S, Rajak D C, Singh G K, Prakash B and Murti R. (2012). Souvenir published on the occasion of 'National SugarFest-2012 & Awareness Programme on PPV & FRA' held at Indian Institute of Sugarcane Research, Lucknow during 23-24 March, 2012.</p> <p>Srivastava T K, Singh P K, Kumar S, Swapna M, Hasan S S, Baitha A, Kumari V V and Prakash B. (2012). Souvenir published on the eve of 'Agricultural Research and Development Conclave for U.P. and Uttar Pradesh Kisan Vigyan Sangam-2012' organized by Indian Institute of Sugarcane Research, Lucknow during 23-24 Nov, 2012.</p>			
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Extension folder
<p>Verma RR, Hasan SS, Srivastava TK and Singh P. (2022). Ikshu Kedar: Ganna Sichai Ke Liye Mobile App. Indian Institute of Sugarcane Research, Lucknow.</p> <p>Hasan SS, Baitha A, Singh MR, Sah AK, Shukla SK and Kumar, Rajesh (2015): CaneDes: An Expert System for Diagnosis in sugarcane crop. Extension Brochure, IISR, Lucknow. IISR, Lucknow</p>
Awards and Recognition
<ul style="list-style-type: none"> ✓ International Best Poster Award: Development of Diagnostic Expert System in Sugarcane Using Object Oriented Knowledge Representation Technique by S.S. Hasan, S. Solomon, A. Baitha, M.R. Singh, A.K. Sah, S.K. Shukla and R. Kumar in 5th IAPSIT International Sugar Conference (IS-2014) Green Technologies for Sustainable Growth of Sugar & Integrated Industries in Developing Countries held at Nanning, China from November 25-28, 2014. ✓ Received IISR Award for Creation of Infrastructure Facilities during 70th Foundation Day of ICAR-Indian Institute of Sugarcane Research Lucknow on February 16, 2021. ✓ Best Poster Award: Application of artificial intelligence in crop protection: State-of the-art technology for sustainable sugarcane production in the digital era by Raj,C., Singh,S., Sushil,S.N., Baitha,A., Hasan,S.S. Modi,R.U., Goswami, S.K., Joshi,R, Dutta, M.K. and Pathak, A.D in 7th IAPSIT International Sugar Conference and Sugarcon 2022: Sustainability of the Sugar and Integrated Industries: Issues and Initiatives, October 16-19,2022,ICAR-Indian Institute of Sugarcane Research, Lucknow, India. ✓ Nodal Officer for establishment of Online Examination Centre under the NAIP project “Developing, Commissioning, Operating and Managing Online System for NET / ARS – Prelim Examination in ASRB, ICAR”. ✓ Nodal Officer for development of Statistical Computing facility under the NAIP project “Strengthening Statistical Computing for NARS”. ✓ Nodal Officer for Aadhaar Enabled Biometric Attendance System (AEBAS) at the institute. ✓ Nodal Officer for IPv6 ✓ Nodal Officer for ICAR website. ✓ Nodal Officer of PERMISnet ✓ Nodal Officer of “Intelligent Reporting System” (IRS) project of ICAR