

Glories of Indian Agriculture and the Challenges-A perspective Analysis

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Production Potential and Economics of Aerobic Rice-based Cropping Systems in Southern Agroclimatic Zone of Andhra Pradesh

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ABSTRACT

Field experiments were conducted during Kharif and rabi seasons 2011-12 and 2012-13 at the dry land farm of S.V.Agricultural college, Tirupati to study about the nutrient management in aerobic rice - based cropping systems. The significantly higher rice equivalent yield was with sunhemp-rice-groundnut cropping system during both the years of study. The residual effect of different graded nutrient levels to *kharif* aerobic rice on *rabi* crops shown that rice equivalent yield was highest with 175% recommended dose of nutrients (140-70-70 N, P₂O₅ and K₂O kg ha⁻¹), but it was comparable with 150% recommended dose of nutrients (120-60-60 N, P₂O₅ and K₂O kg ha⁻¹). Among all the cropping systems, sunhemp-rice-groundnut recorded the highest gross returns, net returns and benefit cost ratio under the influence of 175% recommended dose of nutrients applied to *kharif* rice, but it was on par with 150% recommended dose of nutrients.

Key words : Aerobic rice, Cropping system, Graded nutrient levels.

Effect of Nitrogen, Phosphorus and Biofertilizer Management on Growth and Yield of Pearl Millet [*Pennisetum Glaucum* (L.) R. Br.] *

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ABSTRACT

A field experiment was conducted at the Agricultural College Farm, Bapatla, to study the effect of N, P and biofertilizer management practices on growth, and yield of pearl millet. The treatments consisted of T₁ : Control, T₂ : Biofertilizer alone (Azospirillum and PSB), T₃ : 20 kg N + 15 kg P₂O₅ ha⁻¹, T₄ : 40 kg N + 30 kg P₂O₅ ha⁻¹, T₅ : 60 kg N + 45 kg P₂O₅ ha⁻¹, T₆ : T₂ + T₃, T₇ : T₂ + T₄ and T₈ : T₂ + T₅. Application of 60 kg N + 45 kg P₂O₅ ha⁻¹ + biofertilizer recorded the highest plant height (201.1 cm) but recorded the lowest days to attain 50% flowering. All the yield attributes viz., number of earheads m⁻², length of earhead (cm), number of grain rows earhead⁻¹, number of filled grains row⁻¹ and test weight (g/1000 grains) were significantly influenced by different treatments under test. Highest number of earheads m⁻² (33.6), length of earhead (25.0 cm), grain rows earhead⁻¹ (32.0) and number of filled grains row⁻¹ (87.4) were recorded with T₈ treatment (60 kg N + 45 kg P₂O₅ ha⁻¹ + biofertilizer) which was at a par with T₇ treatment (40 kg N + 30 kg P₂O₅ ha⁻¹ + biofertilizer). Highest value of test weight (9.3 g/1000 grains) and harvest index (31.8%) was recorded with T₇ treatment being at par with T₈ treatment and proved significantly superior to control. Significantly highest grain (29.7 q ha⁻¹) and stover (67.5 q ha⁻¹) yield recorded with T₈ treatment.

Key words : *Azospirillum*, Nitrogen, Pearl millet, Phosphorus, PSB, Yield.

Optimization of Sowing Window in Mesta for Seed Production

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ABSTRACT

Growth parameters *viz.*, plant height, dry matter accumulation, number of branches per plant, crop growth rate and yield parameters *viz.*, number of capsules per plant and 1000 seed weight of mesta were found significantly higher with the earliest sowing window D₁ (3rd week of July), which were however, comparable with the immediate delayed sowing window D₂ (1st week of August), except in case of dry matter accumulation and crop growth rate. Whereas, the relative growth rate and number of seeds per capsule were found higher with 1st week of September (D₄) sowing. Mesta sown during 3rd week of July (D₁) took significantly higher number of days to attain 50% flowering over other sowing dates. Maximum seed yield of mesta was obtained with 1st week of August (D₂) sowing, which was however, found parity with 3rd week of July (D₁) sowing. Significantly higher stalk yield of mesta was obtained with early sowing of 1st week of July (D₁).

Key words : Mesta, Sowing window, Seed yield.

Influence of Levels of Nitrogen and Foliar Nutrition on Growth and Yield of Machine Transplanted rice

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ABSTRACT

A field experiment was conducted during *Kharif* 2013 under canal irrigation at Andhra Pradesh Rice Research Institute & Regional Agricultural Research Station – Maruteru, to study the influence of levels of Nitrogen and Foliar Nutrition on growth and yield of Machine transplanted rice. The experiment was laid out in a split plot design and replicated thrice. The results revealed that application of 150% recommended dose of nitrogen (135 kg ha⁻¹) recorded highest dry matter production, yield attributes and grain and straw yield. Foliar nutrition with different fertilizers at PI stage did not influence the dry matter production, yield attributes and grain and straw yield significantly. The interaction between nitrogen levels and foliar feeding treatments was found to be non-significant. The highest benefit cost ratio (2.9) was obtained with 150% Recommended Dose of Nitrogen (135 kg ha⁻¹). Relatively higher gross and net returns, higher benefit cost ratio (2.59) was with foliar application of 1% 19-19-19 over 2% KNO₃ and 2% DAP due to marginal increase in grain yield.

Key words : DAP, Foliar nutrition, Machine transplanted rice, Yield.

Influence of Weed Control Practices on Weed Growth and Productivity of Sweet Corn (*Zea mays* L. *saccharata*)

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ABSTRACT

A field experiment was conducted at Agricultural College Farm, Bapatla on sandy clay loam soils during the *kharif* 2013-14 to study the effect of weed control treatments on sweet corn growth and yield. Hand weedings at 15 and 30 DAS recorded the lowest density, dry weight of weeds and the highest weed control efficiency which resulted in enhanced level of plant growth, yield attributes, yield and it was comparable with pre-emergence application of atrazine @ 1.25 kg a.i ha⁻¹ followed by 2,4-D amine salt @ 0.5 kg a.i ha⁻¹ at 25-30 DAS and atrazine @ 1.25 kg a.i ha⁻¹ followed by intercultivation at 30 DAS. The highest benefit cost ratio was recorded with atrazine @ 1.25 kg a.i ha⁻¹ followed by 2,4-D amine salt @ 0.5 kg a.i ha⁻¹ at 25-30 DAS (3.9) and was followed by atrazine @ 1.25 kg a.i ha⁻¹ followed by intercultivation at 30 DAS (3.6) and two hand weedings at 15 and 30 DAS (3.4).

Key words : Atrazine, Sweet corn, Weed control treatments.

Effect of N, P and K Application on Growth and Yield of Machine Transplanted Rice

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ABSTRACT

A field experiment was conducted during *kharif* 2014 under canal irrigation at Andhra Pradesh Rice Research Institute & Regional Agricultural Research Station, Maruteru, West Godavari (Dist.) of Godavari agroclimatic zone, to study "Effect of N, P and K application on growth and yield of machine transplanted rice." The experiment was laid out in factorial randomized block design and replicated thrice. The results of the present investigation showed that application of graded levels of nitrogen only increased the growth, yield attributes and yield of rice but not with the application of phosphorus and potassium. Increase in level of nitrogen significantly increased the grain and straw yields of rice upto 120 kg N ha⁻¹. While, further increase to 150 kg N ha⁻¹ resulted in significant reduction in yields. A significant interaction between N and K on yield attributes and yield (kg ha⁻¹) and rest of the interactions were remained non significant. Among the nutrient combinations tested, application of 120- 90-90 kg N-P₂O₅ -K₂O ha⁻¹ followed by 120- 90-60 kg N-P₂O₅ -K₂O ha⁻¹ for machine transplanted rice will be more beneficial in achieving higher grain yield and profitability.

Key words : Machine transplanted rice, Nutrient, N, P, and K, Rice, Yield.

Growth and Yield of Rice Fallow Sorghum as Influenced by Planting Density and Nitrogen

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ABSTRACT

A field experiment conducted during *rabi*, 2014-2015 on clay loam soils of Agricultural College Farm, Bapatla was laid out in factorial randomized block design with three replications. The treatments comprised of three planting densities (S_1 : 3.33 lakh plants ha^{-1} , S_2 : 2.22 lakh plants ha^{-1} , S_3 : 1.66 lakh plants ha^{-1}) allotted to factor-A and four nitrogen levels (N_0 : 0 kg ha^{-1} , N_1 : 50 kg ha^{-1} , N_2 : 100 kg ha^{-1} , N_3 : 150 kg ha^{-1}) allotted to factor-B. The results revealed that the highest plant height (215.3cm) was recorded at a planting density of 1.66 lakh plants ha^{-1} , but higher drymatter production, yield attributes and grain yield was higher at a planting density of 2.22 lakh plants ha^{-1} with 150 kg N ha^{-1} .

Key words : Nitrogen, Planting density, Sorghum.

Performance of Baby Corn as Influenced by Plant Densities and Levels of Nitrogen

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ABSTRACT

A field experiment was conducted during *kharif* 2014 on sandy loam soils of the Agricultural College Farm, Bapatla. The experiment was laid out in randomized block design with factorial concept and the treatments were replicated thrice. The treatments consisted of four levels of nitrogen in Factor – A (N_1 = 60 kg N ha^{-1} , N_2 = 120 kg N ha^{-1} , N_3 = 180 kg N ha^{-1} and N_4 = 240 kg N ha^{-1}) and four planting densities (P_1 : 2,22,222 plants ha^{-1} , P_2 : 1,48,148 plants ha^{-1} , P_3 : 1,11,111 plants ha^{-1} and P_4 : 1,66,666 plants ha^{-1}) in Factor – B. The results of baby corn crop showed that the tallest plants (160.1 cm), and the highest drymatter production (10,181 kg ha^{-1}) were recorded with a plant density of 2,22,222 plants ha^{-1} . Application of 240 kg N ha^{-1} of recorded significantly the tallest plants (157 cm), dry matter production (8676 kg ha^{-1}), yield attributes, yield (15100.0 kg ha^{-1}).

Key words : Baby corn, Nitrogen levels, Plant densities.

Efficacy of Pre and Post Emergence Herbicides on Sequential Basis for Weed Control in Maize (*Zea mays* L.)

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ABSTRACT

A field experiment was conducted at Agricultural College Farm, Bapatla on sandy clay loam soils during the *kharif* 2014 to study the effect of pre-emergence (Atrazine @ 1.0 kg a.i ha⁻¹ and pendimethalin @ 1.0 kg a.i ha⁻¹) and post-emergence (Topramezone @ 25 g a.i ha⁻¹) herbicides on growth and yield of maize. Hand weeding at 20 and 40 DAS recorded the lowest density and dry weight of weeds and the highest weed control efficiency which resulted in enhanced level of plant growth, yield attributes and grain yield. Atrazine @ 1.0 kg a.i ha⁻¹ fb topramezone @ 25 g a.i ha⁻¹ at 20 DAS and pendimethalin @ 1.0 kg a.i ha⁻¹ fb topramezone @ 25 g a.i ha⁻¹ at 20 DAS were on a par with each other with hand weeding treatment at 20 and at 40 DAS for weed control efficiency as well as in plant growth and yield.

Key words : Economics, Maize, Pre and post-emergence herbicides, Yield.

Effect of Sowing dates and Varieties on Yield of Soybean in Coastal AP

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ABSTRACT

A field experiment was conducted during early *rabi* season of 2014-15 on clay loam soil at Agricultural College Farm, Bapatla, Andhra Pradesh, to study the "Effect of sowing dates and varieties on yield of soybean in Coastal AP. Soybean sown on 15th September was found to be the optimum sowing time for getting higher yield and 'JS-335' variety was promising in Coastal AP.

Key words : Soybean, Sowing dates, Varieties, Yield.

Weed Management in Semidry Rice

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ABSTRACT

A field experiment was conducted during *kharif*, 2014 in sandy loam soils of Agricultural College Farm, Naira, to find out the effect of weed management practices on growth and yield of semidry rice. The experiment was laid out in randomized block design with ten treatments which were replicated thrice. It was found that superior performance of rice in terms of growth, yield attributes and yield was observed with pre-emergence application of pendimethalin @ 0.75 kg a.i ha⁻¹ at 3-5 DAS *fb* post-emergence application of metsulfuron methyl + chlorimuron ethyl @ 4 g a.i ha⁻¹ at 20-25 DAS (T₁₀) which was comparable with weed free check (T₂). Among the weed control treatments maximum grain yield (5396 kg ha⁻¹) was associated with pre-emergence application of pendimethalin @ 0.75 kg a.i ha⁻¹ at 3-5 DAS *fb* post-emergence application of metsulfuron methyl + chlorimuron ethyl @ 4 g a.i ha⁻¹ at 20-25 DAS (T₁₀).

Key words : Herbicides, Semidry rice, Weeds, Yield.

Extent of Awareness and Adoption Level of MDWA and Weather Health Indices Used in Roving Seminars on Weather Climate and Farmers (WcFs) in Andhra Pradesh

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ABSTRACT

During 2007-2014, in the State of Andhra Pradesh (undivided), India, fourteen (14) Roving Seminars were organized on “Weather Climate and Farmers (WCFs)”. An evaluation study was conducted to understand the outcome of these seminars on adoption of weather and climate information in their daily farm operations, by using “Murthy’s Daily Weather and Agriculture (MDWA)”. An open ended interview schedule was used for collecting the data and results of the analysis indicated that weather and climate play a vital role in all the farm operations. Weather/climate is a non- monetary farm input and the impact of “Climate change” is observed on the crops and there is an urgent need to address the impacts of climate change on agriculture. Around 27 per cent of the farmers, agricultural scientists, agricultural polytechnic students followed “ Murthy’s Daily Weather and Agriculture (MDWA)” and weather health indices and used weather as one of the non- monetary inputs. They were able to reduce the cost of cultivation of crops by 11% and improved the quality of their produce by 2-3 per cent. Also, 55 per cent of the farmers and agricultural polytechnic students believed strongly that they were not only able to substantially reduce the cost of cultivation of crops but also obtained quality produce by following MDWA and weather health indices through the knowledge gained in the roving seminars. However , they were unable to quantify in monetary terms. The remaining 18 per cent of the respondents were not able to use MDWA, but able to understand the value of weather health indices.

Key words : Climate, Farmers, Weather.

Variability, Heritability And Genetic Advance For Pod Yield And Its Contributing Traits In 15 F₂ Crosses Of Groundnut (*Arachis Hypogaea* L.)

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ABSTRACT

Fifteen F₂ populations were evaluated for genetic parameters of 8 characters during kharif, 2011. Plant height (cm), number of primary branches, number secondary branches, number of mature pods, pod yield per plant (g), kernel yield per plant (g) and LLS score at 90 DAS showed moderate to high values of GCV, PCV, heritability and genetic advance in their respective crosses. The role of additive and non-additive gene action seems to be significant in the inheritance of these traits. Days to maturity showed moderate values of GCV, PCV, heritability and genetic advance. The role of non-additive gene action seems to be significant in the inheritance of this trait. In this characters intermating and selection in later generations would help to isolate lines with improvement in these traits.

Key words : Genetic parameters, Groundnut, LLS, Pod yield, Variability.

Identification of Differentially Expressed Novel Genes Against Fusarium Wilt in Chickpea Using Dot Blot Technology

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ABSTRACT

Transcriptional remodeling in immune response during vascular wilt, was studied using Dot blot technology i.e., cDNA macro-array using *Ca* EST clones of the subtracted cDNA libraries from susceptible (JG62) and resistant genotypes (WR315). Root tissue sample from WR-315 harvested at different time intervals post *Fusarium* infection was used to evaluate the expression profile during early phase of incompatible interaction. 2112 PCR amplified clones using adapter specific primers were used and blotted onto Gene screen Nylon membrane. Total cDNA probes for differential screening was prepared from the total RNA isolated from the roots of control and pathogen infected plants for both the cultivars. Hybridized blots were scanned using Phosphor imager and 1065 clones showing more than 2.5 fold induction were further analysed. Out of these 1065 clones plasmid preps were made for 783 clones followed by automated DNA sequencing. A cut off score of 100 was put to find the best matches and the top match was used for all the downstream work. Some of the interesting genes fall in the class of regulatory proteins, signaling proteins and defense response proteins are bZIP, bHLH, Zn-finger transcriptional activators, kinases, phosphatases, G-protein coupled receptor, also the downstream proteins such as PR proteins, CHS and CHI.

Key words : Chickpea, Dotblot, EST's, Fusarium and Macro-array.

Genetic Variability, Heritability and Genetic Advance for Seed Cotton Yield and its Components in Cotton (*Gossypium hirsutum* L.)

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ABSTRACT

An investigation was carried out in cotton to assess the variability, heritability and genetic advance for eighteen characters viz., plant height (cm), days to 50% flowering, number of monopodia per plant, number of sympodia per plant, relative water content (%), specific leaf weight (mg/cm²), number of bolls per plant, boll weight (g), seed index (g), lint index (g), ginning out turn (%), 2.5% span length (mm), micronaire value (10⁻⁶ g/in), bundle strength (g/tex), uniformity ratio, seed cotton yield per plant (g), lint yield per plant (g) and fibre elongation (%) in 52 genotypes (fifty hybrids, along with two checks). The results revealed that high PCV and GCV were observed for the characters number of monopodia per plant, number of bolls per plant. High heritability accompanied with high genetic advance was recorded in number of monopodia per plant, specific leaf weight, number of bolls per plant and seed cotton yield per plant indicating the preponderance of additive gene action which may be exploited through breeding methods involving simple selection like mass selection, ear-to-row method, etc. are to be followed to improve these traits.

Key words : Cotton, Genetic advance, Heritability, Variability.

Divergence Studies in Sesame (*Sesamum indicum* L.)

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ABSTRACT

Genetic divergence among 50 sesame genotypes based on 10 characters was studied using Mahalanobis' D^2 statistic and principal component analysis. Among the ten characters, number of seeds capsule⁻¹ contributed maximum towards genetic divergence (42.53%) followed by days to 50% flowering (40.90%) and number of capsules plant⁻¹ (10.04%). The PCA identified three principal components with eigen values more than one contributing 78.67% towards variability. The PCA enabled loading of similar type of variables on a common principal component. In both *Tocher's* and *Ward's minimum variance* methods the genotypes were grouped into eight clusters but vary in clustering pattern. Divergence studies indicated that genetic diversity is not always necessarily associated with the geographical diversity.

Key words : D^2 analysis, Sesame, Principal Component Analysis, *Tocher's* method, *Ward's minimum variance* method.

Variability, Heritability and Genetic Advance in Kenaf (*Hibiscus cannabinus* L.)

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ABSTRACT

An investigation was carried out 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, inter-nodal length, green plant weight, fibre length, fibre-wood ratio and fibre yield per plant in 28 genotypes (twenty one F_1S and seven parents) of kenaf (*Hibiscus cannabinus* L.). The analysis of variance indicated significant differences among the genotypes for all the characters studied. The results revealed high PCV and GCV for fibre yield per plant. The estimates of heritability and genetic advance as per cent of mean were high for the characters *viz.*, bark thickness, green plant weight and fibre yield per plant indicating that most likely the heritability is due to additive gene action and selection may be effective. High heritability coupled with moderate genetic advance as per cent of mean was observed for number of nodes per plant and fibre length whereas, moderate heritability combined with moderate genetic advance as per cent of mean for plant height and inter-nodal length indicating the role of both additive and non-additive gene actions; Moderate heritability coupled with low genetic advance as per cent of mean was observed for basal stem diameter while moderate heritability coupled with high genetic advance as per cent of mean for fibre-wood ratio whereas, high heritability coupled with low genetic advance as per cent of mean for days to 50% flowering indicating the role of non-additive gene action.

Key words : Genetic advance, Heritability, Kenaf, Variability.

Studies on Genetic Variability, Heritability and Genetic Advance for Yield Components and Grain Quality Parameters of Rice (*Oryza sativa* L.)

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ABSTRACT

The analysis of variance revealed significant differences among the 64 genotypes for the all the 17 characters studied except for protein content indicating that enough variability is present in the studied material. The genetic parameters revealed moderate to high variability coupled with high heritability and high genetic advance as percent of mean for grain yield per plant (g), panicle length (cm), number of grains per panicle, head rice recovery per cent, volume expansion ratio, water uptake, L/B ratio and protein per cent suggesting the predominance of additive type of gene action in controlling these traits and scope for improvement of these characters through simple selection.

Key words : Genetic advance, Heritability, Quality parameters, Rice, Variability, Yield components.

Judging the Ground Water Quality Used in Maize Crop Grown Soils of Chittoor District, Andhra Pradesh

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ABSTRACT

A survey was undertaken to judge the quality of irrigation water used in maize crop grown soils in Chittoor district of Andhra Pradesh. The irrigation water samples collected from sandy clay loam (scl) texture were found to be C_3S_1 (37.50 per cent) and C_4S_1 (62.50 per cent) category while the water samples collected from clay loam texture (cl) were fallen under category of C_2S_1 (3.33 per cent) and C_3S_1 (96.67 per cent). With respect to irrigation water samples collected from sandy loam (sl) texture were fit to classify as C_3S_1 (85.71 per cent) and C_4S_1 (14.29 per cent). Further, the water samples collected from clay (c) texture were categorized as C_3S_1 (33.33 per cent) and in C_4S_1 (66.67 per cent). With reference to Minhas and Gupta classification, water samples collected from different textural classes were found to be safe with respect to EC, SAR and RSC values.

Key words : Classification, Irrigation water samples, Maize grown soils, Quality parameters.

Direct and Residual Effect of Sewage sludge, Urban compost and FYM on Organic Carbon and Organic matter fractions in Tomato – Cabbage Cropping Sequence*

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ABSTRACT

Direct and residual effect of sewage sludge, urban compost and FYM @ 0, 20 & 40 t ha⁻¹ alone and in combination with inorganic fertilizers on yield, organic carbon, humic acid, fulvic acid content of soil in tomato-cabbage cropping sequence during *kharif-rabi season* of 2003-2004 under green house condition was studied. Yield, organic carbon, humic acid and fulvic acid content of soil were increased significantly with the increasing levels of fertilizers from zero to 100 percent RDF. Direct and residual effect of organic manures significantly increased the above said parameters compared to no manure application. Among the manures, the sewage sludge was superior in increasing the parameters mentioned earlier. Combined application of manures and fertilizers also increased the yield and organic matter fractions but significant effect confined to yield only. Among all the combinations, the highest yield, organic carbon and organic matter fractions of soil were obtained with the application of sewage sludge @40 t ha⁻¹ along with 100 per cent RDF, closely followed by sewage sludge @40 t ha⁻¹ along with 75 per cent RDF.

Key words : Cabbage, FYM, Organic Carbon, Sewage Sludge, Tomato, Urban Compost, Yield.

Effect of Inorganic and Organic Sources of Nutrients on N Concentration and Uptake by Ashwagandha (*Withania Somnifera* L.)

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ABSTRACT

The field experiments were conducted during *rabi* 2007-08 (I year) and *kharif* 2008 (II year) at college farm, college of agriculture, ANGRAU, Hyderabad to study the effect of INM and *panchakavya* and bio-fertilizers on N concentration and uptake. The highest N concentration, uptake and dry root yield was observed in combination of 150% NPK along with castor cake @ 2.5 t ha⁻¹ + bio-fertilizers at flowering and harvest in both the years.

Key words : Ashwagandha, Castor cake, Vermi-Compost, *Panchakavya* and N uptake.

Distribution of Cationic Micronutrients in Monoculture Rice Soils of Srivaikuntum Block of Thoothukudi district of Tamil Nadu

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ABSTRACT

The study was carried out during 2007-08. Srivaikuntum block is the major rice growing belt under Thamiraparani river basin in Tuticorin district of Tamil Nadu. The monoculture rice soils were identified in ten villages and two hundred soil samples drawn from surface and sub surface were studied for the distribution of cationic micronutrients viz., zinc, copper, iron and manganese (Zn, Cu, Fe and Mn) and their correlation with other important soil properties. The soils of study area was belong to the order of Alfisol, Entisol and Vertisol respectively. Surface and sub surface soils were collected in two depths (0-15 and 15-30 cm). A positive and significant relationship of DTPA Zn with pH, CaCO₃ and organic carbon and a negative correlation with EC was observed in all soils. DTPA Fe positively correlated with all soil properties like pH, EC, CaCO₃, CEC and organic carbon including the textural analysis (sand, silt and clay). The micronutrient analysis of these soils in ten villages revealed that the samples were deficient in available Zn and Cu. However, the available Fe and Mn were sufficient in all soils in both depth levels.

Key words : Cationic micronutrients, Monoculture rice soils.

Nutrient Status of Rice (*Oryza sativa* L.) Growing Soils In Vijayapuram Mandal of Chittoor District In Andhra Pradesh

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ABSTRACT

A survey was undertaken during the year 2011 to study the nutrient status of rice growing soils in Vijayapuram mandal of Chittoor district in Andhra Pradesh. One hundred and ten surface soil samples were collected in Rice-rice sequential cropping system and soil samples were analyzed in soil testing lab of our KVK. The analysis of the soils revealed that the texture of the soils varied from sandy loam to sandy clay loam, neutral to slightly alkaline in reaction, non-saline, low to medium in organic carbon and available nitrogen, medium to high in available P and K. The available Fe, Mn and Cu were found to be above their respective critical limits in all the soils. However, 40 per cent samples were deficient in available Zn. Simple correlation studies revealed that N was positively and significantly correlated with organic carbon. Available N, K and Mn were positively and significantly correlated with soil pH. DTPA extractable Zn was found to be positively and significantly correlated with electrical conductivity.

Key words : Correlation coefficient, Macronutrients, Micronutrients, Rice.

Mycoflora Population and Species dynamics in selected vegetable Crop nurseries

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ABSTRACT

Eighty fungal isolates belonging to twenty five genera were obtained on potato dextrose agar from rhizosphere and bulk soils of egg plant, cauliflower and tomato nurseries. From rhizosphere soil of egg plant, cauliflower and tomato nurseries and bulk soil assessed, egg plant and cauliflower rhizosphere gave better support to soil mycoflora with higher Rhizosphere and Soil ratio (R:S). Tomato rhizosphere was found to offer lesser support to the soil mycoflora with lower R:S ratio. Thirty four isolates belonging to fourteen genera, twenty isolates belonging to eight genera and twenty six isolates belonging to ten genera were obtained from egg plant, cauliflower and tomato nursery systems respectively. Among these, *A. niger*, *A. flavus*, *Fusarium*, *Macrophomina* and *Phoma* were all appeared by 10th day in all the three test crops rhizosphere indicating their better rhizosphere colonizing ability as primary colonizers. Native *Trichoderma* sp. could be isolated in the rhizosphere of only egg plant system 20 days after sowing and hence regarded as a secondary colonizer which required stimulus from rhizosphere. *Trichoderma* population was found nil in the rhizosphere soils of tomato and cauliflower indicating that these crops could not stimulate growth of native *Trichoderma* species.

Key words : Bulk soil, Population dynamics, Rhizosphere soil.

Efficacy of Certain Newer Insecticides Against Whitefly, (*Bemisia tabaci* Gennadius) in blackgram (*Vigna mungo* Linnaeus)

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ABSTRACT

A field experiment was conducted to evaluate the efficacy of some newer insecticides against sucking insect pests in blackgram during *rabi* 2013-'14 at Agricultural College Farm, Bapatla, Andhra Pradesh. Among all the insecticides tested, seed treatment with imidacloprid 600 FS along with foliar spray of spirotetramat 150 OD was found to be more efficacious against whiteflies followed by seed treatment of imidacloprid 600 FS along with foliar spray of spiromesifen 240 SC. Seed treatment alone either with imidacloprid 600 FS or with thiamethoxam 70 WS plots were effective against sucking insect pests but their effectiveness lasted upto 25 days of sowing only as thereafter their population was found increased. Yellow mosaic virus (YMV) disease incidence was less in combination treatment of spirotetramat 150 OD followed by combination treatment of spiromesifen 240 SC and the seed yield obtained was also maximum (1096 kg.ha⁻¹) from spirotetramat 150 OD combination followed by spiromesifen 240 SC (996 kg.ha⁻¹). With regard to the incremental cost benefit ratio, spirotetramat combination recorded the highest cost benefit ratio of 8.69 followed by triazophos combination (7.89).

Key words : Blackgram, Foliar application, Seed treatment, Spiromesifen, Spirotetramat, Whiteflies.

Influence of Abiotic and Biotic Factors on Population Build Up of Leafhoppers on Mango Crop

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ABSTRACT

Mango leafhoppers occur in all mango growing areas in India and are widespread through South-East Asia and Papua New Guinea. Damage (50% yield loss) caused by leafhoppers in mango is one of the major threats in production of mango. Herein, the taxonomic studies on the leafhopper fauna associated with mango orchards in Andhra Pradesh were performed in the department of Entomology, S.V. Agricultural College, Tirupati after collection of leafhoppers from different mango orchards of various places in Andhra Pradesh during 2006-08. The field experiments were conducted to study the influence of abiotic and biotic factors with population buildup of leafhoppers on mango crop. The leafhoppers and also the natural enemies were counted at 7 days interval. The relationship between the pest incidence, natural enemies and weather parameters was worked out through correlation and multiple linear regression analysis.

Key words : Abiotic factors , Bio-systematics, Biotic factors, Leafhoppers, Mango.

Assessing the Damage Potential of Spodoptera Litura on Bg Ii Cotton

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ABSTRACT

The damage potential assessing of *Spodoptera litura* on BG II cotton were conducted in the experimental field at Regional Agricultural Research Station, Lam, Guntur district, A.P. during *kharif* 2014-2015. Four times larvae was infested to cotton crop at phenological development of the crop to assess the damage potential. The leaf, square and boll damage was less at 50 and 80 DAS larvae released crop compared to 110 and 140 DAS larvae released crop. This may be due to expression of Cry2Ab toxin in leaves which was effective against *S. litura* damage compare to later stages of the crop.

Key words : Cotton, Damage, *S. litura*.

Incidence of Tobacco caterpillar, *Spodoptera litura* (Fab.) (Lepidoptera: Noctuidae) on BG II Cotton

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ABSTRACT

A survey was conducted in farmers' fields of Guntur district during *Kharif*, 2014 to know the level of incidence of *S. litura*. The incidence of egg masses was low during the season and ranged between 0.01-0.02 per plant in the surveyed villages. The incidence was first observed at 60 days after sowing (DAS) and continued till 90 DAS and later disappeared by 105 DAS. Mean larval population and damaged leaves were first observed at 60 DAS and peak level of incidence (0.85 larvae/plant and 10.4 damaged leaves per plant) was observed during 90 DAS and there after gradual decrease was observed. The larval population had reached zero by 150 DAS but mean damaged leaves appeared to be negligible by 150 DAS, which was in the range of 0.3-0.4 leaves per plant.

Key words : Egg masses, Damaged leaves , Larvae and *Spodoptera litura*.

Survey on Sorghum Pests, Their Natural Enemies and Alternative Hosts in Sorghum Growing Tracts under Rice Fallow Situation of Guntur district

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ABSTRACT

A survey was conducted in sorghum growing tracts under rice fallow situation of Guntur district during 2014-15. The data on incidence on sorghum pests, their natural enemies and alternative hosts was collected from randomly selected fields from each village. Among the popular private sorghum hybrids, cultivated Mahalaxmi 296 is mostly cultivated by farmers as it recorded higher yields (5200 to 7000 kg/ha) compared to others under zero tillage in rice fallows. Surveys were conducted at vegetative, grain formation and harvesting stages of sorghum. Among the sorghum pests, stem borer was observed predominant. At vegetative stage, the stem borer infestation was ranged from 1.0 to 2.0% dead hearts, 10.0 to 40.0 larvae/ plant, 9 to 21% leaf damage and 20.0 to 40.5% tiller damage. At grain formation stage the infestation was 4.5 to 9.5 larvae/plant were recorded but leaf damage and tiller damage were not recorded. At harvest stage recorded 3.8 to 8.0 larvae/plant, 1.31 to 3.26% stem tunneling and 2.5 to 6.4% chaffy grains. The data on carry over population of stem borer on sorghum stubbles after harvest ranged from 05 to 20 larvae and 3-15 pupae for 100 stubbles. The natural enemies on sorghum pests coccinellids and spiders. Among coccinellids, *Chilomenus sexmaculata*, *Cycloneda sanguinea* and among the spiders *Oxyopes* spp., *Argiope anasuja* (Thorell), *Chrysilla* sp. and *Oxyopes salticus* were predominant in sorghum ecosystem but, predatism was not noticed in the field conditions. In maize, the carry over population ranged from 0.0 to 4.0 larvae and 0.0 to 3.0 and pupae per stubble and in *Sorghum halopense* 0.0 to 3.0 larvae and 0.0 to 2.0 pupae per stubble were recorded under farmer's field conditions.

Key words : Alternative hosts, Natural enemies, Survey, Stem borer damage.

Effect of Waterlogging on Certain Physiological Parameters of Redgram (*Cajanus cajan* (L.) Millsp)

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ABSTRACT

A pot culture experiment was conducted at Department of Crop Physiology, S.V. Agricultural College, Tirupati during kharif 2013 to know the effect of waterlogging on certain Physiological parameters of Redgram (*Cajanus cajan* (L.) Millsp). The experiment was conducted in a split pot design with different time periods of waterlogging as main treatments and genotypes as subplots. LRG 30, Maruti and Asha were the genotypes tested. Waterlogging affected all the physiological and growth parameters viz., Plant height, number of primary branches, total dry matter, leaf dry matter, root dry matter, leaf area, leaf area index, leaf area duration, specific leaf area, specific leaf weight and crop growth rate. The three different periods of stress imposition were 40 DAS (vegetative stage), 80 DAS (reproductive stage) and 120 DAS (pod formation stage). Sensitive stage for different physiological and growth parameters were recorded. Water logging at 40 DAS affected plant height and crop growth rate. When stress was imposed at 80 DAS number of primary branches, leaf area, SLA, LAI and SLW were affected. A greater decrease in leaf area, total dry matter, leaf dry weight and dry weight was observed when stress was imposed at 120 DAS. The present study forms a physiological basis to understand the sensitive stage of redgram to waterlogging stress.

Key words : Growth parameters, Redgram, Waterlogging, physiological.

Effect of Waterlogging on Yield and Yield Components in Maize Hybrids

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ABSTRACT

A field experiment was conducted at Agricultural College Farm, Bapatla during *kharif* 2014-15 to study the effect of waterlogging on yield and yield components in eight maize hybrids. The results revealed that waterlogging for six days decreased the yield and yield attributes. Waterlogging for six days decreased the cob length, cob weight, 100 seed weight, number of kernels per row, cob yield and kernel yield by 24.21, 37.98, 3.48, 29.99, 55.26 and 48.26 per cent respectively, over control. The cob girth and number of kernel rows per cob were not much influenced by waterlogging. Among the hybrids, Lakshmi-2277 maintained higher yield and its attributes followed by Bharati-99 and SY-280 where as CN-117 showed lower values of all the parameters. Hence Lakshmi-2277 followed by Bharati-99 and SY-280 are considered to possess waterlogging tolerance among the eight hybrids studied in the experiment.

Key words : Cob, Hybrids, Kernel, Maize, Waterlogging, Yield.

Effect of Auxins and Type of Cutting on Propagation of Phalsa (*Grewia subinaequalis* DC.) Under Local Agro-Climatic Conditions

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ABSTRACT

The investigation was carried out to study the effect of auxins and type of cutting on propagation of phalsa at Horticultural College and Research Institute, Dr.Y.S.R. Horticultural University, Venkataramannagudem. The experiment consists of fourteen treatment combinations *i.e.*, hardwood and semi hardwood cuttings treated with IBA and NAA each at the rate of 100 ppm, 200 ppm and 300 ppm along with control (water) and replicated thrice in factorial randomized block design. The cuttings were dipped for 24 hours in solutions of IBA and NAA. The hardwood cuttings treated with IBA at 200 ppm concentration recorded the highest for root and shoot parameters, *viz.*, minimum number of days taken for sprouting (12.48), maximum number of sprouts per cutting (5.70), number of leaves per cutting (6.13), leaf area per cutting (15.61cm²), leaf chlorophyll content per cutting (44.96 mg), fresh and dry weight of the shoot (22.07 g and 11.24 g), percentage of rooted cuttings (45.68), number of roots per rooted cutting (38.00), length of the longest root per rooted cutting (20.89 cm), survival percentage of rooted cuttings (28.21), fresh and dry weight of the root (3.10 g and 0.94 g) and percentage of establishment of rooted cuttings in the main field (25.21). The result revealed that hardwood cuttings treated with IBA at 200 ppm concentration followed by NAA at 100 ppm concentration were most effective for obtaining maximum shoot growth, root growth, survival percentage and for its large scale multiplication.

Key words : Hardwood, IBA, NAA, Phalsa, and Semi hardwood cuttings.

Effect of Different Plant Spacing, Boron and Their Combination on The Production of Cauliflower (*Brassica oleraceae var. botrytis* L.) Under The Tarai Region of Uttarakhand

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ABSTRACT

A research project to evaluate the effect of different plant spacing and boron on the production of cauliflower was conducted at Vegetable Research Station (VRC), G.B.P.U &T, Pantnagar, Uttarakhand. Four different plant spacing and boron *viz.*, 60 x 50 cm without boron, 60 x 50 cm with boron, 40 x 50 cm without boron and 40 x 50 cm with boron were used. The result revealed significant variation in all the parameters and amongst various plant spacing & boron, The result concluded that yield per formed better in environments E₁ for normal spacing 60 x 50 cm without boron, decided that cauliflower yield mostly influenced by spacing than boron while environments E₂ days to curd formation, days to 50% maturity preformed better with boron at normal spacing 60 x 50 cm but another two environments high density spacing (E₃) 40 x 50 cm with boron & (E₄) 40 x 50 cm without boron only favorable for vegetative growth. Maximum plant weight (731.53g), curd weight (506.02 g), curd length (12.82 cm), curd breadth (6.94 cm), number of leaves (20.60), days to curd formation (99.79 days) and days to 50% maturity (129.77 days) were recorded in the plots where the plants were spaced 60 x 50 cm without boron.

Key words : *Brassica oleraceae var. botrytis*, Boron, Cauliflower, Production and Spacing.

Forecasting of Tomato Wholesale Price Using Auto Regressive Integrated Moving Average (ARIMA) Model in Chittoor, Andhra Pradesh

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ABSTRACT

Price forecasting is more sensitive and difficult in vegetable crops due to their seasonality. In addition, to improve domestic market potential for producers, who are the biggest suppliers in the market and in line with Government Agricultural sector. Prices forecasting is vegetables essential. This paper attempted to predict the Tomato wholesale prices of Chittoor district by using ARIMA models using a period of 67 months (January 2010-July 2015) secondary data. The best model has been selected based on the maximum R^2 and minimum Bayesian Information Criterion (BIC) values. It has been found that ARIMA (2, 0, 7) Model the best as the coefficient of determination is 0.79 and Maximum Absolute Percentage (MAPE) is 24.19%. It was observed that the Tomato prices an highest in the month of August and lowest in the month of November every year.

Key words : ARIMA, Prediction model, Time series, Tomato prices.

Development of Multi Purpose Mix

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ABSTRACT

Multipurpose mix was developed from germinated brown rice (GBR), sprouted ragi, sprouted green gram, ground nut, dehydrated carrot and skim milk powder in various formulations of three different samples A, B and C. The formulation for sample A was 50:0:30:10:5:5 respectively, for sample B was 45:10:20:10:5:10 respectively and for sample C was 35:23:13:9:5:15 respectively. Development of this mix is to improve protein, and calcium. Proximate and nutrient analysis for moisture, energy, carbohydrate, calcium, fat, protein, ash, iron, carotene was done to determine the nutritive composition of the mix. The mix was then subjected to sensory evaluation on 9-point hedonic scale. From the proximate analysis results and sensory evaluation of current study it is concluded that sample C is more nutritious than the other samples A and B.

Key words : Germinated brown rice, Ground nut, Multi-purpose mix, Sprouted green gram.

Optimization of Process Parameters for Extruded Sorghum Products

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ABSTRACT

Sorghum (*Sorghum bicolor*) is an important staple crop in semi-arid regions of India and Africa because of its drought tolerance. This research work was focused on developing sorghum-based extruded snacks and their storage studies. Processing parameters of feed including moisture contents (12%, 14% and 16%), different blend ratios of sorghum, broken rice and green gram flours (7:2:1, 6:3:1 and 5:4:1), operational parameters of the extruder like barrel temperature (110, 120 and 140°C) and screw speed (150, 200 and 250 rpm) were optimized for physical and sensory properties of sorghum based extruded products. The maximum value of expansion ratio and minimum bulk density was observed for the sample prepared from sorghum, broken rice and green gram flour in the ratio of 5:4:1 at 110°C barrel temperature and 150 rpm of screw. The sensory evaluation of the extrudates showed that products prepared from 5:4:1 blend ratio were more acceptable.

Key words : Bulk density, Extruded snack, Expansion ratio, Sorghum.

Determination of Physical Properties of Aonla Fruit (*Embilica officinalis*)

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ABSTRACT

Aonla is one of the most important and vitamin C rich fruit. The moisture content of aonla cultivar viz., Chakaiya and NA-7 were 80.5% and 78.5% respectively. Determining the physical characteristics of Aonla fruits are very important to optimize the design parameters of food processing equipment. The mean values of size, sphericity, aspect ratio, surface area, volume, density, pulp to seed ratio of cultivars Chakaiya and NA-7 were 36.33 mm and 32.95 mm; 95.8% and 94.7%; 90.84% and 88.23% ; 4249.9 mm² and 3601.8 mm²; 28.95 cm³ and 22.56 cm³; 1.06 g/cc and 1.07 g/cc; 21.14 and 15.77 respectively. Based on sphericity value the shape of fruit was classified as spheroid to oblate. The mean values of seed radial diameters of Chakaiya and NA-7 were 13.46 mm and 13.54 mm respectively. The mean seed weight for Chakaiya and NA-7 were 1.40 g and 1.45g respectively. It was observed that the maximum cutting force required for cutting the Chakaiya variety along the stem end side was 8.4 to 9.9 kgf . While, the force required for cutting the NA-7 variety along the stem end side was estimated to be 8.6 to 11.8 kgf .

Key words : Aonla fruit, Aspect ratio, Physical properties, Sphericity.

Performance Evaluation of Developed Low Cost Microcontroller Based Automated Drip Irrigation System

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ABSTRACT

Efficient irrigation management is necessary in many irrigation methods as to allocate the more budget in agricultural water use. India being an agricultural country needs some innovation techniques in the agricultural field. This can be achieved through modern technologies which assist computing, communication and control within devices. Automatic irrigation systems presently available are costly and are not adopted by most of the Indian farmers. Therefore, appropriate low cost technology has to be developed to facilitate high water use efficiency. In view of above issues, an attempt has been made to develop a low cost microcontroller used in automated drip irrigation system based on soil moisture. The microcontroller based soil moisture sensor is designed using keil μ vision 3 software for maximum of four sensors present in each field and controls the irrigation water supply in the field to be using solenoid valve. Soil moisture sensor was calibrated to switch off the motor when soil moisture reaches to field capacity and switch on the motor when soil moisture reaches to 70% of field capacity. The experimental site was divided into three plots with 12 m \times 35 m size to conduct experiments with sweet corn (*zea mays*) crop. The yield response of sweet corn crop with plant to plant spacing of 20 cm for different row to row spacings (75 cm row to row spacing and 40 cm \times 110 cm paired row spacing) and irrigation application methods (flood irrigation, single row drip and paired row drip method) was evaluated. The crop water requirement, emission uniformity, cob characteristics and wetting pattern using surfer software was observed. Overall yield response was observed to be best in microcontroller based soil moisture sensor with single row drip spacing as 7.93 t ha⁻¹ and water saving was observed as 36% when compared to flood Evapotranspiration method. Water use efficiency for sweet corn crop is highest in single row drip method as 23.88 kg/ha-mm followed by paired row drip and flood method as 19.51 and 14.29 kg/ha-mm respectively. Water use efficiency for sweet corn crop is highest in single row drip method as 23.88 kg/ha-mm followed by paired row drip and flood method as 19.51 and 14.29 kg/ha-mm respectively.

Key words : Automatic drip irrigation, Keil μ vision 3, Microcontroller, Soil moisture sensor.

Osmotic Dehydration of Beetroot Slices in Salt Solution

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ABSTRACT

Study was conducted for selecting suitable osmotic treatment of beet root slices in a salt solution of different concentrations followed by suitable drying methods such as tray drying, solar cabinet drying and sun drying. Beetroot slices were dipped in osmotic solution, in a solution to sample ratio of 15:1 & 10:1 at 15% and 10% concentrations respectively for dehydration period of 90 min at a temperature of 60°C in a hot air bath. The water loss & weight reduction of osmotically treated beet root slices were increased with increase in concentration and solute gain was decreased with increase in concentration. The quality of osmotic dehydrated beet root slices was best at 15% salt concentration dried in tray dryer.

Key words: osmotic dehydration, weight loss, solute gain, weight reduction.

Economics of mechanization in Bengalgram in Prakasam district of Andhra Pradesh

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ABSTRACT

A study was conducted to know the impact of mechanization on bengalgram in Prakasam district of Andhra Pradesh during the year 2012-13 by the collection of data from bengalgram farmers on mechanization of bengalgram with pre-structured schedules. A three stage sampling procedure was used for the selection of sample farmers. The collected data was subjected to tabular analysis to estimate cost concepts and various farm income measures. The results revealed that cost of cultivation was more on large farms. Machine labour was the major component of operational costs in bengalgram cultivation which decreased with increasing farm size. All the farm income measures of bengalgram were more on large farms. Yield, gross returns and net returns were more on large farms with mechanization of bengalgram. Cost of production per quintal of bengalgram decreased with increasing the farm size.

Key words : Bengalgram, Cost, Income, Labour, Mechanization, Price, Yield.

Impact of Marketing Losses on Marketing Efficiency in Transacting Banana in Kurnool district

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ABSTRACT

Banana (*Musa Paradisiaca L*) is the fourth largest fruit crop cultivated in the World. India is the largest producer of banana in the world producing 28.45 million tonnes from an area of 0.796 million ha which accounted for 15.48 and 27.01 per cent of world's area and production respectively. In India, the leading banana growing states include Tamil Nadu, Gujarat, Maharashtra, Andhra Pradesh, Karnataka, Bihar, Madhya Pradesh, West Bengal, Assam and Odisha. In Andhra Pradesh, Kurnool district ranks third in the production of banana in Rayalaseema region of Andhra Pradesh. It was cultivated in 5765 hectares with an annual production of 2.01 lakh tonnes in the year 2012-13. This district was purposively selected for this in depth study, as the researcher hails from this area. A sample of two mandals, four villages and 120 sample farmers were selected for collection of requisite data using pre-tested schedule. For eliciting the information pertaining to the marketing aspects of banana in Kurnool district, three marketing channels were identified. Price spread analysis and marketing efficiency indices were worked out across the three marketing channels considering with and without marketing losses so as to analyze the impact of inclusion of marketing losses on price spread, FSCR, GMMs, NMMs and Marketing Efficiency Indices. The analysis revealed that, marketing efficiency indices were high without considering MLs compared to considering MLs indicating that, there exists inverse relationship between MLs and marketing efficiency in transacting banana in Kurnool district.

Key words : Gross Marketing Margins, Marketing Losses, Marketing costs, Net Marketing Margins.

A Study on Viability of Tenant Farming in Rayalaseema Region of Andhra Pradesh

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ABSTRACT

The study was conducted in Kurnool district of Andhra Pradesh. The total cost of cultivation per hectare for *khari* paddy, *khari* sorghum, *rabi* paddy and *rabi* bengal gram was Rs 85,609.00, Rs 40,068.28, Rs 65,295.90 and Rs 46,401.32 on owned farms respectively and it was Rs 81,216.11, Rs 37,452.97, Rs 63,423.36 and Rs 44,184.07 on the tenant farms for the corresponding crops. The proportion of working costs in the total cost ranged from 56.14 per cent to 65.86 per cent on owned farms and 57.36 to 66.48 per cent on tenant farms for the crops under study. The returns per rupee of investment were estimated. They stood at Rs 0.25, Rs 0.26, Rs 0.39 and Rs 0.22 on owned farms and Rs 0.32, Rs 0.36, Rs 0.46 and Rs 0.30 on tenant farms for the above crops.

Key words : Cost of cultivation, Returns, Tenant farms, Owned farms.

Relationship of Profile Characteristics of Agripreneurs with their Entrepreneurial Behaviour in Visakhapatnam District of Andhra Pradesh

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ABSTRACT

The study was conducted in Visakhapatnam district of Andhra Pradesh during the year 2014-15 to know the entrepreneurial behaviour of agripreneurs. A total of 120 agripreneurs were selected from registered list with DIC and MSME based on their number in the district. The study revealed that little less than half (48.33 %) of the respondents belonged to medium entrepreneurial behaviour followed by those belonging to high (35.83%) and low (15.84%) categories. Profile characteristics Education, Annual income, Entrepreneurial Experience, Caste, Entrepreneurial Development Programme (EDP) Participation, Employment Generation, Financial behaviour, Mass Media Exposure, Market Orientation showed significant relationship with entrepreneurial behaviour of agripreneurs and also revealed that all the 14 selected profile characteristics together contributed to the extent of 84.20 per cent of variation in the entrepreneurial behaviour of agripreneurs.

Key words : Agripreneurs, Entrepreneurial behaviour, Profile, Relationship.

Online Shopping Behaviour of Students in Agricultural College Bapatla

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ABSTRACT

The study was carried with the objective of investigating the online shopping behaviour of students in agricultural college Bapatla. The proportionate sampling procedure was followed for selecting the respondents. The study revealed that majority of the respondents are from rural areas with employee parental background many of them opted for online shopping because of a availability of Different products with discounted price and the barriers that kept way from shopping online are refund policy, difficulty in claiming warranty for certain products.

Key words : E-commerce, Internet, Online shopping.

Socio-Economic and Psychological Characteristics of Bengal Gram Farmers in Prakasam District

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ABSTRACT

A study was conducted in Prakasam district of Andhra Pradesh to study the socio-economic and psychological characteristics of Bengal gram farmers. Ex post-facto research design was followed for the study. Prakasam district was purposively selected because of its largest area, production and productivity under Bengal gram crop in coastal districts of Andhra Pradesh. The study was conducted in six villages Nagulapalem, Parchur, Veerannapalem, Pothavaram, Nagulappalapadu and B. Nidamanuru, a total number of 120 respondents were selected from these villages. Majority of the Bengal growers were middle aged having high school education, farming experience up to ten years, small landholding, cultivation as their main occupation, medium marketing orientation, high planning orientation, low farm power, high economic orientation, high scientific orientation and medium extension contact.

Key words : Bengal gram growers, Psychological, Socio-economic characteristics.