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## Phenotypic Stability in Castor

**K. K. Dhedhi, H. J. Joshi and C. J. Dangaria**

**ABSTRACT**

The stability parameters of 29 genotypes of castor consisting of six varieties, 10 hybrids and their 13 parents were studied to know the nature and magnitude of G x E interaction and stability in performance for seed yield per plant and ten component traits during *Kharif* seasons of 2007-08, 2008-09 and 2009-10. Genotypes and G x E interactions were significant for all the traits except G x E interaction for oil content. The results indicated that both linear and non-linear components were found to play an important role in building up total G x E interactions. However, the linear component tended to be higher than non-linear component for all the characters except for petiole length and capsule length thereby suggesting possibilities of prediction of performance of genotypes across the environments. Among genotypes studied, seven genotypes (GCH-5, GCH-6, DCH-519, GCH-2, RHC-1, TMVCH-1 and GC-2) were found to be stable genotypes for seed yield per plant. The stable genotypes for seed yield per plant also manifested stability for various component traits. This suggested that the selection for stability in individual yield component can enhance stability for seed yield.

## Study of Gene Action for Yield and Yield Components in Upland Cotton

**Samidha S. Jaiwar, H. A. Avinashe and B. N. Patel**

**ABSTRACT**

In the present study, general combining ability of 15 parents and specific combining ability of 44 hybrids, resynthesised using those parents, were estimated through combining ability analysis for yield and yield components in cotton (*Gossypium hirsutum*) using a line x tester design. The estimated components of GCA and SCA variances showed preponderance of non-additive gene action for the characters studied. This showed the possibilities of improvement of these traits through heterosis breeding. Based on the GCA effects, the lines 76 IH-20, MCU 11 and AC 738 were identified as good general combiner for most of the characters. The hybrid combinations BC-68-2 x MCU 11, BC-68-2 x AC 738 and BN 1 x Riba-B-50 were found to be good specific combiners for most of the characters.

## Standardization of Row Proportion in Seed Production of Cytoplasmic-genetic Male Serility Based Pigeonpea Hybrids

**G.I. Jagtap, A.N. Patil, V.L. Gawande and K.B. Wanjari**

**ABSTRACT**

Pigeonpea (*Cajanus cajan* L.) is one of the important legume (pulse) crop in which cytoplasmic-genetic male sterility (CMS) system is considered to be the feasible approach to develop highly heterotic hybrids. Hence, the present investigation was undertaken to standardize the optimum male to female ratio so that maximum seed yield from unit area can

be obtained. The experiment was conducted in isolation. The ten rows plots of CMS line "AKV-2A" were sown in four directions around the plot of restorer "AKPR-344" and ten rows of CMS lines from restorer plot in each direction were considered as ten treatments. The observations were recorded for initial and final plant stand, days to 50% flowering, pod setting behavior in each row from pollinator at 15 days interval, number of pods per plant, number of seeds per pod, 100 seed weight (g) and hybrid seed yield per plant (g). The first ($T_1$) and second ($T_2$-) rows from pollinator showed non-significant differences for periodical pod setting percentage (20.58% and 19.00%), number of pods per plant (51.58 and 44.92) and hybrid seed yield per plant (13.403 g and 11.89 g). Remaining rows viz., $T_3$, to $T_{10}$ showed significant negative differences for these characters when compared with $T_1$. The maximum pods set was recorded from initiation of flowering to first week of January (13.33 % to 14.09 %) and after that showed drastic reduction in pods set (12.05 %). Further, there were decrease in pod setting percentage, number of pods per plant and hybrid seed yield per plant in second row onwards from pollinator. Thus, it is concluded that, one row of male and four rows of female should be grown for obtaining maximum hybrid seed yield. There was 561.77 kg $ha^{-1}$ hybrid seed yield from 1 : 4 ratio, followed by 545.33 kg $ha^{-1}$ from 1 : 6 ratio.

## Effect of Integrated Nutrient Management on Productivity and Soil Fertility under Soybean- Wheat Cropping System

**R. N. Katkar, B. A. Sonune, Mohan Rao Puli and V. K. Kharche**

**ABSTRACT**

Field experiments were conducted on farmer's field during 2005-06 to 2007-08 to study the effect of integrated nutrient management on crop productivity and soil fertility under soybean wheat cropping system on Vertisol for 3 years. The five treatments comprised of $T_1$- 100 per cent NP, $T_2$- 100 per cent NPK + Zn, $T_3$-100 per cent NPK + S + Zn, $T_4$- 100 per cent NPK + 10 t FYM $ha^{-1}$+ Zn and $T_5$-Farmers' practice. The results revealed that application of FYM@ 10t $ha^{-1}$ along with 100 per cent NPK + Zn recorded significantly highest yields of soybean and wheat alongwith highest nutrient availability and net monetary returns.

## Modeling Water Retention Characteristic of Some Cotton Growing Soils of Wardha District

**Deepti Agarkar and H.U. Khambadkar**

**ABSTRACT**

Water retention characteristic of shrink swell soils in dry sub humid ecosystem under the study area at Selusara Krishi Vigyan Kendra (KVK) farm of Dr. PDKV, Akola, located at 10 km away from Wardha . The moisture retention released characteristics of different representative soils of Wardha district have investigated for good cotton yield. The study

surface soil reveals that the moisture retention release characteristic graph follow the equation, $Y = 32.324\ x^{-0.1047}$ and $R^2 = 0.8706$ for Typic Haplustepts (P1), $Y = 31.454\ x^{-0.117}$ and $R^2 = 0.9014$ for Lithic Haplustepts (P2), $Y = 37.952\ x^{-0.0109}$ and $R^2 = 0.9954$ for Typic Haplusterts (P4) and $Y = 35.944\ x^{-0.1439}$ and $R^2 = 0.9854$ for Typic Haplusterts (P8) poorly drained. The moisture release behavior graph in these swelling soils show exponential type relationship. When water retention capacity correlated with cotton yield it can be concluded that P4 soil was best soil producing good cotton yield which contained 49 per cent clay and had more water retention capacity of 40.82 per cent and 26.90 per cent at 33 kpa and 1500 kpa .This model can be applicable for different soils.

## Effect of Nutrient Management on Residual Soil Fertility in Soybean- Sunflower Cropping System on Inceptisols

**Nilam Kanase, V.V. Gabhane, N.M. Konde, A.N. Paslawar and V.V. Goud**

**ABSTRACT**

A field experiment was conducted during 2007-08 and 2008-09 to work out effect of sole and integrated use of nutrients on residual fertility status of soil under soybean-sunflower cropping system on Inceptisols. The experiment was undertaken at Oilseed Research Unit, Dr. PDKV, Akola. Twelve different treatments were arranged in three replications and set in randomized block design. Integration of farm yard manure, sunflower stalk and micronutrients along with recommended doses of fertilizer were laid out in the experiment. The soil of the experimental site was medium in organic carbon, low in available nitrogen and phosphorus and high in available potassium initially. The availability of major nutrients was significantly enhanced because of different treatments. Assimilation of FYM and sunflower stalk helps to build up residual soil fertility after soybean 5.71 per cent and 6.88 per cent increase in available nitrogen was observed in 2007 and 2008 over recommended dose of fertilizer. The similar trend of increase in phosphorus and potassium was noticed in both the years of experimentation

## Studies on Different Mulches and Irrigation levels on Green Chilli Yield (*Capsicum annuum* L. )

**E. Sunanda and D. Raji Reddy**

**ABSTRACT**

A field experiments was conducted at the student farm of Acharya N.G.Ranga Agricultural University, Hyderabad from 2003-2004. The treatments consisted of four irrigation levels ( IW/CPE) along with farmers practice viz., farmers practice ( $I_0$),0.6 IW/CPE ($I_1$), 0.8 IW/CPE ( $I_2$), 1.0 IW/CPE ($I_3$), 1.2 IW/CPE ($I_4$) and 3 mulching treatments viz., no mulch ($M_0$) paddy straw ($M_1$), Plastic mulch ($M_2$). Yield attributed viz., number of primary and secondary

branches plant$^{-1}$, number of fruits plant$^{-1}$, plastic mulch ($M_2$), followed by paddy straw ($M_1$) significantly higher values compared to no mulch ($M_0$), plastic mulch ($M_2$) recorded significantly higher yield of 12582.93 kg ha$^{-1}$ compared to paddy straw ($M_1$) 8724.73 and un mulched ($M_0$), control 5908.75 at 0.8 ($M_1$) IW/CPE ($I_2$) 14625.67 followed by 1.0 IW/CPE 1505.15 and farmers practice 4380.44.

## Effect of Growth Regulators and Chemicals on Growth and Induction of Hasta Bahar flowering in Acid Lime

**Madhuri M. Sadafale, N.D. Jogdande, Ekta D. Bagde and M. A. Khan**

**ABSTRACT**

The present investigation was undertaken at All India Coordinated Research Project, Tropical Fruits, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola (MS) during 2007-2011 to study the growth and induction of *Hasta bahar* flowering in acid lime. The various treatment combinations were $T_1$- control (without any spray), $T_2$- GA-50ppm June + Cycocel 1000ppm September, $T_3$- GA 100ppm June + Cycocel 1000ppm September, $T_4$- $T_2$ + $KNO_3$ 1 per cent in October, $T_5$- $T_2$ + $KNO_3$ 2 per cent in October, $T_6$- $T_2$ + Thiourea 1 per cent in October, $T_7$- $T_2$ + Thiourea 2 per cent in October $T_8$- $T_2$ + Salicylic acid 100 ppm in October, $T_9$- $T_2$ + Salicylic acid 200 ppm in October, $T_{10}$- $T_3$ + $KNO_3$ 1 per cent in October, $T_{11}$- $T_3$ + $KNO_3$ 2 per cent in October, $T_{12}$- $T_3$ + Thiourea 1 per cent in October, $T_{13}$- $T_3$ + Thiourea 2 per cent in October, $T_{14}$- $T_3$ + Salicylic acid 100ppm in October, $T_{15}$- $T_3$ + Salicylic acid 200 ppm in October. Two trees were taken as treatment unit and replicated three times. Observations on growth and flowering of Hasta bahar were recorded. The results obtained from the present investigation revealed that the application of GA 50ppm in the month of June + application of Cycocel 1000ppm in the month of September and $KNO_3$ 1 per cent in the month of October, increased the flowering intensity shoot length$^{-1}$ as well as increased the fruit set percentage and fruit yield.

## Performance of Kalmegh Under Varying Plant Densities and Harvesting Time

**Varsha Tapre and S.G. Wankhade**

**ABSTRACT**

A field experiment to study the effect of plant density and harvesting time on herbage yield and quality of Kalmegh (*Andrographis paniculata)* was conducted at Nagarjun Medicinal Plants Garden, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola (Maharashtra), during 2006-07 to 2008-09. Fifteen treatment combinations comprising plant densities (plant spacing) viz 2.22,1.11 and 0.75 lakh plant population ha$^{-1}$ and five harvesting time viz, 90, 105,120,135 and 150 days after planting were tried in a factorial randomized block design with

three replications. It was observed from three years pooled data that the plant density and harvesting time significantly influenced the herbage yield and quality of Kalmegh. Plant density of 2.22 lakh plant population $ha^{-1}$ recorded significantly highest plant height and also produced significantly highest fresh and dry herbage yield. The total andrographolide and iron yield was also highest with high density. Harvesting of *Andrographis paniculata* crop at 135 days after planting recorded significantly highest fresh and dry herbage yield however, it was at par with 120 days after planting. The total andrographolide yield was highest at harvesting time of 120 days while in case of total iron yield, it was at 135 days.

## Effect of Different Storage Methods on Quality of Garlic

**Sonali R. Wankhade, S.M. Ghawade and A.D. Warade**

**ABSTRACT**

An experiment was carried out during summer season of the year 2008-09 in the ambient seed store at the Main Garden, University Department of Horticulture, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola to study the effect of different storage methods on quality of garlic cloves at room temperature. The experiment was carried out in complete randomized block design. Treatments were consisted of different storage methods viz., bulbs stored by hanging, bulbs stored in bamboo basket, bulbs stored in netted bag, bulbs stored in Hessian cloth bag and bulbs stored in polyethylene bag and were replicated four times. The results revealed that moisture content of cloves was decreased with an increase in storage period, the moisture content of bulbs stored in polyethylene bags ($T_5$) was maximum (59.19%). Total soluble solids content of garlic bulbs was increased with an increase in the storage period. The effect of different storage treatments on oleoresin content of garlic cloves was found to be non-significant. However, numerically maximum percentage of oleoresin (15.98%) was recorded in bulbs stored in netted bags ($T_3$).

## Effect of Biofertilizers with Reduced Doses of Fertilizers on Growth and Yield of Coriander

**S.M. Ghawade and A.D. Warade**

**ABSTRACT**

An experiment was carried out during *Rabi* season of 2007-2008 at the experimental field of Chilli and Vegetable Research Unit, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola to study the effect of biofertilizers with reduced doses of fertilizers on growth and yield of coriander. Treatments consisted of recommended dose of fertilizer and it reduced to 50 per cent and 75 per cent along with FYM, Azospirillum and Azotobacter and their combinations. The experiment was laid out in randomized block design with three replications. The results revealed that growth parameters in terms of days required for germination, height of plant, number of branches, fresh weight of plant, dry weight of plant and also yield on the basis of

fresh shoot weight per plot and fresh shoot weight per hectare were maximum with 75 per cent RDF along with Azospirillum and FYM (10 t $ha^{-1}$) application.

## Effect of Seasons on Grafting Success in Karanj

**Vidya P. Vasav, S.S. Narkhede, R.P. Gunaga and A.D. Rane**

**ABSTRACT**

Vegetative propagation through grafting methods was attempted in *Pongamia pinnata* for mass multiplication of Candidate Plus trees. The scions were collected from the selected CPTs and were grafted following cleft grafting method using one year old root stock of *Pongamia pinnata*. The effect of seasons (month) of grafting success and its relation with the sprouting and survival of sprouts were worked out. The observations on success percentage, sprouts per plant, average number of leaves and number of branches were recorded. The seasons of grafting exhibited significant effect on all the parameters studied. The result on influence of grafting on survival percentage of grafted plant revealed that the survival percentage was higher from 1st week of February ($S_1$) to 3rd week of April ($S_6$) with 96.80 to 67.2 per cent after which there was a gradual reduction in survival percentage up to 3rd week of May ($S_8$) i.e. 64.8 to 48.8 per cent. Observations recorded for average number of leaves (15.74) and average number of branches (6.11) revealed that the best season for grafting to obtain fast growth rate in Pongamia pinnate was 1st week of February ($S_1$) and 1st week of May (S7), respectively.

## Management of Mechanical Damage to Soybean Seed During Processing

**R. T. Kausal, Priti. S. Sonkamble and S. S. Joshi**

**ABSTRACT**

Efforts were made to suggest the suitable processing technology for management of mechanical damage to soybean seed during processing specially during elevating stage, which proves to be the most critical stage causing maximum damage. The experiments were conducted at Seed Technology Research Unit, Dr. PDKV, Akola, M.S., India during 2005-06, 06-07 and 2007-08. Seed quality was significantly affected by moisture content and type of handling equipment. In case of bucket elevator maximum damage observed in seed lot of 9 per cent moisture content resulting into loss in germination and vigour. Apart from the visible damage some hidden damages also observed either in form of seed coat crack or damage to embryo which further enhance the loss of seed quality. The amount of damaged seed is found significantly reduced by using inclined belt conveyer at both moisture levels (9 and 12 %). The mechanical damage at 12 per cent moisture content was 5.1 and 2.0 per cent in case of bucket elevator and inclined belt conveyer respectively. This may be due to fact that during lifting seed by bucket elevator the layer seed mass is cut off by edges of cups and while discharge it throw with centrifugal force against the metal surface causing damage to seed. This may not happen

while using inclined belt conveyer. In inclined belt conveyer seed mass slowly lifted and discharged causing less damage to seed.

## Study of Environment in Shade Net House and Its Mathematical Modeling

**Suchita V. Gupta, Sneha Weladi, Vaishali Wankhade, A. Y. Talokar and S. C. Gawande**

**ABSTRACT**

The study of climatic parameters i.e. Temperature, Light Intensity, Relative humidity and their mathematical modeling (curve fitting) was done during study. The experimental data were taken at Nagarjun Medicinal Plants Garden, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola. The modified Quonset type shade net house structure of 17m×4m covered with 50 per cent shade net was used for the study. The height of structure was 3.5m by using round pipe of diameter 50mm columns, 32mm horizontal members and 40mm arch pipe. Daily inside and outside temperature, relative humidity and light intensity were measured with the help of digital Thermohygrometer and Luxmeter, respectively from March 2009 to February 2010.Curves of these parameters with respect to time were fitted according to MATLAB software. Curve fitting of temperature with respect to time for inside and outside condition was plotted on one sheet. The same procedure for relative humidity and light intensity was carried out. The curves reveal that the average temperature and light intensity were less, whereas and relative humidity was more inside the shade net house than outside condition.

## Trend of Rainfall and Temperature at Yavatmal, Maharashtra

**M. D. Giri, S. W. Jahagirdar and A. S. Gomase**

**ABSTRACT**

Based on the analysis of 39 years rainfall and temperature data the results revealed that during current decade (2001-09) the seasonal rainfall was decreased along with the rainy days. Also the winter season mean minimum temperature and annual minimum temperature for the current decade (2001-09) wass increased. However, the overall trends for rainfall and temperature are non significant indicating no significant changes in rainfall and temperature at Yavatmal.

## Work Performance of Bullocks under Prevailing and Recommended Nutritional Status at Farmer's Level

**S.D. Chavan, R.R. Shelke, K.U. Bidwe and S.P. Nage**

**ABSTRACT**

The work performance of bullocks was evaluated under prevailing feeding practices and recommended practices where, it was observed that the crossbred bullocks per cent wise 24.45, 7.01 and 34.55 exhibited more working speed, draft pulled and hp generation, respectively as compared to non-descript bullocks. The work performance in winter season was found significantly higher than summer season. During winter season, a draft of 70.0 kg was

developed at 3.097 kmph speed with generation of 0.702 hp during 2 h harrowing work in morning as against the work performance of 67.50 kg draft, 1.986 kmph speed and 0.423 hp during summer season. Moreover, the work efficiency of crossbred bullocks fed with recommended diet was higher by 25.65 per cent in speed, 4.14 per cent in draft and 11.37 per cent in hp over their counter part maintained on prevailing diet. While the efficiency of local non-descript bullocks on recommended diet was found to be higher by 23.24 per cent in speed, 9.12per cent in draft and 7.41 per cent in hp over their counter part reared on prevailing diet.

## Chemical Composition Analysis of Shrikhand Collected from Different Sources

**R. T. Raghuwanshi, N. A. Mankar and G. W. Khule**

**ABSTRACT**

The composition of *Shrikhand* was differed significantly amongst the samples obtained from the market and prepared in the laboratory. The moisture, TS, fat, fat on dry matter basis, protein, protein on dry matter basis, lactose, sucrose, sucrose on dry matter basis, and ash content of *Shrikhand* made by OSM in Akola city was 37.40, 62.60, 4.36, 6.96, 7.02, 11.21, 2.28, 48.56, 77.57 and 0.37per cent, respectively, whereas the corresponding values for *Shrikhand* made by Amravati OSM were 36.23, 63.77, 5.96, 9.34, 6.89, 10.80, 2.55, 47.98, 75.23 and 0.39 per cent, respectively. On the other hand the contents of *Shrikhand* made by Akola and Amravati vendors were 35.11 and 34.94, 64.89 and 65.06, 2.85 and 3.80, 4.39 and 5.84, 6.30 and 6.19, 9.70 and 9.51, 2.97 and 2.74, 52.41 and 51.98, 80.76 and 79.89, 0.35 and 0.35per cent, respectively Where as, laboratory prepared sample contents were 39.16, 60.84, 8.12, 13.34, 6.88, 11.30, 4.30, 41.15, 67.63 and 0.40 per cent, respectively.

## Quality of Kheer Prepared from Cow Milk Blended with Soymilk

**Seema Chaudhari, R. R. Shelke and S. G. Gubbawar**

**ABSTRACT**

Kheer is heat desiccated cereal based sweetened and concentrated milk product. Considering the aspect of value addition, the present investigator was planned to increase the protein content with blending of various levels of Soymilk. It was observed that control treatment (Cow milk *Kheer*) was superior and *Kheer* prepared from 75 per cent cow milk and 25 per cent soymilk in treatment (T2 ) has significantly more overall acceptability as compare to the other treatments. Regarding chemical composition of *Kheer*, it was observed that increase in the level of blending of soymilk results in increase in protein content but it results in decrease of the total solid, moisture and fat content of *Kheer*.

## Urea Content of *Shrikhand* and Changes During Different Source and Storage Temperature

**R. T. Raghuwanshi, N. A. Mankar and G. W. Khule**

**ABSTRACT**

*Shrikhand* samples were tested for the presence of urea, as now a days milk is adulterated with urea. It was observed that none of the laboratory *Shrikhand* sample showed positive qualitative urea test. In contrast, three market Shrikhand samples out of 40 samples exhibited positive test which worked out 7.5 per cent samples. Out of three samples, two belonged to organized sector manufacturers and one to vendor source. The positive samples stored at 30 $\pm$ $2^0$C and 5 $\pm$ $1^0$C temperature had shown positive test at the end of 5 and 35 days storage, respectively. Therefore, it can be said that added urea in raw milk did not degrade during conversion of milk to *Dahi* to *Chakka* and finally as *Shrikhand* as well as during storage either at room temperature or at lower temperature. Thus, this situation seems to be alarming for human health point of view, though the percentage of positive samples were comparatively lower.

## Life Table Studies of *Phenacoccus solenopsis* (Tinsley) on Cotton

**N. S. Satpute, V. V. Nagane, Renuka Shinde and P. N. Magar**

**ABSTRACT**

Life table studies of *P. solenopsis* was conducted on cotton and the data revealed that I and II instar stage of mealybug suffered highest mortality due to unknown reasons. Aggregately, the mortality was 60.00 and 55.06 per cent among both I and II instar during August and September, respectively. Population in third instar was reduced by 25.00 and 20.31 per cent during both months, respectively due to fungal infection, as well as unknown reasons and in case of male due to unsuccessful adult emergence. The population survival of *P. solenopsis* was higher during September (0.35) than August (0.30). The age specific key mortality was highest in first instar during both months as 'k' value was maximum i.e. 0.2041 during August and 0.1882 during September followed by second and third instar in both months.

## Molecular Characterization of Isolates of *Fusarium* Causing Chickpea Wilt in Vidarbha using Random Amplified Polymorphic DNA Technique

**Sanjana Ingle, S.S. Mane, Nivedita Kadam and P.N. Rakhonde**

**ABSTRACT**

Genetic variability within five virulent isolates from Vidarbha region was studied by RAPD analysis, with 30 ten-mer primers. Off which 16 primers showed results. The numbers of band generated were primer and isolate dependent and ranged from 4 to 12. The level of polymorphism was 50.92 per cent. The rage of the similarity was found between 0.68 (FOC-3 and FOC-11) to 0.87 (FOC-6 and FOC-11). UPGMA cluster analysis divided the isolates into two clusters A and B. the cluster A included the isolates FOC-1 and FOC-3 (Race-1) and B cluster included FOC-5, FOC-6 and FOC-11 (Race-1). The similarity in the host differentials

reaction and molecular analysis of the five isolates from the Vidarbha region clearly indicated the presence of race 1 in Vidarbha region.

## Management of Leaf Blotch of Turmeric (*Curcuma longa* L.) caused by *Taphrina maculance* Butler and Bisby

**S. W. Khodke and U.S. Kulkarni**

**ABSTRACT**

Leaf blotch caused by *Taphrina maculance* Butler and Bisby was found most devastating in Central Vidarbha region of Maharashtra. In present studies efficacy of systemic and non systemic fungicides, *Trichoderma* culture filtrate and neem seed extract against the pathogen was tested. Three foliar sprays of difenconazole 0.1per cent was found to lower disease intensity up to 19.04 per cent. It was followed by propiconazole 0.1 per cent and carbendazim 0.1per cent which lowered up to 21.30 per cent and 23.49 per cent, respectively and were at par with difenconzole 0.1 per cent. Neem seed extract 5 per cent and *Trichoderma* culture filtrate 5 per cent were also found to minimize the disease intensity. Maximum rhizome yield (6.45kg 3.6 sq $m^{-1}$) was recorded in difenconazole 0.1per cent followed by propiconzole 0.1per cent, tridemorph 0.07 per cent and carbendazim 0.1 per cent. Rhizome yield in control plot was 4.67kg 3.6 $sqm^{-1}$. Incremental cost benefit ratio was highest i.e. 1:13.94 in propiconazole 0.1 per cent followed by carbendazim 0.1 per cent (1:13.72) and tridemorph (1:13.00). ICBR in difenconzole treatment was 1:7.38. Three sprays of difenconazole 0.1 per cent were not economical due to its high cost. However considering strog correlation between disease intensity and rhizome yield three sprays of difenconazole 0.1per cent or propiconazole 0.1 per cent are feasible for management of leaf blotch of in Turmeric.

## Efficacy of Herbicides, Fungicides and Biological Control Agents Against Chickpea Wilt

**Sunil Yadav, S.S.Mane and R. S. Ghawade**

**ABSTRACT**

In the present investigation, the *Fusarium oxysporum* f.sp. *ciceri* was isolated from the heavy metal infested soils from Amaravati and Nagpur regions. Off 9 isolates isolated Foc-9 was highly pathogenic (86.36%) whereas the Foc-2 was less pathogenic (66.67%) as compared to other isolates. Maximum lead (Pb) and arsenic (As) were found in sample no. 2 which was associated with isolate Foc-2 .The presence of high amount of lead (Pb) and arsenic (As) might be responsible for the reduced virulence of *Fusarium oxysporum* f.sp. *ciceri* as compared to isolate Foc-9. The total of 49 fungal isolates isolated from the rhizosphere of wilted soil with the heavy metal deposition. Off 49 isolates, *Trichoderma* spp. (Isolate no.9) found most effective against *Fusarium oxysporum* f.sp. *ciceri* which recorded 71.36 per cent growth inhibition *in vitro*. The weedicide Pendimethalin found most effective against *Fusarium oxysporum* f.sp. *ciceri*

and recorded 56.80 percent growth inhibition at recommended dose (2.5%).The fungicides Companion, Carbendazim and Penconazole were found highly effective with 100 percent growth inhibition at all conc. against *Fusarium oxysporum* f.sp. *ciceri.* Seed treatment with Thiram + Carbendazim at 2 + 1 g $kg^{-1}$ found highly effective against *Fusarium oxysporum* f.sp. *ciceri* with 31.03 per cent wilting and carbendazim + imazethapyr treatment found least effective with 65.38 per cent wilting.

## Price Behaviour of Major Pulses in Akola District

**Vanita K. Khobarkar, S.W. Jahagirdar and G.W. Khule**

**ABSTRACT**

The present study aims in studying performance of major pulses in Akola district. The data on area, production and productivity of selected pulses and arrival and prices of pulses in selected APMC'S of Akola district have been collected for the period from 1995-96 to 2008-09. The growth rate of area exhibited increasing trend with inconsistency in production. The lag area and lag price are the significant contribution in deciding current year area under crop.

## Factors Affecting Use of Pesticides by Okra Growers

**Lalita Rawal, F.L. Sharma and B. Upadhyay**

**ABSTRACT**

The present study was conducted in Girwa tehsil of Udaipur district in southern Rajasthan. Total 10 villages were selected from identified tehsil and 120 respondents were selected on the basis of proportionate sampling method from selected villages. The results of the study indicated that personal characteristics (factors) of the respondents *viz.,* age, education, size of land holding, income level, economic motivation, cosmopolitan outlook and extension contact were not significantly associated with extent of pesticide use behaviour of okra growers. It is concluded that these variables did not play a significant role in use of pesticides in okra.

## Determinants of Entrepreneurial Behaviour of Dairy Farmers

**R. R. Chaudhari**

**ABSTRACT**

The present study was conducted in Dharwad and Belgaum districts of Karnataka State in 2007 with 100 trained and 100 untrained dairy farmers to constitute total sample size of 200 dairy farmers to study the personal, socio-economic and psychological factors contributing for entrepreneurial behaviour of trained and untrained dairy farmers. Findings revealed that nine characteristics of trained dairy farmers out of fourteen viz., education, economic motivation, land holding, annual income, experience in dairying, extension participation, information seeking behaviour, scientific orientation and market orientation found to be

significant in explaining the variation in their entrepreneurial behaviour. In case of untrained dairy farmers, four variables out of fourteen viz., economic motivation, annual income, experience in dairying and extension participation found to be significant in explaining the variation in their entrepreneurial behaviour.

## Assessment of Knowledge and Technology Gap in Paddy Cultivation

**M. A. Sagane, P. P.Wankhade and S. P. Lambe**

**ABSTRACT**

Present study was conducted at Dr. P.D.K.V., Akola in purposively selected Gadchiroli and Armori tahsils of Gadchiroli district during the year 2009-10. Total 10 paddy growers were randomly selected from each selected villages, which comprised a sample of 100 respondents. The findings revealed that above half (53.00%) of the respondents were mediocre in respect of their overall knowledge level about recommended paddy cultivation technologies. In overall, respondents had high to medium level knowledge about various paddy cultivation technologies. The majority (87.00%) of the respondents were in medium category of technological gap, where as only 13.00 per cent respondents were in high technological gap category. High technological gap was observed in adoption of recommended varieties, measures for pest control, measures for disease control, integrated nutrient management and integrated pest management, which need to be taken care of by the concerned extension agencies.

## Constraints and Suggestions of Women Floriculturist

**Kavita Khade, D.M. Mankar and Y. B. Shambharkar**

**ABSTRACT**

Floriculture is fast emerging enterprise all over the world, it is too with India. In view of this, study was conducted to see the constraints experienced by flori- entrepreneur with their opinion and suggestions while performing the role. The study was conducted in Patur tahsil of Akola district. In all, 100 women who were engaged in floriculture were selected randomly from 10 villages. The constraints were categorized into input supply constraints, technological constraints, financial constraints, labour constraints, marketing constraints, transport constraints and irrigation constraints. It was observed that, high cost of seed of improved variety was the major constraint, followed by high wages of labours and high cost of seeds of improved varieties (90%), frequent load shedding (89%). Non encouragement and no knowledge about value addition products, lack of constant water supply for irrigation throughout the year, expensive transporting of flowers by truck or tractor, were the constraints expressed by three fourth of the respondents. Adequate supply of canal water for irrigation be made available, co-operative movement for collection, transporting of flowers be made and strengthen and provision of timely release of financial assistance towards crop loan and making available new water resources were suggestions made by flori-entrepreneurs.

# Utilization of Teaching Methods and Aids by Academic Staff in Agriculture University

**K. T. Lahariya and N. R. Koshti**

**ABSTRACT**

The research related to the 'Utilization of Teaching Methods and Aids by Academic Staff in Agriculture University' was conducted in four Agriculture Colleges of Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola in Maharashtra state in India and was confined to the academic staff imparting instruction in agriculture at undergraduate degree programme. Student's rating was also obtained for cross check against the respondent's self-rating. The findings of the study revealed that, 61.26 per cent respondents expressed that their utilization level of teaching method and aids for teaching and allied activities was above average, however majority of students rating (78.38%) indicate that it was average only. Further, 18.92 per cent respondents reported that their utilization level of teaching methods and aids found to be high, however students rating indicated that it was only 2.70 per cent. The 'Z' test applied to know significant difference between respondents self-rating and their student's rating (Mean difference = 13.09), the cal. 'Z' value = 7.454 was observed to be highly significant at 0.01 level of probability). This indicates the disagreement between the respondents and their students about teaching methods and aids utilization.