

# **Climate Change- Weather Health Indices As Tools and Services in Agriculture**

**Dr. V. Radha Krishna Murthy**

Professor & Head, Department of Agronomy, Agricultural College, Bapatla 522 101, Andhra Pradesh

## **Studies on the Effect of Green Manure *in-situ* Incorporation on Growth and Yield of *kharif* Maize\***

**Ghous Ali, Ch Pulla Rao, A S Rao and Y Ashoka Rani**

Department of Agronomy, Agricultural College, Bapatla 522101, Andhra Pradesh

### **ABSTRACT**

A field experiment was conducted at the Agricultural College Farm, Bapatla to study the effect of *in-situ* incorporation of green manures on growth and yield of maize. Growth parameters like plant height and drymatter production recorded a significant difference due to *in-situ* incorporation of green manures. Age of green manure incorporation had a significant influence on grain yield of maize. Maximum grain yield (7871 kg ha<sup>-1</sup>) was recorded when incorporated at 60 days which was found significantly superior to 45 and 30 days of incorporation of green manures. The interaction was not significant.

**Key words :** Green manure, Growth & Yield, *In-situ* incorporation, Maize.

## **Studies on Yield Attributes and Yield of Summer Maize as affected by *Rabi* Legumes and Nitrogen**

**M Sree Rekha, G Subbaiah, R Veeraraghavaiah, Y Ashoka Rani and P Prasuna Rani**

Department of Agronomy, Agricultural College, Bapatla 522101, Andhra Pradesh

### **ABSTRACT**

Field trials were conducted for two consecutive years, 2011-12 and 2012-13 to find out the nitrogen requirement of summer maize influenced by legumes during *rabi* in a legume-cereal sequence under irrigated conditions at Agricultural College Farm, Bapatla. Maize kernel yield was the highest when greengram was taken as previous crop. Application of nitrogen at 300 kg N ha<sup>-1</sup> resulted in maximum kernel yield of maize. Total system productivity in terms of maize equivalent yields (MEY) and production efficiency (kg ha<sup>-1</sup>day<sup>-1</sup>) in legume-maize sequence was more in greengram –maize sequence.

**Key words :** Maize equivalent yield, Nitrogen levels, Production efficiency, *Rabi* legumes.

# **Effect of Integrated Nutrient Management Practices on Soil Fertility and Production Potential of Hybrid Maize (*Zea mays* L.)**

**A V Nagavani and P Subbian**

Department of Agronomy, S V Agricultural College, Tirupati 517 502, Andhra Pradesh

## **ABSTRACT**

A field experiment was conducted to evaluate the various organics and inorganic fertilizers on soil fertility and production potential of hybrid maize during *kharif* and *rabi* seasons of 2008 and 2009 at the irrigated upland farm of Tamil Nadu Agricultural University, Coimbatore. The experiment was laid out in randomized block design with three replications and ten treatments. The results revealed that significant increase in yield components, grain and stover yield of maize were recorded with the application of 50 per cent RDF through poultry manure + 50 per cent RDF through inorganic fertilizers followed by 50 per cent RDF through vermicompost + 50 per cent RDF through inorganic fertilizers. Among the different organic and inorganic treatments, higher net gain in soil available N and P at the end of two years of cropping sequence was recorded with 100 per cent RDF supplied through poultry manure treatment, while the higher net gain in soil available K was observed with the application of 100 per cent RDF through vermicompost treatment.

**Key words :** Integrated nutrient management, Maize, Productivity, Soil fertility.

# **Nutraceutical Verification of Zinc and Iron Nutrition in Corn (*Zea Mays* L.) Through Agronomic Approach**

**Y Reddi Ramu**

Department of Agronomy, S V Agricultural College, Tirupati 517 502, Andhra Pradesh

## **ABSTRACT**

A field experiment was conducted for two consecutive late *kharif* seasons of 2003 and 2004 to study the response of hybrid maize to micronutrient management practices. Foliar application of Zn and Fe (T<sub>7</sub>) registered the highest protein, tryptophan and crude protein content, which was comparable with soil application of Zn and Fe (T<sub>4</sub>) and foliar application of Zn (T<sub>5</sub>) during both the years of study. The highest Zn uptake by grain was recorded with foliar application of Zn and Fe (T<sub>7</sub>), which was in parity with soil application of Zn and Fe (T<sub>4</sub>) and foliar application of Zn (T<sub>5</sub>). With respect to Fe uptake foliar application of Zn and Fe (T<sub>7</sub>), however, was comparable with foliar application of Fe (T<sub>6</sub>) only. The lowest grain yield, with poor quality grain and lesser Zn and Fe uptake were observed with control (T<sub>1</sub>) during both the years.

**Key words :** Iron, Maize, Quality, Yield, Zinc.

## **Manures and Zinc Supplementation Effects in Rice (*Oryza sativa L.*) – Blackgram (*Vigna mungo*) Sequence at Different Nitrogen Levels**

**S Prathibha Sree, R Veera Raghavaiah, G Subbaiah, Y Ashoka Rani and V Sreenivasa Rao**

Department of Agronomy, Agricultural College, Bapatla 522 101, Andhra Pradesh

### **ABSTRACT**

A field experiment was conducted at the Agricultural College Farm, Bapatla on a sandy clay loam soil during 2010 – 11 and 2011 – 12 to study the influence of manures and zinc supplementation effects at different nitrogen levels on productivity and nutrient uptake of rice-blackgram sequence. The experiment was laid out in a split plot design replicated thrice. The study revealed that the highest grain yield of 5130 kg ha<sup>-1</sup> and 5062 kg ha<sup>-1</sup> during 2010 and 2011, respectively, was recorded with Greenmanuring *in situ* + ZnSO<sub>4</sub> @ 50 kg ha<sup>-1</sup> as basal which was comparable with FYM 10 t ha<sup>-1</sup> + ZnSO<sub>4</sub> @ 50 kg ha<sup>-1</sup> as basal in enhancing the productivity of rice during both the years of study. Straw yield was not significantly influenced by organic manures during both the years of study. Significantly higher grain yield, straw yield and harvest index were recorded with the highest level of nitrogen 180 kg N ha<sup>-1</sup> irrespective of the manure and zinc supplementation. Straw yield and harvest index values were comparable with 120 kg N ha<sup>-1</sup> during both the years of study. Nutrient uptake (N, P, K and Zn) was significantly influenced by manures and zinc supplementation and nitrogen levels. The highest nutrient uptake was recorded with the greenmanuring *in situ* + ZnSO<sub>4</sub> @ 50 kg ha<sup>-1</sup> as basal at the highest level of nitrogen (180 kg N ha<sup>-1</sup>) application.

The productivity of blackgram that followed rice in the sequence also increased significantly with manures and zinc supplementation to rice at every level of nitrogen application upto 180 kg N ha<sup>-1</sup> showing residual benefit of the practice in the system.

**Key words :** Blackgram, Rice, Manures, Nitrogen levels, Nutrient uptake, Zinc.

## **Effect of Manures and Biopesticides on Growth, Yield and Fibre Quality of Cotton (*Gossypium Hirsutum*)**

**E Aruna P Radhika and B Sahadeva Reddy**

Department of Agronomy Regional Agricultural Research Station, Nandyal – 518 502

### **ABSTRACT**

A field experiment was conducted on fixed site during three consecutive kharif seasons of 2006-08 in vertisols of Regional Agricultural Research station, Nandyal, Andhra Pradesh . The experiment was laid out in split plot design with plant protection measures main plots and sources of nutrients as sub plots and replicated thrice. The treatments were imposed on same site for three years. The main plot treatments consisted of plant protection with chemicals and plant protection with bio pesticides. The sub plot treatments were FYM 10 t ha<sup>-1</sup>, vermicompost 2.5 t ha<sup>-1</sup>, green manure @15 kg ha<sup>-1</sup>, FYM @ 5 t ha<sup>-1</sup> + vermicompost @ 1.25 t ha<sup>-1</sup>, FYM @ 5 t ha<sup>-1</sup> + green manure @15 kg ha<sup>-1</sup>, vermicompost @1.25 t ha<sup>-1</sup> + green manure @15 kg ha<sup>-1</sup>, FYM 3.3 t ha<sup>-1</sup> + vermicompost 0.85 t ha<sup>-1</sup>+ green manure @ 15 kg ha<sup>-1</sup>, Recommended dose of fertilizer (40-20-20 kg NPK ha<sup>-1</sup>) and control i.e. no application of either chemical or organic fertilizers. The results indicated that, plant protection either with chemicals or bio pesticides did not significantly influence the growth, yield and quality of cotton. Application of nutrients either with fertilizers or organic manures like FYM ,vermicompost,or green manure either singly or in combination on equal nutrient basis as that of recommended fertilizer dose recorded similar kapas yield. Increased uptake of NPK was observed with application of recommended dose of fertilizers compared to manures in the first year. In the succeeding year, cotton supplied with only organic manures recorded nutrient uptake on par with chemical fertiliser.

**Key words :** Bio pesticides, Growth, Hirsutum cotton, Manure, Quality, Yield.

## **Efficacy of Orthosulfamuron Against Weeds in Transplanted Rice**

**D Maheswari Mattaparthi, A S Rao, B Venkateswarlu and P Prasuna Rani**

Department of Agronomy, Agricultural College, Bapatla 522101, Andhra Pradesh

### **ABSTRACT**

A field experiment was conducted at Agricultural College Farm, Bapatla during *kharif* 2013 to study the efficacy of orthosulfamuron against weeds in transplanted rice at different doses and times of application. Results of the experiment revealed that orthosulfamuron@120g/ha pre-emergence as SMA at 3-5 DAT *fb* orthosulfamuron@120g/ha as post-emergence at 25-30 DAT ( $T_{11}$ ) was found to be effective and economical in managing weeds in rice grown under transplanted conditions without any crop injury as an alternative to manual weeding and it was on par with other sequential treatments and also with hand weeding.

**Key words :** Orthosulfamuron, Sequential application, Transplanted rice.

## **Variability, Character Association and Path coefficient Analysis for Physiological traits in Rice**

**Adilakshmi D, Jayarami Reddy P, Ankaiah R and Raghava Reddy P**

Regional Agricultural Research Station, Anakapalle, Visakhapatnam District, Andhra Pradesh.

### **ABSTRACT**

Rice is an extensively consumed cereal crop, which serves as a major source of carbohydrate in human diet. The knowledge on the variability, character association and path analysis of physiological traits is of great importance in formulating efficient selection criteria for improvement of yield. Seven rice varieties *viz.*, Samba mahsuri, Polasa prabha, Jagtial samba, Nellore mahsuri, Indra, Vijetha and Prabhat were crossed in diallel mating design (without reciprocals). Five physiological characters *viz.*, chlorophyll content, specific leaf weight, harvest index, biological yield and flag leaf nitrogen content along with yield was assessed in 21F. Analysis of variance revealed significant differences among the genotypes for all the traits. Heritability in broad sense was found high for all the characters except chlorophyll content and harvest index. High genetic advance along with high heritability were found for biological yield and Grain yield /plant indicating presence of additive gene action for controlling these traits and selection for the improvement of these characters might be rewarding. Correlation studies indicated that the biological yield and flag leaf Nitrogen content upon which emphasis may given during selection. biological yield and flag leaf nitrogen content showed positive correlation with grain yield along with positive direct effects might be considered in developing breeding strategy for yield improvement.

**Key words :** Character association, Grain yield, Path coefficient analysis.

## **Combining Ability Analysis of Yield and Yield Attributes in *Kabuli Chickpea***

**N Jagadish, V Jayalakshmi, B Narendra and P Umamaheshwari**

Department of Genetics and Plant Breeding, Agricultural College, Mahanandi, Andhra Pradesh

### **ABSTRACT**

An investigation with six diverse *kabuli* genotypes and their 15 half diallel F<sub>1</sub> hybrids was taken up during *rabi* 2012-13 to elucidate information on the gene action involved in the inheritance of yield and yield attributes and also to identify promising parents and cross combinations for evolving high yielding large seeded or extra large seeded *kabuli* chickpea. Both additive and non additive gene actions were found to be involved in the genetic control of yield and yield attributes with a predominance of additive gene action for plant height, number of pods per plant, shoot biomass per plant, harvest index, seed yield and 100 seed weight and non additive gene action for number of branches plant. Hence, breeding methods like biparental mating in F<sub>2</sub> or recurrent selection or modified pedigree methods were suggested for exploiting both the types of gene actions for evolving high yielding purelines. Parental genotypes with superior general combining ability effects *viz.*, Vihar, and NBeG 72 for seed yield; KAK 2 and ICCV 95333 for harvest index and Phule G 05107 and MNK 1 for plant height and 100 seed weight and promising crosses *viz.*, KAK 2 and Vihar and MNK 1 x NBeG 72 can be exploited for breeding high yielding large seeded or extra large seeded *kabuli* chickpea.

**Key words :** Combining ability, Yield.

## **Studies on Genetic variability, Heritability and Genetic advance in Rice (*Oryza sativa* L.)**

**M Venkata Lakshmi, Y Suneetha, A Appalaswamy and N Venkata Lakshmi**

Department of Genetics and Plant Breeding, Agricultural college, Naira, Srikakulam 532 185

### **ABSTRACT**

Seventy genotypes of rice (*Oryza sativa* L.) were evaluated for grain yield, yield components and quality traits during *Kharif* 2012 at College farm, Agricultural College, Naira, Srikakulam. The study revealed considerable genetic variability among the genotypes for all the traits. Genotypic and phenotypic coefficients of variation were more or less similar for all the characters. Phenotypic and genotypic coefficients of variation were high for grain yield per plant. High heritability coupled with high expected genetic advance was observed for grain yield per plant, number of grains per panicle, number of effective tillers per plant, plant height, 1000-grain weight, kernel breadth and length breadth ratio revealed the preponderance of additive gene effects in the expression of these traits. High estimate of heritability with low to moderate genetic advance observed for panicle length, days to 50 per cent flowering and kernel length on the other hand revealed the importance of dominance and epistatic effects in the inheritance of these traits.

**Key words :** Genetic advance, Genetic variability, Heritability, Rice.

# **Parental Selection for Breeding High Yielding and Drought Tolerant Lines through Genetic Diversity Studies in Mungbean (*Vigna radiata* L. Wilczek)**

**L Swathi, D M Reddy, K H P Reddy, M Reddy Sekhar and V Raja Rajeswari**

Department of Genetics and Plant Breeding, S V Agricultural College, Tirupati 517 502, A P

## **ABSTRACT**

Genetic divergence among thirty one genotypes was estimated using Mahalanobis's  $D^2$  statistic. All the thirty one genotypes were grouped into seven clusters. Cluster II contained the highest number of ten genotypes followed by cluster III with eight genotypes. The patterns of distribution of genotypes from different geographical locations into seven clusters were random, demonstrating that geographical isolation may not be the only factor causing genetic diversity. The highest intra-cluster distance was observed for cluster IV (187.85) and the lowest was observed for cluster I (63.29). While the highest inter-cluster distance was observed between cluster IV and VII (663.76). Seed yield contributed maximum to diversity. Cluster III recorded the highest mean for seed yield per plant followed by days to maturity and number of seeds per pod. Hybridization programme may be initiated between PUSA VISHAL X TLM 7 (cluster IV X cluster VII) in order to get transgressive segregants for drought tolerance since, these genotypes showed maximum diversity among themselves with desirable yield and drought parameters.

**Key words :**  $D^2$  analysis, Genetic divergence, Mungbean.

# **Studies on Genetic Variability for Yield and Quality Traits in Maize**

**Udaya Bhanu Kote, P V Rama Kumar, M Lal Ahamed, Y Ashoka Rani, V Srinivasa Rao and D Adilakshmi**

Department of Genetic and Plant Breeding, Agricultural College, Bapatla 522101, Andhra Pradesh

## **ABSTRACT**

An experiment was conducted to study the genetic variability parameters using 45 hybrids, 15 inbred lines, 3 testers and three checks at three locations (Agricultural College Farm, Bapatla, Agricultural Research Station, Madhira and Regional Agricultural Research Station, Anakapalle) and in two seasons (*kharif* and *rabi* 2012-13) for yield and yield attributing traits. High PCV, moderate GCV and high heritability coupled with high genetic advance were observed for the characters *viz.*, ear height, kernels per row and NAR 30-60 DAS. High heritability coupled with high genetic advance were observed for the character yield per plant indicating that additive gene action was prominent and direct selection can be employed for improvement of this character.

**Key words :** Genetic advance, Heritability, Maize, Variability.

# **Genetic Divergence Studies for Salinity Tolerance, Yield Components and Grain Yield in Rice Genotypes**

**K Nagendra Rao, Y Suryanarayana, V Satyanarayana Rao, P Anil Kumar,  
V Srinivasa Rao and P Ravindra Babu**

Department of Genetics and Plant Breeding, Agricultural College, Bapatla 522 101, Andhra Pradesh

## **ABSTRACT**

Genetic divergence study of fifty genotypes of rice (*Oryza sativa* L.) for twelve characters led to their grouping into eight clusters. Shoot sodium content (59.67) showed maximum contribution towards genetic divergence followed by shoot potassium content (15.51) and shoot dry weight (9.80). Grain yield plant<sup>-1</sup> (4.33), plant height (3.59), days to 50% flowering (3.51), 1000 seed weight (2.86), productive tillers hill<sup>-1</sup> (0.49), root length (0.16) and spikelet fertility percent (0.08) each were noticed to contribute less than 5 percent towards the total divergence. The maximum inter cluster D<sup>2</sup> values was observed between cluster VII and VIII followed by cluster I and VIII.

**Key words :** Genetic divergence, Tolerance.

# **Genetic Variability, Heritability and Genetic Advance as per cent of Mean for Pod Yield and its Components in Virginia Bunch Groundnut (*Arachis hypogaea* L.) in Summer 2013**

**G Bhargavi, V Satyanarayana Rao, D Ratna Babu and K L Narasimha Rao**

Department of Genetics and Plant Breeding, Agricultural College, Bapatla 522 101, Andhra Pradesh

## **ABSTRACT**

An investigation was carried out in 10 Virginia bunch groundnut genotypes to assess the variability, heritability and genetic advance as per cent of mean for nineteen characters namely days to 50% flowering, SPAD chlorophyll meter reading at 40,50,60,70 DAS and at maturity, days to maturity, number of mature pods per plant, biological yield per plant (g), pod yield per plant (g), biological yield per hectare (q), pod yield per hectare (q), harvest index, 100 kernel weight (g), shelling percentage, kernel yield per plant (g), kernel yield per hectare (q), oil content (%) and oil yield per hectare (q). The results revealed that highest PCV and GCV were observed for biological yield per plant and biological yield per hectare respectively. High heritability accompanied with high genetic advance as per cent of mean was recorded for no. of mature pods per plant, biological yield per plant, pod yield per plant (g), biological yield per hectare (q), pod yield per hectare (q), harvest index, kernel yield per plant (g), kernel yield per hectare, 100 kernel weight and oil yield per hectare (q) indicating the preponderance of additive gene action which may be exploited through simple selection procedures.

**Key words :** Genetic advance, Groundnut, Heritability, Variability.



## **Studies on Genetic Variability, Heritability and Genetic Advance Estimates in Roselle (*Hibiscus sabdariffa* L.)**

**S Jyothsna, A Appala Swamy, Lal Ahamed M and N Venkata Lakshmi**

Department of Genetics and Plant Breeding, Agricultural College, Bapatla 522 101, Andhra Pradesh

### **ABSTRACT**

An investigation was carried out during *kharif*, 2013 to assess the variability, heritability and genetic advance for ten quantitative characters *viz.*, days to 50% flowering, plant height, basal stem diameter, bark thickness, number of nodes per plant, internodal length per plant, green plant weight, fibre length per plant, fibre wood ratio and fibre yield per plant in 30 genotypes of Roselle in three different environments. The analysis of variance indicated significant differences among the 30 genotypes for all the characters studied. The genotypic coefficients of variation for all the characters studied were lesser than the phenotypic coefficients of variation indicating the interaction of genotypes with environment. High heritability coupled with high genetic advance was observed for fibre wood ratio (in environment III) and fibre yield per plant (in environment II) indicating the importance of additive gene action in governing the inheritance of these traits. Hence, direct selection is useful with respect to these traits.

**Key words :** Genetic advance, Heritability, Mesta, Variability.

## **Studies on Genetic Variability, Heritability and Genetic Advance Estimates in Maize (*Zea mays* L.)**

**Babagouda S Patil, Lal Ahamed M, D Ratna Babu, and Y Ashoka Rani**

Department of Genetics and Plant Breeding, Agricultural College, Bapatla 522 101, Andhra Pradesh

### **ABSTRACT**

An investigation was carried out to assess the variability, heritability and genetic advance for thirteen characters *viz.*, days to 50% tasseling, days to 50% silking, days to maturity, plant height, ear height, cob length, kernel rows per cob, number of kernels per row, leaf number, relative growth rate (RGR) 60-90 days after sowing (DAS), net assimilation rate (NAR) 60-90 DAS, 100-seed weight and grain yield per plant in 30 genotypes (twenty one hybrids, seven parents along with two checks, DHM 117 and 30 V 92) of maize. The analysis of variance indicated significant differences among the 30 genotypes for all the characters studied. The results revealed that high PCV and GCV were recorded for plant height, ear height, number of kernels per row, 100-seed weight and grain yield per plant. The estimates of heritability and genetic advance as per cent of mean were high for the characters *viz.*, plant height, ear height, cob length, number of kernels per row, leaf number, RGR 60-90 DAS, NAR 60-90 DAS, 100-seed weight and grain yield per plant indicating that most likely the heritability is due to additive gene action and selection may be effective.

**Key words :** Genetic advance, Heritability, Maize, Variability.



## **Genetic Variability, Heritability and Genetic Advance for Grain Yield and its Components in Maize (*Zea mays* L.)**

**S V V Prasanna Kumar, D Ratna Babu, P V Rama Kumar and V Srinivasa Rao**  
Department of Genetics and Plant Breeding, Agricultural College, Bapatla 522 101, Andhra Pradesh

### **ABSTRACT**

An investigation was carried out to assess the variability, heritability and genetic advance for nine characters viz., days to 50% tasseling, days to 50% silking, days to maturity, plant height, cob length, kernel rows per cob, 100-seed weight, protein content and grain yield per plant in 29 genotypes (twenty one hybrids, their seven parents along with a check). The results revealed that high PCV and GCV were observed for the character grain yield per plant. High heritability accompanied with high genetic advance had shown by the characters viz., 100-seed weight, grain yield per plant, cob length and plant height indicating the preponderance of additive gene action which may be exploited through breeding methods involving simple selection like mass selection and ear-to-row method.

**Key words :** Genetic advance, Heritability, Mesta, Variability.

## **Genetic Variability, Heritability and Genetic Advance for Grain Yield and its Components in Finger millet [*Eleusine coracana* (L.) Gaertn.]**

**Jadhav R A, D Ratna Babu, Lal Ahamed M and V Srinivasa Rao**  
Department of Genetics and Plant Breeding, Agricultural College, Bapatla 522 101, Andhra Pradesh

### **ABSTRACT**

An investigation was carried out on finger millet to assess the variability, heritability and genetic advance for eleven characters viz., plant height, days to 50% flowering, days to maturity, number of productive tillers per plant, fingers per ear, finger length, ear weight per plant, 1000-seed weight, seed protein content, seed calcium content and seed yield per plant in 40 genotypes. The results revealed that high PCV and GCV were recorded for seed yield per plant, ear weight per plant, productive tillers per plant and seed protein content. High heritability accompanied with high genetic advance was recorded for all the 11 characters under study indicating the predominance of additive gene action and hence direct phenotypic selection is useful with respect to these traits.

**Key words :** Finger millet, Genetic advance, Heritability, Variability.

# **Genetic Variability Studies for Yield and Yield Components in Rice (*Oryza Sativa L.*)**

**SK Sameera, A Prasanna Rajesh, V Jayalakshmi, P J Nirmala, and T Srinivas**  
Department of Genetics and Plant Breeding, Agricultural College, Mahanandi

## **ABSTRACT**

Twenty five rice genotypes were evaluated in randomized Block Design with three replications to examine the nature and magnitude of variability, heritability and genetic advance. Analysis of variance revealed that differences among twenty five rice genotypes were significant for all the characters. Among all the traits, number of tillers per plant, productive tillers per plant, number of grains per panicle and number of filled grains per panicle showed higher estimates of genotypic and phenotypic co-efficient of variation. High estimates of heritability were recorded for all the characters under study. High heritability coupled with high genetic advance as per cent of mean was recorded for number of tillers per plant, productive tillers per plant, number of grains per panicle and number of filled grains per panicle suggesting that these traits were more useful for targeted yield improvement programmes in rice.

**Key words :** Genetic advance, Heritability, Rice, Variance.

# **Genetic Variability for Yield, Yield Components and Quality Traits in Rice Hybrids (*Oryza sativa L.*)**

**Satyaraj Kumar A, Adilakshmi D, Rama Kumar P V and Mukundarao Ch**  
Department of Genetics and Plant Breeding, Agricultural College, Mahanandi

## **ABSTRACT**

Twenty rice hybrids were evaluated for variability, heritability and genetic advance as per cent of mean for yield, yield components and quality parameters. Observations are recorded for the characters *viz.*, plant height, days to 50% flowering, ear bearing tillers plant<sup>-1</sup>, panicle length, number of fertile grains panicle<sup>-1</sup>, number of unfilled grains panicle<sup>-1</sup>, test weight, harvest index, grain yield plant<sup>-1</sup>, hulling per cent, milling per cent, head rice recovery per cent, kernel length, kernel breadth, L/B ratio, water uptake, amylose content, alkali spreading value, kernel length after cooking and elongation ratio. The analysis of variance indicated significant differences among the 20 hybrids for all the characters studied. The values of phenotypic coefficients of variation were higher than the genotypic coefficient of variation but the difference was low suggesting less environmental influence on these traits. Majority of the treatments manifested lesser plant height and all the treatments flowered earlier than the checks RGL 2537 and MTUHR 2089. Moderate to high GCV and PCV coupled with high heritability and high genetic advance as per cent of mean were observed for ear bearing tillers, number of fertile grains per panicle, number of unfilled grains per panicle, alkali spreading value, suggested the role of additive gene action in the inheritance of these traits and directional selection may be rewarding.

**Key words :** Genetic advance, Heritability, Rice, Variability.

## Soil Properties and Forms of Potassium in Rice Growing Soils of Kurnool district.

**P N Siva Prasad, P Kavitha, M Sreenivasa Chari and M Srinivasa Reddy**

Department of Soil Science and Agricultural Chemistry Agricultural college, Mahanandi 518 502

### ABSTRACT

The rice growing soils of Kurnool district of Andhra Pradesh were evaluated for pH, EC, organic carbon, texture, CEC, available N,P,K status and different forms of potassium (water soluble K, available K, exchangeable K, non exchangeable K and fixed K). The relationship between different forms of potassium and soil properties was studied. The mean values of water soluble K, available K, exchangeable K, non exchangeable K and fixed K were 34, 274, 240, 254 and 528 mg kg<sup>-1</sup>, respectively. The order of dominance of different forms of potassium was fixed K > non exchangeable K > available K > exchangeable K > water soluble K. Water soluble K exhibited negative correlation with pH, clay, silt and organic carbon whereas available K was positively correlated with pH, organic carbon, CEC. Non exchangeable K was negatively correlated with organic carbon while exchangeable K showed positive relationship with clay, organic carbon but negative with sand fractions. Fixed K was positively correlated with silt, pH and organic carbon. Different forms of potassium were positively correlated among themselves.

**Key words :** CEC, Clay, Organic carbon, pH, Potassium forms, and Texture.

## Effect of Paddy Straw, FYM and Zinc on Yield and Uptake of Nutrients by Rice (*Oryza sativa* L.)

**Y Gopi, P Madhu Vani, P Prasuna Rani, and G Subbaiah**

Department of Soil Science and Agricultural Chemistry, Agricultural College, Bapatla-522101

### ABSTRACT

A field experiment was conducted at Agricultural College Farm, Bapatla, during *khariif*, 2011 with an objective to know the use of organic sources of nutrients viz., paddy straw and FYM alone and in combination with zinc sulphate on uptake of nutrients and yield of rice. The results revealed that integrated application of recommended dose of fertilizer and zinc sulphate @ 50 kg ha<sup>-1</sup> with organic manures (paddy straw/ FYM) was proved to be highly beneficial in improving uptake of nutrients and yield of rice.

**Key words :** Farmyard manure, Paddy straw, Rice.

## Management Economics of *Urdbean* (*Vigna mungo*) Viral Diseases

**N Janaki Ratnam, V Manoj Kumar, J Krishna Prasadji, M Adinarayana and P V Krishnaya**

Department of Plant Pathology, Agricultural College, Bapatla 522 101, Andhra Pradesh

### ABSTRACT

Field experiment was conducted during *rabi* 2013-14 for the management of virus diseases (*MYMV*, leaf curl and leaf crinkle) in *urdbean*. Among seven treatments tested in randomized block design with three replications, seed treatment with imidacloprid @ 5 g/kg seed followed by insecticidal spray with thiamethoxam @ 0.05 % at 30 DAS resulted in effective control of virus diseases and their vectors. Significant increase in shoot length, number of primary branches per plant, number of pods per plant, 100 seed weight, seed yield and highest B:C ratio was recorded with seed treatment with imidacloprid @ 5 g/kg seed followed by insecticidal spray with thiamethoxam @ 0.05 % at 30 DAS. Seed treatment followed by insecticidal protection at 30 DAS was found to be effective and economical in control of virus diseases and their vectors.

**Key words :** *MYMV*, Leaf crinkle, Leaf curl and Management.

# **Influence of Abiotic Factors on the Incidence of Insect Pests of Groundnut with Special Reference to Groundnut Leaf Miner, *Approaerema modicella* Deventer in the Scarce Rainfall Zone of A P**

**Radhika P**

Agricultural Research Station, ANGRAU, Anantapur-515001

## **ABSTRACT**

GLM incidence during *kharif*, 2011 in terms of percent damage showed significant negative correlation with Tmax (-0.50\*) and Ssh (-0.618\*) and significant positive correlation with rainy days (0.508\*). However the no of webs showed significant negative correlation with Sun Shine Hours (-0.502\*) and significant positive correlation with RH I (0.458\*). The live pupae showed significant negative correlation with Tmax (-0.545\*) and SSH(-0.553\*) and significant positive correlation with RH-I(0.517\*) during *kharif* 2011. The correlation studies with Pheromone trap catches of GLM, during 2011 and weather revealed significant positive correlation with RH-II(0.612\*), and Rf(0.550\*) and Rd(0.544\*) and significant correlation Ssh (-0.653\*). During *kharif* 2011 Thrips showed significant positive correlation with RH-I(0.516\*) and significant negative correlation with Tmin (-0.50\*). *Spodoptera litura* during *kharif* showed significant negative correlation with RH-I(-0.718\*) and significant positive correlation with Evp(0.638\*). Pheromone trap catches of *Spodoptera litura* during *rabi* 2011 showed a negative correlation with Tmin (-0.569\*). *Kharif* 2011, *Helicoverpa armigera* also showed negative correlation with RH-I(-0.533\*) and positive correlation with Evp(0.529\*).

**Key words :** *Approaerema modicella*, Influence of weather, Seasonal incidence, *Spodoptera litura*, Sun Shine Hours, RH-I, RH-II, T max, T min, rainy days, rainfall

## **Screening of Certain Genotypes of Greengram (*Vigna radiate* (L.) ) Against Thrips**

**K China Suribabu, C V Rama Rao, M S V Chalam and V Srinivasa Rao**

Department of Entomology, Agricultural College, Bapatla 522 101, Andhra Pradesh

## **ABSTRACT**

An experiment was conducted for screening of certain genotypes of greengram against *Thrips palmi*. The response of genotypes was observed in terms of thrips population and yield. The results indicated that the 96 genotypes were moderately preferred by thrips with the mean thrips population ranged between 2.3 and 3.7 / plant and yield ranged between 24.6 g /20 plants (IC 336736) to 66.59 g /20 plants (IC 39379). Forty five genotypes showed high preference to thrips with the mean thrips population ranged between 3.7 to 4.6 / plant and the yield varied from 17.67 g /20 plants (IC 324025) to 21.35 g / 20 plants (IC 325988). Nine genotypes showed very high preference to thrips. The mean thrips population ranged between >4.6 / plant and yields ranged between of 12.50 g / 20 plants (IC 39412) to 16.00 g / 20 plants (IC 369819). One genotype LGG 460 showed least preference to thrips with 2.4 of mean thrips population per plant and recorded highest yield of 60.00 g / 20 plants.

**Key words :** Genotypes, Greengram, Thrips, Population, Yield.

## **“Studies on Biology and Morphometrics of papaya mealybug, *Paracoccus marginatus* Williams and Granara de Willink on Papaya”**

**V Abdul Rasheed, T Muralikrishna, P Rajendra Prasad, and B V Bhaskara Reddy**  
Department of Entomology, S.V Agricultural College, Tirupati 517 502, Andhra Pradesh

### **ABSTRACT**

Studies on biology of papaya mealybug was carried out on papaya leaves under laboratory conditions of mean temperature ( $25 \pm 2^\circ\text{C}$ ) and relative humidity ( $75 \pm 2\%$ ) in the Department of Entomology, Institute of Frontier Technology (IFT), RARS, Tirupati. Each female of *Paracoccus marginatus* Williams and granara de willink lay about 400 to 600 eggs. Egg period ranged from 8 to 10 days with an average of 8.60 days. Females undergo only three instars and no sexual dimorphism between male and female instars. However, the duration of female I, II, III instar nymphs were 5.8, 5.2 and 4.6 days respectively. Males undergo four instars and the duration of I, II, III and IV instar male nymphs were 5.8, 6, 2.6 and 4.2 days respectively. Males have longer development period (27.2 days) than females (24.2 days). The average length and breadth of the female I, II, III instar nymphs and adult female was  $0.35 \pm 0.07$ ,  $0.24 \pm 0.09$ ;  $0.61 \pm 0.09$ ,  $0.41 \pm 0.11$ ;  $0.93 \pm 0.09$ ,  $0.48 \pm 0.08$  and  $2.32 \pm 0.14$ ,  $1.04 \pm 0.11$  respectively. The average length and breadth of the male I, II, III, IV instar nymphs and adult male was  $0.35 \pm 0.07$ ,  $0.24 \pm 0.09$ ;  $0.61 \pm 0.09$ ,  $0.41 \pm 0.11$ ;  $0.81 \pm 0.08$ ,  $0.35 \pm 0.09$ ;  $0.98 \pm 0.08$ ,  $0.47 \pm 0.07$  and  $1.47 \pm 0.04$ ,  $0.44 \pm 0.08$  respectively.

**Key words :** Biology, Nymphs, Papaya mealybug, *Paracoccus marginatus*.

## **Population Development and Damage by Pulse Beetle, *Callosobruchus maculatus* F. on Different Pulse Host-Grains**

**T Divya Bharathi, P V Krishnayya, T Madhumathi and V Manoj Kumar**  
Department of Entomology, Agricultural College, Bapatla 522 101, Andhra Pradesh

### **ABSTRACT**

The population development and the damage caused by *C. maculatus* in different pulse host-grains viz., greengram (*Vigna radiata* L.), blackgram (*Vigna mungo* L.), bengalgram (*Cicer arietinum* L.), redgram (*Cajanus cajan* L.), cowpea (*Vigna sinensis* L.), soybean (*Glycine max* L.), pea (*Pisum sativum* L.) and pillipesara (*Phaseolus trilobus* L.) were estimated. Among all the host-grains pillipesara has recorded significantly maximum oviposition (10.25 eggs/ 5 g grain) whereas, greengram significantly higher per cent survival (89.52 %), mean developmental period (27.32 days), index of susceptibility (6.91), per cent number of grains damaged (94.88%) and per cent weight loss of grains (74.92%) and also per cent increase in moisture (18.61%).

**Key words :** Bengalgram, Blackgram, Cowpea, *C. maculatus*, Greengram, Pea, Pillipesara  
Redgram, Soybean.

## **Efficacy and Economics of Certain Newer Insecticides Against Pod Fly, *Melanagromyza obtusa* (Malloch) on Pigeonpea**

**K Revathi, M Sreekanth, P V Krishnayya and V Srinivasa Rao**

Department of Entomology, Agricultural College, Bapatla 522 101, Andhra Pradesh

### **ABSTRACT**

A field experiment conducted during *kharif*, 2013 to evaluate the efficacy and economics of certain newer insecticides against pod fly on pigeonpea revealed that there was a significant difference among the treatments with respect to per cent pod and grain damage. Pod damage ranged from 13.3 to 36.7% in various treatments whereas, grain damage was in the horizon of 6.8 to 16.6%. Grain damage due to pod fly was lowest in dimethoate (6.8%) and imidacloprid (10.1%) followed by clothianidin (11.2%) with 59.0, 39.1 and 32.5 per cent reduction over control, respectively. Dimethoate was found to be superior based on per cent pod and grain damage with highest grain yield of 1345 kg ha<sup>-1</sup> and ICBR of 1:5.48.

**Key words :** Clothianidin, Dimethoate, ICBR, Imidacloprid, Insecticides, Pod fly, Thiamethoxam.

## **Impact of Different Levels of Nitrogen on the Incidence of Various Sucking Insect Pests of Bollgaurd II Cotton**

**S Anusha, G M V Prasada Rao, D V Sai Ram Kumar and V Srinivasa Rao**

Department of Entomology, Agricultural College, Bapatla 522 101, Andhra Pradesh

### **ABSTRACT**

Nitrogen is one of the most frequently used chemical fertilizer to improve plant production, productivity and it also influences dynamics of herbivores in terms of development and reproduction. A field study was conducted at Regional Agricultural Research Station, Lam, Guntur during 2013 *Kharif* to investigate the impact of nitrogen in BG II cotton hybrid Jaadu at different levels; 120, 150, 180, 225, 280, 350 and 440 kg N ha<sup>-1</sup> on the incidence of cotton insect pests *viz.*, aphid, leafhopper, thrips and whitefly along with natural enemies *viz.*, spiders and coccinellids. Results obtained from the study indicated that the mean populations of aphids (42.54), leafhoppers (6.52), thrips (1.44) and whiteflies (1.83) were more at higher nitrogen applied treatments than at lower treatments. Among the sucking pests only leafhoppers and aphids crossed the ETL at various stages of crop growth. The peak incidence of leafhoppers and aphids was observed at 48 DAS and 97 DAS respectively. The populations of thrips and whiteflies were below ETL throughout the season. Significant positive correlations were observed between the sucking insect pests and nitrogen levels. The natural enemies populations were found to have direct relation with sucking insect pest population.

**Key words :** *Bt* hybrid, ETL, Natural enemies, Nitrogen levels, Sucking pests.

## Effect of Plain and Nano Emulsions of Tree Borne Oil Seed Protectants on Bruchids (*Callosobruchus Maculatus*) in Blackgram

Mounica D and Natarajan N

Department of Entomology, Tamil Nadu Agricultural University, Coimbatore-641003

### ABSTRACT

A laboratory investigation was carried out to assess the efficacy of plain and nano emulsions of tree borne oils (neem and pongamia) seed protectants against bruchids, *Callosobruchus maculatus* (Linnaeus) as surface treatment of both uninfested and infested black gram seeds @10ml.kg<sup>-1</sup> at Tamil Nadu Agricultural University, Coimbatore during 2014. Of the two forms of tested tree borne oils uninfested seeds treated with plain forms (0.4 adults/week/250g seeds) were superior over nano emulsions each of which had significantly higher numbers (0.4 adults/week/250g seeds). Treated uninfested seeds when reintroduced with another 10 bruchids after eight weeks of observation were found dead within a week time indicating the persistence effect of plain oils of neem and pongamia in killing all the introduced adults but nano emulsions of neem and pongamia oils promoted the emergence of 83.5 and 44.7 adults per week per 250g seeds. In case of infested seeds, nano emulsion of neem and pongamia oils were found to favour the insect development. Uninfested seeds treated with plain and nano formulations of neem and pongamia oils had 93 and 92 percentage germination while infested seeds, treated with nano pongamia oil (72%) and nano neem oil (60%) exhibited low germination.

**Key words :** *Callosobruchus maculatus*, Efficacy, Germination, Infestation, Mortality rate, Nano emulsions, Neem oil, Pulses, Pongamia oil.

## Physiological Parameters in Relation to Drought Tolerance in Chickpea (*Cicer arietinum*(L))

P Umamaheswari and V Jayalakshmi

Regional Agricultural Research Station, Nandyal 518 502 Andhra Pradesh

### ABSTRACT

Field experiment was conducted with nine chickpea genotypes during three successive *Rabi* seasons of 2007, 2008 and 2009 at Regional Agricultural Research Station, Nandyal to identify high yielding chickpea genotypes with tolerance to drought. Pooled analysis of variance indicated that highly significant differences was observed among the genotypes for yield and drought tolerant parameters. The highest mean seed yield was recorded in Vijay (1011 kg/ha) followed by JAKI-9218 (977 kg/ha) and JG-11(968 kg/ha). Genotype JAKI-9218 (63%) and JG-11 (62%) also recorded higher relative water content. Higher proline content was recorded at filling stage in all genotypes. Apart from high proline content (3.13  $\mu$  mol per g tissue), the genotype JAKI-9218 has high RWC and SCMR. JG-11 also recorded high RWC. Whereas Vihar, a kabuli genotype exhibited higher SCMR. Higher SPAD chlorophyll Meter values at 60 DAS were recorded in JAKI-9218 (45) and Vihar (45). JAKI-9218 also recorded higher value of SPAD chlorophyll Meter reading at 30 DAS and comparatively higher proline content (3.13  $\mu$  mol per g tissue). Thus these promising genotypes identified for various drought tolerance and yield attributes can be exploited further in breeding programmes in order to develop high yielding drought tolerant chickpea genotypes.

**Key words :** Chickpea, R.W. C, Proline, Seed yield, SPAD chlorophyll meter readings.



## **Flowering and Flower Characters in Garland Chrysanthemum (*Chrysanthemum coronarium* L.) as Influenced by Pinching Time**

**A V D Dorajeerao, M Sattiraju and A N Mokashi**

Department of Horticulture, Horticultural College and Research Institute,  
Y S R Horticulture University, Venkataramannagudem 534 101, Andhra Pradesh

### **ABSTRACT**

Pinching at 20 DAS (nursery) recorded the maximum number of flowers per plant on par with pinching at 10 DAT. It was also superior in terms of weight of flowers per plot and number of seeds per flower. Pinching at 20 DAT significantly delayed flowering. This treatment increased the number of days taken for the appearance of first flower bud by 7 days compared to non-pinched plants and by 5 to 6 days compared to early pinched plants *i.e.* at 20 DAS and at 10 DAT. Quality parameters *viz.*, flower weight, flower diameter and 1000-seed weight was maximum in the treatments of pinching at 20 DAS and pinching at 10 DAT, which were at par.

**Key words :** Flower characters, Garland chrysanthemum, Pinching time and Quality.

## **Influence of Nutrient Combinations and Growing Systems on Root Growth and Symbiotic Association of *Piriformospora indica* (PGPRE) in *Dendrobium* cv. Earsakul**

**M Raja Naik, K Ajithkumar and A V Santhosh Kumar**

Horticultural Research Station, Vijayarai, West Godavari Dt. Andhra Pradesh

### **ABSTRACT**

*Dendrobium* is an important orchid for cut flower and potted plant production. The present experiment was designed to work out a suitable treatment combination and growing system for better root growth of *Dendrobium*. The treatments were replicated thrice in Completely Randomized Design. Experimental results clearly indicated that, among plant growth promoters, the treatment NPK + GR + OM + VW + PGPRE + Bone meal ( $T_6$ ) recorded higher number of roots (91.00, 79.72), root volume (16.34 m<sup>3</sup>, 14.19 m<sup>3</sup>) in six month and three year old plants. Significantly longer roots (34.01 cm) and higher root colonization (66.63 per cent) was resulted in POP + OM + VW + PGPRE + Bone meal + GR ( $T_4$ ) in six month old plants. Among three growing systems, top ventilated polyhouse ( $S_2$ ) recorded significantly higher number of roots (89.00, 94.75), longer roots (31.44 cm, 43.33 cm), root volume (17.14 m<sup>3</sup>, 19.16 m<sup>3</sup>) and root colonization (63.34, 41.30 per cent). In interaction, the combination of POP + OM + VW + PGPRE + Bone meal + GR ( $T_4$ ) and top ventilated polyhouse ( $S_2$ ) had maximum influence on root parameters. In anatomical studies, after inoculation, in *Dendrobium* cv. Earsakul roots, hyphae of the *Piriformospora indica* fungus entered into the tissue of the root through the root tip. In the cortical cells of the roots, development of intracellular hyphal coils and round bodies could be observed. Hyphae multiplied within the cortical tissues and never traversed through endodermis.

**Key words :** Anatomical studies, *Dendrobium* cv. Earsakul, Inorganic nutrients, Organic, *Piriformospora indica* (PGPRE), Root growth, Three growing systems.

## **Modification and Evaluation of 8 Row Self Propelled Paddy Transplanter (Yanji) to Suit SRI Cultivation**

**D Anand Babu, B Hari Babu, Aum Sarma, B John wesely**  
College of Agricultural Engineering, Bapatla 522 101, Andhra Pradesh

### **ABSTRACT**

In India Rice (*Oryza Sativa*) occupies 150 million ha area, producing 573 million tonnes with an average productivity of 3.83 t ha<sup>-1</sup>. Yanji transplanter used to avoid very cumbersome transplanting process for saving time, labour requirement and to maintain uniformity of planting through tray seedling or the mat nursery but will also help in getting desired plant population. In Yanji transplanter, the spacing was 23.8 × 12 cm, the row to row spacing was constant at 23.8 cm and plant to plant spacing was 10 to 20 cm. The modification to the gear box was initiated to accomplish System of Rice Intensification (SRI) planting spacing of 25X25 cm so as to reap the benefits of SRI. The gear box of Yanji transplanter had been modified in existing transplanter, from small gear teeth (16, 24) to (16, 41) and also big gear teeth was (27, 36) to (17, 41). The field capacities of modified over existing transplanter was 0.1575 ha h<sup>-1</sup> and 0.1218 ha h<sup>-1</sup> and field efficiencies were 74.28 per cent and 85.5 per cent at the average operating speed of the modified and existing transplanters were 0.810 km h<sup>-1</sup> and 0.643 kmh<sup>-1</sup> respectively. Yield of rice using modified Yanji transplanter 7.1 t ha<sup>-1</sup> is higher than compared to existing transplanter 6.4 t ha<sup>-1</sup>.

**Key words :** Rice yield, SMSRI, Yanji transplanter.

## **Performance Evaluation of Developed Automated Drip Irrigation System**

**Ch Apparao, G Ravi Babu, A Sambaiah and L Edukondalu**  
College of Agricultural Engineering, Bapatla 522 101, Andhra Pradesh

### **ABSTRACT**

The recent irrigation techniques introduce automated irrigation using sophisticated equipments to supply water and nutrients to plants as soon as they need it. Research in the developed countries is progressing towards real time irrigation, decision support system and expert systems. As the farm holdings are not large enough in India and also high cost of automation cannot be realized in India, in view of high cost of automated systems and to apply simple electronic circuit principles an attempt has been made to develop a low cost automatic irrigation based on soil moisture. The experimental site was divided into five sub plots with 3 × 20 m size to conduct experiments with brinjal and tomato crops. The yield response of brinjal and tomato crops with plant to plant spacing of 40 cm for different row to row spacings (50 cm row to row spacing and 30×70 cm paired row spacing) and irrigation application methods (flood irrigation, time based automated drip irrigation, soil moisture sensor based automated drip irrigation) was evaluated. The uniformity coefficient, horizontal wetting pattern, depth of penetration of drip system was observed to be 98.2%, 34.5 cm, 40 cm respectively. Overall yield response was observed to be best in soil moisture sensor based irrigation with paired row spacing as 8.06 t/ha, 6.52 t/ha for brinjal and tomato crops respectively.

**Key words :** Automatic irrigation, Decision support system, Electronic circuit, Soil moisture sensor.

## **Studies on the Development of Microwave Baked Potato Chips to Optimize Process Parameters**

**P Naga Deepthi, L Edukondalu, Sivala kumar, Lakshmi J**  
College of Agricultural Engineering, Bapatla 522 101, Andhra Pradesh

### **ABSTRACT**

The present investigation was to study the development of microwave baked potato chips using response surface methodology to determine the optimum operation conditions of microwave baked potato chips and to analyze the effects of microwave baking processing variables, including thickness (0.5-2.5mm), microwave power (300-900 Watts), baking time (4-12 min). Quadratic polynomial equations were also obtained by multiple regression analysis. The predicted models were adequate based on the lack-of-fit test and coefficient of determination obtained. By superimposing individual contour plots of the different responses, regions meeting the optimum conditions were also derived. Quadratic regression equations describing the effects of these factors on the physico-chemical attributes were developed. It was found that effects of thickness and microwave power were more significant on the moisture, ash, CHO & fat content than baking time. As for protein and browning index, the power level has no significant effect. The microwave baking process was optimized for physico-chemical attributes. The optimum conditions were found to be: thickness of 1.5 mm, microwave power of 600 Watts and baking time of 8min. At this condition the optimum values of moisture, ash, fat, protein and carbohydrate contents were found to be 6.12%, 4.12%, 0.44% and 82.5 g/100 g respectively.

**Key words :** Microwave baking, Potato chips, Response surface methodology.

## **A Case Study on Vegetable marketing of Mangalagiri [SLNS Temple] Rythu Bazar of Guntur District [AP]**

**N Maria Das**

Dept. of Agricultural Science & Rural Development, Loyola Academy Degree & PG College,  
Alwal, Secunderabad 500 010

### **ABSTRACT**

This study was taken-up to generate empirical information on marketing costs, marketing margins and price-spread in vegetables, in Mangalagiri (SLNS Temple) rythu bazar (farmers market) of Andhra Pradesh. The information on the problems of vegetable producers and consumers is also very crucial in framing suitable policies to safeguard their interests. The present study is an endeavor in this direction to examine the impact of rythu bazars mainly on the share of producers in the consumer's rupee. The findings of the study witness that the marketing costs for different vegetables were in the range of 7.00 to 14.66 per cent and the marketing margins were found to be in the range of 85.34 to 92.62 per cent (potato). The farmers price was found to be very high for ridge gourd (Rs.760/-) followed by Rs.600/- (tomato), Rs.560/- (brinjal and bhendi), and it was very low for bottle gourd (Rs.320/-). By direct selling of vegetables to the consumers, farmers are able to increase their income share, which otherwise goes to the middlemen. Of all problems faced by the farmers, the major ones are fear of shifting of rythu bazar and lack of permanent structure. On the other hand, the major problems of the consumers are; no difference between the rythu bazar prices and retail market prices and producers ignore pricelist. The suggestions offered by the farmers and consumers should be strictly considered for effective functioning of rythu bazar.

**Key words :** Marketing costs & margins, Producer's price, RMR, RBR, Rythu bazar, Vegetables.

# **Economic Analysis of Sugarcane Cultivation**

**M Srikala and T V Neelakanta Sastry**

Department of Agricultural Economics, S V Agricultural College, Tirupati 517 502 , Andhra Pradesh

## **ABSTRACT**

The total (cost C) for sugarcane planted crop was higher at Rs. 1, 13,117.30 on large farms compared to small farms (Rs. 1, 06,672.62) indicating positive relationship with the size of the holding. Cost A<sub>1</sub> (Rs. 96,017.30) and A cost B (Rs. 1, 13,117.30) were found to be higher on large farms than on small farms (Rs. 79,132.62 and Rs. 97,052.62) reflecting a direct relationship with the farm size. The cost C for ratoon crop was Rs. 76,827.50, Rs. 80,986.15 and Rs. 78,906.82 on small, large and combined farms respectively. The cost of production of a tonne of sugarcane planted and ratoon showed inverse relationship with the size of the holding as it was Rs. 1,015.92 and Rs. 777.99 on small farms and Rs. 1,005.48 and Rs. 762.21 on large farms. The net income from sugarcane planted and ratoon increased from Rs. 6,727.38 and Rs. 29,822.50 on small farms to Rs. 8,382.70 and Rs. 33,763.85 on large farms respectively. The break-even analysis indicated that the break-even output per hectare in the cultivation of sugarcane planted and ratoon was 78.12 and 39.10, 77.50 and 37.69 and 77.87 and 38.64 tonnes on small, large and pooled farms respectively.

**Key words :** Cost of production, Net income.

# **Knowledge level of Poly Culture Fish Farmers in Southern Andhra Pradesh**

**S J M Prathap Kumar and K Sumanth Kumar**

Research Scholar, Acharya Nagarjuna University, Guntur, Andhra Pradesh

## **ABSTRACT**

The was carried out during 2013-2014 in the purposively selected Krishna, Guntur and Prakasam districts of southern Andhra Pradesh focused on the factors influencing knowledge of fish farmers towards poly culture fish practices. The findings revealed that majority (85.72%) of fish farmers belonged to medium to high knowledge category. The knowledge level of fish farmers towards poly culture fish practices was positively and significantly influenced by the factors like age, education, fish farming experience, occupation status, caste, socio economic status, social participation, possession of fishing equipments, annual income, scientific orientation, extension participation, extension agency contact, mass media participation, size of water body, duration of water availability and extent of weed infestation. Family type, duration of water availability and extent of weed infestation are significant with knowledge level in multiple regression.

**Key words :** Knowledge, Poly culture fish farmer.

# **Relationship between Profile and Awareness about Agrobiodiversity and Constraints of Homestead Farmers in Thrissur District of Kerala**

**N Krishna Priya and Jayashree Krishnakutty**

Department of Agricultural Extension, Agricultural College Bapatla 522101 Andhra Pradesh

## **ABSTRACT**

Homegardens are the area where a wide range of variety crops are grown for both production as well as home consumption. Homestead based agrobiodiversity is a very important component of Kerala. There should be every possible of conserving them because traditional varieties are to be conserved in order to meet the demands of growing population even though high yielding varieties existed. So if it should be conserved we have to know the awareness level of the farmers regarding agrobiodiversity and its importance. In this regard the study was undertaken in Thrissur district of Kerala. The results of the study revealed that awareness about agrobiodiversity was medium and the correlation coefficient revealed that out of 9 independent variables, three variables namely education, information source utilization and innovativeness were positively and significantly related with awareness about agro biodiversity. Further, study revealed that major constraints faced by homegarden farmers of Kerala for conserving agrobiodiversity was unavailability of water (100%) followed by unavailability of labour and high cost of labour (95.56%). To be concluded it is an important area for effectively implementing programmes geared towards biodiversity conservation, food security and sustainable development.

**Key words :** Agrobiodiversity, Correlation, Constraints, Homegardens.

# **Relationship of Profile Characteristics of Sri Farmers with their Level of Knowledge on Sri Technology in Nagapattinam District of Tamil Nadu**

**G Ashok Kumar, V Sailaja, P V Satyagopal and S V Prasad**

Department of Agricultural Extension, S V Agricultural College, Tirupati 517 502, A P.

## **ABSTRACT**

Rice is an important staple food crop for the Asian region and India is center of origin with a wide variability. In India, out of the total 604 districts, rice is grown in 560 districts, indicating its importance as a food crop. As rice alone consumes 63.00 per cent of the total irrigated area in Tamil Nadu state, necessitated the need for developing the alternative methods of its cultivation to reduce the stress on this dwindling natural resource. SRI (System of Rice Intensification) is a suitable alternative method of cultivating rice which not only reduces water usage and external inputs like fertilizers but also has a better yield potential. In spite of many concerted efforts since 2000, by Dr. Thiyagarajan of Tamil Nadu Agricultural University, Department of Agriculture, and NGOs, the spread of SRI within Tamil Nadu was relatively slow. Recently, it was accelerated by the state government in order to attain the goals of National Food Security Mission and Sustainable Agriculture and the pace has been altered now. Hence, a study was taken up to find out the profile characteristics of SRI farmers and the relationship of these characteristics with their knowledge level on SRI Technology in Nagapattinam district of Tamil Nadu. The result of the study revealed that, Education, Training Undergone, Social Participation, Extension Contact, Economic Motivation, Scientific Orientation, Management Orientation, Achievement motivation, Innovativeness, Mass media exposure and Risk orientation were found to be positively significant at 0.01 level of probability with their Level of Knowledge in SRI method of cultivation. Age and Farming experience were found negatively and significantly related whereas; Land holding had non-significant relationship with their Knowledge in SRI method of cultivation.

**Key words :** Knowledge, Profile, Relationship, SRI technology in Rice.

**Dehydrogenase Activity in Intensively Cultivated Areas of  
West Godavari District, Andhra Pradesh**

**Ch Kiran Kumar and G V Lakshi**

**Key words :** Dehydrogenase activity, intensively Cultivated Areas

**Correlation Coefficients Study Between Seed Yield and Yield  
Contributing Characters and Seed Quality Characters in Guar  
(*Cymopsis Tetragonoloba* (L) Taub) Under North Coastal Zone of  
Andhra Pradesh**

**B Prasanna Kumar , S E swara Reddy and M Ravi Babu**

**Key words :** Correlation coefficients, Yield.

**Farmers Perception on Farm Mechanization Status in  
Vizianagaram District of Andhra Pradesh**

**K Bhagya Lakshmi and S Chandrashekar**

**Key words :** Farmers perception, Mechanization.

**An analysis of the Personal, Socio-Economic and Psychological  
Characteristics of members of Women Self Help Groups.**

**P Bhagya Shree, T Gopi Krishna, P Rambabu and Y Radha**

**Key words :** Members, Personal, Psychological, Socio-Economic, Women Self Help Groups.