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Analysis of drought using drought management manual 2016 for south Gujarat

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ABSTRACT

Assessment of drought is one of the most important steps in risk management of drought analysis. The basis of drought indices is often based on measuring the deviation from normal rainfall. On the basis of new drought management manual 2016 for rainfall deviation, past 116 years of data of Navsari, Surat, Bharuch, Valsad and Dang districts drought was analyzed. In case of normal deviation of rainfall Navsari district showed highest normal rainfall events in 81 years with a frequency of 1.43 followed by Bharuch district 80 years with a frequency of 1.45. Deficient rainfall event at Valsad and Dang districts reveals that higher number of years with deficient events of rainfall viz. 56 and 48 with occurrence of 2.07 and 2.38 years, respectively. The Valsad district showed highest large deficient condition of drought, district showed four times large deficient in the past 116 years data with a frequency of 29 year which was followed by Bharuch and Surat districts. Drought is mostly the result of a decrease in precipitation in comparison with the mean value and would affect the quantities of soil moisture and water resources.

**Crop yield forecasting of ragi (*Eleusine coracana*) by using statistical technique
for Valsad district of south Gujarat**

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ABSTRACT

Regression models by modified Hendrick and Scholl technique were developed on ragi for Valsad district of South Gujarat. The data on the yield and weather parameters were analyzed for 29 years. The 25 year data was used for development of the model. The validation of model was done using data set of 2010, 2011, 2012 and 2013. The stepwise regression analysis was executed by trial and error method to obtain the finest combination of predictors, significant at 5% level. Crop yield forecasting models gave good estimates and produced error percent within acceptable range. Analysis revealed that the model error percent of ragi for F₁, F₂ and F₃ stages were -10.8% to 10.5%, and -8.10% respectively. Crop yield forecasting for year 2014 based on validated model was made for Valsad district.

Influence of season and rootstock height on success & survival of wedge grafts in mango (*Mangifera indica* L.)

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ABSTRACT

Experiment consist of four different heights of rootstock (15 cm, 25 cm, 35 cm, and 45 cm) and six months of grafting (July, August, September, October and February, March of the next year). Experiment was conducted in factorial randomized complete block design with four replications. Height and time of grafting had significant effect on all the parameters studied. The highest sprouting percent (93.75%, 88.33%), the minimum time required to bud break (14.30, 15.44) and the highest success (85.0%, 81.67%) was found at 45 cm height of grafting. In case of time of grafting the highest percent sprouting (97.50, 96.88) and success (93.75%, 88.75%) and the maximum growth of grafts were observed in the month of August. On the contrary, the lowest sprouting (64.38%, 58.13%) and success (50.0%, 45.0%) were found in October. The maximum time required to bud breaks was found in the month of October (21.58, 21.89) while it was minimum in August (12.07, 14.37). The treatment combination of 45 cm height of grafting in the month of August produced the highest sprouting (100.0%, 100.0%), the highest success (100.0%, 97.50%) and the growth of grafts. Therefore, 45 cm height of rootstock for grafting in the month of August is the best for the propagation of mango through wedge grafting in western Uttar Pradesh.

Studies on the effect of different doses of neem cake on fruit yield, quality, sex expression and plant mortality rate in *Carica papaya* (L.) cv. 'Pant papaya-1'

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ABSTRACT

The present investigation was carried out at Horticulture Research Centre, Patherchatta, GBPUAT Pantnagar, (Uttarakhand) to study the response of neem cake on fruit yield, quality, sex expression and mortality in papaya. Fruit yield (30.00 kg/plant) was significantly affected and found maximum with the application of neem cake @ 2.5 kg/plant. Among the fruit quality characters, fruit weight (1.19 kg), fruit volume (1194.66 ml), pulp thickness (2.41 cm), TSS (8.516 OBrix) and sex expression (female: male ratio) (47.91:42.09) was also found maximum with the application of neem cake @ 2.5 kg/plant.

Effect of feeding black soybean meal on external egg quality and composition in White Leghorn Layers

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ABSTRACT

Black soybean, commonly known as Kalabhata is a grain legume crop of Uttarakhand known for its nutritional value. Feeding trial of twelve weeks was conducted on hundred twenty week old white leghorn layers to discern the effect of feeding black soybean meal on egg quality and composition. The experimental birds were divided into five treatment groups viz T₁: control; T₂: T₁ + 0.2% raw black soybean meal; T₃: T₁ + 0.2% germinated black soybean meal; T₄: T₁ + 0.2% roasted black soybean meal and T₅: T₁ + 0.2% cow urine treated black soybean meal. The egg quality traits (egg weight, length of egg, weight of egg shell, thickness of egg shell, shape Index) were analyzed at the end of trial by collecting three eggs from each replicate for the last three consecutive days of feeding trial. Amongst the egg composition crude protein, crude fat, ash and cholesterol content was estimated. Highly significant ($P \leq 0.01$) increased values were noted in treated groups (T₃, T₄, T₅) in crude protein of egg. Higher significant differences ($P \leq 0.05$) were observed in egg weight and shell thickness in T₅ while lower values were noted of cholesterol in supplemented groups. Feeding of black soybean either raw or treated in meal form @0.2% has effect on external egg quality and composition.

Carcass characteristics of Ven Cobb broilers supplemented with enzymes (Enzymex) and probiotic (Yeamark)

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ABSTRACT

This experiment was conducted to examine the effect of Enzymes (Enzymex) and Probiotic (Yeamark) on meat composition and processing losses in Ven Cobb broilers. Three hundred and sixty chicks were divided into eight groups viz. control (T₁) in which no supplement was added to the feed, while in treatments T₂, T₃ and T₄ cocktail of enzymes was provided at 0.25, 0.50 and 0.75 g per kg of feed, respectively. In treatment T₅, probiotic was added at 0.25 g per kg. In treatment T₆, T₇ and T₈, cocktail of enzymes as in T₂, T₃ and T₄ with probiotic at 0.25 g per kg in the basal diet from 1st to 6th weeks of age, respectively. The proximate composition of breast and thigh muscles were not affected due to enzymes and probiotic supplementation while protein content of breast and thigh muscles were significantly increased because of development of better musculature. Regarding data on processing losses of the present investigation, statistically insignificant differences were observed. The results indicated that supplementing diets with enzymes, probiotic and their combination can be advised to increase crude protein levels and to produce designer broilers meat.

Efficacy of biodegradable lipomer doxycycline nanoparticle combination against brucellosis in macrophage cells

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ABSTRACT

Nanoparticulate system has a great potential in achievement of sufficient intracytoplasmic concentration of drug so as to combat intracellular pathogens like *Brucella* organism. The aim of present research was to study the *In vitro* efficacy of the biodegradable hydrophilic polymer-lipid (LIPOMER) doxycycline nanoparticle (DHL) against *Brucella abortus*. The methodology included studies on cultivation and maintenance of *Brucella abortus* 544, DHLNP MIC assessment of drug and its internalization in macrophage U937 cell line, drug cytotoxicity of DHL and finally comparative analysis of efficacy of DH and DHL in reducing bacterial load inside infected macrophage cell line. Values of MIC of DHL observed was same as DH for *B. abortus*. The DHL was not cytotoxic to macrophages even at higher concentrations. The *in cyto* efficacy of DHL proved its significant level of potency in clearing the intracellular bacterial load as compared to DH. The overall findings of studies of nanoparticle DHL thus, has added to the baseline knowledge for its future application in animal treatment and has provided the new insight in proposed utilization in combating intracellular infections

Impact of Land Use Land Cover change on runoff Using RS &GIS and Curve Number

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ABSTRACT

The land use land cover change (LULC) information is important and necessary for efficient resource utilization and management. In order to understand the impact of LULC change on surface runoff characteristics, a 31 years long meteorological and remote sensing (RS) data of the study area were acquired. The satellite images available for three epochs 1979, 1990 and 2009 were analysed, classified and quantified for determining corresponding curve number (CN) values. The rainfall data was used in estimating surface runoff using SCS Curve Number method. The study indicates that the variation in runoff is highly but not only dependent on rainfall occurrences and their temporal variations but also depends on temporal LULC dynamics, which is clearly evident from the fact that despite receiving lesser monsoon rainfall (865.2mm) during 2009, a significantly higher runoff (221.9mm), whereas only 123.74 mm runoff was produced with a significantly higher monsoon rainfall (950.52mm) received during 1990.

Wicking properties of Denim union fabrics

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ABSTRACT

Wicking is ability of a sample to move moisture by capillary action from the inside to the surface. In general, wicking takes place when a liquid travels along the surface of the fiber but is not absorbed into the fiber. 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. The woven samples were assessed for wicking properties such as horizontal and vertical wicking. Cotton x 2 ply bamboo denim fabric had higher wicking rate in both warp and weft vertical wicking.

Musculoskeletal discomfort among handloom weavers in Durie unit

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ABSTRACT

Work related musculoskeletal disorders (WMSDs) have emerged as major health problem among workers in both industrialized and industrially developing countries. Several work place factors, such as repetitive work, awkward and static postures, have been identified as being associated with upper extremity pain and discomfort. The present study was undertaken to assess Musculoskeletal discomfort among handloom weavers in Dari unit. Eighty male weavers were selected from durrie units of Sujatganj and Rail Bazar of Kanpur Nagar. Musculoskeletal discomfort among handloom weavers in Durri unit was assessed by using Cornell Musculoskeletal Discomfort Questionnaires (CMDQ). Majority of weavers reported discomfort in shoulder, wrist, knee, lower leg and left and right hand palm. Frequency of use score was highest for hip/buttock mean score 13.3, right palm mean score 12.5, upper back mean score 10.0 and left thumb mean score 9.3. Discomfort score was highest for shoulder, wrist, knee, right and left thumb and palm (mean score 2.0). Interference score was highest for neck, shoulder, lower back, wrist, knee and left and right thumb and palm (mean score 2.0). Risk percentage was highest for lower back 49.55 percent, right and left palm 49.44 percent and right and left thumb 44.3.

Perception of rural women towards Information Communication Technologies

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ABSTRACT

Information Communication Technologies can be used to speed up the circulation of information among rural families for their sustainable development. Using and benefitting from ICT requires education, training, affordable access to the technology, information relevant to the user and a great amount of support from family. Majority of the rural women neither have basic access to ICTs nor sufficient knowledge to use ICT. Present study was conducted to know the perception of rural women towards ICTs. Data was collected from 200 rural women of Uttarakhand. Rural women were mainly using mobiles for answering the call. Regarding messaging, two third rural women were able to read the messages and only one third were able to write. Majority of the rural women had positive attitude towards Information Communication Technologies. Main problems faced by rural women in using ICTs were lack of training on ICTs, technical illiteracy with regards to computer and lack of knowledge on operating ICTs. Perceived effect of ICT as reported by rural women were that ICT increases knowledge, helps in increasing information flow, improves information seeking behavior, enhances accuracy of information and improves quality of information.

Physical growth and nutritional status of Nyishi and Apatani tribes of Arunachal Pradesh, India

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ABSTRACT

The present study is an attempt to understand the physical growth among school going children of *Nyishi* and *Apatani* tribes residing at Papum Pare and Lower Subansiri Districts respectively in Arunachal Pradesh. A cross sectional study was conducted on 337 *Nyishi* (178 boys and 159 girls) and 230 *Apatani* (113 boys and 117 girl) tribe school going children age ranged between 6 to 15 years. The data was collected from 33 schools. Body weight, height, and mid upper arm circumference were measured. Body Mass Index was calculated as $\text{weight}/\text{height}^2$ to calculate chronic energy deficiency. The height and weight measurements exhibit uniform increase with age in both tribes and in both the sexes. The Weight for Age, Height for age and Body Mass Index were compared with the IAP Standards. The clinical examination was carried out as an indicator of deficiency symptoms of diseases.

Formulation and shelf life of indigenous Fluorescent Pseudomonads in different carrier materials

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ABSTRACT

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.