

**Constraints faced by women vegetable growers of Nainital District of Uttarakhand**

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**ABSTRACT:** The participation rate of women in the economy of the Uttarakhand state is much higher than several states and also in the national average. Women in the Uttarakhand state prefer to produce vegetables for financial stability. The women vegetable growers suffer from various types of constraints while practicing vegetable cultivation. A research namely 'Constraints faced by women vegetable growers of Nainital District of Uttarakhand' was undertaken to find out various constraints faced by the farm women engaged in vegetable production. The study was conducted in six villages of Community Development Blocks, Haldwani, Ramnagar and Dhari in Nainital district of Uttarakhand. Data were collected through pre-tested semi-structured interview schedule and Focus Group Discussion from 150 women vegetable growers. The study pointed out the need to help women vegetable growers to get rid of personal, technological, infrastructural, economic, social constraints, lack of awareness, interpersonal communication, marketing and manpower constraints faced by them.

**Role of information sources among poultry farmers in Edo State, Nigeria: Implication for entrepreneurship and agricultural transformation**

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**ABSTRACT:** This study focused on the role of information sources among poultry farmers in Edo state, Nigeria, and proffer implication for entrepreneurship and agricultural transformation. Using a multi-stage sampling technique, data collected from 140 poultry farmers were analysed using frequency count, means and hypothesis tested with PPMC and Chi-square. Results showed that a higher proportion (38.6%) of the respondents sourced information from agricultural companies. Extension agents

(M=3.38) and agricultural companies (M=2.84) were perceived to play the role of raising awareness. Control of disease (M=3.71) was the most readily available technology. The most serious constraint faced by respondents was insufficient fund (M=3.71) to expand and manage poultry enterprise. Respondents' education ( $r=-0.175$ ,  $p<0.05$ ) and stock size ( $r=0.245$ ,  $p<0.01$ ) were significantly related to communication role of fellow farmers and cooperative societies at 0.05 and 0.01 levels respectively. It was thus recommended that farmers should be given regular training on cooperation education and management availability of day old chicks is a vital resource for poultry enterprise and should be improved by government in order to meet the rising demand for the product and sustain the poultry industry.

## **Genetic diversity assessment in *Jatropha* (*Jatropha curcas* L.)**

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**ABSTRACT:** Mahalanobis' D-square ( $D^2$ ) statistics was applied to assess diversity in the 46 genotypes collected from different parts of India. These genotypes were grouped into eight clusters. Cluster I had one genotype, cluster II had twenty four genotypes cluster III had nine genotypes while cluster IV, V, VI are monogenotypic contain only one genotype and cluster VII and VIII had seven and two clusters respectively. The genotypes in cluster II had the maximum divergence which was followed by cluster VI. The maximum and minimum divergence was revealed between clusters I with cluster VIII and cluster IV and cluster IV with cluster VI, respectively. In general, cluster I and IV exhibited high and low mean values, respectively for most of the characters. It has been suggested that for varietal improvement, for yield and yield contributing characters hybridization among the genotypes of divergent clusters should be done to obtain high yielding varieties and variability in terms of yield contributing characters.

## **Development of yoghurt “Rich-In” dietary fiber and its physico-chemical characterization**

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**ABSTRACT:** In the present study, dietary-fiber-fortified-yoghurt (DFFY) was developed using different fiber combinations. DFFY was developed from sweetened milk containing pre-optimized fiber blends. DFFY made from Blend-I containing psyllium husk, inulin, oat fiber and microcrystalline cellulose was found to be better than the Blend-II containing psyllium husk, inulin, oat bran and wheat fiber. Yoghurt made from sweetened-milk containing total milk solids varying from 7.1 to 12.1% and added with fiber Blend-I (5.47-7.29% total fiber) had sensory scores lower than that of the control (without fiber), the lower level of milk solids giving the lowest score. However, DFFY prepared from 12.1% TMS with Blend-I was quite acceptable and statistically similar to control. Texture profile analysis revealed DFFY to be less firm (1.68 N) and have a smaller work of shear (33.47 N.s) in comparison with the control (2.43N and 46.46 N.s, respectively). Also, DFFY was found to be stickier than control. Stress relaxation experiment on the set product revealed 3 stress-relaxation times corresponding to 3 viscoelastic units for both control and DFFY, the relaxation times being larger for DFFY. A 200 g serving of DFFY would contain 12g DF providing 30% of Indian RDA values with a claim of “Rich/High-in-Fiber”.

## **Effect of mulch materials on growth parameters of Rose (*Rosa spp.*) cv. ‘Laher’**

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**ABSTRACT:** An experiment was conducted during winter and spring seasons of the years 2011-12 and 2012-13 to study the effect of mulch materials on growth parameters of rose cv. Laher. Investigation included eight treatments *viz.*, 50, 100 and 200  $\mu$  thick black and transparent polythene mulches, paddy straw and control. Each treatment contained four plants replicated thrice in Randomized Block Design. Finding of the present investigation revealed that during both seasons tallest plant (58.61 cm and 72.35 cm) were found of plants grown under the plot mulched with 200  $\mu$  thick black polythene film which were statistically at par with plants grown under the plots mulched with 100  $\mu$  thick black polythene film (58.50 cm and 70.87 cm). In both seasons, maximum plant spread (47.80 cm and 56.62 cm, respectively), number of branches per plant (4.29 and 5.87, respectively), leaf area (126.09 cm<sup>2</sup> and 136.60 cm<sup>2</sup>, respectively) were recorded of plants grown under the plots mulched with 200  $\mu$  thick black polythene mulch. However, during both seasons minimum days taken to flowering (32.14 days and 31.64 days) were

observed of plants grown under the plots covered with 100  $\mu$  thick black polythene which were statistically at par with 200  $\mu$  thick black polythene film (33.46 days and 32.50 days).

## **Management of lentil wilts through *Rhizobium* strains and plant growth promoting rhizobacteria**

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**ABSTRACT:** A study was conducted to observe the role of *Rhizobium* and PGPR inoculation to manage the wilt of lentil at Crop Research Centre of G.B.P.U.A.&T., Pantnagar. A trial comprising six strains along with two N level and control was laid out during rabi seasons 2007-08 and 2008-09. All the strains were procured from different centre of AICRP on pulses. Seed treatment with *Rhizobium* strains LR-35-01 showed significant response with respect to disease incidence, grain yield followed by LRB-1, and LR-6301. Maximum disease incidence and low grain yield was observed in DL-1 treated plots. Use of plant growth promoting rhizobacteria strains for improving the efficiency of *Rhizobium* inoculants in lentil against wilt disease. *Rhizobium* + PUK-171 resulted minimum disease severity and maximum grain yield followed by *Rhizobium* + RB-2; other strains were also effective in reducing wilt incidence and statistically *at par* with each other while *Rhizobium* + CRB-2 showed minimum grain yield and maximum disease severity.

## **A study of banks' stability using financial ratios**

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**ABSTRACT:** The purpose of this study is to find out ratios that help in predicting banks stability, for this 36 financial ratios of 8 banks collected from RBI's statistical reports for the period 2000 to 2009 have been subject to discriminant analysis. The study identified that out of these 36 ratios, only 8 ratios affected bank's stability. The results were validated by calculating DA scores of 8 merged banks for the financial year immediately preceding the merger. It was found that the scores were negative and less than the cut off score. Thus, these banks were unstable during the said year. However, DA scores of present 3 banks over a period of 11 years were above the cut off score and it revealed that these three banks were stable in all the years (except one year for ICICI Bank). Thus,

study concluded that Credit Deposit Ratio, (Credit + Investment) / Deposit Ratio, Ratio of Priority Sector Advances to Total Advances, Ratio of Investments in Non-Approved Securities to Total Investments, Ratio of Intermediation Cost to Total Assets, Ratio of Wage Bills to Total Expenses, Ratio of Burden to Interest Income, Return on Equity are the 8 ratios that help in predicting banks stability.

## **Handmade woolen carpet industry of Uttarakhand: challenges & opportunities**

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**ABSTRACT:** Weaving of woolen handicraft is a traditional skill in the mountainous region of Uttarakhand and has been vertically passed on for generations. The location of the state provides ideal conditions for rearing of animals like sheep, angora rabbits and pashmina goats. This creates an environment, which permits extraction of finest quality of wool. Around 11 thousand weavers are employed in woolen handicraft and handloom sector of Uttarakhand. This paper is an attempt to identify the contemporary challenges, the marketing-mix adopted as well as the scope of handmade woolen carpet industry in the state and subsequently recommend suitable business strategies for upliftment of the weavers in terms of raising standard of living, generation of employment and revenue.

## **Characterization of maize population for pro-vitamin A carotenoids using TLC**

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**ABSTRACT:** In the present investigation the pro-vitamin A carotenoids in a population of 85 individuals derived from biparental crossing using thin layer chromatography (TLC) was determined. Based on the analysis of chromatogram, 54 lines were characterized to be high whereas 31 lines were relatively low in pro-vitamin A carotenoids. In general, both the group categorised as relatively high and low pro-vitamin A carotenoids were consisted of lines with high, medium and low total carotenoids and thereby indicating no definite pattern between relative pro-vitamin A carotenoid and total carotenoids. However, three recombinant promising lines namely BC2F2:3:60; BC2F2:3:62 and BC2F2:3:66 identified with high relative pro-vitamin A carotenoid and total carotenoids may be useful in maize biofortification programme.

## **Effect of dietary Kadipatta and Neem leaf powder on nutrients utilization and egg quality in White leghorn layer**

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**ABSTRACT:** Twelve week feeding trial was conducted in a completely randomised block design on 120 white leghorn layers (22 weeks age) to discern the effect of supplementation of *neem* (*Azadirachta indica*) and *kadipatta* (*Murraya koeinigii*) leaf powder on feed nutrient utilization and egg quality. The experimental birds were fed after randomly dividing into six treatment groups viz., T1, Control; T2, 0.5% *kadipatta* leaf powder; T3, 0.5% *neem* leaf powder; T4, 0.5% *kadipatta* and *neem* leaf powder (50:50); T5, 0.5% *kadipatta* and *neem* leaf powder ( 25:75 ); T6, 0.5% *kadipatta* and *neem* leaf powder (75:25 ratio). Significantly (P<0.01) improved feed conversion efficiency was observed due to addition of neem leaf powder. Highly significant (P<0.01) difference was observed in egg production, feed intake and feed conversion ratio during phase II and the crude protein and ether extract utilization, egg ether extract content among various treatment groups. Significant differences (P<0.05) were observed in dry matter and crude fibre utilization, egg weight, egg crude protein, egg cholesterol and egg LDL cholesterol. Kadipatta sole or in combination with neem can be used in layer diet to improve feed efficiency and egg quality.

## **Effect of feeding transgenic (Bt.) brinjal fruits on feed intake, milk production and composition in lactating crossbred cows**

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**ABSTRACT:** Sixteen lactating crossbred cows (85 to 190 days in milk) after one week of adaptation period were divided into two groups of 8 each on the basis of their milk yield to assess the feeding value of transgenic brinjal fruits as compared with nontransgenic brinjal fruits. The cows in both groups were fed concentrate mixture and mixed green fodder (maize fodder and local grasses) to meet the nutrient requirements for 42 days. The cows in group 1 were provided 2 kg fresh non-transgenic (non-Bt.) brinjal fruits, whereas cows in group 2 were fed 2 kg fresh transgenic (Bt.) brinjal fruits. The non-transgenic brinjal fruits contained 93.94 % organic matter, 16.88 % crude protein,

4.77 % ether extract, 18.93 % crude fibre, 53.36 % nitrogen-free extract and 6.06 % ash on dry matter basis. The corresponding values for transgenic brinjal fruits were 94.05, 15.20, 9.57, 18.85, 50.43 and 5.95 %, respectively. The transgenic brinjal fruits also contained 16.611 mg Bt. protein/g on dry matter basis. The average intake of nontransgenic brinjal fruits and transgenic brinjal fruits were 0.15 and 0.17 kg/day in groups 1 and 2, respectively, on dry matter basis. There was no significant difference in milk yield, 4% FCM yield, fat yield and SNF yield between the two groups of cows. The values for total solids, protein, fat, lactose, ash and SNF content in milk did not differ significantly between the two groups. There was no significant difference in DM, TDN and DCP intakes and body weight change between two groups of animals. Digestibility of different nutrients was also similar between two groups. The Bt. protein in the milk of cows fed transgenic brinjal fruits collected on 27th and 35th day of experimental period was not detected. The Bt. protein was also not detected in the blood of cows collected on 32nd day of feeding ration containing transgenic brinjal fruits. Blood biochemical constituents in terms of serum total protein, albumin, globulin, cholesterol and triglycerides concentrations and SGOT and SGPT activities were also similar in both the groups of cows fed transgenic and non-transgenic brinjal fruits. It was inferred that the nutritional value of transgenic and non-transgenic brinjal fruits was similar in terms of feed intake, milk yield and milk constituents and blood biochemical parameters. No changes in body weight shows no adverse effect of transgenic brinjal fruits on health of lactating crossbred cows.

## **Effect of phase feeding on body weight gain, nutrient utilization and haematobiochemical constituents in growing crossbred female calves**

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**ABSTRACT:** An experiment was conducted on sixteen crossbred female calves (9-12 months of age) which were divided into two groups of eight each on the basis of their body weight (mean BW, 90.50±3.82 kg in group I and 90.63±4.39 kg in group II) after 10 days of adaptation period. The experimental feeding was done in two phases i.e. phase 1 (0-60 days) and phase 2 (60-120 days). During phase 1, both the groups of calves were fed moderate energy ration (58% TDN and 15% CP) as complete feed 1 consisted of mixed green fodder and concentrate mixture 1 (70% TDN and 20% CP), whereas during phase 2, calves of group I were continued on same moderate energy ration (58% TDN and 15% CP) as complete feed 1 while calves of group II were provided with high energy ration (62% TDN and 15% CP) as complete feed 2 consisted of concentrate mixture 2

(72% TDN, 20% CP) and mixed green fodder. Introduction of phase feeding regimen in crossbred calves did not affect body weight gain during phase 1, whereas during phase 2 significant increase in body weight gain was recorded in calves fed on high energy ration. During phase 1, feed intake was similar in both the groups while during phase 2, it was significantly ( $P<0.05$ ) higher in group II than group I. The digestibility coefficient values of all nutrients were also similar in both the groups. During phase 2, digestibility coefficients of dry matter and crude protein in group II were significantly ( $P<0.05$ ) higher as compared to group I. The TDN and DCP intakes increased in calves which were fed on high energy ration as compared with calves which were fed on moderate energy ration during phase 2. Blood biochemical constituents were similar in both the groups of calves fed on moderate energy ration during phase 1 and also blood biochemical constituents were not influenced due to feeding of high energy ration in calves during phase 2 except increase in blood glucose level. Introduction of phase feeding regimen in crossbred calves also did not affect haematological parameters. It was concluded that phase feeding with variable concentration of energy during different phases of growth increases body weight gain, digestibility as well as intake of nutrients where moderate energy ration was given initially followed by high energy ration in crossbred calves as the age advances from 9-12 months onwards.

### **Effect of supplementation of Aloe vera (*Aloe barbadensis*) on growth performance in Crossbred Calves**

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**ABSTRACT:** The present study was undertaken to assess the effect of supplementation of two different levels of Aloe Vera in milk on growth and Body measurements of crossbred (Holstein Friesian  $\times$  Sahiwal) female calves. The supplementation had significant effect ( $P<0.05$ ) on body weight gain, body length, chest girth and dry matter intake in treatment groups as compared to control group. There was no significant effect of Aloe vera supplementation on skin thickness at flank and internal parasitic load in treatment groups. The height at withers of calves was substantially higher in Aloe vera supplemented groups than control group.

### **Effect of neem (*Azadirachta indica*) leaf powder on egg quality parameters of commercial layers**

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**ABSTRACT:** An experiment was conducted to examine effect of dietary supplementation of Neem (*Azadirachta indica*) leaf powder on egg quality parameters of commercial layers (BV 3000). 120 commercial layers of 22 weeks of age were housed in deep litter system and randomly divided into 4 treatment groups viz. T1, T2, T3 and T4 with 0% (control), 0.1%, 0.2%, 0.3% and 0.4% supplementation of Neem leaf powder (NLP), respectively, in the diet of layer birds. Each treatment had 3 replicate of 10 layers each. A feeding trail was conducted for a period of 8 weeks and for the next 4 weeks birds were provided layer feed without NLP to see post treatment effect. For recording of egg quality parameters, total experimental period of 12 weeks (22 weeks to 34 weeks) was divided into three phases; phase I (22-26 weeks) and phase II (26-30 weeks) of NLP supplementation and phase III (30-34 weeks) of post NLP supplementation. At the end of each phase a total of 108 eggs (three consecutive days' three eggs per pen per day) were randomly collected for egg quality parameter analysis. Various egg quality parameters like weight, length and width of egg; width and height of thick albumen; width and height of yolk; thickness and weight of egg shell; weight of albumen and yolk; shape index, yolk index, albumen index and Haugh units were measured. None of the egg quality parameters were found to be significantly ( $P < 0.05$ ) affected by NLP supplementation during any of the three phases. Present study suggests that neem leaf powder supplementation in the diets of commercial layer has no beneficial effects on any of egg quality parameters.

## **Histological and histochemical studies on the endothelium of coronary artery in goat (*Capra hircus*)**

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**ABSTRACT :** The present study was conducted on the coronary artery of 18 goats divided into three age groups viz. kid (up to 1 year), young (1-2 years) and adult (2-3 years) with six animals in each group for recording histological and histochemical peculiarities of the endothelium. It was found that the endothelium was lined by simple squamous epithelial cells with slightly elevated central nuclear region. There were presence of epitheloid muscle cells in the intimal layer of the coronary artery particularly in young and adult animals, which marked the progression of key events like

atherosclerosis and restenosis in the artery. In young, intense PAS activity was found in the endothelium of right coronary artery at the termination, where as the kid and adult animals showed weak activity. The deposition of lipids increased with the advancement of age in the endothelium of the vessels of the animals indicating the high incidence of atherosclerosis in adult goats. In kids, strong acid phosphatase activity was recorded in the endothelium in both left and right coronary arteries, while moderate alkaline phosphatase activity was observed in the endothelium of left coronary artery in adult animals.

## **Prevalence of canine dermatoses in and around Pantnagar Uttarakhand, India**

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**ABSTRACT:** The present study was undertaken to record the prevalence of canine dermatological disorders at Pantnagar in one year (May, 2012–April, 2013) with special reference to ectoparasitic, fungal and bacterial etiology. Dermatoses were recorded in 181 dogs out of 999 dogs screened comprising of 56 (30.94%) fungal dermatitis, 37 (20.44%) ticks/fleas/lice infestation, 21 (11.60%) mange, 21 (11.60%) bacterial dermatitis, 25 (13.81%) non specific/allergic dermatitis and 21 (11.60%) mixed infection cases. Maximum cases were recorded in July (34.83%) followed by June (23.72%), and least in March (7.26%). In general, a higher percentage of dermatoses, was found in males affecting mostly the young animals.

## **Studies on cefotaxime induced immunogenicity of *Brucella abortus* S99 cell proteins**

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**ABSTRACT:** Brucellosis is a disease affecting wide range of animals. The disease is of immense zoonotic importance due to its transmissible abilities. In animals, the disease causes abortion storm hampering the economic growth of a farm and causing great loss to the farmer. The vaccination is possibly the only advocated strategy for the prevention of the disease. Therefore, the research for identifying better immunogenic and protective antigens having potential for diagnosis and vaccination have always been through trials. The present study is undertaken to extract immunoreactive proteins through cefotaxime treatment of *Brucella* S99 cells. Cefotaxime appeared to be a potential agent for producing soluble antigens. The antigens thus produced highlighted its relevance through various tests, however emphasizing on further research in this regard.

### **Comfort aspects of milkweed/mulberry silk blended fabrics**

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**ABSTRACT:** The influence of different experimental conditions on the comfort behavior of handspun Mw/ Ms blended yarn fabrics has been studied. The results show that the influence of experimental factors viz fibre cross- sectional shape; blend ratios, yarn structure, and fabric sett have a large effect on thermal comfort properties of the blended fabric. Keeping in view the importance, utility and availability of milkweed floss, the present study is an endeavor to prepare pure mulberry silk and Mw/Ms blended fabrics in proportions of 70: 30, 50: 50 and 30: 70 to explore its comfort aspects for conventional textiles. The effect of blend ratio on the thermal comfort characteristics was assessed with the help of ANOVA analysis.

### **Physical properties of denim fabric woven with different types of weft yarn**

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**ABSTRACT:** Denim fabric is considered as eternally young fabric as it is seen in everyone's wardrobe. Various aspects of denim production have been studied, resulting in production of new types of denim as per consumer requirements. In the present study, ten denim samples were prepared on shuttleless loom using cotton, silk, worsted and

bamboo yarns using 2/1 and 3/1 twill weave and assessed for physical properties such as thickness, bending length and crease recovery. Cotton x 2 ply bamboo denim fabric had higher thickness and higher crease recovery angle in warp direction. Denim fabric prepared with cotton x single cotton yarn had higher warp as well as weft bending length which resulted into more stiff fabric compared to rest of the denim fabrics. Cotton x 2 ply eri silk denim fabric had lower crease recovery angle in both warp and weft directions.

## **Awareness regarding the impact of waste disposal of packaging and carrying material on health: A study in Gadarpur Block of Uttarakhand**

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**ABSTRACT:** India's rural market is gaining importance day by day. As the income is increasing the demand for the packaged and exotic food is also increasing and these are the items which needs massive packaging. But the problem arises when the need for this packaging material increases to such an extent, that their disposal becomes difficult to handle and becomes a cause of several human hazards and due to unawareness and careless attitude towards the waste disposal. Thus, the study was undertaken in Gadarpur block of Uttarakhand to find out demographic profile of the respondents and their awareness level with the associated hazards. The demographic profile revealed that majority of the respondents were the females and their educational status was very poor as majority of them were Intermediates. Further the awareness level of respondents regarding the hazards caused due to waste disposal practice was also assessed which was found to be poor, this was due to their low educational status.

## **Assessment of job satisfaction level of assembly workers of automobile industry**

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**ABSTRACT:** Job satisfaction is the employee's sense of accomplishment and success on the job. It is usually perceived to be directly associated to the personal well-being as well as to the productivity of an employee and motivation of an employee is also linked with the job satisfaction. Indian automobile sector is one of the important areas where huge amount of human resource is involved. Hence, the need was felt to assess the level of job satisfaction of employees of an automobile industry. Total 300 employees were selected for the present study. For the investigation, Minnesota Job Satisfaction Questionnaire was used. From this study, it is concluded that regarding various facilities and aspects of the organization, majority of the employees were satisfied but in some aspects there is dire need of further improvements to create healthy, safe and more productive working environment in the organization.

### **Assessment of nutritional status of children attending anganwadi centres**

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**ABSTRACT:** A survey was conducted to assess the facilities and nutritional status of the children among rural anganwadis of U.S.Nagar district in Uttarakhand state. A self-structured interview schedule was used to collect the data. Height and weight were used to assess the nutritional status of the children and AWW's were interviewed to record other facilities provided in the anganwadi centres. The results revealed that only 1% girls were having severe degree of malnutrition and no boy was found in this category, which shows positive impact on children attending anganwadi centres.

### **Weed control options for maize (*Zea mays* L.) and effects on succeeding wheat (*Triticum aestivum* L.) crop in Tarai region of Uttarakhand**

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*Note: This is a short communication and as such, does not have an abstract. For details, see the print journal or contact the authors at above address.*

**Relationship of certain abiotic factors and the incidence of gram pod borer, *Helicoverpa armigera* (HUBNER) in chickpea at Pantnagar**

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*Note: This is a short communication and as such, does not have an abstract. For details, see the print journal or contact the authors at above address.*

**Studies on soil test crop response correlation for optimizing fertilizer recommendation to okra grown on Mollisol of Uttarakhand**

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*Note: This is a short communication and as such, does not have an abstract. For details, see the print journal or contact the authors at above address.*

**Antifungal activity of essential oil of leaves of *Alpinia malaccensis* (Burm.f.) Roscoe**

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## **Epidemiological features of skin infections in dogs in some areas of Uttarakhand**

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