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A REVIEW ON DROUGHT STRESS IN *SORGHUM BICOLOR*: PHYSIOLOGICAL AND MOLECULAR APPROACH

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Received-03.02.2022, Revised-19.02.2022, Accepted-26.02.2022

Abstract: *Sorghum bicolor* is one of the diverse and staple food crops grown on earth. About 41.97 million hectares on the earth has been cultivated sorghum in the year of 2021-2022. Drought is prevailing problem and important factor all over the world on agriculture production. Along with that, climate change making a serious situation for the cultivation of crops. Sorghum is one of the excellent crops capable of adapting to drastic environmental changes. By understanding the mechanism behind the adaptation and tolerance to the drought, we can make better crop. This review covers the possible approaches in the drought tolerance of the Sorghum such as the morphological character determining the drought stress tolerances, microbial interactions forming symbionts and helping in stress tolerance, breeding and molecular approaches to improve the abiotic stress tolerance and the use of QTLs and Marker Assisted Selection for improving the drought tolerance.

Keywords: Drought stress, Tolerance, Drought genes, Breeding, QTLs

ASSOCIATION OF *ALTERNARIA* SPP. WITH UMBELLIFEROUS VEGETABLES AND SPICES

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Abstract: Family Umbelliferae now known as Apiaceae includes the plants which are used as spices and vegetables and some are of medicinal value also. A number of host plants of this family are affected from species of *Alternaria* which cause leaf spots and blight in the field and seed deterioration in storage and black rot of carrot in transit also. Six Umbelliferous plants including both vegetables and spices have been observed to be attacked by eight species of *Alternaria*. Among these, *A. dauci* appeared to be the most dominant infecting coriander, fennel, sowa and carrot. *A. alternata* caused the leaf spot and blight in two hosts. Carrot and coriander each included the association of three *Alternaria* spp.

Keyword: Leaf spot, Blight, Spices, Vegetables, *Alternaria* spp.

GENETIC RESOURCES OF LEAFY VEGETABLES IN TELANGANA: DIVERSITY, DISTRIBUTION AND CONSERVATION

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Abstract: Green leafy vegetables are rich in nutrients and fibre and low in fat and calories and help complete a healthy balanced diet. The kind of plant species used as leafy vegetables varies from region and usually depend up on their distribution and traditional practices. In Telangana, leafy vegetables are cultivated in about 7,673 hectares area largely in the erstwhile districts of Ranga Reddy, Medak and Nalgonda with a production of 52,108 tonnes during 2019-20. The leafy vegetables for which considerable local variability occur are amaranths, bladder dock, curry leaf, drumstick, fenugreek, garden spinach, indian spinach, purslane, roselle, sorrel and spear mint. Information on diversity in leafy vegetable crops with different landrace names that occur/ cultivated and germplasm conserved from Telangana is also given. The scope and future perspective for sustaining leafy vegetable genetic resources is also discussed.

Keywords: Leafy vegetables, Telangana, Diversity, Conservation

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EFFECT OF LEAF RELATED TRAITS ON THE YIELD OF RICE CULTIVARS UNDER LOW LIGHT STRESS

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Abstract: Low light prevailing during the *Kharif* season in the Eastern and North-Eastern regions of India is a major constraint in crop productivity. The present investigation elucidates the effect of low light stress on leaf related traits i.e. Specific Leaf Area (SLA), Specific Leaf Weight (SLW) and Leaf Area Index (LAI). SLA, SLW, and LAI are important leaf parameters for genotype selection under low-light stress. Low light stress results in increase of SLA, LAI, and decrease of SLW. A field experiment was conducted at National Rice Research Institute, Cuttack during the *kharif* season 2018 and 2019 for studying the response of leaf associated traits under low light stress and speculated whether the varieties tolerant to low light stress can be recommended for cultivation in regions prone to low light stress.

Keywords: Kharif season, National rice research institute, Rice

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ASSESSMENT OF TOTAL PRODUCTION AND ENVIRONMENTAL COSTS OF DIFFERENT VEGETABLE CROPS

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Abstract: The aim of the present study was to study the effect on production and return due to soil health deterioration and over use of chemical pesticides. For the purpose of present study, two districts were selected from 33 districts having

maximum area of vegetable production. In the second stage, two blocks from each of these districts were selected according to production and in the third stage three per cent villages were randomly selected from each block. Environmental cost has been defined to include the cost of the effect on human health and soil degradation. The effect on human health is estimated to include the number of days lost, the loss in the work efficiency for those who experienced some health problems but did not take medicines. The result showed that total production and environmental cost was ₹. 733947.88 in Sri Ganganagar district and ₹. 722396.65 in Jaipur district. Out of that total cost, the production cost was ₹. 590683 and ₹. 657838 in Sri Ganganagar and Jaipur district respectively. Total environmental cost was ₹. 143264.88 in Sri Ganganagar district and ₹. 64558.65 In Jaipur district. In per centage terms, the share of cost of production was as high as 91.06 in Jaipur and 80.47 per cent in Sri Gangangar district. In both the areas, urgent measures need to be taken to restore the health of the soils to promote ecological sustainability and economic viability of high cash crop cultivation.

Keywords: Environmental cost, Human health, Soil health

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ASSESSING OF YIELD ATTRIBUTES OF THREE DIFFERENT MUSTARD CULTIVARS ON THREE DIFFERENT SPACING UNDER OLD ALLUVIAL ZONE OF WEST BENGAL

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Abstract: A field experiment was conducted at Malda Krishi Vigyan Kendra, old Alluvial Zone, Uttar Banga Krishi Viswavidyalaya, Malda, West Bengal, India during rabi season of 2019-2020 to find out suitable mustard variety and optimum spacing for three different varieties. Three varieties of mustard viz. V1- SitaV2- B-54(subinoy), V3- B-9(Vinoy) were taken as treatments in the main plot, whereas, four spacing - 30cm × 10cm (S1), 30cm × 20cm (S2), 40cm × 20cm (S3) and 40cm × 30cm (S4) were imposed as subplot treatment. The experiment was conducted in split plot design with 3 replications and repeated in rabi seasons for one year (2019-2020). The results of the experiment revealed that the maximum seed yield was recorded in B-9(Vinoy) 2153 kg/ha followed by B-9(Vinoy) and then other varieties. Regarding plant geometry significantly higher yield was noticed in 30 cm × 20 cm (1689 kg/ha). Crop geometry 40 cm × 30 cm observed superior with respect of number of primary branches/plant and seeds/siliqua, but it was not reflected on seed yield due to less number of plants per unit area. The hybrid varieties of mustard are highly suitable in old alluvial plains of West Bengal due to their higher yields. Slightly wider spacing (30 cm × 20 cm) is suitable variety because of their bigger plant canopy.

Keywords: Variety, Spacing, Yield Attributes, Harvest Index

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SEASONAL INFLUENCE OF PINCHING AND GIBBERELIC ACID ON GROWTH AND YIELD PARAMETERS OF AFRICAN MARIGOLD

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Abstract: A field experiment was conducted at Experimental Orchard of the Department of Horticulture, CCS Haryana Agricultural University, Hisar to study the seasonal influence of pinching and gibberellic acid on growth and yield

parameters of African marigold. This experiment was laid out as a factorial randomized block design with three replications. It consists of two seasons viz., summer and winter with four levels of pinching viz., no pinching, pinching at 2 WAT (Weeks After Transplanting), pinching at 3 WAT, pinching at 4 WAT and four levels of gibberellic acid (GA₃) viz., control, 150 ppm, 250 ppm, 350 ppm. Results revealed that foliar spray of 250 ppm GA₃ on plants pinched at 2 WAT attained maximum fresh weight of plant in summer, whereas, the maximum flower yield/plot as well as flower yield/plot was recorded in winter. Application of 250 ppm GA₃ with pinching at 2 WAT was found promising with respect to growth and yield of African marigold.

Keywords: African marigold, Gibberellic acid, Growth and yield, Pinching, Season

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EFFECT OF IRRIGATION LEVELS ON YIELD, WATER USE, WATER USE EFFICIENCY AND NPK UPTAKE OF FENNEL (*FOENICULUM VULGARE* MILL.) CULTIVARS GROWN UNDER DRIP SYSTEM

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Abstract: A field experiment was conducted at Instructional Farm, College of agriculture, Bikaner (Rajasthan) during *rabi* season to study the influence of drip irrigation levels on yield, water use efficiency and nutrient uptake of different cultivars of fennel. Results revealed that irrigation through drip at 1.0 PE recorded significantly highest number of umbels plant⁻¹ (30.90) and number of umbellate umbel⁻¹ (20.04). Water use was higher when crop was irrigated at 1.0 PE, where as water use efficiency was found maximum (2.26 kg ha⁻¹ mm) with application of 0.85 PE drip irrigation. Significantly highest nutrient (NPK) uptake by seed and stover recorded with 1.0 PE level of irrigation but remained at par with 0.85 PE. Total nutrient uptake (seed and stover) increased significantly with increasing level of irrigation. Among the different cultivars RF-205 found superior over the RF-101, RF-125 and RF-143. Different cultivars could not influence nitrogen uptake and potassium uptake by seed. Test weight was not significantly influenced by both irrigation levels and cultivars.

Keywords: Cultivars, Irrigation, Growth, Yield

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ESTIMATION OF REFERENCE EVAPOTRANSPIRATION USING FUZZY LOGIC WITH GRID PARTITION MODEL

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Abstract: The study was conducted to evaluate performance of fuzzy logic (FL) models to estimate reference evapotranspiration (ET₀) for semi-arid region of Haryana state and results were compared against standard FAO Penman-Monteith method. 10 years data (2009-2018) consisted of maximum temperature, minimum temperature, relative humidity; wind speed and sun shine hours was acquired from the Meteorological observatory at CCS HAU Hisar. FL with grid partition and eight membership functions, two optimization methods and two output types were evaluated to reach at the best performance. The models output were evaluated using four different statistical parameters viz. root mean square error (RMSE), correlation coefficient (R) and model efficiency (ME). Performance for FL with grid partition was found best with hybrid optimization, linear type output and triangular membership function with RMSE, R, R₂ and ME values of 0.314, 0.984, 0.969 and 0.967 respectively. Study outcome recommends FL with grid partition as a handy tool in quick and accurate prediction of reference evapotranspiration.

Keywords: Evapotranspiration, Penman-Monteith, Fuzzy logic, Training method, Grid partition

RESPONSE OF WEED CONTROL IN SESAME WITH PRE AND POST EMERGENCE HERBICIDES UNDER OLD ALLUVIAL ZONE OF WEST BENGAL

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Abstract: Sesame (*Sesamum indicum* L.) is one of the oldest crops known to humans. There are archeological remnants of sesame dating to 5500 BC in the Harappa Valley in the Indian subcontinent (Bedigian and Harlan 1986). India ranks first in area and second in sesame production by contributing 23.2% and 18.5% of the world area and production, respectively. The field experiment on evaluation of pre and post emergence herbicide for chemical weed management in sesame over summer season of 2020 was conducted at malda krishi vigan kendra, old Alluvial Zone, Uttar Banga Krishi Viswavidyalaya, Malda, West Bengal. The experimental site is situated at 26°8'N latitude and 78 ° E longitudes having an average altitude of 8.75m above mean sea level. There were eight treatments, the details of which are given below T1- Weedy Check T2- Weed Free T3- Pendimethalin 30EC (Pre-emergence) @0.50 kg a.i/ha (R) /0.75 kg a.i/ ha (I) T4- Quizalofop-ethyl (Post emergence) 50g a.i /ha at 20 DAS after sowing T5- Sodium Acifluorfen 16.5% + Clodinafop -Propargyl 8%EC (Premix) @100g a.i/ ha at 20 DAS T6- T3+ Hand weeding at 20 DAS T 7- T3 f b T4 T8- T3 f b T5. Where weed free check recorded minimum weed density throughout the crop season. Similar findings was although obtained by Punya *et al.* (2001). At 30 DAS, the treatments which received T3- Pendimethalin 30 EC (Pre-emergence@0.50kg a.i./ha, T4- Quizalofop-ethyl (Post-emergence) 50g a.i/ha at 20 DAS T5- Sodium Acifluorfen 16.5%+Clodinafop-Propargyl 8% EC (premix)@100g a.i/ha at 20 DAS ,T6- T3+ Hand weeding at 20 DAS, T7-(T3+T4) and T8- T3+T5 and weed free check (T2) recorded lowest number of sedge, grass and broad leaved weed density than unweeded check(T1). Where weed free check recorded minimum weed density throughout the crop season. Similar findings were although obtained by Punya *et al.* (2001). At 30 DAS, the treatments which received T3- Pendimethalin 30 EC (Pre-emergence@0.50kg a.i./ha, T4- Quizalofop-ethyl (Post-emergence) 50g a.i/ha at 20 DAS T5- Sodium Acifluorfen 16.5%+Clodinafop-Propargyl 8% EC (premix)@100g a.i/ha at 20 DAS ,T6- T3+ Hand weeding at 20 DAS, T7-(T3+T4) and T8- T3+T5 and weed free check (T2) recorded lowest number of sedge, grass and broad leaved weed density than unweeded check(T1). With this view need proper weed management for increasing sesame productivity. Therefore, chemical weed management is most efficient and acceptable approach to combat with the weed control problems. Hence, present study was under taken.

Keywords: Pre and post emergence herbicide, Weed density, Weed control efficiency

IMPACT OF SUPPLEMENTAL IRRIGATION AND CROP RESIDUE MULCH ON BARNYARD MILLET (KUTHIRAI VALI – CO2) – ECHINOCHLOA ESCULENTA IN ARID REGION

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Abstract: Field experiments were conducted to study the impact of supplemental irrigation and crop residue mulch on Barnyard millet (Kuthirai vali – CO2) cultivated in dryland areas of southern part of Tamil Nadu. The experimental was laid out in randomized block design with three treatments viz., T1 - Farmers practice (rainfed cultivation without supplemental), T2 - Supplemental irrigation twice through mini portable sprinkler and T3 - Supplemental irrigation twice through mini portable sprinkler and crop residue mulch 2.5 t/ha with three replications. The yield and economic analysis reveals that, during 2017-18 in barnyard millet (CO2), higher grain yield (1650 kg/ha), gross income (33000 Rs/ha) and B:C ratio (1.65)

was recorded in supplemental irrigation twice through mini portable sprinkler and crop residue mulch 2.5 t/ha (T3) followed by supplemental irrigation twice through mini portable sprinkler (T2). The results of the study indicated that farm pond is an effective technology for harvesting and providing water for supplemental irrigation.

Keywords: Dryland, Farm Pond, Barnyard Millet, Productivity, Supplemental Irrigation

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INTEGRATED EFFECT OF ORGANIC AND INORGANIC FERTILIZER ON GROWTH AND YIELD ATTRIBUTES OF CAULIFLOWER (*BRASSICA OLERACEA* VAR. *BOTRYTIS* L.)

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Abstract: A field experiment was conducted at Horticulture Farm, S.K.N. College of Agriculture, Jobner (Jaipur) during Rabi season 2016-17, consisting five levels of fertility and four levels of boron in randomized block design with three replications. Results revealed that different fertility levels influenced growth and yield of cauliflower significantly, chlorophyll content (1.36 mg/g), average weight of curd (386.56 g) and Volume of curd (261.27 cc) were recorded highest with application of 50% RDF through inorganic fertilizer and 50% RDF through vermicompost but remained at par with application of 25% RDF through inorganic fertilizers and 75% RDF through vermicompost. It is also revealed that fresh weight of plant at harvest (1.73 kg/plant) was recorded highest with application of 50% RDF through inorganic fertilizer and 50% RDF through vermicompost but remained at par with application of 75% RDF through inorganic fertilizers and 25% RDF through vermicompost and observed the day taken to curd initiation in cauliflower was found non-significantly with different fertility levels. However, curd formation was found earliest (62.49 days) in application of 25% RDF through inorganic fertilizers and 75% RDF through vermicompost. Similarly, the boron level with 2.5 kg per ha significantly increased the chlorophyll content (1.35 mg/g), fresh weight of plant at harvest (1.73 kg/plant), average weight of curd (375.51 g), Volume of curd (246.58 cc) and earliest curd initiation (62.45 days) as compared to control and 1.5 kg boron per ha but statistically at par with 2.0 kg boron per ha.

Keywords: Boron, Cauliflower, Growth, Yield

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EXPLOITATION OF HETEROSIS FOR SEED YIELD AND QUALITY TRAITS IN CROSSES OF FENNEL (*FOENICULUM VULGARE* MILL.)

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Abstract: Sixty six hybrids of fennel (*Foeniculum vulgare* Mill.) resulting from crossing of twelve open pollinated varieties (RF-125, UF(M)-1, UF-90, RF-101, UF-133, UF-134 and Local from Rajasthan; JF-25 and JF-29 from Gujarat; HF-71, HF-102 and HF-104 from Haryana) in diallel design excluding reciprocals were evaluated in randomized block design at research farm of S.K.N. College of Agriculture, Jobner (Rajasthan) for seed yield and quality. Heterosis was estimated over mid parent and better parent. Heterosis over mid parent and better parent (Heterobeltiosis) ranged from -25.63 to 61.89 per cent and -25.97 to 54.28 per cent for seed yield per plant; -27.54 to 50.85 per cent and -30.00 to 45.90 per cent for volatile oil content; -45.76 to 49.65 and -43.95 to 64.09 per cent for crude fibre content; -39.61 to 75.74 per cent and -41.91 to 71.79 per cent for total soluble sugars content. The desirable cross combinations, UF-134 x Local and UF-90 x HF-102 were identified which showed higher magnitude of heterosis for seed yield and volatile oil content.

Keywords: Diallel design, Fennel, Heterosis, Seed yield, Quality

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CORRELATION AND PATH ANALYSIS STUDIES FOR YIELD AND ITS CONTRIBUTING TRAITS IN INDIAN MUSTARD [*BRASSICA JUNCEA* (L.) CZERN & COSS]

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Abstract: Sixty genotypes of Indian mustard [*Brassica juncea* (L.) Czern and Coss] were evaluated in Randomized Block Design during *Rabi* season 2019-20 to study the correlation and path coefficient analysis among fourteen quantitative traits. The correlation of seed yield per plant was observed positive and significant with number of siliquae per plant, harvest index and number of siliquae on main axis. It was positive and non-significant with days to 50% flowering, number of seeds per siliqua, days to maturity, oil content and 1000-seed weight. Positive direct effect towards seed yield per plant was reflected both at genotypic and phenotypic level through harvest index, number of siliquae on main axis, 1000-seed weight, number of seeds per siliqua, oil content, and days to maturity.

Keywords: Crops, Indian mustard, Correlation coefficient, Yield

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EFFECT OF MERCURIC CHLORIDE ON STERILIZATION OF DIFFERENT EXPLANTS OF *LILIUM LONGIFLORUM* CULTIVARS ELITE, BRUNELLO, CORDELIA

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Abstract: Aqueous solution of mercuric chloride (0.1%) was used to study its effect on sterilization of different explants of three cultivars of *lilium longiflorum* i.e. Elite, Brunello and Cordelia. From each cultivar three types of explants i.e. shoot tips, scales and nodal segment were treated. The treatment duration varied from one to ten minutes in all three types of explants from each cultivar. It was observed that the survival rate of scales was maximum in all the three cultivars and minimum in nodal segments. The best survival was observed when seven minutes' treatment was given to all the cultivars used. The survival rate started to decline when time duration was more than seven minutes. For treatment duration of one minute and two minutes the survival rate was zero in all three explants used of cultivar Elite and Cordelia. In case of cultivar Brunello there was no survival in any explants for one-minute treatment duration.

Keywords: *Lilium Longiflorum*, Mercuric Chloride, Shoot Tips, Scales, Nodal Segment

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EFFECT ON PERFORMANCE TRAITS OF JAPANESE QUAILS ON INCLUSION OF SHATAVARI (*ASPARAGUS RACEMOSUS* WILD.) IN THE DIET

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Abstract: The study investigated the body conformation, performance index, production and reproduction traits of Japanese quail chicks administered with different levels of *Asparagus racemosus* root powder mixed in their feed. A 150-day old quail chicks were randomly distributed in 5 treatments 30 chicks in each treatment with 3 replicate having 10 chicks in each and reared on standard managerial conditions. The root powder of Shatavari was added over the basal ration at 1.0% level (Ts1), 1.5% (Ts2), 2.0% level (Ts3), 2.5% level (Ts4), whereas the Ts0 was the control group. A maize, soybean and rice bran-based quail starter (0-3rd week), grower (3-7th week) and layer (7th week to 23rd week) ration having all the nutrients in the required quantity was prepared. Each of such diets was offered as mash *ad libitum* to Japanese quails chicks. After the trial, marked (P<0.05) overall improvements were evidenced in the form of an increase in average egg production, per cent fertility and hatchability. The mortality rate was decreased in Shatavari-treated groups and improvement was observed in body conformation of Japanese quail. The age at sexual maturity was lower in the Shatavari-treated group.

Keywords: Shatavari, Conformation, Production, Reproduction, Japanese quail

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STUDIES ON CORRELATION AND PATH CO-EFFICIENTS ANALYSIS FOR YIELD AND YIELD ATTRIBUTES IN NIGER [(*GUIZOTIA ABYSSINICA* (L. F.) CASS.) GERmplasm LINES]

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Abstract: The present investigation was undertaken to study the interrelationship and path coefficient analysis for grain yield and its components in niger germplasm lines. The current experiment was carried out using 54 niger germplasm lines along with three standard checks at University of Agricultural Sciences, Bengaluru, GKVK, during *Kharif* 2017, material was sown by using augmented design with nine blocks. The character association analysis in niger germplasm lines revealed that plant height, number of primary and secondary branches, Days to 50 % flowering, number of capsule per plant, number of seeds per capsule, capsule diameter and test weight had significant and positive correlations with seed yield per plant. Path coefficient analysis revealed that plant height, number of secondary branches, number of capsule per plant, capsule diameter and test weight had a high positive direct effect on seed yield.

Keywords: Niger, Correlation coefficient, Path coefficient

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EFFECT OF CROPPING SEQUENCES INFLUENCE THE FARMER ECONOMICAL CONDITION UNDER IRRIGATED SITUATION OF MAHAKOSHAL REGION

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Abstract: A field experiment was conducted at the Instructional Research Farm, Department of Agronomy, College of Agriculture, Jawaharlal Nehru KrishiVishwaVidyalaya, Jabalpur (M.P.) under irrigated condition. During the two consecutive years of 2018-19 and 2019-20 entitled Effect of cropping sequences influence the farmer economical condition under irrigated situation of Mahakoshal Region. Ten cropping systems viz. rice – wheat, rice – chickpea, green gram – chickpea – green gram, green gram – lentil – black gram, rice – potato – maize for cob, rice – *toria* (early *rabi*) wheat (late *rabi*), sorghum for fodder – egyptian clover (fodder and seed), rice bean for fodder – egyptian clover for fodder – sorghum for fodder, maize for cob – vegetable pea – okra, soybean – marigold – vegetable cowpea were evaluated in the study. The rice – potato – maize for cob cropping system recorded the highest cost of cultivation, gross monetary return, net monetary returns and relative economic efficiency (Rs. 122.09; Rs. 253.52; Rs. 131.43 ha⁻¹ and 125.42 %), over the other different cropping systems.

Keywords: B: C ratio, Cost of cultivation, Gross returns, Net returns, Relative economic efficiency

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IMPACT OF DIFFERENT FUNGICIDE, BOTANICALS AND BIO CONTROL AGENTS ON YIELD LOSS CAUSED BY CHILLI FRUIT ROT

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Abstract: The presented experiment was conducted at Dr. B. R. Ambedkar Samajik Vigyan Kendra Bordhi, Rehti, BRAUSS, Dr. Ambedkar Nagar in the *rabi* season 2019-20 and 2020-21. The field experiment was laid down in randomized block design with eight treatment and three replication. The eight treatment viz. Treatment T₁ (Sulphur 80% WP), T₂ (Azoxystrobin 11 + Tebuconazole 18.3% WP), T₃ (Azoxystrobin 18.2 + Difenoconazole 11.4% SC), T₄ (Tebuconazole 25% WG), T₅ (Trichoderma Viride 1% WP) T₆ (Eucalyptus oil) T₇ (Neem oil) and T₈ (control) were evaluated. During the evaluation of the data in both year the yield loss per cent was ranges from 8.18% to 12.94%. The minimum average yield loss per cent was recorded in the treatment T₂ (8.18%) followed by the treatment T₁ (9.45%), T₃ (8.33%), T₄ (9.03%) and T₅ (8.55%). Overall treatment T₂ (Azoxystrobin 11 + Tebuconazole 18.3% WP) performed very well during the experiment.

Keywords: Yield loss, Botanicals bio control and fungicide

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CONSTRAINTS FACED BY THE DAESI INPUT DEALERS OF DISADVANTAGED DISTRICTS OF M.P.

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Abstract: The agro advisory sector is going through major change in last few decades. Public extension service is often blamed for not being able to disseminate technical agricultural knowledge on time and handle the diverse demands of the farming community as per their need. As a result, due to fragmented and competitive nature of advisory services. Private sector extension providers have entered into the market. Agri input dealers are those extension providers. The National Institute of Agriculture Extension Management (MANAGE) had developed a one-year diploma course titled 'Diploma in Agricultural Extension Services for Input Dealers (DAESI)', which imparts relevant and location-specific agricultural formal education to equip these input dealers with sufficient knowledge. Keeping these things in view the study was conducted to obtain constraints and suggestions from DAESI input dealers of Balaghat and Mandla districts of M.P. High fees structure and lacking of appreciation in terms of awards were the major constraints and less fees structure with more use of local language in study material were the major suggestions given by the DAESI input dealers.

Keywords: Public extension service, Farming community, Agriculture extension management