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STABILITY ANALYSIS OF BREAD WHEAT VARIETIES FOR NITROGEN USE EFFICIENCY CONTRIBUTING TRAITS IN TARAI PLAINS OF UTTARAKHAND

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Abstract: The AMMI model was employed to assess the phenotypic stability of twelve bread wheat varieties over six environments under three nitrogen doses for two consecutive years i.e. 2012-13 and 2013-14 in Pantnagar. For spike length, UP 2825 was overall stable performer whereas, QLD 11 and GW 445 were found to adapt in E₁. For E₃ two genotypes i.e. DBW 97 and HD 3112 showed adaptability. In case of trait, number of spikelets per spike, no genotype was found stable but GW 445 in E₂ showed higher value for this trait and was found well adapted to this environment and QLD 33 also had higher value with adaptability to E₃.

Keywords: Stability Analysis, AMMI Model, Nitrogen Utilization Efficiency

GROWTH RESPONSE OF *HELIANTHUS ANNUUS* CV. SINGLE MINIATURE TO SULPHUR DIOXIDE POLLUTION

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Abstract: Sulphur dioxide (SO₂) is one of the principal contributor to air pollution. In the gaseous form it is called as primary pollutant but when it binds moisture from the air and forms aerosols of sulphuric- and sulphurous acid which are deposited as acid rain, it acts as secondary pollutant. Plants after exposure to SO₂ show altered growth patterns. The ornamental cultivar cv. Single Miniature of *Helianthus annuus* L.(family Asteraceae) on fumigation with four cumulative doses 2612, 3265, 3918 and 4571 μg m⁻³ of SO₂ manifested a decline in the length, fresh weight and dry weight of shoot, root and whole plant respectively. These growth attributes were studied at 30th, 50th, 70th and 90th day of the fumigated cultivar along with a control set. The concentration of pollutant and duration of exposure measure the severity of injury in the fumigated plants. The present investigation reveal that sulphur dioxide acts as a kind of stress to plants.

Keywords: Aerosols, Growth, *Helianthus*, Pollutant, SO₂

INFLUENCE OF INDOL-3-BUTYRIC ACID (IBA) AND VARIOUS TIME ON ROOTING OF GUAVA (*PSIDIUM GUAJAVA* L.) AIR LAYERING

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Abstract: An experiment was carried out during 2014-15 at Horticulture research center, Department of Horticulture, Chauras Campus, HNB Garhwal Central University, Srinagar (Garhwal), Uttarakhand India. Four different concentrations of IBA viz., 2000ppm, 3000ppm, 4000ppm, 5000ppm were used in four time of layering (May, June, July and August). Amongst various concentrations of IBA, 5000ppm concentrations of IBA treatment proved best treatment in respect of percent rooted, number of primary roots, root quality. In case of time of layering August month the maximum rooting success.

Keywords: Guava, IBA, Time, Rooting percentage, Survival percentage

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OPTIMISATION OF *THALASSIOSIRA WEISSFLOGII* CULTURE REGIMES WITH REFERENCE TO NITROGEN INPUTS

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Abstract: This work deals with the response of *Thalassiosira* to the influence of low nitrate and high availability and understanding the results from a quantitative viewpoint. Cell stress responses to nitrogen limitation were observed. The culture kept at lower temp absorb more nutrients and the cell size appeared large than the regular cells. High nitrogen induction was inhibitory in growth performance that 100 and 200 ppm N showed fairly better cell growth responses.

Keywords: Nitrogen, Cell, Phosphorus, Macronutrients

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INFLUENCE OF CROP MANAGEMENT PRACTICES ON YIELD, YIELD ATTRIBUTES AND ECONOMICS OF HIGH ZINC RICE

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Abstract: An experiment to evaluate influence of crop management practices on yield and economics of high zinc rice was conducted at Research cum Instructional farm, I.G.K.V., Raipur, during *khari* season of 2013. The experiment was laid out in factorial randomized block design with four replications. Treatment comprised of three spacing viz., 10cm x 10cm, 15cm x 10cm and 20cm x 10cm and three levels of nutrient viz., 50%, 100% and 150% RDF. The result revealed that spacing of 20cm x 10cm recorded higher panicle length, panicle weight, number of total grains/panicle, number of filled grains/panicle, test weight, grain yield, harvest index, gross return, net return and B:C ratio as compared to 15cm x 10cm and 10cm x 10cm spacing. While higher number of panicle/m² and straw yield were recorded under 10cm x 10cm spacing. Among the different nutrient levels, application of 150 per cent RDF produced the highest number of panicle/m², panicle length, panicle weight, number of total grains/panicle, number of filled grains/panicle, test weight, grain yield, straw yield and harvest index. Nutrient levels were not found significant with respect to B:C ratio.

Keywords: Planting geometry, Nutrient levels, Economic, Yield attributes, High zinc rice

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WILD INTOXICATING PLANTS AND THEIR DIETARY FORM IN THE BASTAR REGION (CHHATTISGARH) AMONG THE NATIVE TRIBAL'S

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Abstract: This paper compiles and evaluates the ethnobotanical study on wild intoxicating plants and their dietary form in the Bastar region (Chhattisgarh) among the native tribal's which are traditionally used for their consumption. The intoxicating plant species from Bastar district were reviewed, together with their Local names, Family, Habit, Dietary form and Ethnomedicinal uses. A total of Eight plant species belonging to Six families were recorded. We studied data on the botanical families to which the plants belonged also their utilization for the medicinal purposes. This paper highlights the traditional knowledge on the intoxicating edible plants that has remained in rural Bastar. Until recently, many wild plants were used as dietary supplements. However, most of this knowledge survives only in the memory of the elderly, and will probably disappear in a few decades.

Keywords: Ras, Tadi, Farsa, Salphi, Bastar Beer, Adivasi, Tribal's

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IN VITRO EFFICACY OF FUNGICIDES AGAINST MAJOR SOIL BORNE PATHOGENS OF GROUNDNUT

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Abstract: Efficacy of two non systemic (thiram and mancozeb) and three systemic fungicides (carbendazim, tebuconazole and carboxin+thiram) each at five different concentrations were tested against *Aspergillus niger*, *Sclerotium rolfsii* and *Rhizoctonia bataticola* under *in vitro* conditions. Among the five fungicides tested mancozeb, tebuconazole and carboxin+thiram gave 100% inhibition against all the three test pathogens. Carbendazim was ineffective against *Sclerotium rolfsii* at 1000 ppm. Thiram showed 100% inhibition against *Rhizoctonia bataticola* at 5000 ppm.

Keywords: *Aspergillus niger*, *Sclerotium rolfsii*, *Rhizoctonia bataticola*, systemic and non systemic

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BIOLOGY OF MULBERRY SILKWARM, *BOMBYX MORI* L. IN CHHATTISGARH STATE

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Abstract: A study was undertaken on biology of mulberry silkworm *Bombyx mori* L. under laboratory condition at 20-28°C temperature and 50-69% relative humidity till two successive generations. The incubation period was 6.80 days 7.20 days, larval period instarwise 3.63, 3.30, 5.30, 6.50 and 7.50 days with total larval period 26.23 days in first generation. In second generation the larval period was 4.50, 3.53, 5.50, 6.80 and 8.85 days with 28.63 day total larval period. Prepupal and pupal period period 1.20, 11.56 days and 1.43, 11.70 days in first and second generation respectively. The longevity of adult was recorded 4.94, 4.71 in female and 3.12, 3.53 days in male during first and second generation respectively.

Keywords: Insect, Temperature, Laboratory, Mulberry