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VARIATION IN MORPHOMETRIC CHARACTER OF WILD POMEGRANATE (*PUNICA GRANATUM* L.) IN HIMACHAL PRADESH

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Abstract: The present study was aimed to document the morphometric variability in Wild Pomegranate (*Punica granatum* L.)” was carried out at two sites namely Tatool (S₁) and Narag (S₂) in the Department of Forest Genetic Resources, Dr. Y. S. Parmar University of Horticulture & Forestry Nauni, Solan (HP) during 2013-2014.. The phenological studies inclusive of phenophases, vegetative characters and reproductive characters observed earlier in Tatool (S₁) followed by the second site: Narag (S₂). Leaf bud swell was first observed in Tatool (S₁) with the beginning of 2nd week of February followed by Narag (S₂) by the 4th week of February. Leaf bud burst was first observed in Tatool from 2nd week of March followed by Narag from 3rd week of March. Leafing first appeared from 4th week of March at Tatool and from 5th week of March at Narag. There was significant variation observed in leaf morphometric characters within trees. Maximum values for leaf size and leaf area was observed for those leaves borne on lower position of trees in both the sites. Three different types of flowers were present namely hermaphrodite, male and intermediate flower. The reproductive bud appears on axillary and terminal position of the tree in cymose inflorescence. Anthesis of flowers was observed to take place between 10 am and 2pm. There were remarkable variation in different vegetative, reproductive, leaf morphometric and flower characteristics studied in the two sites which paved the way for further improvement programme in wild pomegranate.

Keywords: *Punica granatum* L., Variation, Morphometric characters, Phenophases

DEVELOPMENT OF SUGARCANE PLASTID TRANSFORMATION SYSTEM USING PARTICLE BOMBARDMENT

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Abstract: Chloroplast transformation has number of advantages over nuclear transformation like high-level of transgene expression, transgene containment and lack of gene silencing. The present work carried out to develop a chloroplast transformation protocol for sugarcane. Embryogenic calli of sugarcane variety Co86032 used as target tissue for transformation. Chloroplast specific transformation vector pZE39 having *NPTII* and *GFP* genes flanked by *trnG* and *pzbZ* of chloroplast sequence used for transformation. Selection of transformants were carried out at callus, shoot and rooting stages with Geneticin ranging from 25 to 75 mg/l during different selection cycles. Most of the regenerated shoots turned albino during selection. Among different bombardment parameters tested, rupture discs pressure at 1350 psi, distance between target tissue and stopping screen at 8 cm and expose of target tissue to light for 8 days before bombardment found prominent in producing more number of green and resistant plants on selection medium. Molecular analysis revealed that out of 146 plants tested, 44 plants are found PCR positive. Four of eleven PCR positive plants showed positive by Southern hybridization and five of ten plants are showed positive signals for GFP. This is the first report on an attempt to develop a chloroplast transformation protocol for sugarcane.

Keywords: Chloroplast transformation, Co86032, NPTII, GFP, Particle bombardment

SCREENING COTTON GENOTYPES AGAINST *BEMISIA TABACI* IN SOUTH WESTERN PUNJAB

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Abstract: Field evaluation of 47 genotypes was carried out for screening against whitefly (*Bemisia tabaci*) in South-western region of Punjab. The population of whitefly was recorded on each genotype after 60, 90, 120 days of sowing during 2015 and 2016. Damage index was calculated and these genotypes were categorized into 6 categories - most resistant, resistant, moderately resistant, susceptible, moderately susceptible and highly susceptible. The genotypes with highest damage index were categorized highly susceptible whereas the genotypes with lowest damage index were categorized as most resistant. During the present study, some of the genotypes were found resistant. In relation to climate, population of whitefly was reported highest during the month of August-September.

Keywords: Cotton, Genotypes, Whitefly, *Bemisia tabaci*, Damage index

ENVIRONMENTAL EFFECT ON PHENOLOGY AND GROWTH PARAMETERS OF RICE CROP IN CHHATTISGARH PLAIN REGION

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Abstract: The results of phenological studies revealed that the days taken from sowing to seedling, tillering, panicle initiation, booting, panicle emergence, 50 percent flowering, milking, dough and maturity varied with different varieties. The results of growth characters revealed that plant height, number of filled grains per panicle, test weight, number of panicle per m², grain yield and harvest index at maturity were recorded maximum in Mahamaya as compared to Karma Mahsuri and MTU-1010. Whereas, the length of panicle and sterility percentage were recorded maximum in Karma Mahsuri while straw yield is maximum in MTU-1010. The results of dry matter accumulation, crop growth rate and relative growth rate showed that these were maximum in Karma Mahsuri, Mahamaya and MTU-1010.

Keywords: Environment, Phenology, Growth parameter, Rice crop

EFFECT OF GLYPHOSATE HERBICIDE ON PHYSIOLOGICAL AND BIOCHEMICAL PARAMETERS OF *VIGNA MUNGO* L.

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Received-12.05.2017, Revised-06.06.2017

Abstract: A field experiment was conducted to evaluate the effect of Glyphosate on different physiological and biochemical parameters of *Vigna mungo* L. The results obtained from this study revealed that the low amount of application of glyphosate (50 ppm and 100 ppm) of glyphosate have stimulatory effect on plant growth but adversely affect the growth parameters at higher concentration (>100 ppm). At higher concentration glyphosate decrease the protein, chlorophyll and leghaemoglobin contents of plants and interrupt the *Rhizobium*-legume symbiosis. Hence, the present study can conclude that glyphosate in the limited amount (50ppm and 100ppm) can enhance the productivity of plant *Vigna mungo* L.

Keywords: Glyphosate, *Vigna mungo* L., *Rhizobium*, Herbicides, Weed control methods

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DEVELOPMENT AND PARASITIZATION OF *PHENACOCCLUS SOLENOPSIS* TINSLEY (HEMIPTERA: PSEUDOCOCCIDAE) ON *BT* COTTON BY *AENASIVUS BAMBAWALEI* HAYAT (HYMENOPTERA: ENCYRTIDAE)

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Abstracts: Studies on development and parasitization potential of *Aenasius bambawalei* Hayat on *Bt* cotton mealybug was carried out at the room temperature of 20.63 ± 0.60 °C and humidity of 64.81 ± 3.02 per cent during January to February 2011 at bio-control laboratory of Main Cotton Research Station, Surat. The parasitoid, *A. bambawalei* preferred III instar nymphs (av. 51.48 ± 21.55 % parasitism) and newly emerged female adult (av. 38.15 ± 11.81 % parasitism) more compared to II instar nymphs of mealybug (av. 4.93 ± 4.96 % parasitism) for parasitism. The developmental period of *A. bambawalei* (oviposition of egg inside to adult emergence) was 10.29 ± 0.86 , 10.49 ± 0.80 and 10.56 ± 0.97 days when female adult parasitoid exposed to II instar nymphs, III instar nymphs and female adult mealybugs, respectively. Maximum parasitoid recovered on 10 days after exposure in both of the preferred stages of mealybug. *Aenasius bambawalei* was solitary endoparasitoid. Female was found parasitizing the mealybug by inserting ovipositor from the ventral side of the mealybug body. On dissection of the parasitized mealybug, white legless larva without appendages prior to mummy formation of parasitized mealybug and brownish black exarate type pupa within mummified body of mealybug observed under microscope. The single female adult of *A. bambawalei* parasitized on an average of 125 ± 13.2 mealybugs. Maximum parasitism (60.00 %) observed by 7-day old age female wasp when exposed to its preferred host (III instar mealybug). The longevity of female adult of *A. bambawalei* was 11 to 16 (av. 13.8 ± 1.76) and of male was 1 to 2 (1.20 ± 0.45) days.

Keywords: *A. bambawalei*, Nymphs, Parasitoid, Parasitism, Mummified, Ovipositor, Exarate

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IN VITRO BIO-EFFICACY OF ENTOMOPATHOGENIC FUNGI *BEAUVERIA BASSIANA* (BALS.) VUILL., AGAINST GRAM POD BORER, *HELICOVERPA ARMIGERA* HUBNER ON CHICKPEA

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Received-15.06.2017, Revised-26.06.2017

Abstract: The present study was conducted at Bio-control lab, Department of Entomology, College of agriculture, Indira Gandhi Krishi Vishwavidyalaya, Raipur during 2015-16 and 2016-17. The results of *in vitro* experiments revealed that the 2-3rd instars larvae of *Helicoverpa armigera* susceptible to different doses of *Beauveria bassiana*. Mortality of larvae was started after 2-3 day of treatment. Among the doses of *B. bassiana* T₄ (*B. bassiana* @5000g/ha) 0.00-75.00% show the maximum mortality followed by T₃ (*B. bassiana* @3000g/ha) 0.00-45.00%, T₂ (*B. bassiana* @2500g/ha) 0.00-32.00% and T₁ (*B. bassiana* @2000g/ha) 0.00 to 15.00 % but superior than control T₇ (0.00 %) in both the year.

Keywords: Chickpea, *Helicoverpa armigera*, *Beauveria bassiana*

FEEDING POTENTIAL OF LADY BIRD BEETLE *CHEILOMENES SEXMACULATA*, FABRICIUS (COLEOPTERA: COCCINELLIDAE) ON COTTON MEALY BUG *PHENACOCCLUS SOLENOPSIS* (TINSLEY) UNDER CHOICE AND NO CHOICE CONDITION OF LABORATORY

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Abstract: An experiment was conducted to determine the feeding potential of lady bird beetle, *cheilomenes sexmaculata* (Fab.) on cotton Mealy bug, *Phenacoccus solenopsis* under choice and no choice condition in the laboratory at Department of Agricultural Entomology, Navsari Agricultural University, Navsari during July–August, 2016. The results revealed that *C. sexmaculata* was mostly preferred eggs of *P.solenopsis* as compared to nymph and adult of mealybug. The per day prey consumption rate of larval and adult stage of *C. sexmaculata* were varied from 35.00 to 44.00 (Av. 38.80±2.18) and 25.58 to 27.03 (Av. 26.38±0.35) eggs, 13.00 to 18.33 (Av. 14.97±1.47) and 15.52 (Av. 14.83±0.45) nymphs, and 9.67 to 14.00 (Av. 11.58±1.14) and 10.95 to 12.79 (Av. 12.02±0.40) adults of mealybug, respectively in no choice condition. In free choice feeding, grub of *C. sexmaculata* preferred eggs of mealybug more as compared to adult and nymph stage of mealybug. Which indicated by consumption of 65.55 ± 16.63 eggs, 10.75 ± 3.78 nymphs and 5.70±1.75 adults out of 82.00±21.04 (mixed stage) by larvae and 490.55±53.39 eggs, 139.35±15.56 nymphs and 93.25±7.72 adults out of 723.15±3.15 (mixed stage) by adult of *C. sexmaculata* on mealybug.

Keywords: *Cheilomenes sexmaculata*, *Phenacoccus solenopsis*, Feeding potential

IMPACT OF FLD CONDUCTED ON PLANT PROTECTION SCHEDULE AND USE OF CERTIFIED SEED IN THE YIELD OF POTATO

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Abstract: In Surguja district of Northern Hilly zone of Chhattisgarh, potato is grown as *rabi* and *kharif* also, The use of seed treatment and recommended plant protection schedule like 3 sprays of recommended pesticides for management of major diseases (i.e. –blight Phytophthora wilt etc) and insect pest, (i.e. Potato tuber moth aphids & sucking pest) will achieve the expected yield of potato. The present study was carried out during the year 2012-15 in Surguja district of Chhattisgarh state. Findings of the study showed the data significantly indicated that before Front line demonstration (FLD), the majority of respondents were (57.14 to 74.28 per cent) in the category of low level of knowledge for various aspects of study. With respect to knowledge level in medium category in each aspect of plant protection, remaining respondents were included and the share of respondents ranged between 25.72 per cent to 42.86 per cent. There was a rise in the number of respondents in middle level of knowledge from low level and the respondents belonging to this category after FLDs ranged between 49.00 to 51.42 per cent as against 25.71 to 42.86 per cent before FLDs. 22.85 to 43.29 per cent respondents become successful in acquiring high level of knowledge pertaining to the various aspects of plant protection in potato production. There was increase in the number of respondents in middle level of adoption and the respondents belonging to this category after FLDs ranged between 37.14 to 54.28 per cent as against 22.86 to 37.14 per cent before FLDs. 22.86 to 37.14 per cent respondents become successful in acquiring high level of adoption pertaining to the various aspects of plant protection in potato production after FLDs. With respect to various aspects of certified seed of potato, the FLDs helped the respondents to improve their knowledge. There was increase in no of respondents in high knowledge level and medium knowledge level category and reduction of respondents in low knowledge level category. With respect to adoption level in medium category in each aspect of use of certified seed of potato remaining respondents were included and the share of respondents ranged between 17.14 to 54.28 per cent. Data further revealed that average yield before FLD were 70q/ha⁻¹. However it increased to 110q/ha⁻¹ and increase in yield was 57% after FLDs. Problems faced by respondents regarding use of plant protection

schedule indicated that maximum number of respondents had problems about uncertain weather condition like frost, rainfall and hailstorm (97.14%) followed by Disease infestation especially early and late blight of potato (88.57%) respectively. Problems faced by respondents regarding use of certified seed maximum respondents having problems of more demand of local red variety of potato by consumer (100.00%) and more cost of seed potato (100.00%) both followed by non availability of certified seed of potato in market and lack of facility of cold storage (94.28%) both.

Keyword: FLDs, Potato, Surguja districts (C.G.)

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IMPACT OF SPENT WASH IRRIGATION ON DIFFERENT SOIL CHARACTERISTICS

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Abstract: Soil is the upper most surface of earth on which plants can be grown. Soil is a system, made up of small particles of different size. This system consists of water and minerals, different microorganisms, organic and inorganic content. Contamination of soil by any mean results in soil pollution that may cause harmful effect. One of such contamination is industrial waste which is discharge improperly into land and water bodies without any treatments. One of such industrial waste is distillery spent wash. India is a major producer and consumer of sugar in the world. A huge quantity of spent wash has been generated by these distillery whose disposable in to water bodies and land causes a number of environmental problems. To overcome this, the spent wash can be utilized in agricultural for irrigation purpose, as fertilizer and as manure. Application of spent wash in agriculture gives better crop productivity if used after proper dilution. The present investigation has been conducted to observe irrigation effect on different soil characteristics.

Keywords: Soil properties, Distillery spent wash, Irrigation, Fertilizer

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EFFECT OF SULPHUR AND BORON ON GROWTH, YIELD AND ECONOMICS OF SOYBAEN (GLYSINE MAXL.)

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Received-12.06.2017, Revised-24.06.2017

Abstract: An experiment was conducted at Indira Gandhi Krishi Viswavidyalaya, Krishak Nagar Raipur (Chhattisgarh) during *kharij* season 2015 in vertisol with objective to determine the effect of sulphur and boron application on yield and economics of soybean. The experiment was laid out in a RCBD with 16 treatments comprised four levels of sulphur *viz* 0, 15, 30 and 45 kg ha⁻¹ and four levels of boron *viz* 0, 0.5, 1.0 and 1.5 kg ha⁻¹. Result revealed that yield of soybean was significantly influenced by different sulphur levels and maximum yield (20.04 kg ha⁻¹ Seed yield and 22.55 kg ha⁻¹ stover yield) was observed with 30 kg sulphur per hectare. Among boron levels, 1.0 kg boron per hectare was superior to others for getting maximum soybean yield (18.82 Seed yield and 21.05 kg ha⁻¹ stover yield). Interaction of sulphur and boron levels had no significant different parameters under study Gross return (68388 `ha⁻¹) and net return (42286 `ha⁻¹) was significantly higher with the application of T₁₁ (S₃₀B_{1.0}). Statistically highest Benefit cost ratio (2.64) was observed also with T₁₁ (S₃₀B_{1.0}).

Keywords: Boron, Economics, Soybean, Sulphur, Yield

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EFFECT OF DATE OF SOWING ON GROWTH AND DEVELOPMENT OF COTTON

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Received-24.05.2017, Revised-11.06.2017

Abstract: A field experiment was conducted during *kharif* seasons of 2013-14 at Main Cotton Research Station, Navsari Agricultural University, Surat to assess the effect of environment on cotton growth and development. The experiment was laid out in split plot Design comprising three dates of sowing as main plot and six genotypes as sub plot treatments replicated thrice. The result was indicated that no of days and GDD required to attain different phenological stages are significantly higher in normal sown condition. *Bt* hybrids required less no. of days and GDD to attain all phenological stage as compare to Non *Bt* Hybrids. G.Cot. Hy-8 BG-II was required lower GDD and days to attain all phenological stages. The Plant height, no. of sympodia, no. of bolls per plant and seed cotton yield was significantly decreased in delayed sown condition. ANKUR-3028 BG-II has significantly higher plant height, no. of sympodia, no. of bolls per plant and seed cotton yield as compare to other genotypes.

Keywords: Cotton, Climate change, Date of sowing, GDD, Growth

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BIOLOGY OF *BRACON HEBETOR* SAY (BRACONIDAE: HYMENOPTERA) A LARVAL ECTO-PARASITOID ON RICE MEAL MOTH, *CORCYRA CEPHALONICA* STAINTON (LEPIDOPTERA : PYRALIDAE)

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Abstract: Biology study was made on reproductive parameters of *B. hebetor* reared on Rice meal moth, *Corcyra cephalonica* Stainton at ordinary room temperature under laboratory conditions. The mean incubation period was 1.5 day and larval period 0.37 days. The pupal period lasted for 0.37 days with a range from 5-4 days. The mean development period of the parasitoid was 18.78 days. The females lived longer period (10.20 days) than males (6.40 days).

Keywords: Biology, *Bracon hebetor*, Rice meal moth, *Corcyra cephalonica*

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ADOPTION OF INTEGRATED PEST MANAGEMENT PRACTICES AMONG SOYBEAN GROWERS IN REWA DISTRICT (M.P.)

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Received-10.06.2017, Revised-22.06.2017

Abstract: Keeping in mind the importance of Integrated Pest Management (IPM) in soybean crop, the present study was conducted in Rewa District with the objective to study the extent of adoption of Integrated Pest Management practices among the by soybean growers. Primary data were conducted from 120 farmers from Rewa blocks of Rewa district using proportionate random sampling method. Pre- structured interview schedule was used for data collection by using personal interview method. The findings of study indicated that higher percentage 44.17 percent respondents had low

adoption of Integrated Pest Management practices. On the basis of mean adoption score regarding different management practices it may be concluded that the adoption of the cultural practices was found to be highest followed by chemical, mechanical and biological practices on the basis of farmers feedback obtained in the study it suggests. It is an urgent need of trials and demonstration on IPM practices and skill oriented training programme for soybean growers in Rewa district for higher and safer soybean production.

Keywords: Integrated Pest Management, Adoption, Mean adoption score, Soybean

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IN-VITRO EVALUATION OF VARIOUS FUNGICIDES, PLANT EXTRACTS AND BIO CONTROL AGENTS AGAINST ROOT ROT OF AJWAIN

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Abstract: An incubation study was conducted at Department of Plant pathology, Rajasthan College of Agriculture, Udaipur to evaluate different fungicides, plant extracts and bio-agents against ajwain (*Trachyspermum ammi* L.) root rot caused by *Rhizoctonia solani* and results revealed that treatment comprising of fungicide Bavistin, Plant extracts Neem oil and bio control agent *Trichoderma viride* at 7 days of incubation at $28 \pm 1^{\circ}$ C was found significantly superior over control and gave maximum percent growth inhibition of *R. solani*.

Keywords: Ajwain, *R. solani* fungicide, Plant extracts, Bio-agents

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STUDY OF PATTERNS OF SENESCENCE IN LEAFLETS OF *TECOMA STANS* (LINN.) H.B. & K.

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Abstract: Senescence is the last stage in the development of leaf, it involves both leaf decay and a removal of the nutrients that are stored in the leaves to other parts of the plant. *Tecoma stans* has compound leaves which are oppositely arranged. Biochemical analysis was carried out for Total N, Total P, Total Chl. and some enzymes i.e. Protease, Amylase, IAA oxidase and RNase. Before biochemical analysis visual observations were carried out in different excised leaves of *Tecoma stans*, petioles were dipped in distilled water and dark incubated to study the pattern of senescence. According to visual observations leaflets of young leaf senescence a bit faster than leaflets of mature leaves. Pattern of changes of levels of constituents indicates that Total Chl., Total N, and Total P increases up to mature stage and then declines. Amylase, IAA oxidase, Protease and RNase increases up to presenescent stage in the leaflets.

Keywords: Senescence, Leaflets, Biochemical changes, Visual observations, *Tecoma stans*

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DOCUMENTATION OF WEED FLORA IN KARNATAKA COLLEGE CAMPUS AT DHARWAD IN SOUTH INDIA

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Abstract: Plants which are grown in unwanted places are considered as weeds. A small attempt has been made to document the weed flora of Karnataka College Campus at Dharwad in Karnataka. The present work was undertaken during 2011 to 2015 and nearly 73 species of weeds belonging to 26 families have been documented. Some weeds are effectively [preadapted](#) to grow and proliferate in human-disturbed areas such as agricultural fields, lawns, roadsides, and construction sites. In locations where predation and mutually competitive relationships are absent, weeds have increased resources available for growth and reproduction. College campus and Botanical garden weeds have large ecological amplitude so they multiply and flourish well even in changed conditions. Since they have unique potentialities for adaptation, they survive almost in any environment and adjust themselves to changed conditions, which are also supported by the outcome of the present study.

Keywords: Botanic Garden, College Campus, Crops, Lawns, Soil, Weeds

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CHARACTERIZATION AND PRELIMINARY EVALUATION OF DIFFERENT GENOTYPES OF LEAFY VEGETABLE CHENCH (*CORCHOROUS ACUTANGULUS* LAM.)

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Abstract: The study was carried out to characterization and evaluation of Forty-six indigenous genotypes of Chench (*Corchorus acutangulus* Lam.) where collected from different place of Raigarh, Kanker, Bastar, Narayanpur and kondagaon district of Chhattisgarh during 2015 at Indira Gandhi Krishi Vishwavidyalaya Raipur, which was planted with three replication in RCBD design for qualitative and quantitative characters. Among forty-six genotypes IGCB-2013-23 found higher yield (55.42q/ha) followed by IGCB-2015-9 (53.58q/ha). IGCB-2013-23 recorded highest leaf weight (5.13g) while maximum stem weight was observed in IGCB-2015-8 (6.60 g) were maximum leaf width and leaf length was recorded in IGCB-2013-23 (5.47cm) IGCB-2013-23 (8.39cm) respectively. Among the qualitative characters, all the genotypes were erect, had a tap root. Other morphological characters exhibited large variability.

Keyword: Chench, Genotypes, Characterization, Preliminary evaluation, Qualitative, Quantitative characters

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ASSESSMENT OF LOSSES DUE TO PULSE BEETLE IN CHICKPEA UNDER LABORATORY CONDITION

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Abstract: A laboratory studies on assessment of losses due to pulse beetle, *Callosobruchus chinensis* (L.) (Coleoptera: Bruchidae) in stored chickpea under laboratory condition during 2016. The losses caused by pulse beetle were estimated by releasing 1, 2, 4, 8 and 16 pairs of adults in jars each containing 100g chickpea grains. The lowest mean grain damage, weight loss and germination loss were recorded in case of 1 pair of adult pulse beetle *i.e.*, 6.25, 1.25 and 4.00 per cent. While, highest losses were recorded in case of release of 16 pair *i.e.*, 60.25, 9.00 and 43.5 per cent after 30 days of storage, respectively. The losses followed the same trend after 90 days of storage and reached to highest *i.e.*, 40.75, 18.75 and 28.5 per cent in case of release of 1 pair of adult, While, 98, 45.75 and 99 per cent, respectively, in case of release of 16 pair of adult pulse beetle. The losses were increased with increase in storage period.

Keywords: Pulse beetle, Chickpea grains, Abiotic factors

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GROWTH, YIELD AND QUALITY OF SUGARCANE (*SACCHARUM OFFICINARUM* L.) AS INFLUENCED BY DIFFERENT VARIETIES AND NUTRIENT MANAGEMENT PLANTED IN SPRING SEASON OF CHHATTISGARH PLAINS

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Abstract: A field investigation was carried out at Research cum Instructional Farm of IGKV, Raipur, Chhattisgarh during spring season of 2014-15 to evaluate the effect of different varieties of sugarcane and nutrient management on growth, yield and quality of sugarcane. Experiment was laid out in split plot design (SPD) with three replications. The treatments consisted of five varieties viz., SG-Co-86032, Local Rasgulla, MSG-CoM-0265, SG-CoC-671 and EG-VSI-08121 in main plots and four nutrient management treatment of N: P₂O₅:K₂O kg ha⁻¹ (200:70:70, 250:80:80, 300:90:90 and 350:100:100) in sub-plots. Among the varieties tested, Local Rasgulla was recorded significantly improvement of higher growth, yield attributes and yield in terms of tillers (124.99 ×10³ ha⁻¹), plant height (319.20 cm), single cane weight (1374 g), average cane diameter (3.15 cm) and cane yield (97.51 t ha⁻¹) were recorded under the variety Local Rasgulla. Among the nutrient management treatments higher no of tillers (117.42 ×10³ ha⁻¹), plant height (311.50 cm), Single cane weight (1387 g), average cane diameter (3.11 cm) and cane yield (103.45 t ha⁻¹) was recorded with application of 350: 100:100 kg N: P₂O₅:K₂O kg ha⁻¹.

Keywords: Varieties, Nutrient management, Sugarcane, Cane yield