

CONTENTS

35(3), 07

PART I : PLANT SCIENCES

	Page No.
Yield Estimation in Chilli using Remote Sensing MALLESWARI SADHINENI and V. C. PATIL	1
Dissipation of Triazophos and Cypermethrin Residues on Chillies (Capsicum annum L.) <i>P.B.MAHALINGAPPA, K.DHARMA REDDY, K.NARASIMHA REDDY and G.V. SUBBARATNAM</i>	8
Combining Ability Studies for Important Physico- Chemical Characteristics in Aromatic Rice <i>B. KRISHNA VENI and N. SHOBHA RANI</i>	13
Genetic Divergence Analysis in Grain Amaranth (<i>Amaranthus hypochondriacus L.</i>) <i>H.V.KALPANDE, J.D.DESHMUKH, I.A.MADRAP and V.K.GITE</i>	21
Heterosis for Grain Yield and its Components in Maize (<i>Zea Mays L.</i>) <i>C. APPUNU and E.SATYANARAYANA</i>	27
Effect of Fly Ash and Farm Yard Manure on Soil Enzymatic Activities in a Saturated Inceptisol under Incubated Conditions <i>T. PRABHAKAR REDDY, M. UMA DEVI, P. CHANDRASEKHAR RAO and V.B. BHANUMURTHY</i>	31
Growth Estimation of Sunflower using Spline Regression Function <i>K. ALIVELU, B. S. KULKARNI and G. RAMAKRISHNA RAO</i>	41

PART II : SOCIAL SCIENCES

Entrepreneurial Behaviour of Poultry Farmers <i>NARINDER PAUL and V.P. SARMA</i>	45
Stress of Agricultural Officers <i>T. LAKSHMI and P. VENKATARAMAIAH</i>	51
Stress of Researchers <i>T. LAKSHMI and P. VENKATARAMAIAH</i>	57

PART III : RESEARCH NOTES

Effect of Time of Sowing on Yield Contributing Characters and Yield of Guar (<i>Cyamopsis tetragorwlobal (L.) Tanb.</i>) Cultivars <i>D. LAKSHMI KALYANI and P. MAHESWARA REDDY</i>	63
Nitrogen and Phosphorus Requirement of NDLR - 8 Variety of Rice in Southern Telangana Zone of Andhra Pradesh <i>P. SATISH, V. RADHAKRISHNA MURTHY and SHAIK MOHAMMAD</i>	67
Rapid and Easy Method of Leaf Area Estimation in Toria (<i>Brassica Compestris Var. Toria</i>) <i>M. VIDYADHARI and SHAIK MOHAMMAD</i>	70
Biology of Sorghum Aphid (<i>Melanaphis Sacchari Zehntreter</i>) (<i>Homoptera: Aphididac</i>) on Sorghum Genotypes <i>IBRAHIM FITIWY and T.V.K. SINGH</i>	72
Time Management by Agricultural Graduates <i>K. RAMAIAH and T. LAKSHMI</i>	77
Effect of Plant Growth substances on Rooting in Root Cuttings of Sarpagandha (<i>Rauvolfia serpentina(Lenn.O Beath.Ex kurz)</i>) <i>P. PON KUMAR, M PADMA, M RAJ KUMAR and T.Y. MADULETY</i>	81
Abstracts	85

Abstracts of Papers Published in 35(3), 2007

Yield Estimation in Chilli (*Capsicum annuum* L.) using Remote Sensing*

MALLESWARI SADHINENI¹ and V. C. PATIL²

Department of Agronomy, University of Agricultural Sciences, Dharwad

ABSTRACT

Chilli yield estimation in Hubli taluk of Dharwad district, Karnataka was carried out using IRS ID LISS III imagery. The acreage estimation was done by supervised MXL classification and yield estimation by developing yield model using the relationship between crop cutting experiments yield data, NDVI and LAI of chilli crop. The average yield of chilli crop was estimated to be 419 kg ha⁻¹ and the total production of dry chillies in Hubli taluk was 5,960 tonnes.

Dissipation of Triazophos and Cypermethrin Residues on Chillies

(*Capsicum annuum* L.)

P.B. MAHALINGAPPA¹, K. DHARMA REDDY², K.NARASIMHA REDDY³ and G.V.SUBBARATNAM⁴

Department of Entomology College of Agriculture,
Rajendranagar, Hyderabad – 30

ABSTRACT

Dissipation of triazophos 0.08 and cypermethrin 0.0012 per cent residues on chillies were studied by spraying at 15 days interval, initiating from 45 days after transplanting. A total of four sprays were given. The initial deposit of triazophos and cypermethrin after fourth spray recorded 0.39 and 0.16 mg kg⁻¹, respectively. The level of residues at 1,3,5,10, 15, 20 and 30 days after last spray in green chillies were 0.35, 0.26, 0.21, 0.18, 0.13, 0.09 and 0.04 mg kg⁻¹ for triazophos and 0.12, 0.08, 0.05, 0.03 mg kg⁻¹ for cypermethrin which was observed below detectable (BDL) from 20th day onwards. The half life (RL₅₀) values of 9.70 and 6.54 days and waiting period (T₁₀) of 8.03 and one day was found for triazophos and cypermethrin respectively. The residues in shade dried red chillies at 90 days after last spray was 0.06 and 0.01 mg kg⁻¹, respectively for triazophos and cypermethrin.

Combining Ability Studies for Important Physico-Chemical Quality Characteristics in Aromatic Rice

B. KRISHNA VENI¹ and N. SHOBHA RANI²

Division of Genetics and Plant Breeding, Directorate of Rice Research,
Rajendranagar, Hyderabad

ABSTRACT

Combining ability studies were undertaken for seven important physico-chemical quality traits in 25 hybrids derived from ten parents involving eight scented and two non-scented rice varieties/lines. The results revealed that IR 62874-88-2-1, HBC 85 and PGB possessed desirable GCA for all three physical kernel characters. For cooked kernel length and elongation ratio, PR 109, PK 1379-9-1-1 and PGB were the best general combiners. Among crosses, PR 109/Basmati 6129 and IR62874-88-2-1/ Basmati 6129 were the best specific combiners for all the three physical kernel quality traits studied while PK1379-9-1-1/PGB was the best combiner for kernel length after cooking. Most of the crosses which showed high SCA effects for various characters involved at least one parent with desirable GCA suggesting the major role of non-additive gene action in association with additive gene effects in the expression of these traits.

Genetic Divergence Analysis in Grain Amaranth (*Amaranthus hypochondriacus* L.)*

H. V. KALPANDE ¹, J. D. DESHMUKH², I. A. MADRAP³ and V. K.GITE⁴

Department of Agricultural Botany, Marathwada Agricultural University,
Parbhani – 431402

ABSTRACT

On the basis of D² analysis, 61 genotypes of grain amaranth were grouped into ten clusters. Cluster I accompanied highest number of genotypes (23) followed by cluster II with 17 genotypes, cluster III with seven genotypes, cluster IV with six genotypes, cluster V and VI with two genotypes each whereas, clusters VII, VIII, IX, and X were with solitary genotype. Inter cluster distance was maximum between clusters III and X followed by clusters III and IV, Clusters II and VII. While, minimum inter cluster distance was observed between clusters V and X.

Heterosis for Grain Yield and its Components in Maize (*Zea mays* L.)*

C. APPUNU and E. SATYANARAYANA ²

Department of Genetics and Plant Breeding, College of Agriculture,
Rajendranagar, Hyderabad

ABSTRACT

The ten parents of maize inbred were crossed in 10×10 diallel fashion (without reciprocals) and raised in randomized block design to assess the extent of heterosis in 45 F_1 -hybrids. The ten parents and their 45 crosses were used to estimate the heterosis for 12 traits including grain yield. Based on heterosis and *per se* performance, the superior crosses were identified for each trait. Heterosis for yield was generally accompanied by heterosis for component traits. The cross $P_1 \times P_3$, which showed superior performance in yield and yield components namely days to 50 per cent silking and total biomass emerged out as the best combination among the 45 crosses evaluated.

Effect of Fly Ash and Farm Yard Manure on Soil Enzymatic Activities in a Saturated Inceptisol under Incubated Conditions*

**T. PRABHAKAR REDDY¹, M.UMADEVI², P. CHANDRASEKHAR RAO³ and
V.B. BHANUMURTHY⁴**

Department of Soil Science and Agricultural Chemistry, College of Agriculture, Rajendranagar,
Hyderabad - 500 030

ABSTRACT

An incubation experiment was conducted for 60 days with one kg soil (fine loamy, mixed hyperthermic Typic Haplustept) at saturated moisture conditions. It was treated with 0, 5, 10 and 15 t fly ash ha^{-1} soil with and without FYM. Compared to the initial soil status all the enzyme activities viz., urease, dehydrogenase, acid and alkaline phosphatase and cellulase increased by 7 DAI, which in general showed a decline thereafter. The enzyme urease, dehydrogenase and cellulase were significantly influenced by fly ash, FYM and their interactions at all the time intervals. The addition of fly ash @ 10 or 15 t ha^{-1} along with FYM @ 10 t ha^{-1} has recorded the highest contents of urease (3.66, 2.80, 2.74 and 2.81 $\mu g NH_4^+$ released g^{-1} soil d^{-1}), dehydrogenase (5.66, 4.36, 3.73 and 3.41 mg of TPF produced g^{-1} soil d^{-1}) and cellulase (4.00, 2.70, 2.54 and 2.16 mg of glucose released g^{-1} soil d^{-1}) at 7, 15, 30 and 60 days after incubation, respectively. Acid and alkaline phosphate activities decreased significantly with increase in levels of fly ash application. However, addition of FYM and their interaction showed significant response on its activities.

Growth Estimation of Sunflower using Spline Regression Function

K.ALIVELU¹, B.S .KULKARNI² and G.RAMAKRISHNA RAO³

Department of Statistics and Mathematics, College of Agriculture, Rajendranagar Hyderabad -500 030.

ABSTRACT

Log linear and linear trend models are frequently used for estimating the relative or absolute changes in the dependent variable, over time. Measuring the "decadal growth" is a well known concept in agriculture for studying the trend of the data. It assumes uniform growth rate in the respective decades. In the context of agricultural data, this assumption may not be always valid. It may also lead to the estimates, which are misleading. To overcome this situation, the applicability of piecewise regression approach is explored in the context of measuring growth rate of sunflower yield. The approach involves identification of the points of "discontinuity", which leads to formation of sub periods of data. The time series data of 32 years from 1970-71 to 2001-02 was divided into two optimum sub periods by applying the criteria of residual sum of squares and R^2 by varying the k values, which represent the transitional period (year). The sunflower productivity exhibited decreasing trend with annual growth of 4 per cent in the first period and 1 per cent in the second period. The piecewise regression approach thus measured the growth in two different periods that represents the periods of discontinuous growth, which is not possible in the conventional approach.

Enterpreneurial Behaviour of the Poultry Farmers

NARENDRA PAUL* and V.P.SHARMA**

Department of Extension Education,
Rajasthan College of Agriculture, MPUAT, Udaipur - 313001 (Rajasthan)

ABSTRACT

The values of entrepreneurial behavioral index for peripheral and distant poultry farmers were 45.20 and 41.96 respectively. The respondents had excellent degrees of regularity and dedication in their enterprises followed by market orientations, technical background, time management and coordinating ability. Very low levels of goal setting ability, competitiveness, future orientation, challenge acceptance, tolerance to uncertainty/failure and managerial ability was found among the respondents. It was observed that majority of the poultry farmers had low level of entrepreneurial behaviour with respect to the major components studied.

Stress of Agricultural Officers

T.LAKSHMI¹ and P. VENKATARAMAIAH²

Extension Education Institute, Rajendranagar, Hyderabad

ABSTRACT

Stress stems from many different sources and can involve virtually all aspects of our daily lives. The present research was carried out to study the stress of agricultural officers and its effect on job performance. All the agricultural officers (217) working in four districts of Telangana region of Andhra Pradesh constituted the sample. It was observed that majority of agricultural officers had experienced moderate to low personal stressors and moderate to high organizational and job stressors. Job performance showed significant and negative relationship.

Stress of Researchers

T.LAKSHMI¹ and P.VENKATARAMAIAH²

Extension Education Institute, Rajendranagar, Hyderabad-30.

ABSTRACT

Stress occurs when demands are placed on an organism to adjust or adapt. The study was conducted in Andhra Pradesh and all researchers working in ICAR institutes were taken as sample. It was observed that majority of the researchers had moderate to low personal stressors, moderate to high organizational stressors and moderate to low job stressors.