

25th NATIONAL CONFERENCE

Natural Resource Management in Arid and
Semi-Arid Ecosystem for Climate Resilient
Agriculture and Rural Development

ABSTRACTS

17-19 February, 2016



Organized by
Soil Conservation Society of India, New Delhi

In Collaboration With

Swami Keshwanand Rajasthan Agricultural
University, Bikaner 334006 (Rajasthan)

&

Directorate of Watershed Development and Soil Conservation
Government of Rajasthan, Jaipur

Sponsored by



Response of Summer Okra [<i>Abelmoschus Esculentus</i> (L.) Moench.] to Weed Management Under Two Fertility Levels in North Gujarat Conditions	173
- Ramdhan Jat, Pankaj Kumar Kaswan, Shyopal Ram Jat and A.M. Patel	
Global Climate Change: Challenges in Agriculture and Food Security	174
- Ramesh Kumar, Vijay Sharma, Vandana Shukla and Rajni Verma	
Novel Rubisco Activase - The Catalytic Chaperone Regulating the Carbon Assimilatory Pathway in Wheat (<i>Triticum aestivum</i>) Under Heat Stress	175
- Ranjeet R. Kumar, Suneha Goswami, Khushboo Singh, Kavita Dubey, Ashok Kumar, Shweta Singh, Renu Sharma, Neeraj Verma, Gyanendra K. Rai, Monendra Grover, Bhupinder Singh, Viswanathan Chinnusamy, Anil Rai and Raj D. Rai	
Adaptation to Climate Change in Arid and Semi-Arid Environments	176
- Rashid Khan, Deepak Sarolia and Ravindra Pratap Singh	
Effect of Sowing Dates, Crop Geometry and Host Range on Powdery Mildew (<i>Erysiphe polygoni</i>) of Fenugreek (<i>Trigonella foenum graecum</i> L.)	177
- Rekha Kumawat, K. S. Shekhawat and Kavita Kumawat	
Natural Resource Management in the Present Scenario of Climate Change in Arid and Semi-Arid Regions	178
- Rupesh Kumar Meena, Mohd. Arif, Gangadhar, Nanda and Vimal Khinchi	
Estimation of Avoidable Losses Due to Insect Pests in Okra, <i>Abelmoschus esculentus</i> (L.) Moench	179
- S. K. Yadav and K.C. Kumawat	
Pioneer White Butterfly, <i>Belenois aurota</i> (Lepidoptera: Pieridae) A New Threat to Ker (<i>Apparis decidua</i>) Plant in Arid Region of India: Incidence and Morphological Evidence	180
- S.M. Haldhar, R. Bhargava, R. S. Singh, H. Krishna, G. L. Jat, D. Singh and S.K. Sharma	
Weed Management in Groundnut as Natural Resource Conservation	181
- S.P. Singh, R.S. Yadav and Vikas Sharma	
Effect of Humic Acid and Salicylic Acid on Antioxidant, Nutrient Content, Yield Attributes, Yield and Economics of Groundnut Under Condition of Salinity and Water Stress	182
- Sandeep Nigania, Uttam Kumar and Yogesh Sharma	
Bio-Efficacy of Various Insecticides Against <i>Athelia Lugens Proxima</i> (Klug) Mustard Sawfly on Mustard	183
- Shankar Lal Yadav, B.R. Patel, Ramesh Kumar Sanp and Ramawtar Yadav	
Citrus Greening: A Newly Emerging Destructive Disease in Kinnow Mandarin Orchards	184
- Shri Kishan Bairwa, A.K. Srivastava and Chander Bhan	
Productivity and Profitability of Summer Green Gram [<i>Vignaradiata</i> (L.) Under sulphhydryl Compounds and Moisture Stress	185
- Soma Devi, P.T. Patel and K. M. Choudhary	
Effect of Sowing Time and Weather Factors on Population Dynamics of Foliar Aphid in Wheat	186
- Subhash Katore, Poonam Jasrotia S.D. Patil, Md. Wasim Reza, M.S. Saharan and Indu Sharma	
Antifungal Efficacy of Fungicides and Bio-Control Agents Against Leaf Spot Pathogen, <i>Alternaria alternata</i>	187
- Suresh Kumar Verma, P. Kumar, A.K. Mahawar, A.L. Yadav, R.L. Sharma and Jitendra Sharma	
Response of Humic Acid and Salicylic Acid on Physiology, Yield Attributes, Yield and Economics of Tomato (<i>Lycopersicon esculentum</i> Mill.) Under salinity stress	188
- Uttam Kumar, I. J. Gulati, Vimal Kichi, Vanika Bhunwal and Sandeep Nigania	
Screening of Heat Tolerant Wheat Genotypes under Warm Climatic Conditions	189
- V. P. Agarwal, N. K. Gupta, M. Rizwan, Y. Sudarsan and G. Singh	
Effect of Different Herbicides and Herbicide Mixtures on Dehydrogenase Activity of Greengram Soils	190
- Vikas Sharma, S.P. Singh and R. S. Yadav	
Response of Stress Mitigating Agrochemical in Wheat (<i>Triticum aestivum</i> L.) to Combat Changing Climatic Scenario	191
- B.L. Jat, J.K. Gupta and R.N. Sharma	

PIONEER WHITE BUTTERFLY, *Belenois aurota* (Lepidoptera: Pieridae) A NEW THREAT TO KER (*Capparis decidua*) PLANT IN ARID REGION OF INDIA: INCIDENCE AND MORPHOLOGICAL EVIDENCE

S.M. Haldhar, R. Bhargava, R. S. Singh, H. Krishna, G. L. Jat, D. Singh and S. K Sharma

Central Institute for Arid Horticulture, Beechwal, Bikaner-334006
Corresponding author: S. M. Haldhar, e-mail address: haldhar80@gmail.com

Abstract

The pioneer white butterfly, *Belenois aurota* Fabricius, 1793 (Lepidoptera: Pieridae), has recently emerged as a major pest of ker (*Capparis decidua*) plant in arid region of India and causes around >70% damage to wild and cultivated ker plants. The maximum incidence (86.67%) was observed in first fortnight of December and the minimum (11.67%) in first fortnight of September. The average numbers of insects ranged between 1.33 and 10.33 larvae per branch of plant and the lowest in second fortnight of March and the highest in first fortnight of December. Adults of this small butterfly were blacks and whites in color with black markings on both upper and under sides broader, the white spots on black apical area of fore wing often sub-obsolete above. Eggs were laid in batches on young shoots or new branches and were 1.74 mm in length, 1.55 mm in width, and yellow in color when first laid. The length and width of 1st instar larvae were 2.05 mm and 0.47 mm, respectively and feed on branches gregariously. The lengths of 2nd, 3rd, and 4th instar larvae were 5.12 mm, 12.27 mm, and 18.6 mm, respectively. The 5th instar larvae were 24.71 mm long and 3.93 mm wide and long cylindrical, broader towards the head, slightly tomentose on back, hairy on the sides. Pupae were 18.84 mm long and 4.92 mm wide and transparent, pale cream-colour. Adult females had a body length of 13.23 mm and a wingspan of 41.65 mm. Bodies of males were 11.54 mm long and their wingspan measured 38.72 mm. The lengths of male and female antennae were 11.40 mm and 10.54 mm, respectively.

Key words: Ker, pioneer white butterfly, arid region