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## MANAGEMENT OF SEED-BORNE FUNGI OF FRENCH BEAN (*PHASEOLUS VULGARIS* L.) WITH FUNGICIDAL TREATMENT

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**Abstract:** Seeds of French bean (*Phaseolus vulgaris* L.) are infected during storage conditions, which affect the germination percentage. Seeds were evaluated using the agar plate method to determine the fungal association. Seven fungal species were isolated from the internal and external seed surfaces of French bean, viz., *Aspergillus flavus*, *Aspergillus niger*, *Fusarium solani*, *Mucor* spp., *Penicillium* spp., *Rhizopus oryzae*, and *Rhizopus stolonifer*. Seeds were treated with four fungicides viz. Captan, Dithane M45, Zim50, and Saff before germination to study the efficacy against seed-borne fungi. Out of four fungicides used, Saff and Dithane M-45 were found effective to control seed mycoflora of French Bean. Treated seeds showed better germination percentage as well as root and shoot length than control.

**Keywords:** Fungicide, Management, Mycoflora, *Phaseolus vulgaris* L., Seed-borne

## EFFECTS OF INDEPENDENT VARIABLES ON VARIOUS DEPENDENT FACTORS ON CORIANDER FLOWERS

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**Abstract:** A field experiment was undertaken to study the effect of weather parameters on the activity of various pollinators/visitors during 2018-19. Indian honey bee showed significant and negative correlation with minimum temperature ( $r = -0.750$ ) and rock bee ( $r = -0.713$ ) Italian bee ( $r = -0.715$ ) whereas, the population of little bee showed significant positive correlation with maximum temperature ( $r = 0.764$ ). The population of syrphid fly had exhibit significant and negative correlation with maximum temperature ( $r = -0.710$ ). Evening relative humidity had positive and significant impact on the population of house fly ( $r = 0.739$ ) and population of monarch butterfly exhibit significant and negative correlation with morning relative humidity ( $r = -0.757$ ). Red cotton bug showed significant and negative correlation with maximum temperature ( $r = -0.738$ ). The population of lady bird beetle exhibit significant and positive correlation with minimum temperature ( $r = 0.772$ ).

**Keywords:** Coriander crop, Correlation, Independent and dependent variables, Pollinators/visitors, Weather parameter

## EVALUATION OF HYDROPONICS SYSTEM AND MICRO CLIMATIC PARAMETERS UNDER SHADE NET HOUSE

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**Abstract:** A study was taken up to determine the properties of the nutrient solution for the hydroponic system under shade net house and to study the micro climate parameters inside and outside the shade nethouse. EC and pH of the nutrient solution were observed for the hydroponics system. pH varies from 7.5 to 9.2 and EC varies from 1.14 to 1.43 ds/m. Temperature inside the shade net house was having slightly lesser value than outside atmospheric at range of 1.6 °C to 2.7 °C during the experiment period. Maximum and minimum temperature, relative humidity and light intensity were observed for the effective crop growth period.

**Keywords:** Hydroponics, Shade nethouse, Micro climatic parameters

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## **EFFECT OF ORGANIC AND INTEGRATED SOURCES OF NUTRIENT ON GROWTH AND FLOWERING OF FRENCH MARIGOLD (*TAGETES PATULA L.*) UNDER NORTH WESTERN PLAIN ZONE OF UTTER PRADESH**

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**Abstract:** An experiment was conducted at Horticultural Research Canter, Sardar Vallabhbhai Patel University of Agriculture & Technology, Meerut, Uttar Pradesh, India during 2019-2020, to evaluate the performance of French Marigold var. 'Pusa Arpita' with organic and integrated sources of nutrients. The results revealed that maximum plant height(57.47 cm), diameter of stem(18.21 mm), number of primary branches per plant ( 21.96), number of flowers per plant(143.89), spread of plant (41.17 cm), circumference of flower (12.64cm), minimum days took to first flowering (41.39 days), maximum number of flowers per plant (38.56), flower yield per plant(133.58g), flower yield per plot (5.98 kg), yield of flower per ha (402.09q), flowering duration (60.68 days), number of florets per flower (136.55), length of flower stalk (6.44cm) and vase life of flowers(7.47days) were recorded with half recommended dose of 150:60:60 kg/ha(N:P:K) with half dose of PSB and half dose of vermicompost which was significantly superior to the other treatments and control

**Keywords:** PSB, Vermicompost, RDF, NPK

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## **VARIABILITY AND DIVERGENCE STUDIES IN KODO MILLET (*PASPALUM SCROBICULATUM L.*)**

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**Abstract:** Fifteen kodo millet genotypes were grouped into six clusters using Tocher's method. Among the clusters, cluster I and II had four genotypes each, three genotypes in cluster III, two genotypes in cluster IV, cluster V and VI were solitary each containing single genotype. Maximum intra cluster distance was recorded for cluster III (187.36) followed by cluster II (151.48) and cluster IV (147.29), which suggested that genotypes in cluster III were relatively more diverse among themselves. Genotypes falling in V and VI exhibited higher inter cluster distances (2066.95), followed by cluster V and III (1553.74) and cluster VI and II (1536.57) indicating that genetic makeup of genotypes falling in these clusters may be entirely different from one another. Inter-mating of the genotypes in cluster III (TNAU 86, TNPSU 301 and PPK 1) with

genotypes in cluster IV (GAK 3 and RPS 694), cluster V (KMNDL 1) and cluster VI (BK 14-48) would produce superior genotypes for the respective traits.

**Keywords:** Kodo millet, Divergence, Variability

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## **ECONOMIC STUDIES ON INTEGRATED NUTRIENT MANAGEMENT IN GLADIOLUS (*GLADIOLUS GRANDIFLORUS* L.)**

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**Abstract:** Studies were conducted to find out the effect of Integrated Nutrient Management on various economic aspects of Gladiolus. It was observed that treatment containing 75% RDF + 25% Vermi-compost + *Azospirillum* + PSB was found best treatment with reference to Gross income, Net income and B: C ratio during both the years of investigation. Therefore, it is recommended that INM approach with treatment consist of 75% RDF + 25% Vermi-compost + *Azospirillum* + PSB may be recommended for obtaining the maximum profit for the commercial cultivation of gladiolus crop.

**Keywords:** Gladiolus, INM, Profit

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## **EFFECT OF *PSEUDOMONAS FLUORESCENS* AND ORGANIC MATTER AS A BIOFERTILIZER ON *SOLANUM MELONGENA* L. (BRINJAL)**

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**Abstract:** The influence of biofertilizer inoculation, *Pseudomonas fluorescens* alone and recommended dose of organic solution on brinjal (*Solanum melongena* L.) crop was tested during the kharif season of the year 2019 at agricultural field Patanjali Bio-Research Centre, Haridwar, Uttarakhand. The results revealed significant improvement in growth characters such as height of plant, stem diameter, length of root, number of functional leaves, weight of fresh shoot and weight of dry shoot over the control. Similarly, number of fruits picked per plant and yield of fruits was more in inoculated crop. It is one of the most popular and commercial crops grown in India and other parts of the world and rightly called as vegetable of masses. The common large-fruited forms are believed to have originated in Indo-Burma region. Fruits are moderate sources of vitamins and medicinal properties including de-collateralizing action.

**Keywords:** Biofertilizer, Eco-friendly, Organic matters, Plant growth, Soil health

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## **EFFECT OF LOW TEMPERATURE WET STORAGE ON VASE LIFE OF CUT CARNATION (*DIANTHUS CARYOPHYLLUS* L.) FLOWERS**

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**Abstract:** Studies were conducted to find out the effect of wet storage on vase life of cut carnation (*Dianthus caryophyllus* L.) flowers. Wet storage of cut flower for different durations significantly reduced flower diameter, flower appearance, consumption of holding solution, RWC, membrane stability and vase life as compared to un-stored conditions. Among different storage durations vase life was found maximum when cut flowers were stored in wet storage for 4 days. Maintenance of higher water status in holding solution containing serotonin seems to be the most important characteristic and have positive effect on flower diameter, membrane stability and vase life in cut carnation flowers.

**Keywords:** Vase life, Holding solutions, Wet storage

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## **BIOCHEMICAL SCREENING OF DESMODIUM GANGETICUM LINN. ROOT BY GC-MS ANALYSIS**

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**Abstract:** This study was carried out to analyse the active constituents from the roots of *Desmodium gangeticum* L. commonly called as Shalparni in Hindi and Orila in Malayalam using Gas-Chromatographic-Mass Spectrometric analysis and also to develop a specific TLC fingerprint for the plant root to authenticate the same quickly. The study revealed that the methanolic extract of *Desmodium gangeticum* root contains nine different chemical constituents. The major constituent is an ethanone derivative ( 10.55 %). A reference TLC fingerprint was developed which can be made useful to identify this plant root specifically from others. However, isolation of individual phytochemical constituents and testing it clinically for specific biological activity will be definitely giving fruitful results to support the medicinal properties of the plant root.

**Keywords:** *Desmodium gangeticum*, TLC, GC-MS analysis, Shalparni, Chemical components