

Effect of Dates of Sowing and Spacings on Seed Production Potential and Economics of Dhaincha [*Sesbania aculeata* (Wills.) Poir.]

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ABSTRACT

A field experiment was conducted on clay loam soil at the Agricultural College Farm, Bapatla during *kharif* season of 2010 to study the effect of dates of sowing (1st July, 15th July, 1st August, 15th August, 1st September and 15th September) and spacings (30 × 15 cm, 45 × 15 cm and 60 × 15 cm) on seed production of dhaincha. Early sowing of dhaincha during 1st July recorded significantly higher seed yield of 939 kg ha⁻¹ than delayed sowings. A significant increase in seed yield of dhaincha was obtained with 30 × 15 cm spacing (561 kg ha⁻¹) over either with 45 × 15 cm (499 kg ha⁻¹) or 60 × 15 cm spacing (439 kg ha⁻¹). Combination of early sowing on 1st July with closer spacing of 30 × 15 cm resulted in the higher seed yield of 1031 kg ha⁻¹. Higher gross returns (Rs. 50,891 ha⁻¹), net returns (Rs. 33,668 ha⁻¹) and returns per rupee investment (1.95) were realised with sowing on 1st July under closer row spacing of 30 × 15 cm.

Key words : Dhaincha, Sowing date, Spacing.

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

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ABSTRACT

A field experiment was conducted during the *rabi* seasons of 2004 & 2005 at S.V.Agricultural College Farm, Tirupati, to study the effect of planting pattern and weed control practices on weed dynamics and productivity of sweet corn. Planting pattern of 60x20 cm was effective in suppressing the weed growth at all the stages of crop growth and was comparable with 75x16 cm. The highest yield attributes were recorded with 60x25 cm and was on par with 75x20 cm. The highest green cob and green fodder yield were obtained with 60x20 cm, which were comparable with 75x16 cm due to the higher plant density of 83,333 plants ha⁻¹. Pre-emergence application of atrazine @ 1.0 kg ha⁻¹ + hand weeding at 30 DAS recorded significantly lesser density and dryweight of weeds, higher weed control efficiency which resulted in enhanced level of yield attributes, green cob and fodder yield which were comparable with pre-emergence application of atrazine @ 1.0 kg ha⁻¹ + post-emergence application of paraquat @ 0.5 kg ha⁻¹ at 30 DAS and hand weeding (HW) twice at 15 and 30 DAS.

Key words : Atrazine, Planting pattern, Sweet corn, Weed control practices.

Response of Sweet Corn (*Zea mays* L.) to Different Sources of Organic Manures

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ABSTRACT

A field experiment was conducted at S.V. Agricultural College, Tirupati (ANGRAU), during *rabi*, 2010-2011 to study the response of sweet corn to different sources of organic manures. In this investigation, various growth and yield parameters of crop were significantly influenced by varied manurial practices. Application of 100 per cent recommended dose of fertilizer (120-60-60 N, P₂O₅ and K₂O kg ha⁻¹) recorded highest yield attributes, green cob and green fodder yield along with best quality and higher economic returns. This was followed by 75 per cent N through poultry manure in combination with application of 25 per cent N through foliar spraying of *panchagavya*. Lowest yields and economic returns were obtained with 100 per cent N through green manuring.

Key words : Fertilizer, *Panchagavya*, Poultry manure, Sheep manure, Sweet corn.

Interventions in Nutrient Management for Enhancement of Grain Yield and Quality of Popular Rice Varieties

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ABSTRACT

A field experiment was conducted at Agricultural College Farm, Bapatla on a sandy clay loam soil during *kharif* season of 2010-11 to study the effect of different treatments in improving the rice grain quality. The experiment consisted of two varieties *viz.*, BPT 5204, NLR 33892 and seven zinc treatments in combination with urea. The findings of the experiment revealed that the higher grain yield and harvest index were recorded with rice variety Pardhiva (NLR 33892). Quality characteristics of Samba Mahsuri (BPT 5204) manifested supremacy over Pardhiva. Significant improvement in productivity and quality characteristics of rice was noticed with soil application of 50 kg ZnSO₄ ha⁻¹ or combined application of 2% urea and 0.5% ZnSO₄ spray at flowering stage.

Key words : Quality parameters, Rice varieties, Soil application, Urea, Yield, ZnSO₄.

Hybrid Rice Response to Levels and Time of Potassium Application on Growth and Yield

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ABSTRACT

A field experiment was conducted at Agricultural College Farm, Bapatla on a sandy clay loam soil during *kharif* season of 2010 to study the effect of levels and time of potassium application on the growth, yield attributes and yield of rice cultivars. The findings of the experiment revealed that the growth, yield attributes, and yield was higher with the hybrid PA-6444 than the hybrid KRH-2 and local variety BPT-5204. Application of 80 kg K₂O ha⁻¹ recorded maximum growth, yield attributes and yield. Split application of potassium (½ as basal + ½ at Panicle Initiation) performed better in growth, yield attributes and yield.

Key words : Hybrid rice, Potassium, Split application, Yield

Correlation and Path Coefficient Analysis in Upland Cotton (*Gossypium hirsutum* L.)

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ABSTRACT

The present study was conducted on correlation and path coefficient analysis for yield and yield contributing characters in upland cotton. The results of phenotypic and genotypic correlation analysis revealed that plant height, days to 50% flowering, number of monopodia, number of sympodia, number of bolls per plant, boll weight, seed index, lint index and lint yield per plant were significantly and positively correlated with seed cotton yield per plant in present material. Path analysis indicated that lint yield per plant exhibited high direct positive effect on seed cotton yield per plant signifying the importance of this trait while selection made for improvement of seed cotton yield per plant.

Key words : Correlation, Path analysis, Seed cotton yield.

Variability for Quantitative Characters in Medium Duration Genotypes of Rice (*Oryza sativa* L.)

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ABSTRACT

Nineteen medium duration genotypes well adapted to different agro- climatic conditions were used to understand the genetic variability. All the characters exhibited significant variability. Phenotypic Coefficients of Variation (PCV) was higher than Genotypic Coefficients of Variation (GCV) for all the characters studied indicating the role of environmental variance in the total variance. Heritability estimates and expected genetic advance were high for grain width, filled grains per panicle, tillers per plant, ear bearing tillers per plant, test weight, flag leaf length, grain yield per plant, plant height and panicle length suggesting that these were more useful for targeted yield improvement programmes in rice.

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

Genetic Variability, Correlation and Path Analysis in Desi Cotton (*Gossypium arboreum* L.)

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ABSTRACT

Variability, correlation and path analysis were carried out with 57 desi cotton genotypes that were obtained from different cotton research centres across the country for yield and yield component traits. The variability studies revealed that wide variability was recorded for number of monopodia per plant, relative water content and Crop growth rate at maturity. High heritability and high genetic advance as per cent of mean was observed for the characters viz., plant height, number of monopodia per plant, number of sympodia per plant, relative water content, specific leaf weight, Crop growth rate at peak flowering, Crop growth rate at boll formation, Crop growth rate at maturity, boll weight, number of bolls per plant and lint index. Correlation studies indicated significant positive association of days to 50% flowering; Crop growth rate at boll formation, number of bolls per plant and lint yield per plant with seed cotton yield per plant and simultaneous improvement of these characters along with seed cotton yield is possible. Path coefficient analysis revealed that number of bolls per plant and boll weight showed strong direct positive effect on seed cotton yield per plant signifying the importance of these traits while selecting for improvement of seed cotton yield of cotton.

Key words : Correlation, Desi cotton, Path analysis, Variability.

Micropropagation Protocol for Sugarcane (*Saccharum officinarum*) var 2005T50

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ABSTRACT

The *in vitro* response of sugarcane pre-release variety, 2005T50 was assessed in the present investigation for direct organogenesis, multiplication, shooting, rooting and hardening on different hormonal combinations and concentrations from shoot tip. Different combinations and concentrations of BAP, IAA, Kinetin and NAA were studied for establishment of axillary shoots and multiple shoot induction. Among the various treatments evaluated MS medium supplemented with 2 mg l⁻¹ BAP, 1 mg l⁻¹ IAA and 3 mg l⁻¹ Kinetin was the best for establishment and MS medium supplemented with 3 mg l⁻¹ BAP, 1 mg l⁻¹ NAA and 3 mg l⁻¹ Kinetin was efficient for multiplication. In case of root induction studies half MS medium supplemented with 6 mg l⁻¹ NAA was proved to be the successful. Vermicompost : Soil : Sand (1:1:1) was found to be the most suitable medium for acclimatization and hardening.

Key words : *In vitro* regeneration, Micropropagation, Sugarcane, Shoot tip.

Combining Ability Analysis for Yield and Yield Components in Urdbean (*Vigna mungo* (L.) Hepper

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ABSTRACT

A diallel analysis of 8 x 8 was studied in Urdbean (*Vigna mungo*) with a view to understand the combining ability, nature of gene action and potential for the exploitation of heterosis for twelve quantitative characters in eight parents and their 28 crosses. The parent LBG 770 recorded relatively high mean performance for seed yield along with plant height and number of clusters per plant. Among the crosses, LBG 17 x LBG 770, LBG 17 x LBG 749 and PBG 107 x LBG 749 were found to have high mean performance for seed yield per plant. LBG 17 and LBG 770 were found to be good general combiners for number of pods per plant and seed yield per plant. The SCA variance was greater than GCA variance for all the traits except plant height, pod length and number of seeds per pod thus indicating the predominance of non-additive gene action for the traits. The best two crosses identified for most of the characters were LBG 17 x LBG 770 and LBG 20 x PBG 107 and involved three good general combiners viz., LBG 17, LBG 770 and LBG 20. These parents can be used in the crossing programme for yield improvement in urdbean.

Key words : Combining ability, GCA, Mean performance, SCA, Urdbean.

Combining Ability Analysis for Grain Yield and Yield Components in CMS Based Hybrids in Rice (*oryza sativa* L.)

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ABSTRACT

Forty eight hybrids generated from crossing four CMS lines and twelve testers were studied along with parents for combining ability for yield and yield components. The predominance of non-additive gene action was recorded for days to 50 per cent flowering, days to maturity, plant height, total number of productive tillers per plant, panicle length, number of grains per panicle, 200-kernel test weight, harvest index and grain yield per plant. Among parents, APMS 6A, IR 58025A, MTU 1010 and MTU 1001 were found to be good general combiners for yield and yield components. Among crosses IR 58025A x MTU 5249 and PMS 16A x MTU 1061 were identified as most promising heterotic crosses for yield based on *sca* effects, *per se* performance and with more than 20% standard heterosis.

Key words : Cytoplasmic male sterility, General combining ability, Rice, Specific combining ability.

Gene Action and Combining Ability for Yield and Yield Attributes in Maize (*Zea mays* L.)

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ABSTRACT

The studies on gene action and combining ability using eight inbreds for grain yield and its components in maize through diallel analysis revealed that the component due to *sca* variance (σ^2_{sca}) was higher than *gca* variance (σ^2_{gca}) in all the characters and also the ratio σ^2_{gca} to σ^2_{sca} was less than unity, which indicated the preponderance of non-additive gene action in controlling the expression of all the traits. Based on both *per se* and *gca* effects, the genotypes CM 209, CM 149 and BML 15 among parental lines were identified as good general combiners for yield and most of the yield components. High *per se* and significant *sca* effects were exhibited by two hybrids viz., CM 149 x BML 6 and CM 148 x BML 15 which could be exploited in the recombinant breeding programme.

Key words : General combining ability, Maize, Specific combining ability

Effect of Salinity of Standing Water on Kharif Rice Yield Under Godavari Western Delta

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ABSTRACT

Influence of standing water salinity and depth on *kharif* rice yields were assessed in a typical salt affected and water logged areas of Godavari Western Delta, India. Standing water salinity (EC, dS m⁻¹) were monitored at weekly intervals in 48 locations at 100 x 100 m grid from 90 acres area. Mean surface water salinity were correlated with respective crop yields for 2007 and 2008 years. Standing water salinity and crop yields were highly negatively correlated for *kharif* rice yield (-0.50**for *Kharif*,07 and -0.60** for *Kharif*,08). Regression equations were developed for prediction of reduction in rice yield based on surface water salinity. Critical levels for 10%, 25% and 50% crop yield reduction for both standing water salinity were established for *kharif* rice yield.

Key words : Kharif rice yield, Standing water salinity.

Effect of Long Term Fertilization on Nutrient Content and Total Uptake by Crop in Vertisols under Sorghum-Wheat Cropping Sequence

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ABSTRACT

The experiment was undertaken during the year 2007-08 to study the effect of long term fertilization on nutrient content and uptake. The research was conducted in the ongoing long term fertilizer experiment initiated since *kharif* 1988 at Akola, Maharashtra. The results of the investigation indicated that the application of 100% recommended dose of NPK + FYM 10 t ha⁻¹ recorded significantly higher grain yield and uptake of nutrients by sorghum and wheat crops which was followed by 150% recommended dose of NPK. The increase in the grain yield of sorghum and wheat in the treatment of 100% NPK + FYM 10 t ha⁻¹ was recorded to the extent of 31.3 and 26.0 per cent over 100% NPK. Application of 100% NPK through S free fertilizers decreased the yield and uptake of nutrients significantly over 100% NPK containing sulphur. Maximum contents of N, P, K, S, Ca and Mg in grain as well as straw and significantly the highest total uptake were noticed in the treatment of 100% NPK + FYM 10 t ha⁻¹ followed by 150% recommended dose of NPK.

Key words : Long term fertilization, Sorghum, Total uptake, Wheat.

Effect of Integrated use of Organic and Inorganic Sources of Nutrients and Biofertilizers on Yield and Quality 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 yield and quality in maize-onion cropping system in alfisols of Hyderabad. The results revealed that application of 75% Recommended Dose of Fertilizers along with 25% N or P substituted through vermicompost or poultry manure with addition of azotobacter or phosphorus solubilising bacteria recorded highest grain yield, protein percent, protein yield, oil content and oil yield in maize grain during *kharif* season 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 produced highest bulb yield when compared to unfertilized one. With in fertilized and unfertilized onion INM treatments showed highest bulb yield compared to other treatments. Quality parameters like total soluble solids and total sugars did not exhibit an appreciable change in the present investigation.

Key words : Maize, Oil, Onion, Protein, Total sugars, Yield.

Effect of Plant Extracts and Bio-control Agents on Radial Growth of *Colletotrichum capsici* and Development of Chilli Fruit Rot Disease

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ABSTRACT

Bulb extract of *Allium sativum* and leaf extract of *Calotropis gigantean* were found to inhibit radial growth of *Colletotrichum capsici* where as the leaf extract of *Azadirachta indica* and bulb extract of *A. sativum* and *C. gigantean* were found to be the most effective in inhibiting the chilli fruit rot development. *Trichoderma harzianum* isolate 4 and *T. longibrachiatum* isolate 1 were found to be the most effective in inhibiting the radial growth of *C. capsici* where as *T. harzianum* isolate 3 and *T. virens* isolate 6 were found to be the most effective in inhibiting the chilli fruit rot development.

Key words : Bio-control agents, Chilli, *Colletotrichum capsici*, Plant extracts.

Differential sensitivity of *Trichoderma* to Selected Fertilizers

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ABSTRACT

Based on sensitivity of *Trichoderma harzianum* and *Trichoderma virens* *in vitro*, fertilizers were categorized as dangerous, cautious and safe to *Trichoderma*. Observations on radial growth and spore germination indicated that zinc sulphate was dangerous with 100 per cent inhibition of either radial growth or spore germination or both of *Trichoderma*. While urea and DAP were found place in cautious group, muriate of potash, ammonium sulphate, single super phosphate and potassium nitrate were found safe for *Trichoderma* spp.

Key words : Categorization, Fertilizers, Sensitivity, *Trichoderma*

Effect of Pre-sowing Seed Treatments on Germination of Jackfruit (*Artocarpus heterophyllus* Lam.).

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ABSTRACT

Laboratory experiment was conducted to know the effect of pre-sowing treatments on germination and growth of jackfruit seedlings at Horticultural College and Research Institute, Venkataramannagudem during 2010-2011. Seeds were soaked in gibberellic acid (GA₃) at 100 ppm and 200 ppm; NAA at 25 ppm and 50 ppm ; KNO₃ at 0.25% and 0.5% and water for a period of 12 hours and 24 hours. All treatments promoted significantly earlier germination when compared to control. Among the growth regulators studied, the seeds pre-treated with gibberellic acid (GA₃) 200 ppm for 24 hours recorded significantly higher germination per cent (77.77%), lower number of days taken for germination (4.00 days), completion of 50% germination (11.00 days), maximum seedling length (72.11 cm) and higher internodal length (4.66 cm) compared to other growth regulators.

Key words : Germination, Gibberellic acid, Jackfruit, Seed-soaking.

Bio-efficacy of Combination Formulation of Chlorantraniliprole+Thiamethoxam (SYN 15645 40 WG) Against Yellow stem borer, (*Scirpophaga incertulas* (Walker)) on Paddy

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ABSTRACT

Four insecticides including new combination formulation of chlorantraniliprole + thiamethoxam (SYN 15645 40 WG), chlorantraniliprole, thiamethoxam and chlorpyrifos were evaluated in the field against yellow stem borer of rice during *kharif*, 2007 and *rabi*, 2008. Among the insecticide treatments, chlorantraniliprole + thiamethoxam (SYN 15645 40 WG) @ 50 and 60 g *a.i./ha*, new combination formulation proved significantly effective as compared to other insecticides resulting in 79.95, 85.89, 86.64 and 80.26% reduction of dead hearts over control, respectively during *kharif*, 2007 and *rabi*, 2008. Significantly lower Per cent white earheads were recorded in the treatments of chlorantraniliprole + thiamethoxam (SYN 15645 40 WG) @ 50 and 60 g *a.i./ha* with a per cent reduction of 95.48, 86.17, 75.89, and 80.24 over control, respectively during both seasons. The yield increase effect of the combination formulation at @ 50 and 60 g *a.i./ha* to the rice was also recorded and the yield was more than that of the individual treatments of two insecticides and the standard insecticide.

Key words : Chlorantraniliprole, Dead heart, Paddy, Thiamethoxam, White earheads, Yellow stem borer, Yield.

Effect of Sowing Dates on Growth and Yield of Chickpea in South Coastal Conditions of Andhra Pradesh

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ABSTRACT

A field experiment was conducted during *rabi* 2007-08 on black clay loamy soils of Bapatla to study the effect of sowing date on growth and yield of chickpea in south coastal conditions of Andhra Pradesh. The results revealed that the chickpea variety JG-11 recorded higher leaf area (593.8 cm² plant⁻¹), more number of pods per plant (15.3), higher total drymatter (3178 kg ha⁻¹) and seed yield (846 kg ha⁻¹) among the three varieties. November 18th sown crop recorded more number of branches per plant (5.3), leaf area (543.4 cm² plant⁻¹), more number of pods per plant (16.6), more 100 seed weight (29.13 g), higher total dry matter (3019 kg ha⁻¹) and higher seed yield (1194 kg ha⁻¹).

Key words : Chickpea, Cultivar, Sowing date, Yield, Yield attributes.

Effect of Water Stress on Seed Germination and Seedling Growth in Maize

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ABSTRACT

A laboratory experiment was conducted at Department of Plant Physiology, S.V. Agricultural college Tirupathi during *kharif* 2009-10 to study the effect of water stress on seed germination and seedling growth in maize genotypes. The results revealed that as the water stress increases from -0.3 M.Pa to -1.5 M.Pa, the percentage of germination, root, shoot length and seedling vigor index was decreased in all the genotypes. Among the maize genotypes tested, AMH80 and AMH31 withstand the water stress even upto -1.5 M.Pa followed by AMH5, AMH30, AMH27 and AMH5.

Key words : Maize, Seed germination, Seedling vigor index, Water stress

Studies on Growth, Drymatter Production and Yield in Redgram Varieties in *rabi*

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ABSTRACT

A field experiment was conducted during *rabi* 2009-2010 at Wet land farm of S.V. Agricultural, College, Tirupati to study the growth, drymatter production and yield in redgram varieties in *rabi*. Results revealed that significant differences were observed among the varieties for plant height, number of branches, drymatter production of leaf, stem, pod, total drymatter, leaf area and yield and yield components. Among the early maturing varieties tested, Piler local recorded highest plant height (120.4 cm), number of branches (10.8) root drymatter (4.27 g plant⁻¹), pod dry weight (24.8 g plant⁻¹) total drymatter (46.58 g plant⁻¹) leaf area (406 cm² plant⁻¹), number of pods per plant (140), harvest Index (44.9%) and seed yield (1672 kg ha⁻¹) when compared to other varieties. However, LRG 30 record higher leaf drymatter (5.48 g plant⁻¹) stem dry matter (14.24 g plant⁻¹) and number of seeds per pod (3.5). Among the late maturing varieties tested, LRG 41 recorded highest plant height, number of branches, leaf drymatter, stem drymatter, root drymatter, pod dry matter, total drymatter, leaf area, and yield and yield components compared to other varieties.

Key words : Harvest index, Pod yield, Redgram, Total drymatter

Design and Development of Bullock Drawn Groundnut Planter Suitable for Scarce Rainfall Zone of Andhra Pradesh

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ABSTRACT

A bullock drawn groundnut planter can be used for sowing groundnut has been designed, fabricated and tested for its performance at Agricultural Research Station, Anantapur during the years 2009-10 and 2010-11. The planter was tested in both laboratory and field conditions. The planter was a 4-row covered one with row to row spacing of 30 cm, seed to seed distance maintained in a row about 10.34 cm and depth of sowing 4-5 cm. The average field capacity of the planter was 0.37 ha h⁻¹ with field efficiency of 69%. Seed rate obtained was 103.6 kg ha⁻¹. The weight of planter was 55 kg and cost per unit was about Rs. 8,500. The field performance obtained was quite satisfactory.

Key words : Planter, Seed rate, Seed to seed spacing, Trough feed seed metering mechanism

Effect of Modified Atmosphere Packaging on Shelf Life and Quality of Sapota

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ABSTRACT

Sapota (*Achras Zapota* L.) fruits ripen and may become overripe quickly. It is necessary to retard the deteriorative process to increase the shelf life of the Sapota fruits. Modified atmosphere packaging can extend the self life of perishable and semi perishable by slowing respiration. Sapota fruits are packed in PVC pouches with gas compositions of 5 % O₂, 10 % CO₂ and 85% N₂. The packed sapota fruits were kept at 10°C, 15°C and at room temperature. The weight loss, ascorbic acid, total soluble solids (TSS), pH of fruit samples were studied. It was observed that, the respiration of sapota fruits were very slow at 10°C followed by 15°C and room temperature. The O₂ concentration decreased and CO₂ concentration increased during the first few days of storage and reaches the steady state of equilibrium. Weight loss was about 3.1%, 4.1%, 4.3% and 16.7% at 10°C, 15°C, room temperature and unpacked fruits at room temperatures respectively at the end of the storage. The pH increases initially and decrease. Initial TSS value of sapota was 17.83 and reached maximum TSS values 23.830, 23.530, 22.890 and 22.320% brix at 10°C, 15°C, room and unpacked fruits at room temperatures respectively and then decreased. The ascorbic acid content of sapota was 17.56 mg/100g and decreased to 7.692, 7.692, 8.974 and 7.692 mg/100g at 10°C, 15°C, room temperatures and unpacked fruits at room temperature.

Key words : Quality, Modified atmosphere packaging, Sapota, Shelf life

Farmers' Indebtedness – Economic Consequences and Policy Making

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ABSTRACT

The research study was conducted to know the factors responsible for farmers' indebtedness, reasons responsible for indebtedness and offer relevant suggestions to overcome the same. The study revealed that, adverse climatic conditions resulting in crop failure, rising cost of cultivation, rising family expenditure, fluctuations in market prices, lack of adequate irrigation facilities, inadequacy of institutional loan amount and high rate of interest on non-institutional loan amount were the major reasons for indebtedness, which eventually led them to end in a debt trap. Co-efficient of multiple determination varied from 0.81 on small farms to 0.88 on marginal and other farms. In all the size groups and on overall farms, both cost of cultivation and family expenditure were found to be positively influencing the indebtedness at significant level.

Key words : Economic consequences, Indebtedness, Policy making

Cost and Returns of Bengalgram in Prakasam District of Andhra Pradesh

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ABSTRACT

Bengalgram is the highest consumed pulse crop of India. It is widely appreciated as healthy food. It is a protein rich supplement to cereal based diets, especially to the poor in developing countries, where people are vegetarians or cannot afford animal protein. Three stage stratified random sampling procedure was adopted for the purpose of selection of primary sampling unit (i.e respondents). Simple tabular analysis was employed for estimating the costs, return, and cost concepts and the various farm income measures are used to assess the profitability of crop. The average total cost per hectare was Rs.50819.93 and increased with the farm size. Machine labour (Rs.8169.91) was the major cost component in Bengal gram production occupying on an average about 16.08 per cent of total cost. Both gross returns (Rs.60334.5) and net returns (Rs.4432.57) increased with the increase in farm size. The per hectare productivity ranged from 20.34 quintal on the Group I farm to 22.46 quintals on Group II farms with 21.17 quintals on pooled farms, the study revealed that productivity increased with the increase in farm size Cost of production per quintal decreased with increase in farm size. On an average cost of production per quintal was Rs.2400.56.

Key words : Bengalgram, Costs, Farm income, Farm size, Returns

Evaluation of Zero Tillage Technology in Maize – a Case Study in Warangal District of Andhra Pradesh

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ABSTRACT

This study has been under taken to evaluate the zero tillage method of maize cultivation in Mandaripet village in Warangal district in Andhra Pradesh. This study analyses the contribution of zero tillage as a technology towards the net returns of Maize. The collected data were analyzed for costs and returns through averages and percentages, for input use efficiency through Multiple Linear Regression (MLR) and for evaluation of zero tillage practices in Maize as a technology through introducing a dummy into regression analysis. The results of the study revealed that Zero tillage technology saves on an average Rs.5035 required for land preparation when compared to conventional *rabi* rice cultivation. Zero tillage practices as a technology in Maize was resulted in significant increase of net returns ranging from Rs. 9553 to Rs.16725 per hectare in the study area.

Key words : Economics of zero tillage, Maize,Zero tillage.

Economics of Drip Irrigation in Mango Cultivation- A Study in Krishna District of Andhra Pradesh

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ABSTRACT

The article aims at analysing the progress of APMIP, the economics of mango cultivation under different irrigation systems and to know the opinion of the farmers on installation and performance of drip irrigation system in mango, with a sample of 30 drip and 60 surface irrigated farmers in Krishna district of Andhra Pradesh. The total cost of cultivation was estimated to be Rs.34090.94 per hectare in drip irrigation farms and Rs.37443.37 per hectare in surface irrigation farms. The average gross and net income from surface irrigated farms were worked out to be Rs.60,000 and Rs.22556.55 per hectare respectively, when the same were Rs. 84000 and Rs.49909.77 from the drip irrigated farms. Large number of farmers had felt the advantages in drip irrigation like water saving, labour cost saving for irrigation, improved quality produce, decrease in weed growth etc.

Key words : APMIP, Economics of drip irrigation, Mango orchards.

Correlations of Sub-components of Entrepreneurial Behaviour with the Profile Characteristics of Sugarcane Growers

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ABSTRACT

Education, land holding, social participation, extension participation, mass media participation, scientific orientation and management orientation showed significant relationship with entrepreneurial behaviour. However age, occupation and credit orientation showed non-significant relationship with entrepreneurial behaviour in the study conducted with an ex-post facto research design in Mandya district of Karnataka over a randomly drawn sample of 120 sugarcane growers.

Key words : Correlation, Entrepreneurial behaviour, Profile, Sugarcane, Variables.

Knowledge of Rural Women on Self-employment Opportunities in Visakhapatnam District of Andhra Pradesh

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ABSTRACT

A study was designed involving 120 rural women from six mandals in Visakhapatnam district of Andhra Pradesh, who were undertaking self employment activities. A test was constructed to know the knowledge level of these rural women on self employment opportunities. Out of the 35 statements prepared in consultation with the experts and from available literature only 26 statements were finally selected for the study after the evaluation by the expert committee. The results revealed that majority of women respondents gave correct responses on knowledge items of annual income limit to get the loans from banks(93.33%), criteria for selection of participants in the training programmes (91.67%), naming of self employment activity (87.50%), an institute where training is offered for self-employment activity (76.67%), a source of information about self-employment schemes and minimum educational qualifications to undergo training at government institutes (73.33%), most suitable scheme for the area (77.50%), stipend for candidates undergoing self-employment training (64.17%), 61.67 percent respondents had knowledge in the minimum age of an individual to take up a self-employment scheme and the loan component obtainable from a nationalized bank. A little less than half of the women respondents had medium knowledge (49.17%), followed by low knowledge (40.83%) and high knowledge (10.00%). The respondents with regard to knowledge on self-employment had shown a positive and significant correlation with education, extension contact, training received, achievement motivation, level of aspiration, self confidence, economic motivation and economic status. Social status was found to have positive but no significant relationship with respect to knowledge of the respondents. Family type and family size were found to have significant negative correlation with respect to knowledge of respondents.

Key words : Knowledge, Opportunities, Rural women, Self employment.

Effect of Previous Education and Selected Parental Variables on Aspirations of Out-going B. Sc (Ag) Students of Agricultural College, Naira

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ABSTRACT

A study was conducted to find the effect of previous education and selected parental variables viz., parental education, parental occupation and parental annual income on aspirations of out-going B. Sc(Ag) students at Agricultural College, Naira. A total of 57 students comprising 32 girls and 25 boys were studied. Previous education was studied in terms of SSC and intermediate. The selected parental variables were studied in respect of both mother and father. Previous education showed significant positive correlation with educational aspirations, cadre aspirations and economic aspirations. Parental occupation showed significant positive correlation with cadre aspirations in job, while parental annual income showed significant positive correlation with social aspirations.

Key words : Annual income, Aspiration, Education, Occupation.

Relationship of Profile Characteristics of Pomegranate Growers with their Entrepreneurial Behaviour

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ABSTRACT

The study revealed that majority of the pomegranate growers belonged to medium entrepreneurial behaviour (65.00%) followed by low (19.17%) and high (15.83%) levels. The relationship between profile characteristics and entrepreneurial behaviour of pomegranate growers observed that computed 'r' values of education, land holding, mass media exposure, experience in pomegranate cultivation, training exposure, scientific orientation, credit orientation and market orientation were positively significant at 0.01 per cent level of probability. Age was negatively significant and social participation was negatively non-significant with entrepreneurial behaviour of pomegranate growers.

Key words : Entrepreneurial behaviour, Pomegranate growers, Profile, Relationship

Growth Trends of Paddy in Guntur District of Andhra Pradesh

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ABSTRACT

The present investigation was carried out to study the growth rates and trends of paddy area, production and productivity in Guntur district of Andhra Pradesh for the period 1970 to 2011 and to estimate the future projections upto 2020 AD by using the growth functions like linear, logarithmic, inverse, quadratic, cubic, compound, power and exponential. Statistically most suited growth model is selected based on the criteria viz., significant adjusted R^2 and least Residual Mean Sum of Squares (RMSS).

Key words : Adjusted R^2 , Coefficient of variation, Future projections, Growth rates, Growth trends, RMSS

Soil-Site Suitability for Major Field Crops in Hanumankoppa Micro-Watershed Under Northern Transitional Zone of Karnataka

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Key words : Landscape, Soil-site characteristics, Suitability criteria.

Effect of Bio Control Agents on The Growth and Spore Germination of *Alternaria porri*

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Key words : Biocontrol agents, Growth, Spore germination.

Bioefficacy of Endosulfan 330 CS Against Yellow stem borer, *Scirpophaga incertulas* (Walker) and Leaf folder, *Cnaphalocrocis medinalis* (Guenee) in Rice

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Key words : Chlorpyrifos, *Cnaphalocrocis medinalis*, Efficacy, Endosulfan, Monocrotophos, Rice, *Scirpophaga incertulas*

Screening of Some Groundnut Genotypes Against *Spodoptera Litura*

Key words : Days after sowing, Ground nut, Genotypes, Leaf damage, *Spodoptera litura*.

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