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**Production Potential and Economics of Groundnut
(*Arachis hypogaea* L.) Based Intercropping Systems in Rainfed
Alfisols of Southern Agro-climatic Zone of Andhra Pradesh**

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ABSTRACT

Field experiments were conducted for three years to study groundnut based intercropping in alfisols of southern agro-climatic zone. The study revealed that groundnut pod yield showed significant variation under different intercrops. Reduced population and competition from intercrops reduced groundnut pod yield, however, compensated through intercrop yield. Among different groundnut based cropping systems, groundnut and pigeonpea in 7: 1 gave higher pod equivalent, followed by 11: 1. Groundnut with sorghum and pearl millet in 6: 2 resulted in lower groundnut pod equivalent.

Key words : Castor, Groundnut, Intercrops, Pearl Millet, Pigeonpea, Sorghum

**Classical Selection Indices in Sugarcane
(*Saccharum officinarum* L.)**

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ABSTRACT

Selection indices studies in 12 genotypes of sugarcane using discriminant function technique revealed that the function including cane yield as one of the components recorded high expected genetic advance and relative efficiency. The index in which all the nine characters were included showed maximum genetic advance and relative efficiency suggesting that simultaneous selection for all these characters would be better over straight selection for cane and CCS yield.

Key words : Genetic Advance, Selection Indices, Sugarcane

**Heterosis for Yield, Components and Quality Traits in Rice
(*Oryza sativa* L.)**

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ABSTRACT

Ninety six hybrids derived from crossing four CMS lines with 24 testers were evaluated for the extent of heterosis over mid-parent, better parent and standard hybrid check for yield, components and quality traits in rice. Twenty crosses out of 96 exhibited highly significant standard heterosis for grain yield plant⁻¹. Heterosis for seed yield was due to the significant and positive heterosis for components like panicle length, number of fertile spikelets, number of panicles and harvest index. The top heterotic combinations identified for grain yield plant⁻¹ were, PMS10A X MTU II 161-28-1-1, PMS3A X MTU II 178-20-2-2-1, PMS10A X MTU II 178-20-2-2-1, PMS10A X MTU II 193-23-1, APMS6A X MTU 1064 and IR58025A X MTU 1064, exhibiting more than 50% standard heterosis.

Key words : CMS lines, Harvest Index, Heterosis, Rice

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

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ABSTRACT

Phenotypic and genotypic correlation coefficients and path coefficients were worked out in 48 intra-hirsutum hybrids of upland cotton. Significant positive association of days to 50% flowering, number of sympodia plant⁻¹, number of bolls plant⁻¹, seed index, lint index and lint yield plant⁻¹ with seed cotton yield plant⁻¹ was observed from correlation studies. Path analysis indicated that number of bolls plant⁻¹ and lint yield plant⁻¹ exhibited high direct positive effect on seed cotton yield plant⁻¹.

Key words : Correlation Coefficients, Cotton, Path Coefficients

Character Association and Path Coefficient Analyses for Yield and Component Traits in Castor (*Ricinus communis* L.)

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ABSTRACT

Correlation and path coefficient analyses were carried out with 52 genotypes of castor for yield and component traits. The character association studies revealed that seed yield plant⁻¹ upto 180 days had positive significant correlation with total length of primary raceme, effective length of primary raceme, secondary branches plant⁻¹, total length of secondary raceme, effective length of secondary raceme, tertiary branches plant⁻¹, effective length of tertiary raceme, 100 seed weight of primary raceme, 100 seed weight of secondary raceme, 100 seed weight of tertiary raceme, oil content, harvest index and seed yield plant⁻¹ at 120 days. Seed yield plant⁻¹ upto 150 days showed significant positive association with seed yield plant⁻¹ upto 180 days at both phenotypic and genotypic levels. The path analysis indicated that total length of primary raceme, secondary branches plant⁻¹, effective length of secondary raceme, effective length of tertiary raceme, 100 seed weight of primary raceme, 100 seed weight of tertiary raceme, harvest index, seed yield plant⁻¹ at 120 days and seed yield plant⁻¹ upto 150 days exerted direct positive association with seed yield plant⁻¹ upto 180 days.

Key words : Castor, Character Association, Path analysis

Multivariate Analysis of Genetic Diversity in Upland Cotton (*Gossypium hirsutum* L.)

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ABSTRACT

Fifty genotypes of upland cotton (*Gossypium hirsutum* L.) collected from different research centers across the country were subjected to Mahalanobis' D² statistic, cluster analysis and principal component analysis based on sixteen characters. Eight and 8 clusters were obtained for D² statistic and cluster analysis, respectively. Divergence studies indicated that ginning out-turn, 2.5% span length, oil content, number of

monopodia plant¹ and seed index contributed maximum to genetic diversity. Multivariate analysis revealed that wider genetic diversity existed among the genotypes GSHV-155, GJHV-448 and LK-861, revealing the scope for exploitation of heterosis.

Key words : Cluster analysis, Cotton, D² analysis, Principal Component Analysis

Effect of Integrated Use of Nitrogen with Farmyard Manure on Yield and Yield Attributes of Ragi [*Eleusine coracana* (L.) Gaertn] in Alfisols of HAT-Zone of Andhra Pradesh

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ABSTRACT

Field experiment conducted on red sandy loam soil at ARS, Seethampeta of Srikakulam District of High Altitude (450 m) and Tribal Zone, revealed that more plant height, more panicle length and more number of fingers per ear and also higher grain and straw yields were obtained with the treatment received nitrogen @ 40 kg N ha⁻¹ along with FYM @ t ha⁻¹. The tribal farmers were advised to apply nitrogen fertilizers along with organic manures to ragi crop to maintain both the fertility and productivity of the soil and to improve the economic stability of the tribal farmers with high net returns.

Key words : HAT-zone, Integrated Nitrogen Management, Ragi.

Water Chemistry of Chenab River Flowing In Kishtwar - Thatri Area of Jammu and Kashmir

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ABSTRACT

Chemical analysis of water flowing in Chenab river from Kishtwar to Thatri area Jammu and Kashmir (J&K State) was carried out for Si, Ca, Mg, K, Na, Fe, Mn, Cu, Ni, Zn and Pb. The analysis revealed all cations to be present below the permissible limits except Fe and Mn, which are above safer levels and hence toxic for human consumption. As far as agricultural use of this water is concerned, no element is in higher concentration and is non-hazardous for crops. Turbidity values are higher because of higher rate of erosion in the catchment areas. The different parameters, SAR (Sodium Absorption Ratio), SSP (Sodium Soluble Percentage), RSC (Residual Sodium Carbonate), MR (Magnesium Ratio), CR (Corrosivity Ratio), EC (Electrical Conductivity) are < 6, < 20, < 2.5, < 50, < 1, < 1 (in micromhos/cm at 25°C) respectively and as such water of Chenab river in Kishtwar-Thatri area is safe to be used for agricultural purposes. Total hardness places the waters in soft category. TDS < 500 ppm indicate waters safe both for human consumption and for irrigation. Bicarbonates, sulphates, nitrates and chlorides indicate values lower than permissible limits. pH of waters too is within safer levels. For bringing Fe and Mn down in the waters, the catchment areas need to be properly forested and vetiver grass technology used for the whole belt from Kishtwar to Thatri.

Key words : Water Chemistry of River Chenab, Polluting Elements

Effect of Integrated Phosphorus Management on Soil Properties after French Bean (*Phaseolus vulgaris* L.) in Alfisols of Tirupati

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ABSTRACT

A field experiment was conducted in *rabi*, 2006-07 to study the effect of integrated phosphorous management on soil physico-chemical and chemical properties after the final harvest of French bean in Alfisols (*Typic haplustalf*) of Tirupati. The results revealed that the substitution of 20 per cent recommended level of 50 kg P₂O₅ ha⁻¹ with poultry manure and vermi compost to French bean along with phosphobacteria significantly improved the organic carbon content, available P, S and cationic micro-nutrients status of soil over other treatments. The pH, EC, N, K, Ca and Mg status of soil have not significantly differed but a slight improvement was observed.

Key words : French Bean, Soil Properties.

Taxonomic Studies on the Different Lepidopteran Caterpillars Associated with Oilseeds in Guntur District

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ABSTRACT

Different Lepidopteran larvae were collected from various places from Guntur district on oilseeds. The larvae were brought to the laboratory reared, preserved, identified through proper studies. The larvae viz., *Spodoptera litura* (Fabricius), *Achaea janata* (Linnaeus), *Ergolis merione* (Cramer), *Euproctis fraterna* (Moore), *Pericallia ricini* (Fabricius), *Syntomis divisa* Walker and *Aproaerema modicella* (Deventer) were identified and described based on the morphological characters and chaetotaxy of thoracic and abdominal segments especially 3rd abdominal segment and arrangement of crochets on the ventral prolegs. For easy identification of these larvae a taxonomic key was prepared with the help of line diagrams of thoracic and abdominal segments.

Key words : Lepidopteran Caterpillars, Oilseeds, Taxonomy

Rapid *in vitro* Screening Method for Evaluation of Rice Genotypes against Blast Disease

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ABSTRACT

Through the use of standard assays, like Uniform Blast Nursery (UBN) it is difficult to screen the varieties for blast resistance round the year. It is also laborious and time consuming to screen the plants under natural conditions. Use of the spot inoculation technique on a detached leaf would allow simultaneous testing of multiple fungal isolates on the same plant in the laboratory. This could shorten the time for development of broad-spectrum blast resistant cultivars. The spot inoculation method allows determination of pathogenicity of *M. grisea* in a controlled environment. All operations, such as fungal culture, inoculation and observations of disease development, can be performed in the laboratory.

Key words : Inoculation, *Magnaporthe grisea*, Pathosystem, Phenotype, Rice Blast, Screening

Impact Of Television Viewing on Family Ties of Rural Women

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ABSTRACT

The research study was conducted to know impact of TV viewing on family ties of rural women in Belgaum, Dharwad, Gadag and Haveri districts of Northern Karnataka. More than ninety per cent of rural women expressed positive views for TV viewing as it helped them to avoid unwanted talks / discussion and

provided useful information. Waste of time, reduction in visits of relatives and friends, no proper attention towards guests were expressed as moderate negative impact on their family. Overall index value was found to be high in positive views followed by effect on personal life and negative views. The highest index value showed to the adopted methods like taking meals while viewing TV followed by cooking meals in advance. Majority of the respondents regularly discussed the contents of TV programmes with their family members and occasionally with relatives.

Key words : Family Ties, Rural Women, Television Viewing

Problems and Suggestions Encountered in Effective Time Management by Agricultural Graduates

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ABSTRACT

Time cannot be stored or accumulated like material. The present research was carried out to study the Time Management by the Agricultural Graduates. The total sample for the study constituted 45 boys and 45 girl students from the three colleges. The major problems identified by most of the Agricultural Graduates were lack of guidance on time schedule, higher credit hours load per semester, continuous internal and external examination leads to low OGPA etc. Major suggestions emerged were guidance on scheduling activities, alternate days examination, reduction in credit hours per semester, increased concentration etc.

Key words : Agricultural Graduates, Time Management

Extent of Adoption of FFS Farmers in Rice and its Relationship with Profile Characteristics

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ABSTRACT

The study revealed that majority of Farmers Field School (FFS) farmers were of medium adoption (57.50%) followed by high (29.17%) and low (13.33%) levels. The relationship between profile characteristics and extent of adoption of FFS farmers in rice cultivation was observed that the computed 'r' values of mass media exposure, extension participation, achievement motivation, scientific orientation, innovativeness, FFS training received were significant at 1% level of probability. Whereas age, education and farming experience were found non-significant. Farm size is negatively and non-significantly associated with adoption of FFS farmers on rice cultivation. The multiple linear regression revealed that all ten variables explained around 76.65 per cent of variation in the extent of adoption. The independent variables contributed significantly in explaining the variation of the dependent variable. The independent variables like achievement motivation, innovativeness and FFS training received were significantly related with the extent of adoption.

Key words : Adoption, Farmers Field School, Profile, Relationship, Rice

Research Note

Response of Maize (*Zea mays* L.) Plant Population and Fertilizer Levels in Rabi Under No Till Condition

M Malla Reddy, B Padmaja and D Raja Ram Reddy

Evaluation of Post-emergence Herbicides for *Cuscuta* Control in Balckgram [*Vigna mungo* (L.) Hepper]

A S Rao

**Growth and Seed Cotton Yields of Cotton Hybrids as Influenced
by Bt Cotton Hybrids**

P Krishna Veni , Ch Pulla Rao, G Subbaiah, R Veeraraghavaiah and K Srinivasulu

**Genetic Variability, Heritability and Genetic Advance
in Upland Cotton (*Gossypium hirsutum* L.)**

Kulkarni A A , Nanda H C and Patil S G

**Character Association and Path Coefficient Analyses for Yield and
Component Traits in Pigeonpea [*Cajanus cajan* (L.)Millspaugh]**

U Vasantha Rao,B Govinda Rao,C Panduranga Rao and V Srinivasa Rao

**Correlation of Quantitative and Qualitative Characters with Yield
in Rice Mutant Lines**

Jyothula D P B and Nitu Singh

**Relative Susceptibility of Greengram Cultivars to Pulse Beetle,
Callosobruchus chinensis (Bruchidae: Coleoptera)**

S V S Gopala Swamy, M V Ramana and Y Radha Krishna

**Screening of Okra (*Abelmoschus esculentus* L.) Germplasm
against Shoot and Fruit Borer, *Earias vitella* Fabricius**

K Rajashekar , Ch Chiranjeevi and T Ratnasudhakar

**Reproductive Biology In White Teak (*Gmelina Arborea* L.)
Sani George**

Dijee Bastian , Arya K , Gayathri G and Vidhu Francis Palathingal

**Effect of Different Organic Manures on Growth, Yield, Nutrient
Uptake and Soil Properties of Banana cv Grand Nain**

Patel P S, Kolambe B N, Patel T U and Patel H M

**Plant Growth and Nut Characteristics of Cashew Orchards in
Coastal Districts of Andhra Pradesh**

N Sathi Babu, P Hari Prasad and B Venketeswara Rao

Adoption of IPM Constraints Analysis

D P Nagdeve and P Venkataramaiah

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