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ANTIBACTERIAL ACTIVITY OF MARINE MACRO ALGAE *HYPNEA CERVICORNIS* (RHODOPHYCEAE) COLLECTED FROM CHAGKUMUGAM COASTAL REGION

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Abstract: To evaluate the antibacterial activity of Organic solvent extracts from marine macro algae *Hypnea cervicornis* (Rhodophyceae) against the eight pathogenic bacterial strains. The antibacterial activities of methanol, ethyl acetate and aqueous extracts were tested against various organisms *Escherichia coli*, *Staphylococcus aureus*, *Proteus vulgaris*, *Klebsiella sps*, *Pseudomonas aeruginosa*, *Streptococcus sps*, *Enterobacter sp* and *Neisseria sp*. by using disk diffusion method. The highest antibacterial activity (15.13 ± 0.15 mm) was showed by the methanol extract of *Hypnea cervicornis* against *Streptococcus sp* and the lowest activity (7.23 ± 0.25 mm) was observed in the methanol extract of *Hypnea cervicornis* against *Proteus vulgaris*. The aqueous extract of *Hypnea cervicornis* was resistant to all bacterial strains.

Keywords: Marine macro algae, antibacterial activity and algal extracts

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CONSERVATION AND CULTIVATION POSSIBILITIES OF *DIOSCOREA DELTOIDEA* (A THREATENED SPECIES) IN VILLAGE BUDOGI, DISTRICT TEHRI GARHWAL, UTTARAKHAND, INDIA

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Abstract: The district Tehri Garhwal, Uttarakhand have a rich and diverse form of vegetation with medicinal as well as aromatic plants. Varying soil, geology and occurrence of different climatic and microclimatic zones of the region provide suitable conditions to grow a different diversity of medicinal and aromatic plants. But some medicinal plants are becoming threatened due to unsustainable use and overexploitation, out of these medicinal plants a very important threatened medicinal plant is *Dioscorea deltoidea* in the region. The present study deals with conservation and cultivation possibilities of *Dioscorea deltoidea* from an altitudinal range 1300m to 2000m, domesticated in the village Budogi, district Tehri Garhwal, Uttarakhand, India. The preliminary data showed that in the region *D. deltoidea* plant properly grow and can provide baseline information of selection of suitable cultivation sites, conservation and developing agro-techniques for this species.

Keywords: Medicinal Plant, Cultivation, Conservation, Threatened

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EVALUATION OF DIFFERENT WAVELENGTH (COLOUR OF LIGHT) ON RADIAL GROWTH OF *PLEUROTUS EOUS* (PINK OYSTER MUSHROOM)

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Abstract: The effect of different colors of light on radial growth of *P. eous* was studied under *in vitro* condition in Mushroom Research Laboratory Department of Plant Pathology, College of Agriculture, IGKV, Raipur at 2011-12. The

radial growth of *P. eous* in blue light with 455-492 nm wavelength favor highest significant growth (88.50 mm) followed by Red wavelength 622-780 nm with (78.50 mm) and pink wavelength 600-650 nm with (76.50 mm) growth. However radial growth *P. eous* were recorded at par in purple wavelength 390-455nm (65.50 mm), yellow wavelength 577-597nm (68.50 mm), transparent 1520-1580 nm (70.50 mm) as compare to control (65.50 mm). The least radial growth was observed in green wavelength 492-577nm (43.50 mm). The Mycelial character of wavelength 455-492 nm was whitish pink dense cottony mycelial growth with regular margin and wavelength 622-780 nm was White dense mycelial growth with regular margin. The Mycelial character of wavelength 492-577 nm was white cottony mycelial growth with regular margin. This wavelength shows very poor growth.

Keywords: Pink oyster mushroom, *Pleurotus eous*, wavelength, color light

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EVALUATION OF DIFFERENT PH ON RADIAL GROWTH OF *PLEUROTUS EOUS* (PINK OYSTER MUSHROOM)

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Abstract: Effect of pH on mycelial growth of *P. eous* of oyster mushroom (*Pleurotus* sp.) was studied under *in vitro* conditions in Mushroom Research Laboratory Department of Plant Pathology, College of Agriculture, IGKV, Raipur at 2011-12. Different pH medium shows significant difference in radical growth *P. eous* of among the evaluated pH, significantly higher radial growth of *P. eous* was recorded at pH 6.5 (89.00 mm) and next was pH 6.00 (88.66 mm). However, significantly less (42.16 mm) growth was observed at pH 4.0 followed by 5.0 (48.83 mm). However radial growth *P. eous* were recorded at par in pH 6.5 and pH 6.0. The Mycelial character of *P. eous* for pH 6.5 was whitish pink mycelial growth with regular margin having maximum growth and white mycelial growth with irregular margin in pH 4.0 shows very poor growth.

Keywords: *Pleurotus eous* pink oyster mushroom pH radial growth

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EFFECT OF BUDDING METHOD AND TIME ON VEGETATIVE PROPAGATION OF JAMUN (*SYZYGIUM CUMINI* SKEELS.)

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Abstract: Among various methods of budding, patch and shield budding are commonly used in jamun. The patch budding is a well established and commercial method of propagation of jamun due to highest per cent of bud take and success shield budding is practiced largely. On the basis of finding obtained from the present investigation, it can be concluded that Jamun seedling budded on 15th June with patch method showed better performance over shield budding with respect to maximum bud take, bud sprouting, height and diameter of budding. The interaction effect (time and method) found to be non-significant in most of cases.

Keywords: Patch budding, Shield budding, Bud takes, Bud sprouting

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IDENTIFICATION OF RESTORERS AND MAINTAINERS IN RICE (*ORYZA SATIVA*

L.) S.K. Korram¹, D.K. Sharma² and R.R. Kanwer³ **Abstract:** Three cytoplasmic Genetic male sterile (CMS)

Lines of rice having wild abortive (WA) cytoplasmic male sterility source were crossed with 36 entries to assess their maintainers and restorers obtained from 40 crosses. The 40 hybrids were subjected to pollen and spikelet fertility analysis. Among the 40 hybrids 3 were expressed as restorer, 4 were partial restorer for CMS line CRMS 31A, 9 male line regarded as restorer and 19 male line regards as partial restorer for the CMS line CRMS 32A. The 2 male line were restorer for CMS line DRR 3A. The only one parent R1130-100-1-88-1 was observed as maintainer for CMS line DRR 3A. Two partial maintainers viz., RF- 59 and IR 73459-120-2-2-3 were observed for CMS line CRMS 32A. **Keywords:** CMS lines, Restorers, Maintainers, Rice

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CHARACTER ASSOCIATION ANALYSIS FOR QUALITY AND YIELD RELATED TRAITS IN BARLEY (*HORDEUM VULGARE* L.) D.S. Pania* and R.P.S. Dhaka *PPV & FRA, NASC Complex, DPS Marg, Opp. Todapur Village, New Delhi- 110012 Kisan Post Graduate College, Simbhaoli, Distt. Hapur

Abstract: Thirty five genotypes of barley were studied for the character association among quality and yield related. Grain yield per plant showed highly significant and positive correlation with biological yield per plant and harvest index. Similarly, positive and significant correlations of grain yield per plant were also observed for number of spikelets per ear, number of seeds per spike and tiller number per plant. Path coefficient analysis revealed that the traits biological yield per plant and harvest index consistently showed high positive direct effect on grain yield per plant. Whereas, the traits, number of tillers per plant, number of spikelets per ear, number of seeds per spike, had low direct but contributed towards grain yield per plant mainly through biological yield per plant.

Therefore, it is concluded that the traits biological yield per plant and harvest index exhibiting positive and significant correlation with grain yield per plant and it also had high positive direct effects on grain yield per plant, which reveals that true relationship between yield and both traits therefore, direct selection for these traits will be rewarding for yield improvement. **Keywords:** Character association, correlation coefficient, path analysis, barley

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CHARACTER ASSOCIATION AND PATH COEFFICIENT ANALYSIS IN CORIANDER (*CORIANDRUM SATIVUM* L.)

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Abstract: Correlation and path coefficient were studied among one hundred twenty accession of coriander (*Coriandrum sativum* L.) for 8 characters. The seed yield per plant showed highly significant positive correlation with plant height, branches per plant, umbels per plant, umbellets per umbel and seeds per umbel. Umbels per plant showed highest positive direct effect on seed yield per plant followed by plant height, seeds per umbel and 1000-seed weight. The studies suggested that selection for umbels per plant, plant height, seeds per umbel and 1000-seed weight is important to involve high yielding genotypes of coriander. **Keywords:** Path coefficient, coriander, *Coriandrum sativum*

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RESPONSE OF BLACK GRAM TO DIFFERENT LEVELS AND TIMINGS OF SULPHUR APPLICATION IN VERTISOLS

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Abstract: The field experiment was conducted during *kharif* season of 2008-09 at Research Farm of Jawahar Lal Nehru Krishi Vishwavidyalaya, Jabalpur, College of Agriculture, Indore for evaluating the Response of Black gram to different levels and timings of sulphur application in *Vertisols*. Application of sulphur exhibited favorable effect on growth characters and yield attributes of black gram. Consequently higher yield was obtained by the treatment combination of T₂S₂ (50 % basal through Gypsum + 50 % at 20 DAS through sulphur 80% WP: 30 kg S ha⁻¹)

Keywords: Black gram, Scheduling, Sulphur levels

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STUDY ON SENSORY CHARACTERISTICS OF INULIN ENRICHED STERILIZED FORTIFIED FLAVOURED MILK DRINK

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Abstract: The effect of various levels of inulin on the inulin enriched sterilized flavoured milk drink is developed and fortified with iron and vitamin A. The product was prepared by replacing milk fat with inulin at 0, 1, 2, 3 and 4 % levels. The product was also fortified with vitamin A and iron. The sensory evaluation of the product was carried out on different attributes using 9 point hedonic scale. The effect of various levels of inulin on the sensory characteristic of sterilized fortified flavoured milk drink was investigated. The level of inulin had significantly influenced the sensory characteristics of product. The product containing 1% milk fat and 2% inulin (T₃) was found to be more acceptable than all treatments.

Keywords: Inulin, Sterilize, Milk

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DISTRIBUTION, ISOLATION, PURIFICATION, PATHOGENICITY AND IDENTIFICATION OF *ALTERNARIA ALTERNATA* (KESSLER) CAUSING LEAF BLIGHT OF ISABGOL (*PLANTAGO OVATA*)

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Abstract: In the year 2008, the maximum per cent mortality 34.78% was recorded at Sayala of district Jalore followed by Keshwana and Bhundwa at 60 days after sowing. Whereas, during the year 2009, the maximum per cent plant mortality 37.85% was observed at Sayala of district Jalore followed by Keshwana and Bhundwa at 60 DAS. The overall disease incidence as per cent plant mortality was more in 2009 as compared to 2008. The fungal isolates were collected from five different Agro climate zone of Rajasthan i.e. R.C.A. farm (Udaipur), Kapasan (Chittorgarh), Mandore (Jodhpur), Sumerpur (Pali) and Keshwana (Jalore). On the basis of morphological, cultural and pathogenic characteristics, the isolates were identified as *Alternaria alternata* (Fr.) Keissler. Pathogenicity test was done according Koch's postulates for all the five isolates. The identity of R.C.A. farm (Udaipur) isolate was confirmed by Indian Type Culture Collection (ITCC), Division of Plant Pathology, IARI, New Delhi-110012 (The ITCC Code no.6317, 2008).

Keywords: *Alternaria alternata*, Distribution, Isolation, Purification and *Plantago ovate*

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NUTRIENTS STATUS OF SUGARCANE-WHEAT GROWING SOILS OF DAURALA BLOCK OF MEERUT DISTRICT - UTTAR PRADESH

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Abstract The physico-chemical characteristics, available macro- and micronutrient status in the soil help in determining the soils potential to supply nutrients for crop growth. In order to provide a base line data and information the study was taken up under sugarcane - wheat cropping system of Daurala block Soil (district Meerut). The depth wise soils samples (0-15, 15-30 and 30-45 cm) in sugarcane - wheat cropping system at five different locations was analyzed for pH, EC, organic carbon, macro and micronutrients. The surface and sub surface soil were in neutral to alkaline and none of the soil was found to be saline category. The organic matter content declined with soil depth, varied from 0.12 to 1.06 % at surface and sub surface soil. The available N, P and K 141 to 223, 8.1 to 42.7 and 160 to 343 kg ha⁻¹ at surface and sub surface soil and declined with increasing soil depth. Among the different micronutrients with exception of zinc and Fe, the availability of Cu and Mn micronutrients were in sufficient range. The availability of these micronutrients declined with increase in soil depth.

Keywords: Available N, P, K, Micro nutrients, Soil fertility, Sugarcane

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GENETIC VARIABILITY, CORRELATION COEFFICIENT AND PATH ANALYSIS STUDIES IN FENUGREEK (*TRIGONELLA FOENUM-GRAECUM* L.)

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Abstracts: Fenugreek (*Trigonella foenum-graecum* L.) is an annual autogamous crop grown as seed spice in India. Hence, the present investigation was undertaken. With this objective an investigation was laid out in Randomized Block Design with three replications at the main experiment station of Department of Vegetable Science, Narendra Deva University of

Agriculture and Technology, Kumarganj, Faizabad (U.P.) in India grown during winter. Thirty-one genotypes of fenugreek (*Trigonella foenum-graecum* L.) were assessed for a phenotypic coefficient of variance (pcv), genotypic coefficient of variance (gcv), heritability and genetic advance as percentage of mean for growth, yield attributes and yield. The results reveals that the higher magnitude of coefficient of variation at genotypic level was observed for number of pods per plant, number of branches per plot, number of seeds per pod, plant height, seed yield per plant, yield (q/ha), length of pod whereas at phenotypic level, number of pods/plant, number of branches per plant, number of seeds per pod, plant height, seed yield per plant yield (q/ha) and length of pod revealed high magnitude of coefficient of variation. The indicated possibility of obtaining very high selection response in respect of these traits. In this way, high values of genotypic and phenotypic coefficient of variation was also observed in fenugreek for plant height, days to flowering, branches per plant and test weight and low for pod length, when studied with 22 genotypes in field condition and high genotypic coefficient of variation for number of secondary branches, number of pods per plant and seed yield was observed in fenugreek [Banerjee and Kole, 2004 and Datta *et al.*, 2005]. It is also reported that high heritability for pods per plant, pod length and seed yield, while low heritability was observed for seeds per pod and test weight (Meena, 1994).

Keywords: Genetic, Correlation, Fenugreek, *Trigonella foenum-graecum* L.

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COMPARATIVE GROWTH CHARACTERISTIC OF DIFFERENT PARENT MONOCULTURE AND NEW HYBRID CULTURES OF *PLEUROTUS* SPECIES

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Abstract: In present investigation the growth characteristics of different parent monospore of *Pleurotus* species were recorded i.e. appearance of colony, colour of mycelium, shape of mycelium, zonation, type of margin, sectoring formation and development of pigment and exudates. Further total of 78 new hybrid strains of different *Pleurotus* species were tested for mycelial growth characteristics, 17 strains shows Intermediate growth, 20 appressed growths, 21 thin growth and 20 hybrid strain gave fluffy growth of mycelium. 45 hybrid strains had given white colour, 22 milky and 11 hybrid strains were given snow white colour of mycelium. It was also recorded that 30 hybrid strains gave irregular shape and 48 hybrid strains gave almost circular shape of mycelium. 39 hybrid strains gave zonate at periphery, 27 strains faintly zonate and 9 hybrid strains gave inconspicuous zonation. Uneven margin were observed in 33 hybrid strains whereas even margin were observed in 40 strains and sectoring formation were recorded in 23 hybrid strains out of 78 hybrid strains.

Keywords: *Pleurotus* spp., Colony character, Monoculture, Mycelial growth, Hybrid cultures

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DETERMINATION OF TETRACYCLINE SENSITIVITY AND SALT STRESS RESPONSE IN PHOSPHATE SOLUBILIZING *BACILLUS* ISOLATES OF RICE RHIZOSPHERE

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Abstract: In the present investigation, a total of eighteen *Bacillus* isolates obtained from rice rhizospheric soil samples collected from various locations of Uttar Pradesh. The isolates were isolated by using nutrient agar medium and identified as *Bacillus* spp. Out of 18, only ten *Bacillus* isolates found positive for phosphate solubilization on Pikovaskaya medium. All phosphate solubilizing *Bacillus* isolates were screened for tetracycline resistance and NaCl salt tolerance at variable concentrations. Most of the *Bacillus* isolates shown tolerance up to 6% NaCl concentration only. The isolate Bc-etw-4 and Bc-mth-4 isolates shown tolerance at 7% NaCl. Almost all isolates were inhibited at 10 µg/ml of concentration of tetracycline. Only isolate Bc-etw-2 was able to grow at 20 µg/ml of tetracycline concentration. Whereas the isolate Bc-bsr-1 was found sensitive even at 1 µg/ml concentration of tetracycline in the medium. Our research findings shown that isolates from rice rhizosphere have the potential which may promote plant growth of rice directly and indirectly under saline soils.

Keywords: *Bacillus* isolates, Antibiotic Sensitivity, NaCl, Phosphate Solubilization, Rice Rhizosphere

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CAPACITY BUILDING THROUGH FOCUSED FARMER TRAINING: A STUDY ON THE OPINION AND PREFERENCES OF FARMERS REGARDING TRAINING PROGRAMMES (ON DIFFERENT ASPECTS OF RICE CULTIVATION)

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Abstract: India is predominantly an agricultural country with agriculture being the major occupation for a majority of people in the rural areas. A state level Farmers fair was organised at Indira Gandhi Krishi Vishwavidyalaya, Raipur during February 2011, where 120 participating farmers were randomly interviewed to collect the primary data, with the help of structured interview schedule. The result of the study revealed that most of the farmers surveyed had expressed maximum training need with respect to identification of various diseases and their management and control followed by soil testing, identification of various insect pests their management and control, seed treatment, advanced sowing methods like Medagasker and SRI methods etc. So far as attitude of farmers towards training needs on different aspects of rice cultivation is concerned it was found that majority of the respondents had moderately favourable attitude towards training needs. The results of correlation analysis showed that the variables education, social participation, annual income, scientific orientation, and adoption had positive and highly significant correlation with attitude of farmers towards training needs of different aspects of rice cultivation. On multiple regression analysis it was found that the variables scientific orientation and adoption had positive and highly significant contribution towards attitude of farmers regarding training needs. As regards the number of trainees/farmers perceived to be adequate for participation in a farmer training programme it was revealed that just more than two fifth of the farmers perceived upto 20 participants to be adequate to participate in a training programme. Just more than half of the respondents said that 2-3 day training programme is the most acceptable. A significant majority of the farmers said that the training programme should be organized before the beginning of the *kharif* season. About half of them stated that the training programme should be organized twice in a year. Around three fifth of the farmers found audio-visual method to be most acceptable method for imparting training. Regarding choice of trainer it was found that majority of the farmers preferred Agricultural Scientist to be a trainer in any training programme. Slightly more than three fourth of the farmers favoured village panchayat as the most suitable venue for farmers training. It was also found that majority of the farmers interviewed had not received any training previously.

Keywords: Capacity building, Training, Opinion, Rice, Cultivation

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NUTRIENTS STATUS OF SOIL UNDER RICE-WHEAT CROPPING SYSTEM OF MILAK TAHSIL DISTRICT RAMPUR, UTTAR PRADESH

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Abstract: Soil is one of the most important vital natural resource, defends the life supporting system of a country and socio-economic development of its people. More than ever before, a renewed attention is being given to soil due to rapid declining land area for agriculture, declining soil fertility and increasing soil degradation, wrong land policies and imbalance use of inputs (Kanwar, 2004). All the above factors call for a paradigm shift in research away from maximum crop production to the sustainability of crop production system without degradation of soil health and environmental quality. Soils differ greatly in their morphological, physical, chemical and biological characteristics. Since these characteristics affect the response of soil to management practices it is necessary to have information about these characteristics of each category of soil. Soil fertility is one of the important factors controlling yields of the crops. Within a soil, nutrient variability exists depending upon the hydrological properties of the soil and cropping system. In the present study 249 soil samples were collected from 21 gram panchayats and were analysed. The soil samples were collected from rice-wheat cropping sequence. Analysis of soil samples revealed that 82 per cent samples were medium in organic matter content, 100 per cent soil samples were deficient in available nitrogen, while 92 per cent P and 100 per cent K samples were in medium range respectively. Among the micronutrients tested copper and iron were in sufficient range while manganese and zinc were deficient in soil.

Keywords: Soil fertility, Nitrogen, Phosphorus, Organic matter, Micronutrients, Analysis

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MYCELIAL GROWTH AND FRUIT BODY PRODUCTION OF NEW HYBRID CULTURES OF DIFFERENT *PLEUROTUS SPECIES*

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Abstract: *Pleurotus ostreatus* or oyster mushroom is an edible mushroom was cultivated from agricultural wastes. In present investigation, new hybrid cultures of different *Pleurotus* species obtained through inter species hybridization on malt extract medium and it was observed that the different hybrid cultures of P₂, P₃, P₅, P₆, P₇, P₈, P₁₀, P₁₁, P₁₂, P₁₄, P₁₆ and P₂₁ had given higher mycelial growth in diameter as compared to their Parent- I and Parent-II. Further, it was recorded that the fruit body production were observed in all newly developed hybrid strains except 12 strains

Keywords: *Pleurotus* spp., oyster mushroom, mycelial growth, and hybrid cultures

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EFFECT OF VARIOUS NUTRIENT MANAGEMENT OPTIONS ON GROWTH, YIELD ATTRIBUTING CHARACTERS AND YIELD OF SHORT GRAIN AROMATIC RICE VARIETIES (*ORYZA SATIVA* L.)

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Abstract: The experiment was carried out at Raipur during season of 2012. The experiment revealed that the performance of *Dubraj* was comparatively better than that of *badshahbhog*, *vishnubhog* and *bisni* in terms of grain yield along with highest plant height, dry matter accumulation, leaf area, leaf area index with good yield attributing characters. Among the different nutrient management practices, application of 80:50:40 kg N:P₂O₅:K₂O ha⁻¹(50% Inorganic+50% Organic) gave better performance in all the above characters. It is revealed that the variety *Dubraj* fertilized with 80:50:40 kg N:P₂O₅:K₂O ha⁻¹(50% Inorganic+50% Organic) gave the highest grain yield along with good growth characters.

Keywords: Effect, Nutrient, Growth, Management, Rice

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TOXICITY EFFECT OF CULTURE FILTRATES OF SOME FUNGI ON SEED GERMINATION AND SEEDLING GROWTH OF *SORGHUM VULGARE* PERS

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Abstracts: Culture filtrate of all the tested fungi, e.g. *Alternaria alternata*, *Aspergillus flavus*, *A. niger*, *Chaetomium brasiliense*, *Cladosporium herbarum*, *Colletotrichum dematium*, *Curvularia lunata*, *Fusarium oxysporum*, *Macrophomina phaseoli*, *Myrothecium roridum* and *Trichoderma viride* adversely affected the seed germination and seedling growth. Boiled culture filtrate of *M. roridum* produced maximum inhibition in seed germination. Both root and shoot were reduced maximum by *Myrothecium roridum* followed by *Fusarium oxysporum*, *Trichoderma viride* and *Curvularia lunata*. Boiled filtrates were more effective than the unboiled ones. In general, roots were more susceptible to toxins.

Keywords: Germination, Fungi, *Sorghum vulgare*

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Keywords: Germination, Fungi, *Sorghum vulgare*

TO STUDY THE ECONOMIC IMPORTANCE OF RICE (*ORYZA SATIVA* L.) VARIETIES SUITABLE FOR ORGANIC FARMING

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Abstracts: A study was undertaken to evaluate the growth performance and economic grain yield of 30 rice varieties. These are showed significant differences for yield and quality contributing traits viz., plant population (m⁻²), plant height (cm), number of effective tillers (m⁻²), number of panicle (m⁻²) weight of panicle (g), number of filled grain panicle⁻¹ and yield (qha⁻¹). The result revealed that the variety Indira Maheshwari produced significantly higher grain yield (46.90 q ha⁻¹) but on the basis of economic importance Aromatic varieties more expensive as compare to non aromatic rice varieties because they give best cost under market.

Keywords: Aromatic rice, *Oryza sativa*, Organic farming

GENETIC VARIABILITY, HERITABILITY AND GENETIC ADVANCE IN CORIANDER (*CORIANDRUM SATIVUM* L.) Bharat Lal Meena¹ and K.C. Sharma²

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Jobner-303329 (India) **Abstract:** Genetic variability for various characters was studied in one hundred twenty accessions of coriander along with six check varieties. The phenotypic coefficient of variations was higher than corresponding genotypic of variations indicating environmental influence on all the characters. Genotypic and phenotypic coefficient of variations were moderate (21-50%) for umbels per plant and seeds per umbel. The estimate of heritability was moderate (21-50%) to high (>50%) for all the characters. High heritability coupled with high (>50%) genetic advance was observed only for seeds per umbel and other traits such as days to 50% flowering, plant height, umbels per plant and 1000-seed weight showed high heritability combined with moderate (21-50%) genetic advance as percentage of mean, indicating the importance of these traits in yield improvement programme. **Keywords:** Coriander, Genetic variability, Heritability, Germplasm

Short Communication

ANALYSIS OF PATH COEFFICIENT FOR YIELD AND QUALITY CHARACTERS IN AROMATIC ADVANCED BREEDING LINES OF RICE (*ORYZA SATIVA* L.)

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Abstract: The experiment was conducted at Research Farm, Department of Genetics and Plant Breeding, College of Agriculture, Indira Gandhi Krishi Vishwavidyalaya, Raipur (C.G.) during kharif 2010 to assess the agromorphological characterization, genetic variability, association analysis and genetic divergence among the ninety eight aromatic advanced breeding lines of rice along with popular standard checks namely Indira Sugandhit Dhan-1, Pusa Basmati-1, Badsha bhog, Dubraj, Chinnor, Mahisugandha and Kalanamak. The path analysis revealed that Panicle length, Effective tillers per plant, Filled spikelets per panicle, Spikelet sterility percentage and 100 seed weight had high and positive direct effect on Grain yield per plant.

Keywords: Aromatic Rice, Path Analysis, Advanced Breeding Lines of Rice

Short Communication

ANALYSIS OF HERITABILITY AND GENETIC ADVANCE FOR YIELD AND QUALITY CHARACTERS IN AROMATIC ADVANCED BREEDING LINES OF RICE (*ORYZA SATIVA* L.)

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Keywords: Aromatic Rice, Heritability, Genetic Advance

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Short Communication

SOCIO-ECONOMIC UPLIFTMENT OF WOMEN THROUGH GOATRY SELF HELP GROUP

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Abstract: Socio economic upliftment of women has been increasingly recognized as a crucial factor for any country's sustainable development in recent decades. The Self-Help Group (SHG) has provided social opportunities to take women about various rights, entitlements and development programmes as well as starting income generation activities for sustainable earning and self-employment. The study was carried out in Balod Block of Durg District of Chhattisgarh purposely because there were maximum numbers of women SHGs (79) linked with banks. The study determines the economics of Goatry activity adopted by the women SHGs under Nawa-Anjor project and also the upliftment of the women's by goatry farming which gives additional income to their family besides crop cultivation. The income generation from goatry (Rs.77330.00 per 40 goats with average 1:1.45 input output ratio) is much higher than their family's farming average income (Rs.50260.00 per hectare with 1:1.33 average input output ratio). After joining the SHG, member's income was rose which further help in betterment of their social and economic status in family and also in society.

Keywords: SHG, Chhattisgarh, Goatry SHGs, Women Empowerment, Socio-economic upliftment

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Short Communication

EFFECT OF CONGRESS GRASS, *PARTHENIUM HYSTEROPHORUS* ON HATCHING AND PENETRATION OF ROOT-KNOT NEMATODE, *MELOIDOGYNE INCOGNITA* IN *BRINJAL*

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Abstract: Experiments were conducted to study the effect of Congress grass, *Parthenium hysterophorus* on egg hatching and larval penetration of root-knot nematode, *Meloidogyne incognita*. Observations revealed significant reduction in egg hatching and larval penetration in all the treatments in comparison to control. The Highest egg hatching and penetration was recorded in untreated check (473.50 and 513.50), where as the lowest in treated check (108.00 and 75.75) respectively. The egg hatching was 159.00, 183.50, 199.50, 220.00, 233.00, 250.00, and 265.00 and larval penetration 245.50, 271.00, 288.50, 333.25, 385.75, 404.50 and 435.25 in *Parthenium* leaf compost @7.5% + compost, *Parthenium* leaf compost @ 5%+

compost, *Parthenium* leaf compost @7.5%, *Parthenium* compost@ 5% + compost, *Parthenium* leaf compost @ 5%, *Parthenium* compost @ 5% and compost @ recommended doses treatment in ascending order respectively. Similar trend in observations was observed at 72 hours of inoculation and the hatching and penetration increased in all the treatment in compression to the observation recorded at 36 hours of inoculation.

Keywords: *Parthenium hysterophorus*, Hatching, Penetration, *Meloidogyne incognita*, Brinjal

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Short Communication

ASSESSMENT OF GENETIC COMPONENTS OF VARIATION IN F₂ GENERATION OF LINSEED (*LINUM USITATISSIMUM* L.)

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Abstract: 15 F₁, s and 6 parents were evaluated during *rabi* 2011-12 in randomized block design with three replications. The present study has been carried out to assess the genetic parameters through F₂ diallel populations along with the six parents. The estimates of components D was noted highly significant for number of primary branches per plant and plant height. The dominance components H₁ and H₂ were highly significant for days to maturity, number of primary branches per plant, number of capsules per plant, number of seeds per plant, 100 seed weight and seed yield per plant. Estimates of H₁ and H₂ were found to be significant for number of secondary branches per plant and number of seeds per capsule. Parameters of genetic variation in F₂ generation suggested that the characters viz. days to 50% flowering, plant height, number of secondary branches per plant, number of seeds per capsule and 100 seed weight were governed by over dominance. The ratio of KD/KR pertains to relative distribution of dominance and necessary genes appeared more than unity for days to 50% flowering, days to maturity and 100 seed weight. The ratio of h₂/H₂ was recorded more than 0.5 for number of primary branches per plant, number of capsules per plant, number of seeds per plant and seed yield per plant. The heritability estimates in this analysis recorded high for plant height followed by days to 50% flowering.

Keywords: Linseed, Diallel, Combining ability, Genetic components

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Short Communication

ANALYSIS OF COEFFICIENTS OF VARIATION FOR YIELD AND QUALITY CHARACTERS IN AROMATIC ADVANCED BREEDING LINES OF RICE (*ORYZA SATIVA* L.)

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Abstract: The experiment was conducted at Research Farm, Department of Genetics and Plant Breeding, College of Agriculture, Indira Gandhi Krishi Vishwavidyalaya, Raipur (C.G.) during *kharif* 2010 to assess the agromorphological characterization, genetic variability, association analysis and genetic divergence among the ninety eight aromatic advanced breeding lines of rice along with popular standard checks namely Indira Sugandhit Dhan-1, Pusa Basmati-1, Badsha bhog, Dubraj, Chinnor, Mahisugandha and Kalanamak. The high estimate of phenotypic and genotypic coefficient of variation was observed from Unfilled spikelets per panicle, Filled spikelets per panicle, Total spikelets per panicle, Spikelet sterility percentage, and Grain yield per plant and Brown rice breadth.

Keywords: Aromatic rice, Genotypic Coefficient of Variance (GCV), Phenotypic Coefficient of Variance (PCV)

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Short Communication

ANALYSIS OF CORRELATION COEFFICIENTS FOR YIELD AND QUALITY CHARACTERS IN AROMATIC ADVANCED BREEDING LINES OF RICE (*ORYZA SATIVA* L.)

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Keywords: Aromatic Rice, Genotypic Correlation Coefficient, Phenotypic Correlation Coefficient

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Short Communication

STUDY THE ECONOMICS AND ENERGETICS OF ORGANIC AND INORGANIC NUTRIENT MANAGEMENT ON SCENTED RICE VARIETIES (*ORYZA SATIVA* L.)

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Abstract: The field experiment was carried out at the Instructional Farm, IGKV, Raipur (C.G.) during kharif season of 2005. Variety Badshah Bhog and application of 50: 40:30 kg ha⁻¹ + BI with FYM gave higher values of gross return, net return and B: C ratio. Similarly, maximum energy use efficiency and energy output: input ratio found in Badshah Bhog over others. The best integrated nutrient management strategy identified from this study is blending of inorganic fertilizer with FYM for obtaining better quality produce of scented rice with higher yield.

Keywords: Rice, Organic, Economics, FYM

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Short Communication

A STUDY ON DECISION MAKING PATTERN OF RURAL WOMEN IN ANIMAL HUSBANDRY ENTERPRISE AT KORBA DISTRICT OF CHHATTISGARH

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Abstract: A survey based study was carried out to ascertain a study on decision making pattern of rural women in animal husbandry enterprise at Korba district of Chhattisgarh, using a pretested interview schedule through personal interview for sample size of 120 rural women in Korba and Katghora blocks of Korba district, Chhattisgarh (India). The socio-personal study revealed that majority of the women were middle aged (69.20%), illiterate (42.50%), belonged to other backward caste (68.30%) were engaged in animal husbandry practices. Maximum numbers of respondents had nuclear type of family and had medium size of family. In the study area, 62.50 per cent of the respondents had landless farmers and 57.50 per cent of the respondents had annual income between Rs. 32,501-65,000/-. Whereas, 70.00 per cent respondents had medium level of scientific orientation and 67.50 per cents had low level of Cosmopoliteness. Majority of the respondents (69.17%) had medium exposure to overall sources of information. Most of the respondents (44.17%) had low level of contact with extension personnel. In the study area, important independent female decisions up to some extent included feeding of animals (45.00%), cattle shed management (29.17), sanitary management (25.00%) and cleaning of animal and animal sheds (26.26%). On an average the decision making process was manly performed jointly by male and female or by male. The female was responsible for deciding up to some extent in few activities only. Regarding correlation, out of all selected 11 independent variables, only 1 variable i.e. caste was found positive and significantly correlated with decision making of rural

women in animal husbandry practices. Annual income, Scientific orientation, Source of information were also found significant but negatively correlated with decision making.

Keywords: Rural Women; Decision making pattern; Animal Husbandry Practices

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Short Communication

A CASE STUDY ON DEVELOPMENT OF DISEASE IN RELATION TO WEATHER PARAMETERS ON ALTERNARIA BLIGHT (*ALTERNARIA PORRI*) OF GARLIC

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Abstract: The present study was carried on Alternaria blight (*A. porri*) of garlic on the effect of weather parameters on the development of the disease. Purple blotch development observed a negative correlation with minimum temperature ($r = -0.004$), relative humidity ($r = -0.775$) and rainfall ($r = -0.258$) whereas the maximum temperature ($r = 0.870$) exhibited a positive correlation with the disease progress. The results indicated that the purple blotch was favored by high maximum temperature coupled with low minimum temperature, low relative humidity and low rainfall during the crop seasons.

Keywords: Alternaria blight, Development of disease, Garlic, Weather parameters