

Abstract of Theses

was higher (Rs.299.01) in large size units than in small processing units (Rs.265.80). The average production cost of tur dal per quintal of tur processed was Rs.2,664.12. The average value added by processing activity was Rs.637.36 per quintal of tur processed. Maximum quantity of tur dal was marketed through channel III (Commission agent). The marketing cost per quintal of dal was high

through channel III (Rs.138.48). Taxes and commission charges accounted for 50 per cent each in the total cost of tur dal marketing.

The average capacity utilised by processing units was 40.96 per cent of the installed capacity. The financial ratios showed that the large processing units were more efficient than small processing units.

Management of Broiler Industry - A Case of Bellary District

K. SREEKANT BABU

1999

MAJOR ADVISOR : Dr. H.S.S. KHAN

Animal husbandry is an integral part of agriculture in India. Poultry production in India made rapid progress during last two decades, by 1991 it has gone upto 250 million from mere 4 million in 1971. India now ranks 18th in broiler production in the world. Karnataka state contributes about 6 per cent of the total poultry production in India.

The overall objectives were to study the financial management, inventory management, marketing management and management practices followed in broiler industry. There were totally 14 broiler farms, operating in the study area. All the 14 farms were selected for the study with out looking into the population and 5 wholesalers and 10 retailers were randomly selected. The data was collected through personal interview method for the year 1998-99. The techniques of tabular analysis financial feasibility analysis and financial ratio analysis were employed.

The results showed that the total investment and

total costs per bind increased with the increase in the farm size but total cost per kg live weight decreased with the increase in the farm size, while the net returns increased with the increased in farm size.

Large broiler farms recorded higher value of Net present value, Internal rate of returns, Benefit cost ratio and Pay back period was less. Various financial test ratios like solvency, liquidity, profitability and turn over ratios were worked out to ascertain the business performance of broiler farms.

Four different channels were identified in marketing of live broilers. The share of producer in consumer's rupee was highest in channel III (Producer-Hotel/Bar) followed by channel II (Producer-Retailer-Consumer) and channel I (Producer-Wholesaler-Retail-Consumer). Two patterns for purchasing feed was observed in the study area. Purchasing of feed through pattern I (Feed mixing units-Broiler farms) was more economical than patterns II (Retailers-Broiler farms).

AGRICULTURAL ENGINEERING

Energetics of Groundnut Production in Bullock Farms

VIJAY KUMAR

1999

MAJOR ADVISOR: Dr. M. ANANTACHAR

A village level survey was conducted to study the status of energy use pattern of bullock drawn implement package and cost economics of groundnut production among different categories of farmers in a sample village (Ganadhal) of Raichur region.

The study revealed that Seedbed Preparation, Irrigation, Intercultivation, Harvesting and Threshing were the major energy consuming operations for groundnut production. The total input energy for groundnut production

in the village varied from 8540 to 9808 MJ/ha with a specific energy of 13.08 to 13.68 MJ/kg with an average total input energy of 9330.10 MJ/ha. Among the different sources human animal and electricity are the major energy sources which contributed about 21.44, 12.68 and 25.06 per cent of total input energy respectively. The energy output input ratio varied from 2.84 to 2.96. On an average the benefit cost ratio of 1.15 was observed in the village from groundnut production.

Based on the survey conducted, an experiment was carried out at Regional Research Station Farm, Raichur in order to identify the energy efficient bullock drawn implement package for groundnut production and to work out the cost economics of groundnut production with 5 treatments and 4 replications each by taking the implement package used by the farmers as control.

The results indicated that the total input energy among different treatments varied from 9178.9 MJ/ha to 10605.87 MJ/ha with a minimum of 9178.9 MJ/ha in treatment T₄. The total output-input energy ratio varied from 2.88 to 4.18 among different treatments with a maximum of 4.18 in treatment T₄ which required minimum specific energy of 9.27 MJ/kg. The benefit-cost ratio varied from

1.1 to 1.79 among different treatments with a maximum of 1.79 in treatment T₄.

The implements package T₄ consisting of M.B. Plough + Blade harrow combination for seedbed preparation, TNAU groundnut planter for sowing Universal hoe for intercultivation, groundnut digger for harvesting and power operated thresher for threshing of groundnut was identified as the energy efficient bullock implement package which resulted in higher energy ratio of 4.18 and a benefit ratio of 1.79 as compared to traditional implement package consisting of desi plough + blade harrow, sowing behind country plough, manually by khurpi, hand uprooting and hand threshing respectively which resulted in minimum output-input energy ratio of 2.88 and a benefit cost ratio of 1.1.

FOODS AND NUTRITION

Suitability of Dicocum Wheat Pasta as Carbohydrate Loading for Long Distance Runners

D. S. KAVITHA

1999

MAJOR ADVISOR : NIRMALA B. YENAGI

A study was conducted to assess the nutritional knowledge, attitude and dietary practices of athletes of Dharwad city. The carbohydrate profile of pasta products and suitability of Dicocum wheat as carbohydrate loading for long distance runners was tested. The nutritional status of athletes was assessed by anthropometry and food adequacy, while knowledge, attitudes and practices by questionnaire method. The proximate principles and carbohydrate profile of Durum and Dicocum wheat pasta products was analysed by standard procedures. Durum and Dicocum pasta products were given as test foods for carbohydrate loading and endurance capacity of athletes was tested by running and cycling in comparison with the normal diet.

The results revealed that the anthropometric measurements like height, weight, mid-arm circumference and chest circumference of males were higher than females while fat fold thickness of females were higher when compared with ICMR standards on all India basis and lesser

when compared with African athletes. The food adequacy was higher in males compared to females. Nearly 60 per cent of the athletes had moderate knowledge about nutrition. Favourable attitudes was found in 56 per cent of athletes and about 53 per cent of athletes had satisfactory food practices. Dicocum wheat vermicelli had a higher protein content and complex carbohydrates compared to durum wheat vermicelli. The percentage of starch and sugars was higher in durum wheat, whereas higher proportion of total dietary fibre was found in dicocum wheat pasta product. The endurance capacity of durum and dicocum wheat vermicelli fed trial was significantly higher compared to normal diet. Further, dicocum wheat vermicelli fed trial had shown an improvement over durum trial.

Athletic performance can be improved by imparting better nutritional knowledge. Dicocum wheat which is superior in protein and complex carbohydrate can be recommended as an energy food for athletes.

Management of Diabetes During Pregnancy

ANITA JAGADINNI

1999

MAJOR ADVISOR : Dr. (MRS.) RAMA K. NAIK

A semi-longitudinal investigation pertaining to management of diabetes during pregnancy was undertaken during the year 1998-99 to collect the baseline information regarding the nutritional status by clinical and dietary methods and also to determine the effect of management practices on the outcome of pregnancy. Finally the module was prepared in local language for the benefit of pregnant diabetic subjects for management of the disorder during pregnancy.

A total of 16 pregnant subjects of which eight diabetic and eight non-diabetic were selected by purposive sampling technique from Hubli-Dharwad cities. The results revealed that the rate of incidence of diabetic pregnancies (pregestational -0.77% and gestational -0.38%) is found to be higher in the private clinics than the government hospitals (0.14% each) of Hubli-Dharwad cities.

Seven of the eight mothers with diabetes had at least one previous abortion, with the incidence of 47.6 per cent. While three of the eight non-diabetic pregnant subjects had aborted previously with the incidence of 18.75 per cent. The nutritional status of both diabetic and non-diabetic

subjects was satisfactory. The energy and carbohydrate intake of the pregnant diabetic subjects were less than the normal pregnant subjects but the fibre intake of the diabetic subjects was higher than the non-diabetic pregnant subjects. Subjects modified their diets which helped them to maintain near normal blood values. Maximum knowledge scores were obtained from the selected pregnant subjects who had the family history of diabetes, who received the education regarding disease, diet and management.

Majority of the diabetic pregnant subjects followed good management practices. The mean fasting and post-prandial blood glucose level during gestational period of the pregnant diabetics were near normal (130 mg% and 210 mg% respectively) which lead to similar outcomes as that of non-diabetic pregnant subjects. All the diabetic pregnant subjects returned to normal blood values after delivery. There were no morbidity and mortality rate in the present study.

Education module was pronounced acceptable by the subjects indicating that module could be used as an important tool in the management of diabetes.

FAMILY RESOURCE MANAGEMENT

Participation of Women in Comparison with Men in Agriculture and Allied Activities

ANITA G. BADIGER

1999

MAJOR ADVISOR : Dr.(MRS.) SUHASINI RAO

The present study was undertaken in Dharwad, Kalaghatagi and Kundagol taluks of Dharwad district. The sample size of 150 farm couples were selected randomly. The objectives were to find out the extent of participation, time spent and training needs required by women and men in agriculture and allied activities and to identify wage disparity and problems faced by women and men in agriculture activities. Interview schedule was used to collect data and statistical tools were applied to analyse the data. The findings revealed that participation of women was cent per cent in removing of stalks and stubbles, weeding, picking, sieving, processing of milk, making cowdung cakes, preparation of feed and feeding activities. Cent per cent participation of men was found in ploughing, clod crushing, harrowing, transportation, marketing, grazing animals,

selling milk and collection and selling of eggs. The mean time spent by women was high in after care operation, processing of milk, preparation of feed and feeding activities. Whereas, men spent more time in preparatory tillage, selling of milk and collection and selling of eggs. Wages of women in agriculture activities ranged from Rs.15.06 to Rs.37.88 Rs/day. Whereas, men wages ranged from 20.72 Rs. to 40.10 Rs/day. Majority of women needed training in selection of seed material and seed treatment and care of sick animals and chicks. Majority of men needed training in identification of pests, diagnosing the diseases of animals and chicks and control measures for diseases. Majority of women faced the problem of low wages and lack of training and majority of men faced the lack of credit facilities as their major problem.

Evaluation of School Furniture in Relation to Anthropometric Measurements of Primary School Children

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1999

MAJOR ADVISOR : Dr.(MRS.) SUHASINI RAO

The present study was carried out in two government and two non government schools of Dharwad city during 1998-99. A sample size of 192 students were selected on the basis of stratified random sampling from first to fourth standards consisted of 24 boys and 24 girls from each standard. Anthropometric rod, weighing scale and indigenously constructed chair were used for measuring body dimensions. An interview schedule was used for data collection.

The results revealed that on an average government school class rooms had high density (2.03 students/m²) whereas the non-government school class rooms (1.46 students/m²) had within the limits of standard density prescribed (1.5 students/m²). There was not much difference observed between mean anthropometric measurements of boys and girls of 6 to 10 years age. The government schools had no school furniture. In non-

government schools, the desk measurements were negatively related with the body dimensions.

Regarding the perception level of comfort with the existing furniture, none of the students felt very comfortable with regard to their seated position while writing, listening, while doing group work, regarding surface of the desk top, back rest and bench height. Higher percentage of government school students having no furniture experienced more pain and discomfort compared to non-government school students. It was found that bench height, bench length per student, desk weight and seat desk clearance were higher than the popliteal height, hip breadth, Elbow to floor and thigh clearance height. Whereas, bench width and desk length per student were less than the Buttock popliteal length and Elbow width which are not desirable respectively. Implications of the results were discussed and suggestions were made to reduce the pain and discomfort felt by using school furniture.

TEXTILES AND CLOTHING

Infants' Garments with Minimum Constructional Details

RASHIDABANU UPANAL

1999

MAJOR ADVISOR : Dr. (Ms.) GEETA MAHALE

The present study on "Infants' Garments with Minimum Constructional Details" was conducted during the year 1998-99 in Hubli-Dharwad Municipal Corporation area. The main objectives set for the study were to ascertain the preferences and decorations among the infants' garments by the mothers, to design infants' garments with minimum constructional details, and to assess the preferences for the designed infants' garments by the mothers. The sample comprised of 100 mothers, who were randomly selected by personal visit to the houses. A self structured and pre-tested questionnaire was used to collect the data. Based on the survey results five pairs of patterns were designed using plain (P) and combination of plain and checks (pc) cotton fabric with minimum constructional details. Five designed infants' garments were 1) Umbrella frock 2) Straped 'A' line frock 3) 'A' line frock 4) Sleeveless yoke frock and 5) Megyar sleeved frock. The results of the study revealed that the majority of the respondents preferred

cotton one piece garments having decorations of lace and satin ribbon for their infants. Most of the preferred medium width neckline, chest level yoke, half waist and dark coloured with small prints. Undurable stitches was the main defect found in readymade infants' garments and most of them never made alterations. The colour and texture of the fabric used for designing the infants' garments was accepted by almost all respondents. Greater per cent of the respondents approved the incorporated sleeves, placket openings, fasteners and decorations in the designed garments. Respondents suggested for different types of necklines, applique work of alphabets, fruits, vegetables, skirt and yoke with frills and blue, green and baby pink coloured fabric for infant's garments. In a nutshell respondents expressed that the designed infants' garments were functional, easy to care and maintain, attractive and comfortable.

Effect of Extrafoliation of Botanicals on Quality Characteristics of Mulberry Silk

ARCHANA P. ANGADI

1999

MAJOR ADVISOR : Dr. (Ms.) GEETA MAHALE

The present investigation was conducted in the year 1998-99 in the Department of Textiles and Clothing in collaboration with the Department of Sericulture at the University of Agricultural Sciences, Dharwad. The research was done to exploit different weeds, to know the effect of these weeds on the quality parameters of cocoon as well as raw silk yarn and also to know if there is any allergic effect of the raw silk produced out of extrafoliation of *Parthenium*. The botanicals used for the experiment were *Parthenium hysterophorus*, *Tridax procumbens* & *Lantana camara*. Due to the abundant availability of these weeds and also based on the earlier studies on these weeds it was decided to use these botanicals for the present investigation. The salient results of the research are : Among the cocoon parameters *Parthenium* showed better results for cocoon weight and shell weight whereas it was *Tridax* as far as

shell ratio was considered. Among the silk filament parameters it was *Tridax* which gave better results for denier and average filament length but it was *Parthenium* for average non-breakable filament length. For the silk yarn parameters *Tridax* gave best results for winding breaks, average size, size deviation, evenness and average neatness. *Parthenium* gave better results for average cleanness, tenacity and cohesion. *Lantana* gave good result for elongation. In all the parameters it was the treated group which gave best results than the control. As far as allergy test was considered, though all the thirty subjects irrespective of sex had sensitive skin, none of them showed any dermatologic hazards like rashes, redness, itching or burning. The raw silk produced out of extrafoliation of *Parthenium* proved to be safe to manufacture the fabric.

Effect of Dyeing on Physical Properties and Colour Fastness of UAS Sheep Breed Wool

G. NEELIMA

1999

MAJOR ADVISOR : Dr. (Ms.) GEETA MAHALE

The present investigation was carried out during the period 1998-99. The main objectives of the study were, to determine the effectiveness of acid and reactive dyes on UAS sheep breed wool fibre and yarn, to assess the physical parameters of UAS sheep breed wool sample before and after dyeing and to find out the colour fastness properties of the dyed sample for different parameters like sunlight, washing, perspiration, crocking and hot pressing.

The triple cross bred UAS sheep breed wool was selected from Poultry, Sheep and Goat Department, Main Research Station, University of Agricultural Sciences, Dharwad. Wool sample collected was of mixed lot from two different shearing seasons namely Spring clip (March) and Autumn clip (September). The wool sample was cleaned, carded and spun into a yarn with the help of Medlieri charaka. Later it was scoured and dyed with acid and reactive dyes. The effect of scouring and dyeing on wool

was found out by assessing the physical parameters of wool fibre and yarn before scouring, after scouring and after dyeing. Colour fastness tests to washing, crocking, perspiration, hot pressing and sunlight were carried out and was assessed with the help of gray scale. The results obtained were statistically analysed using completely randomized design and correlation test.

Results revealed that scouring had more adverse effect on wool than dyeing. Higher absorption was exhibited by acid dyes. Acid dyes were safer on wool than reactive dyes. They had least effect on the physical parameters of UAS sheep breed wool fibre and yarn after dyeing. The colour fastness of acid and reactive dyes to washing was very good, to crocking was good, to perspiration was fair, to hot pressing was excellent and colour fastness to sunlight was found to be good.

HUMAN DEVELOPMENT

The Psycho-Social Scenario of the Aged

PREMA B. PATIL

1999

MAJOR ADVISOR : Dr. (Mrs.) V. GAONKAR

The study was carried out in Dharwad and Belgaum cities. The sample comprised of 510 retired aged including both male and female with the age ranging between 60-80 years. The scale developed by Jamuna and Ramamurthi (1989) was used to assess the self-acceptance and attitude towards physical changes. Psychological distress was measured using the scale standardized by Karim and Tiwari (1986). Ramamurthi's (1978) scale was used to assess life satisfaction. To measure health status, economic status and leisure time utilisation, the scale developed by Desai and Naik (1970) was used. The scale developed by Lawton (1975) was used to assess the loneliness of the elderly. Social security was measured with the help of available literature on the advice of subject experts. The results revealed that the young-old group had higher favourable attitude towards physical change compared to older group subjects while the older group had high psychological distress compared to the young old group subjects. Social

relationship was noticed to be higher among male compared to female. The re-employed subjects had high self-acceptance compared to the not-re-employed subjects whereas the non-re-employed subjects had high psychological distress compared to the re-employed subjects. The self-acceptance was identified to be higher in the subjects who belonged to medium sized family compared to those who belonged to large size of family. Social security was found to be higher in the subjects who made good utilization of leisure time compared to those who made poor utilization of leisure time. A significant positive relationship was found between age and psychological distress and significant negative relationship was found between age and attitude towards physical changes. A significant positive relationship was observed between per capita income and social relationship. A significant positive relationship was noticed between leisure time utilization and social security.

Familial Influence on the Social Development of Preschool Children

PUSHPA U. MUDALINGAMMANAVAR

1999

MAJOR ADVISOR : Dr. (Mrs.) V. GAONKAR

The main aim of the study was to know "Familial influence on the social development of preschool children". The study was conducted during the year 1998-1999 in two randomly selected villages of Dharwad taluka (Narendra and Amminabhavi) and in Dharwad city of Karnataka state. Multistage sampling was used for the selection of the sample. The sample comprised of 128 preschool children (3+ to 5+ years) and their mothers. In which 64 children were accepted and 64 children were rejected according to socio-metric ratings. Both questionnaire (for literates) and interview schedule (for illiterates) methods were used for the data collection. Results revealed that in both rural and urban areas, accepted children had significantly higher social skills than rejected ones. Whereas rejected children had more of problem behaviours (internalizing) than accepted ones, in which boys and urban group showed more of problem behaviours. In both rural as well as urban areas parents of accepted children had significantly better marital

relationships than parents of rejected ones, in that marital relationships of urban parents was significantly higher than rural parents. In both rural and urban areas accepted children had families with significantly better family functioning than rejected ones, in which family functioning of urban group was significantly better than rural group. Family functioning was the only factor which significantly and positively influenced the social skills of children whereas it significantly and negatively influenced the problem behaviours of children in both rural as well as urban areas. The combined effect of socio-economic factors, marital relationships of parents and family functioning brought a significant variation in social skills of children i.e. 67 per cent (rural) and 81 per cent (urban). Whereas combined effect of all the factors taken together brought a significant variation in problem behaviours of children i.e. 64 per cent (rural) and 65 per cent (urban).

Influence of Home Environment and Parental Characteristics on Parenting Styles of Accepted and Rejected Preschool Children

KALAVATHI L. KASE

1999

MAJOR ADVISOR : Dr. (Mrs.) V. GAONKAR

The present investigation was designed to know the influence of home environment and parental characteristics on parenting styles of accepted and rejected preschool children. The study was carried out in Dharwad taluk and in Dharwad city. The sample comprised of 128 preschool children and their parents. Data was collected through questionnaires from literate parents and interviewed personally by the investigator for illiterate parents. The results revealed that parents of rural accepted children were significantly higher on inductive parenting than parents of rejected children. Accepted children had significantly better home environment than rejected children in both rural and urban areas. Parents of rural accepted children had significantly lower anxiety and better temperament than parents rejected children. Better home environment significantly promoted the inductive parenting style of rural accepted children. Anxiety of father and temperament of

mother significantly influenced fathers parenting style by tending towards power assertive among rural rejected children. Anxiety of father significantly influenced mothers parenting styles, tending towards power assertive among urban rejected children. Temperament of father significantly influenced fathers parenting styles by tending towards power assertive style among urban rejected children. Combined effect of sociodemographic factors, home environment and parental characteristics brought a significant variation of 73 per cent in fathers parenting styles among rural accepted children. While, it was 79 per cent in case of urban rejected children. However, the parenting style of father did not vary significantly in case of accepted children. Similarly, mothers parenting styles was not significantly influenced by the selected factors, either among accepted or rejected group.

Problems of Female Agricultural Labourers in Mundaragi Taluk of Gadag District

M. RAJESHWARI

1999

MAJOR ADVISOR : Dr. K. SAROJA

The present study aimed at studying the various problems in the family and rural community background context of female agricultural labourers. This study conducted during the year 1998-99 in ten randomized villages of Mundaragi taluk, had a randomized sample of 140 female labourers. A subsample of ten respondents was purposively selected for case studies to gain deeper insights into their problems. Majority (71%) of respondents were married before the legal age for marriage. All the respondents were facing the problems of health, no work during off season / drought and work related problems. Majority of respondents were found to face the problem of food (93%), child care (93%), collection of fire wood and drinking water (91%). Nearly one-third of them were found to face marital problems. One-fourth of them were found to be female heads of the family.

An empirical model of sequence of life events of the sample was formulated from the results. This model revealed that the poverty, large sized family, child labour, illiteracy and lack of food which were present in natal family

of respondent continued to exist even in her marital family. Thus the threat of continuation of vicious circle of poverty and associated factors was found to be real in the next generation.

Results imply an imminent multipronged efforts to break this circle. Important among the efforts suggested were : 1) Proper distribution of sufficient quantity of food grains to the agricultural labourers through fair price shop. 2) Implementation of labour laws, provision of creche and anganawadi facilities for the whole day. 3) Need to increase the number of ANMs and general improvement of rural health care 4) Removal of arrack shop from all villages 5) As none of the sample were found to be aware of government rural development / poverty alleviation programmes operating, it is suggested that the active participation of the women agricultural labourers need to be sought by the concerned officials. 6) It is suggested that the procedures for procuring loan from the banks need to be simplified and made easily available to the rural poor.

Parenting Styles : Effect on Social Development and Academic Competence of Pre-School Children

T. AMBIKA

1999

MAJOR ADVISOR : Dr. (Mrs.) PUSHPA KHADI

The present study "Parental Styles : Effect on Social Development and Academic Competence of Pre-School Children" was conducted in rural and urban areas of Dharwad taluka of Karnataka state during 1998-99. The sample was selected through multistage sampling method which comprised of 128 pre-school children (3+ to 5 years) and their parents in which 64 each were accepted and rejected on the basis of socio-metric ratings. Data was collected through questionnaire for literates and by interviewing for illiterates. Results revealed that in both rural and urban areas parents of accepted children were significantly higher on authoritative and permissive pattern than parents of rejected children. Accepted children were significantly higher on co-operation, assertion and self-control than rejected children in both rural and urban areas. Rural accepted boys had significantly higher externalizing and internalizing problem behaviours than rural accepted girls, whereas no such difference was found among urban group. In both rural and urban areas children were academically more competent than rejected children.

Among rural group, father's authoritative pattern significantly influenced the social skills whereas authoritarian pattern of fathers influenced self-control and

total social skills. However both authoritative and authoritarian pattern by fathers significantly and negatively influenced the internalizing problem behaviours. Among urban group, the externalizing problem behaviours were influenced significantly and positively by mothers' authoritative pattern while mothers authoritarian pattern had a significant and negative influence. Fathers' authoritative pattern had positive and significant influence on the academic competence of rural children whereas authoritarian pattern of fathers significantly and negatively influenced the academic competence of urban children.

Rural parents parenting styles were significantly influenced by socio-economic factors like gender of the child, parents' education, caste, fathers' occupation and economic status of family whereas only parents' age was the influencing factor in case of urban group. Both academic competence and social skills of rural children were significantly and negatively influenced by caste while they were significantly and positively influenced by mothers' occupation. However problem behaviours of urban children were significantly influenced by family size and parents' age.

HOME EXTENSION EDUCATION

Role Performance and Training Need Identification of Panchayat Women Members

GEETA KALAKANAVAR

1999

MAJOR ADVISOR : Dr. (Mrs.) CHHAYA BADIGER

A study on "Role Performance and Training Need Identification of Panchayat Women Members" was undertaken in 1998-99. Sample consisted of 100 Gram Panchayat, 30 taluk Panchayat and six Zilla Panchayat women members from all the taluks of Dharwad district. Pre-tested schedule was the tool used for collection of information.

The results of the study revealed that 37% of Gram Panchayat and 66% of Zilla Panchayat women members had medium role performance level while, 40% of Taluk Panchayat women members had low role performance level followed by medium and high role performance level (30% each). Regarding knowledge level, 41% of Gram Panchayat, 40% of Taluk Panchayat and 66.66% of Zilla Panchayat women members were possessing low, high and medium knowledge levels respectively. In case of opinion level, more favourable opinion towards the panchayat raj system was possessed by 47% of Gram Panchayat women

members followed by favourable and less favourable opinion. Whereas, 36.66% of Taluk Panchayat and 50% of Zilla Panchayat women members had favourable opinion towards the Panchayat raj system.

Thirty eight per cent of Gram Panchayat women members preferred to have training on new schemes and programmes followed by panchayat raj system (32%) and administrative set up (30%). In case of Taluk Panchayat and Zilla Panchayat women members they preferred to have training on new schemes and programmes followed by financial matters and Panchayat raj system. Most preferred leadership traits by panchayat women members were courageous, co-operative and active and healthy. The major problems faced by the panchayat women members were travelling, complaints from people, male dominance, non co-operation from other members and non-revealing of official matters.

VETERINARY MICROBIOLOGY

Isolation and Characterization of Chicken Interleukin-2 (IL-2)

VEERUPAXAGOUDA

1999

MAJOR ADVISOR : Y. HARI BABU

A total number of eight layers, belonging to age groups of 10, 11, 12 and 13 weeks were used in the study and were divided into four groups, each comprising of two birds. Based on the observations of several workers, peripheral blood lymphocytes and splenocytes were cultured at 5×10^6 cells/ml and 10×10^6 cells/ml culture medium. Similarly concanavalin A (Con A) was used at 5 µl/ml concentrations for stimulation. Further the culture supernatant (CS) was harvested at 12 hours, 24 hours, 36 hours and 48 hours post mitogenic stimulation.

The culture supernatants were concentrated by ammonium sulphate precipitation and further purified and characterized by ion exchange chromatography, sephadex

G 100 gel filtration and sodium dodecyl sulphate polyacrylamide gel electrophoresis (SDS-PAGE). The elution profile of anion exchange chromatography yielded three peaks of activity, of which the pooled third peak fractions were subjected to sephadex G100 gel filtration. Single peak of IL-2 activity was obtained in gel filtration.

Upon analysis by SDS-PAGE, the migration of IL-2 activity in ion exchange and gel filtration purified material was comparable with human recombinant IL-2 (15.5 kD) and beta lactoglobulin (18.4 kD). Based on the above observations, the approximate molecular weight of the apparently homogeneous chicken IL-2 was found to be 16-18 kD.

VETERINARY PATHOLOGY

Pathology of Aflatoxicosis in Neonatal Rabbits

GOVIND REDDY

1999

MAJOR ADVISOR : Dr. D. GOPAL KRISHNA RAO

The present study was undertaken to evaluate the pathological changes including teratological effects in neonatal rabbits and also to estimate the residual level of aflatoxin B₁ in muscle and liver tissue of both dam and their offsprings. Treated pregnant rabbits showed symptoms like anorexia, loss of body weight and furchewing, whereas in control dams, timely gain in body weight were observed.

Necropsy examination of treated animals died in between the experiment revealed hyperemic changes, nodular massess and red spot on uterine mucosa indicative of foetal resorption. Aflatoxin (1 ppm) treated dam still birth offsprings died within three days after their birth, these young once showed characteristic teratological changes viz., Wrinkled skin, knuckling of fetlock, enlarged head and retarded body weight. Postmortem examination of these offsprings showed increase in weight of liver, thymus, lung and heart. Histological examination of liver revealed mid zonal type necrosis, formation of cystic space and mild bile duct hyperplasia were seen.

Haemorrhages were observed in heart musculature, glomeruli and in between tubules of kidney and also in aveoli of lungs. Vacuolation and depletion of thymocyte was observed in thymus of young ones. Necropsy examination (3 ppm) of foetuses (inutero death) showed marked increase in liver and thymus weight. Histological examination of these vital organs revealed haemorrhages in liver, in lungs, between the tubules of kidney and in thymus.

Aflatoxin B₁ were detected in musculature of dam of 3 ppm (0.819 ± 0.20 µg/g) fed group and 1 ppm (0.182 ± 0.079 µg/g) aflatoxin fed group. Whereas aflatoxin B₁ were not detectable in the liver of both 1 ppm and 3 ppm aflatoxin treated dam. Higher residual level (0.045 ± 0.123 µg/g) aflatoxin B₁ were detected in in-utero death foetuses wherein 3 ppm aflatoxin were fed to their dam. No aflatoxin B₁ were detected in musculature of 1 ppm aflatoxin treated group of offsprings. Aflatoxin B₁ were not traceable in liver of both 1 ppm and 3 ppm group young ones.

ANIMAL NUTRITION

Influence of Plane of Nutrition on Draughtability of Khillar Bullocks

MOHAN V. KAMAT

1999

MAJOR ADVISOR : Dr. S. MALLIKARJUNAPPA

An experiment was carried out at Agricultural Research Station, Arabhavi to study the influence of plane of nutrition on draught capacity and different physiological parameters of khillar bullocks. Three pairs of khillar bullocks were fed with three planes of nutrition i.e., 75, 100 and 125 per cent of the Sen *et al.*, 1971 feeding standard. Three metabolism trials were conducted each with 30 days of preliminary period followed by 7 days collection period. All the animals showed significantly increased intake of dry matter, crude protein, ether extract and total carbohydrates with increase in the level of feeding. No significant variations in the digestibility coefficient of dry matter, crude protein, crude fibre and NFE was observed with different levels of feeding.

The animal loading car developed at CIAE, Bhopal was used to study the draught capacity. Animals were subjected for three draught levels i.e., 10, 12 and 14 per cent of their live weight. A 3 x 3 Latin square switch over

design was followed. Analysis of the data revealed no significant effect of level of feeding on all the physiological parameters. However, a linear increase in all the physiological parameters with increase in hours of work in all the treatment groups was observed. A significantly reduced speed of work with reduced level of feeding and increased duration of work was observed. An increase in horse power output with increase in level of feeding at different draught settings was also observed.

Based on the results obtained in the present study it could be concluded that, the working Khillar bullocks fed with higher plane of nutrition can digest the nutrients more effectively. The plane of nutrition could not influence significantly the different physiological parameters such as heart rate, respiration rate and rectal temperature. A direct linear relationship exists between the hours of work and different physiological parameters.

Effect of Feeding Rain Tree (*Samanea saman*) Pods on the Performance of HF x Deoni Calves

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24 HF x Deoni crossbred calves of 12 months age and 160 kg body weight were selected and randomly distributed into 4 groups of 6 calves each in Randomised Block Design. All the calves were offered *ad-libitum* green paragrass, dry jowar fodder and bengalgram bhusa, on concentrate + rain tree pods of isocaloric and isonitrogenous were offered as 100+0 (T_0), 75+25 (T_1), 50+50 (T_2) and 0+100 (T_3) to study the nutrients intake, digestibility, blood metabolites, growth and feed efficiency.

The roughage intake was not affected by the treatment. The intake of DM, DCP and TDN were significantly higher in group I over group IV. The digested OM, CP, NDF, cell contents and hemicellulose were significantly higher in group I and II over group IV. The digestibility of CP was significantly higher in groups I, II

and III than group IV, whereas the digestibility of other nutrients was not affected. The balance of N, Ca and P were significantly higher in group I than group IV. The serum glucose, triglycerides, cholesterol, protein, calcium and phosphorus did not change significantly between the groups. The total gain in body weight and daily gain were significantly higher in groups I, II and III than group IV. The intake of DCP per kg gain was significantly lower in groups I, II and III over group IV, whereas the intake of DM and TDN were non-significantly lower in group I, II and III than group IV.

It could be concluded that concentrate with similar energy and protein can be replaced at 50 per cent level with rain tree pods without any deleterious effects