

# Response of Bt Cotton to Plant Geometry and Canopy Management Practices

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## ABSTRACT

A Field experiment was conducted during *kharif*, 2010 at College Farm, Rajendranagar, Hyderabad to study the effect of plant geometry and growth regulator- chloro mepiquat chloride on Bt cotton with twelve treatments and three replications in a randomized block design. The experimental results revealed that significantly higher seed cotton yield of 1668 kg ha<sup>-1</sup> and net monetary returns of Rs.24, 209 ha<sup>-1</sup> was recorded with the plant population levels of 37,037 plants ha<sup>-1</sup> (90 x 30 cm) over that of 24,691 plants ha<sup>-1</sup> (90 x 45 cm) and 18,518 plants ha<sup>-1</sup> (90 x 60 cm). The similar trend was noticed for nutrient uptake by stalk. Among the canopy management practices, significantly higher seed cotton yield of 1635 kg ha<sup>-1</sup> and net returns of Rs.24, 572 ha<sup>-1</sup> were recorded with two sprays of chloro mepiquat chloride when compared to single spray (1556 kg ha<sup>-1</sup> and Rs.23,267 ha<sup>-1</sup>), de topping (1310 kg ha<sup>-1</sup> and Rs.17, 566 ha<sup>-1</sup>) and control (1282 kg ha<sup>-1</sup> and Rs.17,494 ha<sup>-1</sup>) respectively. Regarding nutrient uptake pattern, growth regulator sprays recorded higher uptake of nitrogen and lower uptake of phosphorus and potassium by stalk compared to de-topping and control.

**Key words :** Bt cotton, Canopy management, Chloro mepiquat chloride, De-topping, Plant geometry.

# Response of Baby Corn Genotypes to Organic Manures on Growth, Yield and Economics

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## ABSTRACT

A field experiment was conducted at the Wetland Farm of S.V. Agricultural College, Tirupati during *rabi* 2008-09 to study the effect of different sources of organic manures on growth, yield and economics of baby corn genotypes. The highest values of growth parameters, yield components, yield and economics were recorded with the genotype G-5414 (G<sub>3</sub>), while these were lowest with the genotype Golden baby (G<sub>1</sub>). Among the manurial practices, the recommended dose of fertilizers (T<sub>1</sub>) resulted in the higher values of growth parameters, yield components, yield and economics and the lowest values were recorded with application of vermicompost (T<sub>7</sub>).

**Key words :** Baby corn, Economics, Growth, Yield.

# **Nutrient Uptake, Yield and Economics of *Rabi* Sunflower as Influenced by Plant Density and Weed Management Practices**

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## **ABSTRACT**

A field experiment was conducted in *rabi*, 2009-10 at S.V. Agricultural College, Tirupati to study the nutrient uptake, yield and economics of *rabi* sunflower as influenced by plant density and weed management practices. The experiment was laid out in split plot design, replicated thrice with three plant densities viz., (1,11,111 plants ha<sup>-1</sup>) 45 × 20 cm, (74,074 plants ha<sup>-1</sup>) 45 × 30 cm and (55,555 plants ha<sup>-1</sup>) 60 × 30 cm and seven weed management practices viz., unweeded check, weed free check, intercultivation at 30 DAS, intercultivation at 30 DAS + HW at 45 DAS, pendimethalin @ 1.0 kg a.i ha<sup>-1</sup> + HW at 30 DAS, oxadiargyl @ 0.3 kg a.i ha<sup>-1</sup> + HW at 30 DAS and oxyflourfen @ 0.1 kg a.i ha<sup>-1</sup> + HW at 30 DAS. The lowest dry weight, nutrient uptake by weeds, the highest growth parameters, yield and economics were noticed with the plant density of 45 × 30 cm. Among the weed management practices tried, the lowest biomass of weeds and the highest growth parameters, yield and nutrient uptake by crop were resulted from pre-emergence application of pendimethalin @ 1.0 kg a.i ha<sup>-1</sup> + HW at 30 DAS, besides weed free check. The nutrient uptake by weeds associated with the sunflower crop was 44.97, 16.33 and 44.27 kg ha<sup>-1</sup> of nitrogen, phosphorus and potassium respectively in unweeded check.

**Key words :** Nutrient uptake, Plant density, Sunflower, Weed Management, Yield.

# **Effect of Nitrogen and Zinc on Growth, Yield and Economics of Clusterbean [(*Cyamopsis tetragonoloba* (L.) Taub]**

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## **ABSTRACT**

A field experiment was conducted during *kharif*, 2008 at S.V. Agricultural College, Tirupati to study the effect of nitrogen and zinc on growth and seed yield of clusterbean. The experiment was laid out in split plot design, replicated thrice with three nitrogen levels viz., 20, 30 and 40 kg N ha<sup>-1</sup> assigned to main plots and four zinc management practices viz., 0.5 % ZnSO<sub>4</sub> spray at 25 DAS, 0.5 % ZnSO<sub>4</sub> spray at 45 DAS, 0.5 % ZnSO<sub>4</sub> spray at 25 and 45 DAS and 20 kg ZnSO<sub>4</sub> ha<sup>-1</sup> as basal were assigned to sub plots. The results showed that nitrogen level of 30 kg N ha<sup>-1</sup> and 0.5 % ZnSO<sub>4</sub> spray at 25 and 45 DAS significantly influenced growth characters, yield attributes, seed yield and economics of clusterbean.

**Key words :** Clusterbean, Growth, Nitrogen, Yield, Zinc.

# Bio-efficacy of Ethoxysulfuron against Broad-leaved Weeds and Sedges in Transplanted Rice

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## ABSTRACT

A field experiment was conducted in clay loam soils of Regional Agricultural Research Station, Warangal during *kharif* 2006 to evaluate the bio-efficacy of ethoxysulfuron 60 WG at three doses (15, 17.5 and 20 g a.i./ha) and 15 WG @ 18.75 g. a.i./ha against broad-leaved and sedge weeds in transplanted rice in comparison with Almix (metsulfuron-methyl 10% + chlorimuron-ethyl 10%) 20 WP @ 2 + 2 g. a.i ha<sup>-1</sup> and 2,4-DEE @ 400 g. a. i ha<sup>-1</sup>. The results indicated that ethoxysulfuron 60 WG at three concentrations and 15 WG, controlled broad leaved weeds and sedges effectively and increased grain yield of rice significantly compared to weedy check. However, the effect of ethoxysulfuron at all the concentrations was on par with other two weedicides and hand weeding at 20 and 40 DAT both in terms of weed control and grain yield of rice crop. Higher net returns and benefit: cost ratio was obtained with ethoxysulfuron 15 WG @ 18.75 g.a.i ha<sup>-1</sup> followed by ethoxysulfuron 60 WG @ 17.5 g.a.i ha<sup>-1</sup> compared to other herbicides and hand weeding.

**Key words :** Almix, Bio-efficacy, 2, 4-DEE, Ethoxysulfuron, Weed control efficiency, Weed count , Weed drymatter

# Growth And Yield of Export Oriented Groundnut as Influenced by Different Planting Pattern, Nitrogen and Weed Management Practices

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## ABSTRACT

A Field experiments were conducted during two consecutive rabi seasons of 2008 and 2009 to develop certain agro- techniques for enhancing the productivity and quality of export oriented groundnut. The experiment was laid out in a split - split plot design replicated thrice. It consisted of three planting patterns viz., 22.5 x 10 cm (P<sub>1</sub>), 30.0 x 10 cm (P<sub>2</sub>) and 37.5 x 10 cm (P<sub>3</sub>) as main plots, four nitrogen management practices viz., 100% N through fertiliser (N<sub>1</sub>), 100% N through poultry manure (N<sub>2</sub>), 50% N through fertilizer + 50% N through poultry manure (N<sub>3</sub>) and 25% N through fertilizer + 75% N through poultry manure (N<sub>4</sub>) as sub plots and four weed management practices viz., Two hand weedings at 20 DAS and 40 DAS (W<sub>1</sub>), Pre-emergence application of pendimethalin @1.0 kg a.i ha<sup>-1</sup> + one hand weeding at 40 DAS (W<sub>2</sub>), Post emergence application of Quzilofof –p-ethyl @ 54 g a.i ha<sup>-1</sup> at 20 DAS + Hand weeding at 40 DAS (W<sub>3</sub>) and Pre-emergence application of pendimethalin @ 1.0 kg a.i ha<sup>-1</sup>+ post emergence application of Quzilofof –p-ethyl @54 g a.i ha<sup>-1</sup> at 40 DAS (W<sub>4</sub>) as sub-sub plots. The results revealed that bold kernelled (export oriented) groundnut cv. Bheema (TG-49) could be successfully grown in the southern agro-climatic zone of Andhra Pradesh with planting pattern of 22.5 x10 cm, supply of 30kg N ha<sup>-1</sup> @ 50 per cent each through fertiliser and poultry manure along with hand weeding twice at 20 and 40 DAS.

**Key words :** Groundnut, Growth, Planting pattern, Weed management, Yield.

# Response of Sweet Corn to Different Sources of Nitrogen

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## ABSTRACT

A field experiment was conducted during *rabi*, 2010-11 on sandy clay loam soils of S.V. Agricultural college, Dry Land Farm, Tirupati to study the influence of different organic sources on growth, yield and nutrient uptake of sweet corn. Recommended dose of N @ 120 kg ha<sup>-1</sup> through urea registered largest leaf area index and maximum drymatter production at all the crop growth stages. The highest green cob yield of 3,930 kg ha<sup>-1</sup> and green fodder yield of 15,951 kg ha<sup>-1</sup> were recorded with the application of 100 per cent recommended dose of N followed by 75 per cent N through poultry manure and 25 per cent through *panchagavya* spray. The higher total nitrogen, phosphorus and potassium uptake were recorded with 100 per cent recommended dose of N @ 120 kg ha<sup>-1</sup> through urea which was comparable with 75 per cent N through poultry manure (or) vermicompost in combination with 25 per cent through *panchagavya* spray.

**Key words :** *Panchagavya*, Poultry manure, Sweet corn, Vermicompost.

# Genetic Divergence in Medium Duration Genotypes of Rice (*Oryza Sativa L.*)

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## ABSTRACT

Genetic divergence study of 19 medium duration genotypes of rice for 20 characters led to their grouping into five clusters. Protein percentage (43.27) showed maximum contribution towards genetic divergence followed by alkali digestion value (27.49), amylose content (9.94), grain length (5.26), grain width (5.26), water uptake (2.92), kernel breadth (1.17), test weight (1.17), days to 50% flowering (1.17), filled grains per panicle (0.58), kernel length after cooking (0.58), panicle length (0.58) and tillers per plant (0.58). The maximum inter cluster D<sup>2</sup> values was observed between cluster II and III followed cluster II and V and cluster I and II.

**Key words :** Cluster analysis, Genetic divergence, Mehalanobis D<sup>2</sup> analysis, Rice.

# **Character Association and Path Coefficient Analysis for Morpho-Physiological Traits in Groundnut (*Arachis hypogaea* L.)**

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## **ABSTRACT**

Correlation and path coefficients were worked out for twenty three traits involving twenty eight hybrids in groundnut. Pod yield per plant had significant positive association with plant height, number of well-filled and mature pods per plant, 100-kernel weight and kernel yield per plant in  $F_1$ s. Significant positive association with sound mature kernel per cent was observed among the  $F_1$  crosses. These characters can be considered as criteria for selection for higher yield, as these were mutually and directly associated with pod yield. SCMR had significant negative association with specific leaf area. Path coefficient analysis revealed that kernel yield per plant had maximum positive direct effect on pod yield per plant indicating that kernel yield is the important yield contributing character. A perusal of path coefficients in  $F_1$  generation revealed the moderate direct positive effect of number of well-filled and mature pods per plant on pod yield in groundnut. The high direct effect of pods per plant was appeared to be the main factor for its strong positive correlation with pod yield. Hence, a direct selection for this trait would be effective.

**Key words :** Groundnut, Characters association, Path analysis, Physiological traits, Yield.

# **Heterosis for Yield and Yield Components in CMS based Hybrids in Rice (*Oryza sativa* L.)**

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## **ABSTRACT**

Forty eight hybrids developed from crossing four CMS lines and twelve testers were evaluated for the extent of heterosis over mid parent, better parent and standard parent for yield and yield components in rice during *rabi* 2010. Seven crosses out of 48 exhibited highly significant standard heterosis for grain yield plant<sup>-1</sup>. Heterosis for grain yield was manifested due to the significant and positive heterosis for its components *viz.*, total number of productive tillers per plant, number of grains per panicle, 200-kernel test weight and harvest index. The top four heterotic combinations identified for grain yield plant<sup>-1</sup> were APMS 6A x MTU 1078, IR 58025A x MTU 5249, APMS 6A x MTU 7029 and IR 58025A x MTU 1078 which exhibited more than 20% standard heterosis.

**Key words :** CMS lines, Heterosis, Rice, Yield components.

# **Stability of Ethanol Yield and Related Traits in Sweet Sorghum (*Sorghum bicolor* (L.) Moench) Over Environments**

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## **ABSTRACT**

Genotype × environment interaction was studied for ethanol yield and their component characters in eleven parents and their 30 hybrids of sweet sorghum under three environments during *kharif* 2010. The environment + (genotype × environment) was significant for all the characters except brix (%) indicating distinct nature of environments and genotype × environment interactions in phenotypic expression. The genotype × environment (linear) interaction component showed significance for the characters plant height, TSS, TSI, total biomass, juice yield and ethanol yield studied. This indicated significant differences among the genotypes for linear response to environments (b) behaviour of the genotypes could be predicted over environments more precisely and G × E interaction was outcome of the linear function of environmental components. Based on stability parameters and over all mean, the hybrid NSS 1007A × CSV 19SS was found stable in performance for total biomass, juice yield and ethanol yield. The male parents SSV 84 and RSSV 120 can be used for developing stable hybrids over the environments.

**Key words** : Ethanol, Genotype × Environment interaction, Stability, Sweet sorghum.

# **Combining Ability Analysis of Quantitative Traits in Chickpea (*Cicer arietinum* L.)**

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## **ABSTRACT**

Three lines and six testers were utilized for combining ability analysis in chickpea to generate information on nature of gene action and to identify potential general and specific combiners for important quantitative traits during *rabi* 2008. Higher estimates variance components due to *gca* for plant height and harvest index and those due to *sca* variance for number of pods were obtained. Both *gca* and *sca* components were of equal magnitude for root length, number branches, 100 seed weight, seed yield and biomass indicating the role of additive and non-additive gene action in the inheritance of various quantitative traits in chickpea. JAKI-9218, JG-74 and WR-315 were good general combiners for seed yield and other traits. Two promising crosses NBeG 1 X WR 315 and JAKI-9218 X ICC 12479 with significant *sca* effects were identified for further exploitation. To harness different gene effects, diallel selective mating or biparental mating followed by pedigree method of selection may be followed to recover desirable transgressive segregants for yield and other attributes in the breeding material studied.

**Key words** : Chickpea, Combining ability, Gene action, Line x Tester analysis

# Variability Estimates for Yield and Yield Components in Maize (*Zea mays* L.)

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## ABSTRACT

The present investigation was under taken to study the extent of variability and genetic parameters in 36 maize genotypes for fifteen yield and its component characters during *rabi*, 2010-2011. The magnitude of difference between PCV and GCV was relatively low for all most all the traits, indicating less environmental influence. High (>20 %) GCV and PCV were recorded for anthesis-silking interval, leaf area index, number of branches per tassel and grain yield per plant. Heritability estimates were found to be high (>61 %) for all the characters. High heritability coupled with high genetic advance was observed for anthesis-silking interval, leaf area index, plant height, cob length, tassel length, number of branches per tassel, 100-seed weight and grain yield per plant, implying that most likely the heritability is due to additive gene effects and selection may be effective for these characters.

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

# Molecular Diversity Among Selected Groundnut (*Arachis hypogaea* L.) Genotypes I: RAPD Analysis

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## ABSTRACT

The purpose of the present experiment were to study genetic diversity among eighteen selected groundnut genotypes following random amplified polymorphic DNA (RAPD) assay with twenty primers of a 10-mer. The number of amplicons varied from three to ten with an average of 7.5 per primer, of which three were polymorphic. Altogether the primers generated a sum of 150 amplified fragments with 42.32 percent polymorphism. The genetic similarity ( $S_{ij}$ ) assessed by Dice similarity coefficient was ranged from 86 % to 99 %, with an average of 93 %, indicating very less diversity among genotypes. Clustering technique of unweighted pair group method with arithmetic averages (UPGMA) dendrogram revealed three distinct clusters at  $S_{ij}$  of 0.94. Among the genotypes TG 49 and ICG 13787 were found to span the extremes of the entire dendrogram with the remaining types distributed between them, whereas the resistant lines for *Aspergillus* seed colonization are distributed throughout the dendrogram. All germplasm except ICG 14985 (Spanish bunch) clustered distinctly away from cultivars and all the cultivars clustered together indicating narrow genetic diversity among the cultivars and germplasm.

**Key words :** *Aspergillus* seed colonization, Genetic diversity, Peanut, RAPD.

# **Studies on Heterosis and Combining Ability of Bacterial Leaf Blight Donors in Rice (*Oryza sativa* L.)**

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## **ABSTRACT**

A line x tester analysis involving four bacterial leaf blight donors and three high yielding varieties was taken up to elucidate information on heterosis and combining ability of bacterial leaf blight donors for yield and yield component character during kharif 2009. The results revealed IET 8585 to be good combiner for grain yield per plant and hence, its importance in rice breeding programmes aimed at the development of high yielding and bacterial leaf blight resistant varieties. Further, the hybrid MTU 2077/IET 8585 exhibited high per se, heterosis and desirable sca effects for grain yield per plant and was identified as the most potential combination for isolation of homozygous lines generations for the development of high yielding and bacterial leaf blight resistant varieties.

**Key words :** Bacterial leaf blight donors, Combining ability, Heterosis, Rice, Yield, Yield components.

# **Correlation and Path Analysis for Morpho-physiological Traits in American Cotton**

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## **ABSTRACT**

Correlation and path coefficient analysis have been worked out for 21 morpho-physiological characters in 40 genotypes of upland cotton during *kharif* 2010. Correlation studies indicated that number of bolls plant<sup>-1</sup>, boll weight, lint index, ginning out turn and harvest index had positive significant association with seed cotton yield plant<sup>-1</sup>. Further partitioning of correlation coefficients into direct and indirect pathways of influences showed that characters number of bolls plant<sup>-1</sup>, boll weight, lint index, ginning out-turn and harvest index had positive direct effect on seed cotton yield plant<sup>-1</sup>. The correlation and path analysis clearly indicated that direct selection based on these attributes may be helpful in evolving high yielding varieties of upland cotton.

**Key words :** Correlation, Cotton, Morpho-physiological traits, Path analysis.



## **Mobility of Adsorbed Zinc in Sandy Loam and Clay Loam Soils as Influenced by *Alkylbenzene Sulphonate Surfactant***

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### **ABSTRACT**

Release of zinc into the soils as a result of agricultural and industrial activities may pose a serious threat to soil and water pollution. Laboratory soil column experiments were conducted during 2011 to determine the extent of Zn leaching from soil percolated with influent that contained the surfactant alkylbenzene sulphonate. The results of the experiment showed that the mobility of zinc in the two soils namely sandy loam soil and clay loam soil treated with the influent alkylbenzene sulphonate decreases and is also inversely proportional to the concentration of alkylbenzene sulphonate. The concentration of Zn in the column effluents soils percolated with 0.01M KCl in 0.01% alkylbenzene sulphonate and with 0.01M KCl in 0.05% alkylbenzene sulphonate were significantly less than those percolated with 0.01M KCl with the same volumes of effluents collected. This clearly indicates that the anionic surfactant alkylbenzene sulphonate which is negatively charged have strong affinity for Zn<sup>+2</sup> in soils and stabilized in soils and thus reduced the mass of zinc leached from the soil columns. Further, it is observed that the characteristics of soil components related to Zn adsorption, affected the adsorption as well as desorption process and subsequent mobility of Zn in soil environment..

**Key words :** Alkylbenzene sulphonate, Leaching, Mobility, Zinc.

## **Effect of Integrated Use of Organic and Inorganic Sources of Nutrients and Biofertilizers on Soil Available Nutrients in Maize – Onion Cropping System**

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### **ABSTRACT**

A field experiment was conducted in *kharif*, (Maize) and *rabi*, (Onion) during 2009-10 to study the effect of integrated use of organic and inorganic sources of nutrients and biofertilizers on soil available major nutrients in maize-onion cropping system in alfisols of Hyderabad. The results revealed that application of 75% RDF along with 25% N or P substituted through vermicompost or poultry manure with addition of azotobacter or phosphorus solubilising bacteria recorded increased availability of nutrients, where as in *rabi* onion grown in two different situations like fertilized and unfertilized to know the cumulative and residual effect of *kharif* maize treatments on subsequent *rabi* onion crop, the results revealed that the fertilized onion recorded maximum availability of nutrients when compared to unfertilized one. With in fertilized and unfertilized onion, INM treatments showed highest availability of all major and micro nutrients as compared to other treatments

**Key words :** Available major and micro nutrients, Biofertilizers, Maize, Onion.

# Improving Productivity and Soil Properties in Rice Based Cropping Systems Through Pre-*kharif* Green Manuring

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## ABSTRACT

In a long-term field experiment during 2002-03 to 2006-07 on a black clayey Vertisol at the Directorate of Rice Research Farm, Hyderabad, the effect of pre-*kharif* green manures (greengram, cowpea, dhaincha and sunhemp) on grain yield of *kharif* rice and *rabi* non rice crops (groundnut, sunflower, safflower and chickpea) and soil health parameters was studied. The grain legumes (green gram and cowpea) provided additional advantage through grain yield (4.5 -5.7 q ha<sup>-1</sup>) in addition to providing nutrients and improving soil properties. Whereas, sole green manures with high phytomass (dhaincha and sunhemp) improved the soil properties to a great extent. Grain yield of *Kharif* rice was significantly higher (22-74 %) in green manure applied plots over fallow plots. The *rabi* crops also recorded higher yield (by 17-76 % in different crops over 5 years) in green manured plots over fallow plots showing residual effects of regular application of green manures on non-rice *rabi* crops through improved soil health indicators.

**Key words :** Green manures, Productivity, Rice, Soil properties, Vertisols.

# Oil Content, Yield Attributes and Drymatter Production of Soybean as Influenced by INM in Soybean-Maize Cropping System

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## ABSTRACT

A field experiment was conducted to study the effect of different organic and inorganic sources of nitrogen on yield and yield attributes of soybean in soybean-maize cropping system. Higher soybean yields of 13.3 q ha<sup>-1</sup> and 12.50 q ha<sup>-1</sup> were obtained with the application of 75% recommended dose of nitrogen and 100% recommended dose of PK through inorganic fertilizers +25% recommended dose of nitrogen through vermicompost+ during *kharif* 2002-03 and 2003-04 respectively. Effective nodules and oil content was not significantly influenced by different treatments.

**Key words :** Farmyard manure, Cropping system, Poultry manure, Soybean, Vermicompost.

# Assessment of Soil Quality in Paddy-Sugarcane Cultivated Areas of West Godavari District, Andhra Pradesh

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## ABSTRACT

An investigation was carried to study the assessment of soil in paddy-sugarcane growing areas of West Godavari district. Representative soil samples (One hundred) were collected from sixteen mandals of paddy-sugarcane growing areas of West Godavari district by following the random sampling technique. The soil samples were analyzed for various physical, chemical and biological properties. The soils were found to be texturally they are clay and clay loams, medium bulk density, mildly alkaline, medium saline, high in organic carbon, medium in available nitrogen, phosphorus and high in available potassium. The soil were non-calcareous with high cation exchange capacity, Exchangeable calcium, magnesium, available sulphur, DTPA extractable copper, manganese were above critical limit, where as iron and zinc deficiency was observed. The most dominant exchangeable cation was calcium followed by magnesium, sodium, potassium and optimum dehydrogenase activity. Based on soil quality paddy growing soils were found to be moderate to very good soil quality, while sugarcane growing soils were of moderate soil quality. Management practices were suggested by keeping in view of the constraints and cropping systems of the area.

**Key words :** Minimum Dataset, Paddy-Sugarcane growing areas, Soil Quality Assessment.

# Efficacy of Plant Extracts Against *Alternaria* Leaf Blight (*Alternaria helianthi*) of Sunflower

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## ABSTRACT

*Alternaria* leaf blight caused by *Alternaria helianthi* (Hansf.) Tubaki and Nishihara is one of the major diseases of Sunflower. In the present study different plant extracts, i.e., *Allium sativum* (garlic), *Azadirachta indica* (neem), *Pongamia pinata*, *Eucalyptus globules*, *Catheranthus roseus*, *Jatropha multifida*, *Polyalthia longifolia*, *Tridax procumbense*, *Calotropis jelodona* and *Prosopis julifera* were evaluated against *Alternaria* leaf blight under *in vitro* and *in vivo* conditions. Plant extracts were prepared with sterile water at concentrations of 0.5, 1.0, 2.0 and 5.0 %. Among different concentrations tested, reduction in spore germination of *A. helianthi* was recorded with 0.5 % of all plant extracts. Garlic extract was found to be effective with 85.1% reduction in spore germination over control followed by neem (83.3%) and *P. pinata* (75.9 %). In pot culture studies, these extracts were sprayed three times at different intervals on sunflower plants artificially inoculated with *A. helianthi*. Garlic showed disease reduction of 52.0% over pathogen check followed by neem.

**Key words :** *Alternaria helianthi*, Botanicals, Disease severity, Spore germination, Whole plant assay method

## **Evaluation of Mungbean Varieties Against Legume Pod Borer Incidence, Yellow Mosaic and Powdery Mildew Diseases Under Rice Fallows**

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### **ABSTRACT**

A field experiment was conducted to screen twelve mungbean varieties for resistance to certain insect pests and diseases and for their suitability under rice fallows at Agricultural Research Station, Ghantasala, Krishna District, Andhra Pradesh during the *rabi* season of 2010. The results indicated that the varieties; Pusa Vishal and Pant M 5 were found to be significantly superior with lower disease infection of mungbean yellow mosaic virus (8.33 and 11.67 per cent respectively) coupled with lower incidence of legume pod borer (15.80 and 22.96 per cent respectively) in pods and produced higher seed yields (882 and 834 kg/ha respectively) compared with other varieties.

**Key words :** Legume pod borer incidence, Mungbean, MYMV, Powdery mildew.

## **Screening of Rice Germplasm for Resistance to Rice Leaf Folder Under Natural Field Conditions**

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### **ABSTRACT**

Fifty rice germplasm were screened under natural field conditions during two years i.e. *kharif* 2009-10 and 2010-11. In *kharif* 2009-10 the highest leaf infestation was in TN-1 (35.9 %), where as lowest leaf damage was observed in RP-2068-18-13-5 (9.8) with a mean damage of 20.3 percent. In *kharif* 2010-11, highest leaf folder incidence was noticed in NLR 33636-4 with 42.6 percent leaf damage and the lowest was observed in Jhitpiti followed by W-1263 and LF 333 with a leaf damage of 11.9, 12.4 and 12.8 percent, respectively. The cumulative mean incidence of two years indicated that the mean percent damage was 22.06 and the damage ranged from 11.4 to 37.39. the lowest leaf damage was recorded in Jhitpiti (11.4 %) and the highest damage was observed in NLR 145 (37.39 %) and T N-1 (37.16%).

**Key words :** Rice germplasm, Rice leaf folder, Screening

# **Extent of Losses in Maize Storage due to Infestation by Maize Weevil (*Sitophilus zeamais* (Motschulsky))**

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## **ABSTRACT**

An investigation was carried out on the extent of losses caused due to infestation by *Sitophilus zeamais* (Motschulsky) in maize at Department of Seed Science and Technology, Rajendranagar, Hyderabad during the year 2010-11. The infestation of maize hybrid, DHM -117 with ten pairs of *S. zeamais* revealed that loss in weight and per cent seed damage increased with increase in storage period and adult emergence while the germination and vigour index was decreased.

**Key words :** *Sitophilus zeamais*, Loss in weight, Per cent Seed Damage, Germination, Vigour index

# **Effect of Bioregulators on Physiological and Biochemical Parameters and Yield in Rice Fallow Maize**

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## **ABSTRACT**

A field experiment was conducted during *rabi* 2010-11 at Agricultural College Farm, Bapatla to study the effect of bioregulators on physiological and biochemical parameters and yield in rice fallow maize. Results revealed that significant differences were observed among the treatments for RWC, SCMR, CSI, MII, total sugars, yield and yield components in rice fallow maize. Among the treatments, foliar application of brassinosteroids 1ppm + thiourea 1000 ppm + kinetin 10 ppm at silking stage recorded higher values of plant height, leaf area, total dry matter, yield and yield components compared to other treatments in rice fallow maize.

**Key words :** Bioregulators, CSI, Rice fallow maize, RWC, SCMR, Yield.

# **Effect of Water Stress on Seed Germination and Seedling Growth in Rice**

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## **ABSTRACT**

A laboratory experiment was conducted at Department of Crop Physiology, Agricultural college Bapatla during 2011-12 to study the effect of water stress on seed germination and seedling growth in rice genotypes. The results revealed that as the water stress increased from -0.3 M.Pa to -1.2 M.Pa, the percentage of germination, root, shoot length and seedling vigor index was decreased in all the genotypes. Among the rice genotypes tested, Ramappa and WGL14 withstand the water stress even up to -1.2 M.Pa followed by Erramallelu, WGL 283 and K12

**Key words :** Rice, Seed germination, Seedling vigor index, Water stress

# Effect of Holding Solutions on Vase life and Quality of Cut Spikes of Gladiolus (*Gladiolus* (Tourn) L.)

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## ABSTRACT

A Laboratory experiment was conducted to study the effect of holding solutions such as sucrose 4%+Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub>16H<sub>2</sub>O(300 ppm), sucrose 4%+NaOCl (50 ppm), sucrose 4% + Dichlorophen (50 ppm), sucrose 4%+Calcium chloride (50 ppm), sucrose 4%+tartaric acid (500ppm), sucrose 4%+KMnO<sub>3</sub>(25 ppm) and tap water on the post-harvest life of gladiolus. The experiment was conducted with cut spikes of gladiolus using completely randomized design with 3 replications. Results revealed that among treatments studied, holding solution containing Sucrose 4%+ Dichlorophen significantly improved days for basal floret opening, vase life, diameter of 2<sup>nd</sup> floret and longevity of opened floret. Maximum increase in floret size and longevity of opened floret were observed in Sucrose 4%+KMnO<sub>4</sub> (25ppm). Significant effect on vase life and diameter of 2<sup>nd</sup> floret were recorded in holding solution contains Sucrose 4%+ Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub>. The maximum and minimum longevity of opened floret was observed in Sucrose 4%+ Dichlorophen and tap water respectively. Observations indicated that holding solution containing Sucrose 4%+ Dichlorophen significantly prolonged the post harvest life of gladiolus.

**Key words :** Gladiolus, Holding solution, Vase life

# Effect of Integrated Nutrient Management on Yield and Quality Parameters of Brinjal (*Solanum melongena* L.)

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## ABSTRACT

An investigation was made on the effect of INM treatments on yield and quality parameters of brinjal was conducted during the rabi 2007-2008 at college farm Agricultural college, Bapatla. The treatments consisted of different INM treatments viz., T<sub>1</sub>: 100% NPK (RDF) - 100:60:60 Kg ha<sup>-1</sup> T<sub>2</sub>: 50% NPK (50:30:30 Kg ha<sup>-1</sup>) + FYM (25%) 2.5 t ha<sup>-1</sup> + Vermi compost (25%) 1.25 t ha<sup>-1</sup> T<sub>3</sub>: 50% RDF (50:30:30 Kg ha<sup>-1</sup>) + FYM (25%) 2.5 t ha<sup>-1</sup> + Neem cake (25%) 0.5 t ha<sup>-1</sup> T<sub>4</sub>: 50% RDF (50:30:30 Kg ha<sup>-1</sup>) + Vermi compost (25%) 1.25 t ha<sup>-1</sup> + Neem cake (25%) 0.5 t ha<sup>-1</sup> T<sub>5</sub>: 50% RDF (50:30:30 Kg ha<sup>-1</sup>) + FYM (25%) 2.5 t ha<sup>-1</sup> + Bio fertilizers 2 Kg ha<sup>-1</sup> each T<sub>6</sub>: 50% RDF (50:30:30 Kg ha<sup>-1</sup>) + Vermi compost (25%) 1.25 t ha<sup>-1</sup> + Bio fertilizers 2 Kg ha<sup>-1</sup> each T<sub>7</sub>: 50% RDF (50:30:30 Kg ha<sup>-1</sup>) + Neem cake (25%) 0.5 t ha<sup>-1</sup> + Bio fertilizers 2 Kg ha<sup>-1</sup> each T<sub>8</sub>: 25% RDF (25:15:15 Kg ha<sup>-1</sup>) + FYM (25%) 2.5 t ha<sup>-1</sup> + Vermi compost (25%) 1.25 t ha<sup>-1</sup> + Neem cake (25%) 0.5 t ha<sup>-1</sup> T<sub>9</sub>: 25% RDF (25:15:15 Kg ha<sup>-1</sup>) + FYM (25%) 2.5 t ha<sup>-1</sup> + Vermi compost (25%) 1.25 t ha<sup>-1</sup> + Bio fertilizers 2 Kg ha<sup>-1</sup> each T<sub>10</sub>: 25% RDF (25:15:15 Kg ha<sup>-1</sup>) + FYM (25%) 2.5 t ha<sup>-1</sup> + Neem cake (25%) 0.5 t ha<sup>-1</sup> + Bio fertilizers 2 Kg ha<sup>-1</sup> each T<sub>11</sub>: 25% RDF (25:15:15 Kg ha<sup>-1</sup>) + Neem cake (25%) 0.5 t ha<sup>-1</sup> + Vermi compost (25%) 1.25 t ha<sup>-1</sup> + Bio fertilizers 2 Kg ha<sup>-1</sup> each \*Biofertilizers (Azatobacter + Phospho solubulising bacteria) and two varieties viz., Bapatla local and Bhagyamati. The results clearly indicated that combination of organic manures and inorganic fertilizers. In this experiment T<sub>9</sub> (25% RDF + FYM 25% + Vermi compost 25% + Bio fertilizers) Treatment recorded maximum per cent fruit set, fruit length, fruit volume, fruit weight, yield and quality parameters.

**Key words :** Brinjal, Fruit, Integrated Nutrient Management, Organic manures, Quality, Yield.

# **Efficacy of Biofertilizers, Organic and Inorganic Fertilizers on Betelvine Performance cv. Local Kapoori in Coastal Saline Areas of Andhra Pradesh**

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## **ABSTRACT**

An investigation was conducted at 3 locations viz., Machavaram, Kottapatnam and Inamadugu in coastal saline belt of Andhra Pradesh during 2001-02 and 2002-03 to know the efficacy of different types of bio fertilizers on Betelvine performance. Soil analysis was done for p<sup>H</sup>, EC (mmhos cm<sup>-1</sup>) and soil nutrient status (N P K Kg ha<sup>-1</sup>) prior to and after application of biofertilizers. The soil analysis data revealed that there was no significant differences among all the treatments under study. Of the eight treatments tested, application of neem cake + urea (1:1) 200 kg N+ 100 kg P<sub>2</sub>O<sub>5</sub> + 100 kg K<sub>2</sub>O ha<sup>-1</sup> (T<sub>8</sub>) found statistically superior over other treatments in respect of vine growth, leaf yield and keeping quality of leaves. The mite damage and Phytophthora foot rot incidence were not significant due to application of various biofertilizers, organic and inorganic fertilizers and their combinations in the cultivar Local Kapoori.

**Key words :** Betelvine , Biofertilizers, Coastal saline belt, Local kapoori, Mite, Phytophthora damage, Soil nutrient status.

# **Integrated Weed Management in Tomato (*Lycopersicon esculentum* Mill.)**

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## **ABSTRACT**

Field experiment was conducted during *rabi*, 2010-11 at Model orchard, College of Horticulture, Rajendranagar, Hyderabad to find out the effective integrated treatment for weed control in tomato. The experiment consisting of thirteen treatments and three replications was laid out in randomized block design. The results indicated that the pre-emergence application of metribuzin @ 0.5 kg ha<sup>-1</sup> followed by hand weeding at 30 days after transplanting recorded the least weed count and dry weight favouring the highest yield of tomato (30.33 t ha<sup>-1</sup>). An application of pendimethalin, metribuzin, oxadiargyl and quizalofop ethyl in combination with one hand weeding produced significantly the higher yield of tomato than the application of these herbicides alone.

**Key words :** Integrated weed management, Tomato, Yield.

# **Effect of Plant Growth Regulators on Growth, Flowering and Yield of French Bean (*Phaseolus vulgaris* L.) CV. Arka Komal**

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## **ABSTRACT**

A field experiment was conducted to study the effect of plant growth regulators on growth, flowering and yield of french bean at students farm, college of agriculture, Rajendranagar, during rabi 2009-2010. Plant growth regulators of different concentrations were sprayed on the crop at 20 and 40 days after sowing. Foliar application of GA<sub>3</sub> 250 ppm increased the number of branches, number of leaves, intermodal length, plant height and leaf area index which might have resulted in increased photosynthetic rate leading to highest pod yield and increased dry matter production as indicated by increased number of pods per plant, pod length, pod weight and the treatment recorded highest pod yield. Foliar spray of Cycocel 350 ppm recorded minimum number of days to flower bud initiation, 50% flowering, first pod appearance and improves the pod diameter.

**Key words :** Cycocel, French bean, Gibberlic Acid, Naphthalen Acetic Acid.

# **Forecasting of Guntur District Rainfall by using ARIMA models**

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## **ABSTRACT**

This paper attempted to the Auto Regressive Integrated Moving Average (ARIMA) models for the rainfall data of Guntur district of Andhra Pradesh . The data was collected from the Office of Chief Planning Officer, Guntur for monthly rainfall data covering the years 1980-2011. ARIMA (0,1,1) was identified as best model based on criteria like Akaike information criterion (AIC), Schwarz Bayesian information criterion (SBC), Mean Absolute Percent Error (MAPE) and parameter estimation was done to the best model ARIMA (0,1,1). And also an attempt was made to forecast the rainfall up to 2015.

**Key words :** ARIMA=Auto Regressive Integrated Moving Average, ACF=Auto Correlation Function, PACF=Partial Auto Correlation Function. AIC=Akaike information criterion, SBC=Schwarz Bayesian information criterion, MAPE=Mean Absolute Percent Error.



# **Development and Performance Evaluation of Paddy Seeding Device for Mat Nursery**

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## **ABSTRACT**

Rice transplanting is accomplished mainly by the manual method. Manual transplanting is a labour intensive operation comprising of nursery rising, uprooting of the seedlings, transporting and transplanting them in the main field, with a total labour requirement of about 280 to 350 man-h/ha. High labour demand during peak transplanting period adversely affects the timeliness of this operation, thereby reducing the crop yield. To correct the problem, mechanical transplanting could be considered as the most promising option. The major constraint in the adoption of mechanical transplanters is the complex and labour intensive technique of raising mat type nursery in perforated plastic trays. Another constraint is unevenness of plant population in the mat. With a view to reduce the drudgery in raising mat type nursery, a paddy seeding device was developed and tested. The developed device performed satisfactorily and gave desired density of 100 to 120 g seed per mat with two passes (one forward and one backward) of the device over soil filled plastic tray of size 280 X 580 mm at 1.02 mm sprout length. Uniformity of seed obtained was as recommended 50-75 seed per 25 cm<sup>2</sup> area in the mat. No mechanical damage to the seed was observed.

**Key words :** Mat type nursery, Paddy seeding device, Seed density, Seed uniformity per cm<sup>2</sup>.

# **Design and Evaluation of Greenhouse for Gerbera (*Gerbera Jamesonii L.*) Cultivation in Humid Subtropics**

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## **ABSTRACT**

Greenhouse floriculture in humid subtropics suffers from high summer temperatures and humidity due to the lack of suitable design and cost-effective environmental control strategies. The present study aimed at in-depth investigation of microclimate variation in two different shapes of greenhouses (Quonset and Sawtooth) and cladding materials (UV stabilized and diffused films) of greenhouses suitable for gerbera production with low-cost cooling techniques. The biometric growth and flower yield performance of gerbera (*Gerbera Jamesonii L.*) was evaluated during winter and summer months of 2008. The shape and height of a greenhouse had significant influence on the internal air temperature as Sawtooth shape maintained 3°C lesser temperature variation than the Quonset shape against ambient condition at 12:30 PM during summer months. The relative humidity variation was less (13%) in the Quonset shape at 8:30 AM during summer and the solar radiation was 5 to 10% greater than that of Sawtooth shape throughout the year. The reduction of greenhouse temperature in the diffused film was greater in winter (3°C) than in summer (1.5°C) with 50% perforated shade net placed on the inner side of greenhouse. Among the two shapes of greenhouses, biometric performance of gerbera was superior in Sawtooth shape than Quonset shape in terms of plant height, leaf area index and flower yield. The cultivation of gerbera in the Sawtooth greenhouse of 84 m<sup>2</sup> floor area was economically viable with a net profit of Rs. 38708.00, benefit-cost ratio of 1.8 and a payback period of 3.1 years.

**Key words :** Benefit-cost ratio, Diffused film, Gerbera, Microclimate variation, Quonset shape, Sawtooth shape

# **Economic Analysis and Farmer's Response of Drip Irrigation Systems in Banana Fields of Guntur district**

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## **ABSTRACT**

The major crop cultivated in study area is banana, due to its age old traditional cultivation and also good market demand in the region. Andhra Pradesh state has pioneered in installing drip irrigation systems in farmers' fields through government subsidy schemes.. The authors strongly feel that the system design accuracy play a vital role in terms of energy saving, long life of pipe material and equipment. Farmer's satisfaction is also of paramount importance and the system performance and post maintenance aspects should be felt as research component too. Hence 40 farmers growing banana crop were identified from Guntur district of Andhra Pradesh state, whose fields were installed with drip system by various micro irrigation companies. Besides collecting the field technical parameters for checking the designs, a special questionnaire is prepared and the farmers were interviewed thoroughly for their response on drip irrigation system performance for banana crop which is reported in this paper along with brief benefit-cost analysis. The overall information on the drip systems for banana cultivation prove that it is very beneficial to the farmers in saving of fertilizers, water, electricity and labor costs. The drip system improves the quantity and quality of the produce by minimizing the cost of cultivation. The lowest price of banana of Rs.3500/- per tone is considered to calculated of benefit cost ratio. Even at this price farmers are getting Rs. 25,000/- to Rs. 60,000/- as profit per acre. The expenditure of the installed drip irrigation could be recovered with in 2 years. The benefit cost ratio of the forty farmers ranging 0.355 to 0.750.

**Key words :** Benefit cost ratio, Drip system, Economic analysis.

# **Performance Evaluation of a Groundnut Digger Shaker cum Windrower**

**K Madhusudhana Reddy, D Vijay Kumar, B Ravindranatha Reddy,  
B Sahadeva Reddy and V Munaswamy**

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## **ABSTRACT**

Mechanization of groundnut harvesting is very important field operation to increase pod recovery from the soil. Various methods followed for harvesting of groundnut is by hand pulling, animal and tractor drawn groundnut diggers. A commercially available tractor operated groundnut digger shaker cum windrower having the inverted V geometry soil cutting tool was tested during 2011-12 for its performance in the light red soil condition at Agricultural Research Station, Anantapur. The harvesting efficiency was 96% at the field capacity of 0.19 ha/h with the fuel consumption of 4.09 l h<sup>-1</sup>. The conveying and soil separation efficiencies were 96% and 97.2% respectively with the conveyor loss of 0.6%. Draft observed was 4.95 kW at the operating speed of 4.4 km/h.

**Key words :** Digger shaker cum windrower, Groundnut, Manual harvesting, Mechanical harvesting.

# **Constraint Analysis of Hybrid rice Cultivation in Ambedkar Nagar District of Uttar Pradesh**

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## **ABSTRACT**

The present study was conducted with an objective to analyse the perceptions and constraints in cultivation of hybrid rice in Ambedkar nagar district of Uttar Pradesh during *kharif* 2010. The relative importance of the perception of the farmers regarding their willingness or otherwise, to continue hybrid rice cultivation in the next season were prioritized by using Garrett's ranking technique. The main reason to continue cultivation of hybrid rice in Ambedkar nagar district of Uttar Pradesh was hope for better yield from cultivation of hybrid rice by the farmers with a Garrett score of 64.88, the other reasons were hope for new hybrids, better adaptability and suitability of hybrid rice for parboiling. Higher seed cost was the major constraint with a Garrett score of 67.87 followed by lower pricing ability, poor cooking quality and high management with a Garrett score of 59.63, 55.75 and 54.75 respectively.

**Key words :** Constraint analysis, Hybrid rice, Yield.

# **Corporate Organization Influence on Supply Chain System of Fresh Vegetables A Case Study in Greater Hyderabad City of Andhra Pradesh**

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## **ABSTRACT**

Indian agriculture is gradually diversifying towards high value food commodities. This is expected to benefit millions of farmers especially small holders, who rely on agriculture for their livelihood. Small holders, are efficient in production of high value commodities but are constrained to expand their scale of production due to lack of market access, access to improved technology, quality inputs, credit and high transaction cost. The study has analyzed the impact of food retail chain linkage on farmers for procuring fresh vegetables. Younger and educated farmers has entered into tie-ups with food retail chain Consolidation centre. Logistic regression analysis was estimated to identify the determinants of farmer participation in the supermarket channel. The farmers getting phone orders has a high positive impact on selecting the supermarket channel as the collection centers mostly order the produce from the farmers according to the daily indent requirement of the stores. Institutions like cooperatives, contract farming and growers associations are considered to improve producer's access to markets and the evidence indicate that these institutional innovations in marketing enhance their access to market, quality inputs, improved technology information and services which eventually lead to improvement in productivity and reduction in marketing and transaction costs.

**Key words :** Corporate organization, Regression coefficients, Supply chain system, Vegetable

# **Effect of Alternative Sources of Employment on Availability of Agriculture Labour in Paddy Growing Areas of Coastal Andhra Pradesh - A Case Study**

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## **ABSTRACT**

It is observed that there has been a drastic change in labour availability pattern in low lying paddy growing areas. The present study is made to explore the pattern of availability of labour for paddy cultivation and reasons for the change. Farmers are facing shortage of agriculture labour availability for transplanting, weeding, pesticide and fertilizer application, harvesting, threshing and winnowing activities. Lack of willingness to work as agriculture labour, migration of agriculture labour to nearby urban areas and other government employment generation schemes are perceived as top three reasons for non availability of agriculture labour. Non agriculture unskilled labour are comparatively better educated than agriculture labour. The demand for the agriculture labour during peak season is resulting in migration of agriculture labour from other areas. Due to limited income it is observed that few tenant farmers, marginal and small farmers are also working as agriculture labour on other farms, similarly few small and marginal farmers are leasing out their land and are attending to other alternative source of employment. Non agriculture unskilled labour are more satisfied with working environment and wages, than agriculture labour.

**Key words :** Agriculture employment, Agriculture labour, Paddy cultivation, Rural Employment .

# **Factors Influencing Paddy Yields in Sri Technology and Conventional Paddy**

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## **ABSTRACT**

The results of functional analysis revealed that the variables that influenced paddy yield significantly in SRI technology were area and number of irrigations. In conventional paddy human labour significantly influenced the yield, number of irrigations and higher education exerted negative influence on paddy yields.

**Key words :** Conventional paddy, Functional analysis, Influencing factors, SRI technology.

# **Information Processing Behaviour of Input Dealers and its Relationship with Profile Characteristics**

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## **ABSTRACT**

The study revealed that majority of the input dealers possessed medium information processing behaviour (68.33%) followed by high (20.00%) and low (11.67%) levels. The relationship between profile characteristics and information processing behaviour of input dealers observed that computed 'r' value of education, business experience, occupation, farming experience, annual income, social participation, training received, economic orientation and innovativeness were positively significant at 0.01 level of probability, while age and land holding were non-significant with the information processing behaviour of input dealers. Multiple Linear Regression Analysis gave the R<sup>2</sup> value of 0.7971, thus inferred that selected independent variables put together contributed 79.71 per cent of the total variation in the information processing behaviour of the input dealers. The independent variables like farming experience and economic orientation of the respondents had contributed significantly at 0.01 level of probability and social participation had contributed significantly at 0.05 level of probability towards the variation in the information processing behaviour of the input dealers.

**Key words :** Information Processing behaviour, Input dealers, Profile, Relationship

# **Training Needs of Cotton Growers of Madurai District of Tamil Nadu**

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## **ABSTRACT**

Training is the systematic development of knowledge, skills and attitudes required by an individual to perform adequately for a particular task. With a view to measure the cotton farmers' training needs on cotton production technology and to understand the relationship between selected characteristics of cotton farmers, the study was conducted in Madurai district of Tamil Nadu state. From the study it was found that majority of the respondents had medium training need in the recommended package of practices of cotton. The correlation analysis revealed that independent variables namely age, education, contact with extension agency, mass media exposure, scientific orientation, risk preference, economic motivation, management orientation, achievement motivation and innovativeness had positive and significant relationship with training needs of respondents.

**Key words :** Correlation coefficient, Cotton Growers, Training needs.

## **An Analysis of the Profile Characteristics of the Farmers Using ICTs**

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### **ABSTRACT**

Detailed analysis of profile characteristics of farmers indicated that majority of the respondents were middle aged with primary schooling education and were having small land holdings with medium farming experience. Majority of the respondents had medium information seeking behaviour, socio-politico participation, extension contact, medium in economic status, scientific orientation and achievement motivation.

**Key words :** Farmers, ICTs, Profile characteristics.

## **Extent of Adoption of Farmers on Improved Bengalgram Production Technology**

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### **ABSTRACT**

The study revealed that majority of the bengalgram farmers were of medium adoption (44.17%) followed by high (30.83%) and low (25.00%). The relationship between the profile characteristics of bengalgram farmers and extent of adoption was observed that the computed 'r' values of education, farming experience, socio-politico participation, extension contact, mass media exposure, innovativeness, scientific orientation, risk orientation and economic orientation were found to be significant at 0.01 level of probability. The multiple linear regression analysis revealed that all the selected 11 independent variables put together, explained about 64.03 per cent variation in the extent of adoption of recommended practices. The independent variables namely education, extension contact, scientific orientation and economic orientation were found to be positively significant with the extent of adoption.

**Key words :** Adoption, Bengalgram farmers, Production technology

## **Screening of Mesta (*Hibiscus sabdariffa* L. ) Germplasm Against Foot and Stem Rot Caused by *Phytophthora parasitica***

V Manoj Kumar and N Hari Satyanarayana

**Key words :** Foot & stem Rot, Mesta, Screening.

## **Serodiagnosis of Tobacco Mosaic Virus By Cross Adsorption Method**

B Sivaprasad, S Jahgirdar, A S Byadgi and S Kulakarni

**Key words :** Cross adsorption, DAS-ELISA, Serodiagnosis, *Tobacco mosaic virus*.

## ***In Vitro* Shoot Regeneration from Cotyledon of Redgram**

T Raghavendra, P Sudhakar, K Bala Krishna Reddy and K Venkaiah

**Key words** : Cotyledon, Organogenesis, Pigeonpea, Plant regeneration.

## **Impact of KVK on Farmer's Knowledge and Adoption of Rice Production Technology**

A Manoj, G Sivanarayana, Ch Ramesh Babu and V Srinivasa Rao

**Key words** : KVK, knowledge, Adoption, Rice production technology