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**Evaluation of Water Saving Rice Production Systems in Krishna
Western Delta of Andhra Pradesh**

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ABSTRACT

Different low land rice production systems have been studied in the farmer's field at Chintalapudi village, Guntur district of Andhra Pradesh for their grain yield and water use efficiencies during kharif 2004. System of rice intensification (SRI) recorded highest grain yield (8380 kg ha⁻¹) followed by semi-dry Rice (650 kg ha⁻¹) and rotation system of irrigation (6420 kg ha⁻¹) when compared with farmer's practice of growing rice with continuous flooding (6250 kg ha⁻¹). SRI also resulted in 34% yield advantage with 26% of irrigation water saving over farmer's practice of flood irrigation.

Key words : Evaluation, Rice, Systems, Water saving

**Yield and Quality of Rice as Affected by Cultivars and Time of
Potassium Application**

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ABSTRACT

An experiment involving different times of potassium application was carried out using different rice cultivars. The significantly higher grain yield and harvest index were recorded with Swarna. Grain quality parameters such as, head rice recovery and protein content were significantly superior to Samba Mahsuri compared to that of other cultivars. Application of potassium in three splits (50% as basal + 25% at active tillering + 25% at panicle initiation) significantly increased grain yield, straw yield and also significant improvement in head rice recovery and protein content was noticed in the treatment receiving potassium in three splits over entire as basal application.

Key words : Cultivars, Potassium, Protein content, Rice, Time, Quality, Yield.

**Effect of Phosphate Rock Enriched FYM on Yield, Uptake and
Quality of Groundnut (*Arachis hypogaea* L.)**

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ABSTRACT

A field experiment conducted during *rabi*, 2005-06 on sandy soils of Agricultural College Farm, Bapatla to evaluate the agronomic efficiency of phosphate rock enriched FYM in groundnut (*Arachis hypogaea* L.), recorded significantly the highest pod and haulm yields, phosphorus uptake, oil content and oil yields of groundnut were with the treatment that received phosphate rock enriched FYM (PROM) made of double the recommended dose (DRD) of P₂O₅ through PR and FYM in 1:4 ratio compared to the remaining treatments.

Key words : FYM, Groundnut, Phosphate rock, P uptake, Yield

Effect of Integrated Nutrient Management on Nutrient Uptake, Yield and Soil Fertility in Late Sown Sesame-Chickpea Sequence Cropping under Rainfed Conditions

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ABSTRACT

Field experiment was conducted during *kharif* and *rabi* seasons of 2004-05 at Main Agricultural Research Station, University of Agricultural Sciences, Dharwad (Karnataka) under rainfed conditions to study the effect of integrated nutrient management on nutrient uptake, yield and soil fertility in late sown sesame-chickpea sequence cropping. The results of the experiment revealed that maximum productivity, net returns in addition to improvement in soil fertility status could be possible with application of 40 kg N through FYM + Copper ore tailing (COT) @ 0.5 t ha⁻¹. Integrated use of organics and inorganic sources showed significantly higher available nutrients at harvest of crops as compared to recommended dose of nitrogen in the form of urea alone.

Key words : Copper ore tailing (COT), Nutrient Uptake and Sequence Cropping

Influence of Salinity and Nitrogen on Growth and Yield of Rice in Coastal Saline Soils of Machilipatnam

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ABSTRACT

A field experiment was conducted to study the effect of salinity and nitrogen on rice at Agricultural Research Station, Machilipatnam during wet season of 2003 and 2004. The results indicated that higher salinity (6.5 dsm⁻¹) reduced Leaf area index, number of productive tillers, number of grains/panicle and grain yield compared to lower salinity level (4 dsm⁻¹). 1000 grain weight was not affected by salinity. Application of nitrogen @ 150 kg ha⁻¹ increased number of productive tillers, number of grains/panicle and grain yield both under high and low saline conditions. Highest average grain yield of 4.18 t ha⁻¹ was recorded at 4 dsm⁻¹ with application of 150 kg ha⁻¹ which was significantly superior to all other treatments.

Key words : Influence of Nitrogen, Rice, Salinity.

Effect of Some New Generation Herbicides in Rainfed Upland Rice (*Oryza sativa*)

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ABSTRACT

Field experiments were conducted at Naira for three consecutive *kharif* seasons from 2004 to 2006 to study the efficacy of new generation herbicides on rainfed upland rice. Grain yield reduction due to uncontrolled weed growth was 59.8% over weed free check. Results indicated that pre-emergence application of oxadiargyl @ 80 g a.i./ ha + working with star weeder at 40 DAS resulted in improved weed control and higher grain and straw yield and proved economically remunerative over butachlor and pretilachlor plots. Though pre-emergence application of metsulfuron methyl 10% + chlorimuron ethyl 10% @ 8 g a.i./ ha resulted in superior weed control but the enhanced efficacy could not be translated to better yield due to its phytotoxicity on rice crop.

Key words : Grain yield, New generation herbicides, Pre-emergence application, Rainfed upland rice

Genetic Variability, Correlation and Path Coefficient Analysis in Paprika Chilli (*Capsicum annuum* L.)

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ABSTRACT

Forty paprika chilli genotypes were evaluated for genetic variability and obviously significant differences were observed among the genotypes for days to 50% flowering, days to maturity, plant height (cm), plant spread (cm), fruit length (cm), fruit girth (cm), number of fruits per plant, number of seeds per fruit, number of branches per plant, 100-dry fruit weight (g), 1000-seed weight (g), oleoresin (%), capsanthin (EOA colour value), capsaicin (%) and dry fruit yield per plant (g). High heritability coupled with high genetic advance as per cent of mean was observed for most of the characters. Number of fruits per plant and plant spread had positive significant correlation with yield. Negatively significant correlation with yield was exhibited by capsanthin content and fruit length. Path analysis revealed high positive direct effect towards yield by number of fruits per plant and 100-dry fruit weight (g) followed by plant spread (cm), days to maturity, number of seeds per pod, capsaicin and 1000-seed weight.

Key words : Cluster Analysis, Paprika chilli, Principal Component Analysis and Ward's Minimum Variance

Comparison of Different Stability Parameters in Finger Millet [*Eleusine coracana* (L.) Gaertn]

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ABSTRACT

The study of different stability parameters in eighteen genotypes of finger millet over 14 environments indicated that stability parameters like Wricke's (1962) ecovalence, mean variance due to genotype-environment interaction of Plaisted and Peterson (1959) and variance or information of ranks over environments gave similar results to that of the deviation from regression (S^2d) of Eberhart and Russell (1966) and Shukla's stability variance whose calculation is cumbersome. All these methods indicated more stable genotypes GE 1240, GE 3678 and GE 1287 for productive tillers per plant; GE 1035 and GE 3363 for length of finger; VMEC 219, GE 1240 and GE 1035 for ear weight per plant; GE 1035 and GE 532 for 1000 seed weight; GE 2869, GE 1240 and GE 3363 for grain yield per plant over environments.

Key words : Finger millet, Stability

Correlation and Path Analyses over Environments in Sesamum (*Sesamum indicum* L.)

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ABSTRACT

Correlation and path coefficient analyses were carried out using 10 genotypes of sesamum in 6 environments. Plant height, number of capsules per plant, number of seeds per capsule, 1000 seed weight

and harvest index were positively correlated with seed yield over environments. The positive correlation of number of capsules per plant, number of seeds per capsule and 1000 seed weight with seed yield and among themselves was observed suggesting that these are the major yield contributing traits. Path coefficient analysis also showed direct positive contribution of number of primaries, number of secondaries, number of capsules per plant, number of seeds per capsule, 1000 seed weight on seed yield. These traits deserve special emphasis in selection while selecting for improvement in seed yield of sesamum

Key words : Correlation, Path Analysis, Sesamum

Character Association and Path Coefficient Analysis in Cotton (*Gossypium hirsutum* L.)

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ABSTRACT

Correlation and path coefficient analysis were carried out in 72 genotypes of cotton that were collected from all the three cotton growing zones of India for different agronomical and fibre quality traits. The character association studies revealed that number of bolls per plant, boll weight and lint yield per plant had significant positive association with seed cotton yield per plant. The path coefficient analysis revealed that number of bolls per plant, plant height number of sympodia per plant, ginning out turn, seed index, 2.5% span length, bundle strength, uniformity ratio, count strength product and lint yield per plant exerted direct positive effect on seed cotton yield per plant.

Key words : Character Association, Cotton and Path Analysis

Correlation and Path Analysis in *Desi* Chickpea (*Cicer arietinum* L.)

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ABSTRACT

Correlation and path coefficient analysis were studied for eleven different characters in 40 *Desi* chickpea genotypes. Character association studies indicated that number of pods per plant, 100 seed weight (g), harvest index(%) and biological yield per plant (g), were having highly significant correlation with seed yield per plant. Whereas, days to maturity showed negative and significant correlation with seed yield/plant. However, path coefficient analysis revealed that biological yield had highest direct effect on grain yield followed by harvest index.

Key words : Correlation, *Desi* Chickpea, Path Analysis

Line Tester analysis in dual purpose sorghum [*Sorghum bicolor* (L.) Moench]

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ABSTRACT

Thirty F_1 crosses generated by crossing ten lines with three testers in line x tester mating design and their thirteen parents were evaluated in randomized block design replicated thrice at Agricultural College Farm, Bapatla during *rabi* 2006 -2007. SPV 1782, SPV 1714, SPV 1754 and SPV 1616 among lines and CSV 15 among testers were found to be good general combiners. SPV 1782 x HC 308, SPV 1730 x HC 308 and SPV 1616 x CSH 16 were found to be good specific combiners. Grain yield and leaf crude protein content were governed by additive gene action. Green forage yield at 50% flowering, 1000 grain weight, grain crude protein content and leaf breadth were under the control of both additive and non additive gene action. Remaining characters were under the control of non additive gene action.

Key words : Combing ability, Dual purpose sorghum, gca, Line x Tester, sca

Effect of Fly Ash and Farm Yard Manure on Soil Nutrient Dynamics in a Saturated Inceptisol Under Incubated Conditions

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ABSTRACT

An incubation experiment was conducted for 60 days with one kg soil (fine loamy, mixed hyperthermic Typic Haplustept) at saturated moisture conditions. The studies on available N, P, K, S, Fe, Mn, Cu and Zn contents in soil indicated that there was significant increase in nutrient availability due to application of fly ash and FYM and their interaction at all the time intervals studied *viz.*, 7, 15, 30 and 60 DAI. The addition of fly ash @ 10 or 15 t ha⁻¹ along with FYM @ 10 t ha⁻¹ has recorded the highest available nitrogen (214.6, 222.0, 226.6 and 227.3 kg ha⁻¹), P₂O₅ (18.13, 20.20, 21.83 and 23.03 kg ha⁻¹), K₂O (308.6, 314.6, 318.0 and 320.3 kg ha⁻¹), sulphur (10.20, 11.20, 11.50 and 12.53 mg kg⁻¹), Fe (10.20, 10.50, 12.00 and 12.47 mg kg⁻¹), Mn (5.43, 6.10, 6.30 and 6.47 mg kg⁻¹), Cu (1.76, 1.85, 1.93 and 21.6 mg kg⁻¹) and Zn (1.50, 1.58, 1.50 and 1.51 mg kg⁻¹) at 7, 15, 30 and 60 days after incubation, respectively. The soil available N, Fe and Zn status increased from 7 to 30 days after incubation, which remained more or less the same at 60 DAI. The available P, K, S, Mn and Cu status increased with increasing incubation period from 7 to 60 days.

Key words : FYM, Groundnut, Growth, Phosphate rock, PROM and Yield.

Nutrient Status of Vegetable Growing Soils of Guntur District, Andhra Pradesh

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ABSTRACT

Horizon wise soil samples of six profiles representing red and black soils in the vegetable growing area of Guntur district were studied for their fertility status. All the soils were low to medium in available nitrogen. The P content was medium at the surface and low in subsurface horizons. The K content was medium to high and the sulphur content was sufficient at the surface of the black soils but deficient in red soils and lower horizon of black soils. Total N and P followed a decreasing trend, whereas total K values varied widely. All the samples were sufficiently rich in Mn and Cu, but deficient in Fe. Surface black soils recorded relatively high Zn but red soils and other horizons in black soils recorded Zn values less than the critical limit

Keywords: Black soils, Fertility status, Macro and micronutrients, Red soils.

Impact of Subsurface Drainage System on Ground Water Quality of Kalipatnam Pilot Area

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ABSTRACT

Reclamation of saline, saline-alkali and waterlogged soils formed due to the intrusion of sea water/poor shallow ground water quality can effectively be done by the sub-surface drainage (SSD) technology. One year after installation of SSD system, ground water salinity in the pilot area (27.23 dS/m) has significantly reduced to 20.45 dS/m, where as control area ground water salinity has slightly increased from 36.66 dS/m (May,05) to 37.65 dS/m (May, 06). Two crop seasons after installation of SSD system, EC of the groundwater have been reduced considerably. At Kalipatnam pilot area, EC of groundwater has reduced by 25 percent due to installation of SSD system.

Key words : Drainage, Groundwater quality, Reclamation, Salinity, Salts.

Quality Of Jajjar Nalla and Painthal Nalla Waters of Udhampur District, Jammu Himalaya, in Relation to Human Consumption and Agricultural Use

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ABSTRACT

Ten water samples, each from Jajjar and Painthal nallas, Udhampur district, J&K were analysed for Ca, Mg, Na, K, Fe, Mn, Ni, Cu, Zn and Pb using Atomic Absorption Spectrophotometer. In both streams, all the elements were present within the permissible limits except Fe and Mn which were found higher according to Bureau of Indian Standard (1991) and WHO (1984). Sulphates, bicarbonates and nitrates were all found in safer levels and as such the waters of both these streams are considered fit for human consumption and also for agriculture. For irrigation purposes all the cations were present in safer levels and cannot be considered harmful. Total Dissolved Salts (TDS), Total Hardness (TH), conductivity and pH are all present in safer levels. Low values of SAR and SSP are both favourable indicators for using the waters of the streams for irrigation. The higher turbidity values in both the streams are objectionable.

Key words : Conductivity, Polluting elements in water of Jajjar and Painthal Nallas of J&K, TDS, Water Quality.

Effect of Microbial Inoculation on Yield and Yield Components in Low Land Rice

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ABSTRACT

A field trial was conducted at Agricultural Research Station, Amaravathi during *Kharif*, 2001-02 to study the effect of combined inoculation of *Azospirillum* and phosphate solubilising bacteria (*Pseudomonas* sp.) on low land rice. Different yield contributing characters like number of effective tillers m^{-2} , number of grains per panicle, percent chaff etc, varied significantly due to different levels of nitrogen and inoculation. The effective tillers m^{-2} significantly decreased due to the application of both nitrogen and inoculation. The number of grains per panicle significantly increased due to both microbial inoculation and nitrogen application. The highest grain yield of 45.87 q ha^{-1} was obtained when combined inoculation of *Azospirillum* and phosphate solubilising bacteria was given along with 100 per cent recommended dose of nitrogen (RDN). However it was statistically on par with the grain yield (42.27 q ha^{-1}) obtained with 75% RDN and combined inoculation of *Azospirillum* and P solubilising bacteria (*Pseudomonas* sp.)

Key words : *Azospirillum*, Nitrogenous fertilizers, phosphate solubilising bacteria (PSB)

Incidence and Chemical Control of Sorghum Shootfly, *Atherigona soccata* (Rondani) on Grain Sorghum

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ABSTRACT

Incidence of sorghum shootfly, *Atherigona soccata* (Rondani) started at third week of December and reached to its peak by 5th standard week. Among different factors minimum temperature and wind speed showed negative but significant relation with its infestation. Nine different Chemicals viz., phorate 10 G, carbofuran 3 G, fipronil 0.3 G, cartap hydrochloride 4 G, chlorpyrifos 20 EC, phosphamidon 40 SL, nimbecidine, *Bt* var. *kurstaki* and spinosad 45 SC were evaluated in the field @ 1.5 kg, 750 g, 75 g, 800 g a.i./ha, 0.06%, 0.08%, 0.3%, 1.0 g./lit and 0.018%, respectively, against shootfly during rabi, 2005-06. The results revealed that spraying of phosphamidon 40 SL @ 0.08% and chlorpyrifos 20 EC @ 0.06% and whorl application of phorate 10 G @ 1.5 g a.i. ha⁻¹ were the most effective against *A.soccata*.

Key words : *Atherigona soccata*, Chemical control, Incidence, Sorghum shootfly.

Effect of Disinfectants on white Muscardine Disease in Silkworm *Bombyx mori* L.

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ABSTRACT

Disinfectant treatments were found to be superior to untreated check in improving per cent survival. Among the disinfectants used 2% formalin was most effective in preventing the white muscardine disease and the larval and cocoon parameters obtained were also maximum.

Key words : Disinfectant, Silkworm, White muscardine disease.

Influence of Brassinosteroid (BR) on Photosynthetic Pigments of Groundnut under Water Stress at Pod development Stage

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ABSTRACT

The influence of brassinosteroid (BR) (3 μ M) as seed treatment, foliar spray (at 55 and 65 DAS) and seed treatment + foliar spray on photosynthetic pigments of groundnut under water stress was studied in pot culture in a completely randomized block design. The observations on concentration of photosynthetic pigments revealed that under water stress BR application had no effect on chl-a content but increased the level of chl-b and it was found 44.0 percent high with BR foliar spray at 55 DAS over stressed plants. The influence of BR on chl-a / chl-b ratio and Carotenoid content of stressed plants was not noticed. Application of BR enhanced the total chlorophyll content and also retained it for longer period.

Key words: Brassinosteroid (BR), Groundnut, Photosynthetic pigments, Water stress

Survey on Groundnut (*Arachis hypogaea* L.) Collar Rot Disease Incidence in North Coastal Zone of Andhra Pradesh

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ABSTRACT

A Field survey was conducted on incidence of groundnut collar rot during *rabi* 2003-04 in the North Coastal Zone of Andhra Pradesh. The disease incidence ranged from 0.3 to 10.52 per cent. Highest mean incidence of 6.04 per cent was recorded in the uplands of East Godavari District followed by Vizianagaram (4.53%). Least incidence of 2.3 per cent was recorded in Srikakulam District. The disease incidence is predominant in light textured soils cultivated with Spanish bunch cultivars.

Key words : Collar rot, Cultivars, Light textured soils, Spanish bunch.

Influence of Iron nutrition on Growth, Quality of Flowers and Corm Yield of Gladiolus variety "Trader-horn"

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ABSTRACT

Field investigations were carried out to explore the possibilities of improving the growth, qualitative characters of flower and corm yield of gladiolus variety "Trader-horn" through foliar sprays of iron. The experiment was conducted in 3 consecutive years during 1998-99, 1999-2000 and 2000-01 on an alfisol at Agricultural Research Institute, Rajendranagar, Hyderabad. The results showed that the foliar spray of FeSO_4 @ 0.6% concentration at 3-4 leaf stage of crop growth increased the length and weight of spikes. Wilting of 5 flowers/spike occurred significantly later in response to foliar feeding even with low concentration of 0.4%. The corm size did not improve by the application of this nutrient. but, the corm yield increased significantly by spraying FeSO_4 @ 0.6% in all the three years.

Key words :Cormyield, FeSO_4 , Flower quality, Foliar Spray, Gladiolus and Growth.

Effect of Integrated Nutrition Management on Growth and Yield of Coriander (*Coriandrum sativum* L.)

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ABSTRACT

A field experiment was conducted during *Rabi* season of 2000-01 at Regional Agricultural Research Station, Lam to study the effect of Integrated Nutrient Management on growth and yield of Coriander (*Coriandrum sativum* L.) . Results of the study revealed that combined application of inorganic, organic and biological sources of nutrients (T_1 – 100% RDN + FYM @ 5 t/ha + *Azospirillum*, T_2 – 75% RDN + FYM @ 5 t/ha + *Azospirillum*, T_3 – 50% RDN + FYM @ 5 t/ha + *Azospirillum*) recorded significantly superior growth and yield over control, T_0 (100% RDN).

Key words : Coriander , Integrated Nutrient Management.

Effect of Certain Spacings and Nutrient Levels on Growth and Bulb Yield of Onion Var. N-53

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ABSTRACT

A field experiment was conducted to study the effect of spacing and nutrient levels on growth and bulb yield of onion cultivar N-53 during *rabi* season of 2006-2007 at Agricultural college, Bapatla (A.P). The results revealed that the wider spacing of 30x30 cm with nutrient level, 200 kg N: 80 kg P₂O₅: 100 kg k₂O ha⁻¹ produced maximum plant height, no.of leaves, foliage length pseudostem diameter, drymatter production and chlorophyll content. However, narrow spacing 30x15cm with same nutrient level, produced maximum bulb yield per hectare and found promising.

Key words : Bulb yield , Nutrient levels, Onion, Plant growth, Spacing.

To Study The Occupational And Human Labour Utilization From Dairy Enterprise On Different Farm Size Groups

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ABSTRACT

In case of human labour employment, It was observed that the average man, women and child labour use per household per annum was 120, 66 and 22 days (man equivalent days) on beneficiary households as against 114, 64 and 19 days on non-beneficiary households. It also observed that women's participation in dairying was higher than that of men and children on small cattle holding of beneficiary households.

Key words : Beneficiary, Dairy enterprise, Farm size groups, Human labour, Milch animal, Non beneficiary

Establishment and Maintenance of Mulberry Garden by Tribal Farmers of Khammam District – An Economic Evaluation

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ABSTRACT

The total cost of establishing one hectare of mulberry garden on an average was around Rs.12423.73 for all farms. It is important to note that the share of fixed cost in the total cost of maintenance of one hectare of mulberry for all farms was 40.87 per unit. The remaining share of the total cost was the variable cost and it was 59.13 per cent. Thus it can be inferred that the share of fixed cost was lower than the variable cost. The overall picture shows that seed value manures and fertilizers are being used excessively by medium and large group farmers whereas human labour was being used excessively by medium size farmers.

Key words : Mulberry

Technical Inefficiency in Rice Production in N. S. P Left Command Area in Nalgonda District

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ABSTRACT

Rice is one of the important cereal crops both in India as well as in Andhra Pradesh. In Rice production variables like area, fertilizers, bullock labour and machine labour were positively significant, where the human labour is negatively significant. The socio-economic factors like size of the farm, age of the farmer, education of the farmer, experience in rice production and contacts with the extension agencies play an important role in the technical inefficiency of rice production.

Key words : Rice production, Technical inefficiency

A study on Methodologies Adopted in Decision Making Process by Krishi Vigyan Kendras(KVKs)

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ABSTRACT

Field investigation, discussion with staff at various levels using past experience were the dominant methods used in decision making process in university KVKs. In addition to the methods followed in university KVKs, NGO managed KVKs also consulted community, considered time and information availability while making decisions.

Key words : Decision Making, KVK, Methodologies.

Evaluation of Production Technologies under Sriram Sagar Project Command

A Krishna , M D Reddy and K S Reddy

Quality Characteristics of some Released Rice (*Oryza sativa* L.) Hybrids and their Parents

D Shivani, B C Viraktamath and S Sudheer Kumar

A study on the biology of *Callosobruchus chinensis* (L.) infesting stored chickpea (*Cicer arietinum* L.)

K Ravindra Kumari, C V Rama Rao, P Arjuna Rao and V Srinivasa Rao

Strategy to Mitigate Tsunami Effect by Prawn Farmers of Andhra Pradesh

K Swetha and P Venkataramaiah

“Plant Protection Status of IPM-Trained dry Paddy farmers of Maharashtra State”

D P Nagdev and P Venkataramaiah

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