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Allahabad Agricultural Institute - Deemed University
(A Christian University of Rural Life)
Allahabad - 211 007 U.P. India

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PREFACE

The Allahabad Farmer (A Journal of Agricultural Science and Technology) an official Journal of Allahabad Agricultural Institute-Deemed University was for the first time published in the year 1925. Thus it is the foremost and pioneering Journal of Agricultural Science and Technology in India. Perhaps we can mention that it is one of the oldest journal of Agricultural research in whole of Asia.

This is an important publication with all aspects of agricultural rural life, educational research and appropriate technology research, applied to sustainable Agricultural production. This journal is dedicated to farm life development with a vision of **"Feed the hungry"** as commanded to the founders of the Institute by our **Lord Jesus Christ**. Feed the hungry does not only mean to acquire and supply the food to the hungry people but it means to disseminate the latest technology of Agriculture to the farmers in order to enable them to produce more food. The objectives of the journal are to further the work and interest of Agricultural research and scientists and to facilitate cooperation among them through research, to foster scientific honour in order to improve the effectiveness of Agricultural sciences, human resource development and welfare through technology, to enhance public understanding through Agriculture news and to appreciate the importance of innovation and creativeness through agreed highlights. The Allahabd Farmer is a forum for preservation and reviewing of burning issues pertaining to the advancement of sustainable Agriculture on planet earth.

With all good wishes.

Sincerely

(Dr. Rajendra B. Lal)
Editor-in-Chief
The Allahabad Farmer
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Development of "Third Conveying Belt" in Self Propelled Vertical Conveying Reaper for harvesting tall variety of mustard crop

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ABSTRACT

A self propelled vertical conveying reaper, manufactured by Field Worthy Equipments pvt. Ltd., Ahmedabad and procured in AICRP on FIM, Dept of Farm Machinery and Power Engineering, AAI-DU, Allahabad was modified and tested for harvesting tall variety of mustard crop. A detachable third belt arrangement (conveying belt) was developed and attached to the reaper. The third belt was attached at a height of 55 cm from the ground level to hold the crop while windrowing and prevent it from falling and thus reducing grain losses and time losses due to choking of the machine. The present study was carried out in Mahewa village of Allahabad district of Uttar Pradesh in mid of March. The reaper was tested in two types of operating conditions, viz. with and without Third-belt operation of reaper on tall variety of mustard crop. (Basanti-2). The average height of the crop was 2.53 m. The test was conducted at three different forward speeds of 1.85, 2.15 and 2.45 Km/hr. The performance of the machine was evaluated on the basis of grain losses, field capacity, field efficiency etc. The shattering, windrowing and total grain losses were reduced when the reaper was operated with third-belt arrangement compared to operating it without the third belt respectively. The actual field capacity showed significant increase while operating it with third belt arrangement. The fuel consumption showed an increasing trend even through it was not considerable. The cost of operation of the modified reaper was found to be Rs. 433 per ha which is quite less than the manual harvesting cost, which was found to be Rs. 1000 per ha Farmers were also highly satisfied with the use of the modified reaper for tall variety of mustard crop.

The Allahabad Farmer Vol. LX January, 2006 No. 2

Feasibility study of Tractor Mounted Raised-bed Planter as an alternative machine for wheat sowing in Allahabad Region

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ABSTRACT

Allahabad region is mostly paddy-wheat growing region. After paddy harvest, seven to ten bright sunny days are required to get favorable condition to prepare the seed bed for wheat sowing. The problem further escalates when it rains in winters i.e. a few days after sowing of wheat. When it rains during germination or emergence period the collection of water in poor drained fields restricts further growth of plants and the crop in the affected part of the field is completely lost. In the other situation when it rains when plants are grown up, and the water remains collected for longer duration the crop turns yellow and the yield is adversely affected.

In fields adjacent to canals, the land adjoining canal remains wet or over moist when there is water in the canal. This condition also affects the germination and growth of crop in the same manner as mentioned above.

This is a very common problem in the wheat growing area apart from water scarcity at the crucial time of crop growth. In both the conditions the use of Raised bed planter has proved to be beneficial for farmers as it not only saved seed and irrigation water and increased the net income by 25.82 % but also protected the crop from anaerobic condition created due to water logging by winter rains or irrigation which is quite common. The conclusion drawn from the study is that the use of the machine is useful for the farmers who have their field in the region where irrigation water is scares as it saves water and where there is problem of collection of water in wheat fields after winter rains or irrigation.

The Allahabad Farmer Vol. LX January, 2006 No. 2

Studies on the Quality of Fruit Flavoured Cottage Cheese

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ABSTRACT

Studies were conducted to find out the effect of different fruit pulp on the quality of cottage cheese. The four samples were represented as (T_1) fruit flavoured cottage cheese added with 10% pineapple slice, (T_2) fruit flavoured cottage cheese added with 10% cherry piece, (T_3) fruit flavoured cottage cheese added with 10 % apple piece, (T_4) fruit flavoured cottage cheese with 10% mix of pineapple, cherry and apple pieces. For the all treatment the skim milk was standardized to 0.25% fat and 9% SNF. The different samples of fruit flavoured cottage cheese in each replication were evaluated chemically and sensorial value. From the results it is observed that the fruit flavour cottage cheese prepared from pineapple pulp @ 10% (T_1) was found to be most acceptable followed by mixed pulp (T_4)>Cherry (T_2) > Apple (T_3).

The Allahabad Farmer Vol. LX January, 2006 No. 2

Studies on the Quality of Paneer prepared from Blend of Soya and Buffalo Milk

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ABSTRACT

A laboratory experiment was conducted in the Department of Dairy Technology, College of Food and Dairy Technology, A.A.I.-D.U, Allahabad, to find the feasibility of effect of blending of soya and buffalo milk on the quality of soya paneer. Experimental Paneer was made from blend of standardized whole milk with 4.5 percent fat, and 9 percent SNF and soymilk with 3 percent fat and 9 percent SNF in different proportions like 1:1 (T_1), 1:2 (T_2) and 1.3 (T_3), Paneer prepared from standardized milk having 9.5 percent fat and 8.5 percent SNF served as control (T_0). The coagulation was done by using citric acid and calcium sulphate. Consequently, the present investigation was undertaken to develop a method for preparation of a Paneer like product from blend of soya and buffalo milk. The physico-chemical characteristics of the product and its consumer acceptability were also determined. From the results it is concluded that the soymilk can be satisfactorily blended with buffalo milk (1:1) to prepare soya paneer of acceptable qualities.

The Use of Non-Conventional Coagulants (Lemon Juice, Vinegar and Tamarind) in the preparation of Paneer

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ABSTRACT

Present study was undertaken to explore the possibility of utilizing non-conventional and readily available coagulants like, lemon, vinegar and tamarind for the preparation of paneer. It is understood from the findings that coagulating the paneer by vinegar in a ratio of 1:1 (treatment T_2) was found to be good in terms of over all acceptability as well as body and texture and flavour score. Therefore the quality of paneer prepared by vinegar with 1:1 ratio of vinegar was found to be equally acceptable.

The Allahabad Farmer Vol. LX January, 2006 No. 2

Human Resource Development Through Training in Soil and Water Conservation

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ABSTRACT

The Central Soil & Water Conservation Research & Training Institute, Dehra Dun has been organizing trainings (5 ½ months) regularly for officers since 1954 following the integrated approach for solving land degradation & soil erosion problems. Trainees are nominated from different states of India. The study was designed to know the opinion of trainees about their need fulfillment, attitude about soil and water conservation training and suggestions for further improvement of the training. The study shows that most of the trainees felt that duration of officer training should be shortened to 3 or 3 ½ months. Expectations of trainees were fulfilled to certain extent. Emphasis on practical exposure was required. Level of officer-trainees' involvement during discussion in classes and relationship between faculty members and trainees were found to be satisfactory. Attitude of officer trainees was found favourable towards soil and water conservation training. Design and estimate calculation for engineering structures (watershed development planning), measurement of peak runoff, rainfall intensity, surveying, land capability classification, soil mapping, integrated watershed management concept were found to be the salient achievements of the training.

The Allahabad Farmer Vol. LX January, 2006 No. 2

Study of Moral Judgement During Late Childhood in Allahabad District

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ABSTRACT

The present study was conducted to find out the effect of socio economic status and achievement level on the moral judgement level of six to twelve year old children. One hundred children (fifty each from the middle and lower income group) were selected from three schools in Allahabad district. Verma and Sinha's Moral Judgement Test (1999) and Kuppuswamy's Socio Economic Status Scale (1980) were administered on the respondents. The result of the study indicates that the socio economic background of the family and the achievement level of the children affect their moral judgement level.

The Allahabad Farmer Vol. LX January, 2006 No. 2

Effect of Different Mordants on Resist Printing of Silk Using Natural Dyes

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ABSTRACT

The present investigation was conducted to study the effect of different mordants on resist printing of silk. Tie & dye method was used as a resist printing method. Three natural dye sources i.e. Dolu (*Rheum emodi*), Cutch (*Acacia catechu*) and Colocasia (*Colocasia aquatalis*) were used for dyeing. Alum, Copper sulphate and Ferrous sulphate were used as mordants for mordanting the samples. Pre, post and simultaneous mordanting methods were used for mordanting the samples. Visual evaluation and statistical analysis were carried out to optimize the methods of mordanting. Various tests for light, washing, perspiration and crocking were conducted to test the colourfastness of samples printed using optimized method.

It was found that pre mordanting method gave the best results. Colourfastness of Cutch and Colocasia was found to be better than Dolu. Among the different mordants used, Alum gave the best results in relation to fastness properties.

The Allahabad Farmer Vol. LX January, 2006 No. 2

A Study on Obese Adolescent (12-18 Years) Attending Obesity Clinic

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ABSTRACT-

The present study was carried out in ten major obesity and fitness clinics of different localities of Lucknow city. Sixty respondents were randomly selected and interviewed through pre-tested questionnaire. It was observed that the maximum respondents were 16 year old (23.33 percent). The respondents belonged to the monthly income group of Rs. 20000-30000(45 percent) followed by Rs. 30000-40000 (28.33 percent). Fifty percent of the respondents had 25-30 BMI followed by 31-35 BMI (33.33 percent) and 16.66 percent had a BMI above 36.

The Allahabad Farmer Vol. LX January, 2006 No. 2

Biology and Predation Potential of Aphidophagous Predators, *Coccinella septempuactata* and *Coccinella transversalis* on CabbageAphid *Brevicoryne brassicae* Linnaeus.

Binod K.S. Wagle, L. Saravanan*, P. Sudha Jacob** and P. Anandhi****
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ABSTRACT

Aphidophagous ladybird beetles, *Coccinella septempunctata* and *Coccinella transversalis* were reared in the insectary, Department of Plant Protection, Allahabad Agricultural Institute-Deemed University, Allahabad, U.P. Each *C. septempunctata* female deposited an average of 318.9 ± 49.53 eggs during its life time. The average egg, larval, pupal period and adult longevity were 3.3, 6.0, 6.5 and 37.5 ± 2.83 days respectively. It was observed that each *C. septempunctata* adult devoured on an average of 63.5 ± 6.59 aphids per day. Each *C. transversalis* female deposited an average of 309.5 ± 51.30 eggs during its life time. The average egg, grub, pupal period and adult longevity were 3.5, 6.0, 6.3 and 34.5 ± 2.53 days respectively. It was observed that *C. transversalis* on an average devoured 38.8 ± 10.19 aphids per day. Among the two coccinellids, the feeding potential *C. septempunctata* was higher than *C. transversalis* in both grub and adult stages.

The Allahabad Farmer Vol. LX January, 2006 No. 2

Seasonal incidence and management of citrus leafminer, *Phyllocnistis citrella* Stainton on acid lime (*Citrus auranatifolia*).

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**Department of Entomology, S.V. Agricultural College, Tirupati, A.P.

ABSTRACT

The present investigation was carried out on acid lime plants grown at AICRP on Tropical Fruits (Citrus), S.V. Agricultural College, Tirupati, Andhra Pradesh in the period from July 1998 to June 1999. It was observed that there was peak activity of leafminer on acid lime from August to January. Even though there was new flush during March, April and May, no incidence was noticed. The leafminer damage and larval population showed negative correlation with maximum temperature, minimum temperature and rainfall, whereas positive correlation was observed with relative humidity. Among the insecticides, evaluated cypermethrin, profenophos + cypermethrin mixture (Polytrin C) proved to be very effective (100% larval mortality) at third day after application and continued upto ten days. These treatments were followed by profenophos, triazophos, thiodicarb, monocrotophos and quinalphos.

The Allahabad Farmer Vol. LX January, 2006 No. 2

Seasonal Incidence, Biology and Management of Diamondback Moth, *Plutella xylostella* (Linnaeus) on Cabbage

Binod K. S. Wagle, L. Saravanan*, P. Sudha Jacob** and P. Anandhi****
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ABSTRACT

The present study was carried out during December 2004 – April 2005 in Agricultural Research Farm at Allahabad Agricultural Institute - Deemed University, Allahabad, U.P. to investigate seasonal incidence, biology and management of diamondback moth, *Plutella xylostella* on cabbage. The results showed that the population commenced from second fortnight of February and gradually increased and reached peak level of 5.96 larvae per plant during the second fortnight of March. The correlation analysis between the diamondback moth and weather parameters like maximum and minimum temperature showed significant positive correlation. Relative humidity and rainfall showed non-significant negative correlation. However, wind velocity and sunshine hours showed non-significant positive correlation. On emergence each female took an average of 1.5 ± 0.5 days for laying eggs. Each female deposited an average of 175.3 ± 23.51eggs over a period of 3.8 ± 0.4 days. The egg, larval and pupal period lasted for about 2.8 ± 0.4, 6.7 ± 0.45 and 5.2 ± 0.45 days respectively. The average male and female adults longevity were about 7.4 ± 0.48 and 6 ± 0.77 days respectively. The total duration of male and female lasted for about 22.2 ± 0.97 and 21.1± 1.22 days respectively. In general males lived longer than females. Among the insecticides evaluated endosulfan was the most effective treatment (100% mortality). All the other treatments were also effective against *P. xylosella* at seven days after spraying and they were statistically at par with each other.

The Allahabad Farmer Vol. LX January, 2006 No. 2

Genetic Variability, Heritability and Genetic Advance in Bitter Gourd (*Momordica charantia* L)

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ABSTRACT

An investigation with 18 genotypes was taken up in RBD with three replications during Kharif 2003, at Vegetable Research Farm, Department of Horticulture, AAI-DU, Allahabad. Genetic variability of different horticultural traits among various genotypes was studied. In general the phenotypic coefficient of variability was higher than the genotypic coefficient of variability for all the 10 characters under study. High GCV was obtained for fruit length and fruit yield. Among all the traits the minimum genotypic coefficient of variation was observed for days to female flower anthesis and node to first female flower emergence. Heritability was high for the characters like days to female flower anthesis (97.93%) and node to female flower emergence (88.18%), fruit yield (97.37%), number of fruits per plant (82.33%), and fruit diameter (82.91%). The estimates of genetic advance as per cent of mean was high for node to first male flower emergence (163.45%), plant height (129.51%), fruit length (101.37%), fruit yield (65.73%) and fruit weight (59.79%).

The Allahabad Farmer Vol. LX January, 2006 No. 2

Estimation of Genetic Distance among the genotypes of wheat (*Triticum aestivum* L.)

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ABSTRACT

Selection of genetically distant parents is an essential step in hybridization programme. An experiment was conducted in order to estimate the genetic distance in the available wheat germplasm for eight characters using Mahalanobsis's D^2- statistic. Genotypes were grouped into four clusters according to Tocher's method. Cluster II and IV evolved as large clusters comprising five genotypes each. Maximum inter-cluster distance was observed in between clusters I and II, suggesting that crossing between the genotypes included in these two clusters is expected to generate heterotic combinations and thus facilitate the isolation of desirable genotypes. Percent contribution was found maximum for grain yield per plant, plant height and days to maturity indicating that due consideration should be given to these characters while selecting the parents for hybridization.

The Allahabad Farmer Vol. LX January, 2006 No. 2

Effect of Thiram and *Rhizobium* inoculant on nodulation and yield of Black gram [*Vigna mungo* (L) Hepper]

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ABSTRACT

Pot culture experiments were conducted at Dudgeon Garden, Ewing Christian College, Allahabad, to study the effect of fungicide Thiram and *Rhizobium* inoculum on nodulation and yield of black gram [*Vigna mungo* (L)Hepper]. The results obtained showed that the effect of Thiram and *Rhizobium* inoculant were of significant level with regard to nodulation and yield. The study indicates that fungicidal treatments are must and there is a need for investigating the compatibility between *Rhizobium* inoculant and fungicides prior to their application.

The Allahabad Farmer Vol. LX January, 2006 No. 2

Effect of VAM, Rhizobium and different levels of phosphorus on growth and yield of chickpea *(Cicer areetinum)* Cv. Radhey

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ABSTRACT

The present investigation was carried out to find out the effect of an inorganic fertilizer, a biofertilizer and their combinations on the growth and yield of chickpea *(Cicer arietinum)* var. Radhey. The seeds were treated with rhizobium and VAM and different levels of phosphorus applied through SSP i.e. 0kg/ ha, 30 kg/ ha and 60 kg/ ha the experiment had 12 treatment combinations which were replicated 3 times and was laid out in randomized block design. Based on the results the treatment with 60 kg/ ha phosphorus along with rhizobium and VAM found to be the best as far as number of secondary branches, number of pods/ plant, test weight and yield is concerned.

The Allahabad Farmer Vol. LX January, 2006 No. 2

A Study on Genetic Variability in Different Genotypes of Amaranthus (*Amaranthus spp*).

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ABSTRACT

The present investigation was conducted at the Research Farm, Department of Horticulture, Allahabad Agricultural Institute - Deemed University, Allahabad During Summer Season (2003-2004). The treatment viz Red amaranthus DR/39, Am-1 DR/SP/9, DR/SP/182, DR/SP/89. Red amaranthus, Green amaranthus Allahabad, green amaranthus , Gorakhpur green amarnathus Mau and Arun were laid out in Randomized Block Design with three replications. Results showed that maximum heritability, genetic advance as per cent of mean and heritability coupled with genetic advance as per cent of mean were found for grain yield (tonnes/ha) in the treatments.

The Allahabad Farmer Vol. LX January, 2006 No. 2

Periodical Changes in Biochemical Composition in Lye, Bhooja, Chura and Parboiled Rice From Important Varieties Grown in Eastern Uttar Pradesh

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ABSTRACT

The present research work was carried with a view to determine the quality characters of products prepared from the various Paddy varieties/strains collected from farmer's field and also from the Institutions. Rice products like Lye, Bhooja, Chura and parboiled rice were prepared. The quality composition of these products were determined. Protein content ranged from 6.08-8.95%. The reducing sugar was in a range of 83.13-303.21 mg/100g. The non-reducing sugar and total sugar contents were in range of 54.00-179.62 mg/100g and 161.00-351.78 mg/100g respectively.

The lye prepared from variety *Indrasan* gave best quality parameters where as the nutritional composition of bhooja was superior in varieties of *Indrasan* and *Pant-4*. The best quality characters were analysed in chura obtained from variety *Indrasan*. The best performance was obtained as parboiled rice in *NDR-359* variety.

Effect of integrated plant nutrient management (IPNM) on yield of okra (*Abelmoschus esculentus* (L) Moench cv. Parbhani Kranti

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ABSTRACT

The experiment was conducted at vegetable research farm, Department of Horticulture, AAI-DU, Allahabad during kharif season of 2004. The five treatments T_1, T_2, T_3, T_4 & T_5 were laid out in a randornized block design with four replications. The treatment T_2 [(Gromor (150kg/ha)+urea (83kg/ha) + DAP (18kg/ha)] gave more fruit wt (24.16g), yield/plant (0.769kg), yield / plot (3.24kg) & yield (81q/ha) in comparison to remaining treatments viz. T_1, T_3, T_4 & T_5.

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The manuscripts should be addressed to **Dr. R.B. Lal, Editor-in-Chief,** The Allahabad Farmer, Allahabad Agricultural Institute-Deemed University, Allahabad -211 007 (U.P.), India. Articles must be the original material previously unpublished elsewhere. The authors must strictly adhere to the formatof the journal and should consult a recent issue of the journal for style and layout, while preparing their manuscripts. **The manuscript will be returned to authors, if it departs any way from the required format and style.** After review each manuscript will be accepted for publication upon recommendation of the Editorial Committee. Manuscripts submitted should be related to any of the undermentioned divisions.

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The Title page should include Title of Article, Name of the author/authors, designation and postal addresses, department and Institution.

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