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Effect of FYM and Phosphorus on Growth and Yield of Chickpea
(*Cicer arietinum* Linn.)

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ABSTRACT

A field experiment was conducted on clay loam soils of Agricultural College Farm, Bapatla during *rabi* season to study the performance of chickpea at different levels of FYM and phosphorus. The results of the experiment revealed that FYM application at 10 t ha⁻¹ resulted in the highest growth parameters, yield attributes and yield of chickpea. Further, it resulted in higher soil moisture content at 30 and 60 DAS. Phosphorus application up to 60 kg P₂O₅ ha⁻¹ registered increase in the growth parameters, yield attributes and yield of chickpea. Further increment in phosphorus level upto 90 kg P₂O₅ ha⁻¹ was statistically comparable with 60 kg P₂O₅ ha⁻¹.

Key words : Chickpea, P levels, FYM levels

Influence of Sowing Time and Nitrogen Levels on Growth, Yield
and N uptake of Rainfed Upland Rice (*Oryza sativa*) Varieties

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ABSTRACT

Field experiments were carried out for two consecutive *kharif* seasons of 1998 and 1999 at Agricultural Research Station, Ragolu of North Coastal Agro climactic Zone of Andhra Pradesh to study the influence of varieties, time of sowing and nitrogen levels in rainfed upland rice. Distinct disparities with regard to growth structure, yield attributes and yield of rice were observed due to varieties, time of sowing and nitrogen levels. The variety Pushkala (V₁) recorded the highest growth except plant height. The tallest plants were observed with MTU 1006 (V₃). Delayed sowing resulted in deflated growth and yield parameters, except tiller production, which were however, maximum with July first fortnight (D₂). A progressive increase in all the growth and yield attributes were observed with increasing levels of nitrogen, the highest being associated with 90 kg N ha⁻¹ (N₄) which was however in parity with 60 kg N ha⁻¹ (N₃). Maximum grain yield was produced by Pushkala (V₁) supplied with 90 kg N ha⁻¹ when sown during second fortnight of June (D₁), which was comparable with 60 kg ha⁻¹ (N₃).

Key words: Upland rice, Sowing time, Nitrogen levels, N uptake, Yield.

Yield and Yield attributes of Rice Varieties as Influenced by
Soil Salinity

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ABSTRACT

An experiment was conducted in the farmer's field of Kovelamudi village under Mutluru Channel Command of Krishna Western Delta, Guntur District to study the performance of rice varieties under saline

and water logged conditions . Out of ten Varieties tested, MTU 7029 followed by CSR 154 recorded significantly higher grain yield (6.1 t/ha) over the other varieties. However CSR 13, NLR 145, MTU 2067 and MTU 4870 have also recorded higher yield but at par with the check variety (BPT 5204). NLR 33358 registered significantly lower grain yield over other varieties.

Key words: Rice, Salinity, Yield attributes.

Quality and Cut Frequency of Multi Cut Fodder Sorghum as Influenced by Nitrogen Fertilization

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ABSTRACT

An investigation was carried out to study the effect of nitrogen fertilization on yield, quality and cut-frequency of multicut fodder sorghum at the Agricultural College Farm, Bapatla during kharif season, 2005. Results of the experiment revealed that days to flower initiation, days to harvest and cut-frequency were significantly reduced by nitrogen at higher levels during first and second cuts and during the third cut, they were significantly reduced by the combined application of 5 t FYM ha⁻¹ along with fertilizer nitrogen. Quality parameters like crude protein, crude fiber and total ash contents were also significantly influenced by fertilizer nitrogen alone during first cut and fertilizer nitrogen + FYM during second and third cuts.

Key words: Cut-frequency, Multicut, Fodder sorghum, Nitrogen

Path Analysis and Selection Indices in VMEC Group of Genotypes of Finger Millet (*Eleusine coracana* (L.) Gaertn.)

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ABSTRACT

In thirty diverse genotypes of finger millet grown in *kharif* 2005 and *rabi* 2005-06, the path analysis indicated that ear weight per plant, 1000 seed weight and days to 50% flowering exerted significant direct effect on seed yield during both the seasons indicating that selection based on these traits would be effective for yield improvement in finger millet with a reasonable level of protein and calcium. The discriminant function including yield per plant, days to 50% flowering, plant height, fingers per ear, length of finger, ear weight per plant, 1000 seed weight and calcium content showed maximum genetic advance and relative efficiency suggesting that simultaneous selection for all these characters would be better over straight selection for yield.

Key words: Finger Millet, Path Analysis, Selection Indices.

Association Analysis for Yield and its Components in Blackgram [*Vigna mungo* (L.) Hepper]

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ABSTRACT

Correlation and path analysis were carried out using forty genotypes of blackgram for thirteen component characters including seed yield. Seed yield per plant was positively and significantly associated

with all the traits studied except protein content. Path analysis revealed that number of pods per plant had high positive and direct effect on seed yield followed by harvest index, pod length and days to 50% flowering. The characters viz., days to maturity, plant height, number of primary branches per plant, number of clusters per plant, seeds per pod and total dry matter per plant showed high positive indirect effects on seed yield via most of characters.

Keywords: Blackgram, Correlation Analysis and Path Analysis

Sulphur Release Pattern in Alfisols of Southern Telangana Region of Andhra Pradesh

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ABSTRACT

Sulphur release pattern in the soil was studied in a laboratory incubation study with five levels of sulphur (0, 15, 30, 45 and 60 kg ha⁻¹), two sources of sulphur (ammonium sulphate and gypsum) at 0, 15, 30, 60, 90 and 120 days of incubation. The mean sulphur content in the soil was lowest (10.71 mg kg⁻¹ soil) at S₀ level over the periods of incubation, which increased to 31.42 mg kg⁻¹ soil at S₆₀ level. The rate of release of sulphur was negative (immobilization) between 0 and 15 days of incubation, which reached a peak value of 0.362 mg kg⁻¹ day⁻¹ between 30 and 60 days of incubation. The release of sulphur was found to follow a curvilinear pattern with time. Among the sources, ammonium sulphate recorded significantly higher So₄²⁻- S content in soils at any particular period of incubation. The release was 9.8% more in case of ammonium sulphate when compared with gypsum. The release was also more by 42.3% when the soil was at field capacity than at submergence. the So₄²⁻- S concentration was lowest (10.28 mg kg⁻¹ soil) at 15 days of incubation at submergence while it was highest (40.37 mg kg⁻¹ soil) at field capacity at 120 days of incubation. The decrease in So₄²⁻- S content at 15 days of incubation was more at field capacity than at submergence. The rate of release of sulphur was maximum between 30 and 60 days which coincides with critical stage of nutrient requirement for most of the field crops.

Key words: Sulphur release pattern, Mobilisation of sulphur

Spatial Cropping Pattern Analysis for Benchmarking of an Irrigation Command - Remote Sensing Approach

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ABSTRACT

Benchmarking of an irrigation command is a process of periodic evaluation through estimation of several performance indicators viz., cropping pattern, irrigation intensity, agricultural crop production, efficiency of water delivery system, economic performance etc. Continuous performance evaluation and comparison with the planned targets would be useful for diagnostic evaluation of the problem areas and taking the corrective measures in an irrigation command. Conventional mechanism of estimation of these indicators which demands the data on cropping pattern can be easily supplemented with spatial cropping pattern information derived through satellite remote sensing technology. In this study, spatial cropping pattern information useful for benchmarking study was derived from satellite data. Multi-temporal satellite data over Nagarjuna Sagar Left Canal Command, Andhra Pradesh was procured capturing the rabi crop information during 1990-91 and 1998-99 (in a decade span). Hierarchical crop classification approach was followed to interpret the crop information from satellite images and classify various crops existing in the irrigation command through digital image processing. Significant changes that have

occurred in NSLC during a decade span was analysed at disaggregated level and project level details are presented in this paper.

Key words: Remote sensing, Spatial cropping pattern analysis.

Efficacy of some Eco-friendly and Conventional Insecticidal Treatments against *Plutella xylostella* (Linn.) infesting Cauliflower

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ABSTRACT

Field studies were carried out to evaluate the efficacy of conventional insecticides viz., profenophos and thiodicarb and eco-friendly chemicals viz., spinosad, *B.t* lufenuron and neemoil either alone (or) in combination with the chitin inhibitor, lufenuron and bio-pesticide, *B.t*. at half of their recommended concentrations against *Plutella xylostella* (Linn.) on cauliflower at the Agricultural College Farm, Bapatla during rabi, 2003-04. The combination treatments of *B.t*. 0.1 per cent + spinosad 0.0075 per cent, lufenuron 0.005 per cent + spinosad 0.0075 per cent and spinosad 0.015 per cent were found to be the most effective among all the treatments in reducing the larval population of *P.xylostella* . The descending order of efficacy among the remaining treatments was *B.t*. 0.1 per cent + thiodicarb 0.0375 per cent > lufenuron 0.005 per cent + thiodicarb 0.0375 per cent > thiodicarb 0.075 per cent > *B.t*. 0.1 per cent + profenophos 0.025 per cent > lufenuron 0.005 per cent + profenophos 0.025 per cent > profenophos 0.05 per cent > *B.t*. 0.1 per cent + lufenuron 0.005 per cent > *B.t*. 0.1 per cent + neemoil 0.5 per cent > lufenuron 0.005 per cent + neemoil 0.5% > lufenuron 0.001 per cent > *B.t*. 0.2 per cent > neemoil 1 per cent.

Key words : *Plutella xylostella*, Cauliflower, Spinosad, Lufenuron, Thiodicarb, Profenophos.

Comparative Efficacy of Selected Insecticides against Sorghum Stemborer, *Chilo partellus* Swinhoe (Lepidoptera: Pyralidae)

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ABSTRACT

Four granular insecticides viz., phorate 10 G @ 1.5 kg a.i. ha⁻¹, carbofuran 3 G @ 750 g a.i. ha⁻¹, fipronil 0.3 G @ 75 g a.i. ha⁻¹ and cartap hydrochloride 4 G @ 800 g a.i. ha⁻¹ and five other insecticides viz., chlorpyrifos 20 EC @ 0.06%, phosphamidon 40 SL @ 0.08%, nimbecidine @ 0.3%, *Bt* var. kurstaki @ 1.0 g L⁻¹ and spinosad 45 SC @ 0.018% were field evaluated against stem borer of sorghum during rabi, 2005-06. The results revealed that chlorpyrifos 20 EC was the best treatment against *C.partellus* at 2, 6 and 10 days after treatment application.

Key words: Stem borer, *Chilo partellus*, Insecticides, Efficacy, Mean Population Reduction.

Influence of Brassinosteroid (BR) on Photosynthetic pigments of Groundnut under Water Stress at Flowering stage

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ABSTRACT

The influence of brassinosteroid (3µ M) as seed treatment, foliar spray (at 35 and 45 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 all BR treatments increased the chl-a by 26.8 -38.5 per cent over stress. Highest Chl-b was observed in all BR applied treatments (27.0 - 68.7%) compared to that of stressed plants. An increasing effect (1.3 - 26.9%) of BR on chl-a / chl-b ratio was noticed. Carotenoid content increased with BR seed treatment (0.42 mg g⁻¹), foliar spray at 45 DAS (0.38 mg g⁻¹) and seed treatment + foliar spray at 45 DAS (0.33 mg/g) compared to stress (0.20 mg g⁻¹). BR application as seed treatment resulted in increased level of total chlorophyll by 50.0 percent.

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

Management of Groundnut Collar Rot (*Aspergillus niger* van Tieghem) by Seed Treatment with Growth Hormones

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ABSTRACT

A Study was conducted during kharif 2004 at department of Plant Pathology, Agricultural College, Bapatla. Five growth hormones were tested at three concentrations (10⁻⁴, 10⁻⁵ and 10⁻⁶ M) separately for their effect on pre and post emergence damping off and collar rot disease incidence caused by *Aspergillus niger* van Tieghem. All the chemicals caused a significant reduction in disease incidence compared to the untreated control. Salicylic acid (10⁻⁵ M) was the most effective in reducing 75 per cent pre and post emergence damping off disease incidence followed by Gibberillin A₃ (10⁻⁶ M) and Maleic hydrazide (10⁻⁶ M) which recorded 63.34 and 59.09 per cent disease reduction respectively over untreated control. Maximum reduction (79.36%) of collar rot disease incidence was observed when seeds were pre soaked with Salicylic acid (10⁻⁵M) followed by Gibberillin A₃ (10⁻⁶ M), Indole acetic acid (10⁻⁶ M) and Maleic hydrazide (10⁻⁶ M) which recorded 72.02, 70.24 and 64.19 per cent respectively.

Key words: Collar rot, Gibberillin, Indole acetic acid, Maleic hydrazide, Salicylic acid

Effect of Storage Period on the Incidence of Seed Mycoflora in Sesamum

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ABSTRACT

Effect of different storage periods viz., 15, 30, 45, 60 and 75 days on seed mycoflora was studied. In all storage periods 10 mycoflora were isolated. Species of *Alternaria* sp., *Curvularia* sp., *Fusarium* sp., *Sclerotium* sp. and *Rhizoctonia* sp. which were of high frequency in initial periods of storage, gradually declined when the storage period was extended to 75 days. *Fusarium* sp. was completely eliminated after 75 days of storage. *Aspergillus flavus*, *A.niger*, *A.terreus*, *Penicillium* sp. and *Rhizopus* sp. which were of low frequency during the initial periods of storage increased significantly when the storage period was extended to 75 days.

Keywords : Seed borne-fungi, Seed mycoflora, Storage fungi, Storage period

Evaluation of Fungal and Bacterial Antagonists for control of Wilt of Tomato and Die-back of Chillies

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ABSTRACT

Trichoderma harzianum and *Pseudomonas fluorescens* isolated from the rhizosphere soils of tomato and chilli were screened *in vitro* against *Fusarium oxysporum* f. sp. *lycopersici* and *Colletotrichum capsici* causing wilt in tomato and die-back in chilli respectively. Soil application of bio-control agents effectively checked the diseases under pot culture experiments. Talc-based formulation of antagonists significantly increased shoot length, root length and dry matter production of tomato and chili seedlings. Either the individual or combined effect of these two bio control agents was on par with the carbendazim.

Key words : Bio-control agents, *Colletotrichum capsici*, *Fusarium oxysporum* f.sp. *lycopersici*

Influence of Holding Solutions, Refrigerated Dry Storage and Packing Material on Keeping Quality of cut flowers of Gladiolus Variety Yellow frill

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ABSTRACT

Gladiolus variety 'Yellow frill' was cultivated in the *kharif* season during 2003 and 2004 on vertisol at the Agricultural Research Institute, Rajendranagar. The cut flowers were studied for strategies to improve the floral characteristics and vase life of the spikes. Preservation of the cut spikes in floral preservatives containing sucrose 4% + Al (SO₄)₃ + Na O Cl 25 ppm or sucrose 4% + Dichlorophene 50 ppm significantly increased the longevity of the cut flowers. The refrigerated dry storage for 6 - 12 days also improved the flower quality and vase life of gladiolus. Polythene or cellophane sleeves were the ideal packing material for storage in fiberboards for 24 - 48 hours to prolong the shelf life of the flowers with substantial improvement in increasing the floret size and percentage of open flowers.

Key Word: Gladiolus, Floral preservatives, Refrigerated dry storage, Packing material, Vase life.

Genetic Evaluation to Identify Bush Pepper Cultivars for Kottayam District

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ABSTRACT

The black pepper cultivars of Kottayam district were studied to identify the popular cultivars with high yield and yield attributing characters. The identified cultivars raised as bush pepper were studied for vegetative, spike, berry and yield characters. Among the popular cultivars, Narayakodi, Ramapuram, Karimunda, Karuvilanchi and Panniyur 1 were selected as suitable cultivars for bush pepper cultivation in Kottayam district. From the statistical analysis, it was observed that the characters under study were with high heritability and genetic gain and provided a good base for selection. Bush pepper traits such as green berry yield per pot, size and number of berries and spike length were identified as the selection factors for the improvement of dry yield.

Key words: Pepper, Variability, Heritability, Correlation

Processing and Marketing of Cassava in East Godavari District of Andhra Pradesh

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ABSTRACT

The total variable costs in sago unit was found to be Rs. 77,59,265.28. The cost of raw tubers was the major component of the variable cost in processing unit and it accounted for nearly 66.81 per cent (Rs. 56,87,136.00) to the total cost. The total fixed costs were higher in sago unit which accounted to the total Rs. 7,53,642.24. It can be noticed that the average price received by the producer was 147.00. the costs incurred by the processor were Rs.750.04 and the margin obtained by the processor was Rs.252.96 per unit. The processor's selling price (or) wholesaler's purchase price was Rs. 1150.00. The marketing cost was Rs.812.74 more in channel I when compared to the channel II (Rs. 802.64). This was due to the presence of wholesaler.

Keywords: Processing, Marketing, East Godavari.

Impact of Institutional Credit on Cropping Pattern in Nagaland

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ABSTRACT

The present study has analyzed the working of financial institutional on agricultural credit in hilly, tribal areas of Nagaland. It has been examined how significant is the institutional credit in achieving desired agricultural growth and employment opportunity in the hilly areas. In the process the study has highlighted the impact of institutional credit on cropping pattern, and recommended some suggestions from the explorative view point in relation to the tribal farmers' problem in getting credit facilities and transformation of cropping pattern in Nagaland.

Keywords: Jhum cultivation (Shifting cultivation in hill areas)

Resource Productivity of Wheat Cultivation of Small Farms Under Rainfed Condition - A Case Study of Agra District

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ABSTRACT

Infrastructure plays an important role in Agricultural development. Indian Agriculture has witnessed rapid changes in its growth since the dawn of independence. This is mainly because of the new technology introduced by the Government, but still there is greater instability and inadequacies of agricultural growth exist in the rural areas of the Country. In this paper, the resource use efficiency of small farmers' has been examined in Agra district. To conduct this study, Cobb-Douglas type of production function was fitted to the data to evaluate the impact of input factors viz; Area of crop, human labour, cost of irrigation, cost of machine labour, and value of fertilizer on total output in Rs. per hectare.

Key word: Production function, Regression co-efficient, Standard error, Multiple determination, Resource productivity.

Perception of Researchers on Selected Dimensions of the Organisational Climate of Acharya N.G. Ranga Agricultural University

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ABSTRACT

A sample of fifty researchers were selected to elicit the perception on selected dimensions of Organizational Climate of Acharya N.G. Ranga Agricultural University. The Selected dimensions are job clarity, team work, appraisal, guidance and supervision, recognition, training, decision making, communication, information management system, psychological security, financial support to schemes, physical facilities and selection procedure. Majority of the researchers were grouped under medium category with regard to perception on selected dimensions. Suitable measures were suggested as specified by the researchers to improve the areas of concern of Organisational Climate of Acharya N.G. Ranga Agricultural University

Keywords: Organisational Climate, Perception.

Sources of Information Preferred by the Postgraduate Students of Agricultural College, Bapatla

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ABSTRACT

Ex post facto research design was adopted to identify Perception of Post graduate students towards different Agricultural websites. A total 98 agricultural postgraduate students were selected and Method of paired comparison technique was used for the study. Results indicated that website, television, professor in the university, newspaper and radio were perceived as a credible source of information by students in decreasing order of importance.

Key words: Information source, Website, Television, Newspaper and Radio

Unexpected Wave of Misfortune-A Case Study

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ABSTRACT

Tsunami has created havoc in the coastlines of A.P. It shattered the economic conditions of prawn farmers. Hence, a case study was conducted with a small farmer of Koduru mandal in Krishna District so as to make use of the case experiences in mitigating Tsunami affects. Data was collected by interacting with experienced and old aged farmers in addition to the prawn farmer selected for a case study wherein the researcher has probed the details through informal discussions. the vulnerabilities viz. physical, technical, cultural, institutional and psychological were identified and capacities were suggested. the lessons learnt from the case study were also mentioned.

Key words: Case study, Misfortune, Vulnerability, Capacity

Research Note

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

D Shivani, B C Viraktamath and S Sudheer Kumar

Performance of Rice Varieties Under Saline-Sodic Soils of Konanki Pilot Area

M Ratnam, G V Lakshmi, G Krishna Reddy, A Srinivasulu and T V Satyanarayana

**Establishing the Relationship between Soil Nitrogen Status,
N Uptake and Yield of Rice in different soils**

A Angayarkanni and K Ravichandran

**Effect of Phosphorus on the Growth and Yield Performance of
Cowpea (*Vigna unguiculata*)**

P Poonkodi and A Angayarkanni

**Influence of Different Combinations of Gypsum and Lignite Fly
Ash on Residual Soil Fertility of Sunflower grown soil**

N S Kalpana and P Poonkodi

**Effect of Integrated use of Nitrogen with Organic Manures on
Yield and Yield Attributes of Paddy (*Oryza sativa*) in
Alfisols of HAT-Zone of Andhra Pradesh.**

G Kishore Babu

Biology of Groundnut Pod Borer *Carrydon serratus* (Olivier)

R S Sandeep, C V Rama Rao, P Arjuna Rao and V Srinivasa Rao

Evaluation of Fungicides against *Sclerotium hydrophilum* Sacc.

U Hemanthu and M Subba Rao

**Yield and Economics of Summer Sesame as Influenced by
varied Plant Geometry and Topping**

SK Jaffar Basha and P Maheswara Reddy

**Study on Physical Changes of Sathgudi Sweet Orange Fruit
during Various Developmental Stages**

Gaurao K Ghom and B Venkateswara Rao

**Correlation Studies in Onion (*Allium cepa* var. *cepa* L.) for
Storage Losses**

M Ananthan and G Balakrishnamoorthy

**Characteristics of Integrated Pest Management (IPM)
Trained Dry Paddy Farmers**

B Nagadev and P Venkataramaiah

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