



# *Journal of Agrometeorology*

## CONTENTS

|   |    |
|---|----|
| GREAT AGROMETEOROLOGISTS OF INDIA - Dr. M. Sivakumar  |    |
| A. RAJ, B. CHAKRABARTI, H. PATHAK, S.D. SINGH, U. MINA and R. MITTAL. Growth, yield components and grain yield response of rice to temperature and nitrogen levels  | 1  |
| SUMIT KUMAR DEY, B. CHAKRABARTI, R. PRASANNA, R. MITTAL, S. D. SINGH and H. PATHAK. Growth and biomass partitioning in mungbean with elevated carbon dioxide, phosphorus levels and cyanobacteria inoculation   | 7  |
| M.K. YADAV, R.S. SINGH, K.K. SINGH, R.K. MALL, CHANDRABHAN PATEL, S.K. YADAV and M.K. SINGH. Assessment of climate change impact on pulse, oilseed and vegetable crops at Varanasi in India   | 13 |
| BAPPADAS, R.N. SAHOO, SOURABH PARGAL, GOPAL KRISHNA, V.K. GUPTA, R. VERMA and C. VISWANATHAN. Measuring leaf area index from colour digital image of wheat crop   | 22 |
| N. CHATTOPADHYAY, S.S. VYAS, B.K. BHATTACHARYA and S.CHANDRAS. Evaluating the potential of rainfall product from Indian geostationary satellite for operational agromet advisory services in India  | 29 |
| T.N. BALASUBRAMANIAN, R. JAGANNATHAN, N.MARAGATHAM, K. SATHYAMOORTHY, R. NAGARAJAN, MALLIGAVANANGAMUDI, N.K. SATHYAMOORTHY, S. POONGUZHALI, P. SAKTHIVEL, S. SATARJI, P. ARUN PRAKASH, P. RAMESH KUMAR, and J. ABDUL HAMEED. Designing agromet advisories for selected weather windows under automated weather based advisory system in Tamil Nadu – A case study | 34 |
| M.D.M. KADIYALA, D. KUMARACHARYULU, S. NEDUMARAN, D. MOSES SHYAM, M. K. GUMMA, and M.C.S. BANTILAN. Agronomic management options for sustaining chickpea yield under climate change scenario  | 41 |
| S.K. JALOTA and B.B. VASHISHT. Adapting cropping systems to future climate change scenario in three agro-climatic zones of Punjab, India  | 49 |
| S. SAHA, D. CHAKRABORTY, S. B. SINGH, S. CHOWDHURY, E.K. SYIEM, S.K. DUTTA, LUNGMUANA, B.U. CHOUDHURY, T. BOOPATHI, A.R. SINGH, Y. RAMAKRISHNA and A. ROY. Analyzing the trend in thermal discomfort and other bioclimatic indices at Kolasib, Mizoram  | 58 |
| P.K. DALAL and RAMESH ARORA. Impact of temperature on food consumption and nutritional indices of tomato fruit borer, <i>Helicoverpa armigera</i> (Hübner) (Noctuidae: Lepidoptera)   | 63 |

|  |     |
|--|-----|
| V. B. AKASHE, J. D. JADHAV, V. R. BAVADEKAR, P. B. PAWAR and V. M. AMRUTSAGAR. Forewarning model for sunflower thrips ( <i>Thrips palmi</i> Karny) in western Maharashtra scarcity zone  | 69  |
| S. K. SAHOO, A. SAHA and S. JHA. Influence of weather parameters on the population dynamics of insect-pests of mango in West Bengal  | 72  |
| ARVIND SINGH TOMAR. Performance of radiation-based reference evapotranspiration equation developed for Indian sub-humid conditions   | 77  |
| RASHMI MEHTA and VYAS PANDEY. Crop water requirement (ET <sub>c</sub> ) of different crops of middle Gujarat   | 84  |
| NAVNEET KAUR and PRABHJYOT-KAUR. Projected climate change under different scenarios in central region of Punjab, India   | 89  |
| NAVNEET AGGARWAL, AVTAR SINGH and SOM PAL SINGH. Heat utilization and radiation interception in transplanted rice ( <i>Oryza sativa</i> L.) in relation to seedling age  | 94  |
| P. K. KINGRA. Climate variability impacts on wheat productivity in central Punjab  | 98  |
| A.K.SRIVASTAVA, SANDIP SILAWAT and K.K.AGRAWAL. Simulating the impact of climate change on chickpea yield under <i>rainfed</i> and irrigated conditions in Madhya Pradesh  | 101 |
| S. K. CHANDNIHA and M. L. KANSAL. Rainfall estimation using multiple linear regression based statistical downscaling for Piperiya watershed in Chhattisgarh  | 107 |
| P. K. MEENA, DEEPAK KHARE and M. K. NEMA. Constructing the downscale precipitation using ANN model over the Kshipra river basin, Madhya Pradesh  | 114 |
| ARJUN VYSAKH, B. AJITHKUMAR and A. V. M. SUBBA RAO. Evaluation of CERES-Rice model for the selected rice varieties of Kerala   | 121 |
| <b>Short Communication</b>   |     |
| K. K. GILL, NAVNEET KAUR and R.I.S. GILL. Evaluation of growth and yield of wheat cultivars using agroclimatic indices under poplar based agroforestry system in Punjab  | 125 |
| U.S. SAIKIA, R. KRISHNAPPA, B. GOSWAMI, SANTANU DAS, A. KUMAR, E. SHYLLA, M. LYNDOH, and S.V. NGACHAN. Effect of altitude and slope on radiation absorption, growth and yield of <i>jhum</i> -land rice at Ri-Bhoi district of Meghalaya | 129 |
| A. MEHNAJ THARRANUM, RAM SINGH, RAMNIWAS, NARESH KUMAR and SHALU RANI. Thermal time requirements of ten genotypes of <i>Brassica</i> species at Hisar  | 132 |
| DEBJYOTI MAJUMDER, P. K. KINGRA and S. S. KUKAL. Water productivity of spring maize under modified soil microenvironment   | 135 |
| H. V. PARMAR and N. K. GONTIA. Remote sensing based vegetation indices and crop coefficient relationship for estimation of crop evapotranspiration in Ozat-II canal command  | 138 |
| V.D. PATEL and L. MAHATMA. Epidemiology of mungbean yellow mosaic virus (MYMV) disease in mungbean in south Gujarat  | 141 |
| N. MANIKANDAN, J.L. CHAUDHARY, RAJESH KHAVSE and V.U.M. RAO. El-niño impact on rainfall and food grain production in Chhattisgarh  | 143 |

|   |     |
|---|-----|
| P. K. KINGRA. Climate variability and impact on productivity of rice in central Punjab  | 147 |
| R. K. MALL, NEHA SINGH and HEMA SINGH. Evaluation of CERES-Wheat model for different wheat cultivars at Varanasi  | 150 |
| A. TRIPATHI, R.S.SINGH, R.BHATLA and A.KUMAR. Maize yield estimation using agro-meteorological variables in Jaunpur district of Eastern Uttar Pradesh       | 154 |
| B. M. MOTE and NEERAJ KUMAR. Calibration and validation of CERES-rice model for different rice cultivars at Navsari   | 156 |
| DAVIS SIBALE, M.S MANE, S.T PATIL and P.M. INGLE. Evaluation of three methods for estimating reference evapotranspiration ( $ET_0$ ) at Dapoli, Maharashtra | 158 |
| G. U. SATPUTE, C. V. THAKARE and S. K. UPADHYE. Assessment of meteorological drought in Amravati district of Maharashtra                                    | 160 |
| S.MANIVANNAN, O.P.S.KHOLA and D.DINESH. Probability analysis of weekly rainfall for crop planning in Nilgiris hills of Tamil Nadu                           | 164 |
| M.S MANE, S.H.JEDHE, U.S.KADAM and S.T. PATIL. Probability of dry/wet spell and rainwater availability at Dapoli for rice crop planning                     | 166 |
| S. SRIDHARA, P. GOPAKKALI and R. NANDINI. Rainfall probability analysis for crop planning in Shivamogga taluka of Karnataka                                 | 169 |