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STUDIES OF MILK PRODUCTION TRAITS IN CATTLE AND BUFFALO UNDER FARMERS' MANAGEMENT

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The Study was conducted on altogether 385 milch animals comprising of 96 Desi, 64 Jersey crossbred and 64 Friesian crossbred cows as well as 161 graded buffaloes, maintained under farmers' management system in and around Darbhanga (Bihar), were analyzed according to least squares analysis to study the magnitude as well as direction of variation in their lactation length (LL), lactation milk yield (LMY) and peak-yield (PY) due to genetic and some nongenetic factors. Genetic group and lactation order had highly significant effect ($P \leq 0.01$) on all the milk production traits i.e. LL, LMY and PY. Season of calving had highly significant effect ($P \leq 0.01$) on LMY and PY but its effect on LL was non-significant. Effect of herd size was significant ($P \leq 0.05$) on LMY while its effect on LL and PY was non-significant. Variation in all the traits due to location of herd, herd-constitution and farming system were statistically non-significant

EFFECT OF PHYTASE SUPPLEMENTATION ON PERFORMANCE AND NUTRIENT AVAILABILITY IN BOILERS

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The influence of phytase supplementation on nutrient availability in broilers fed on corn-soya based diet was investigated. Experimental treatments consisted of (1) positive control (Ca and available P as per NRC, 1994); (2) negative control (Ca and available P 10 and 20% less than NRC, 1994, respectively); (3) negative control plus 500 unit/kg phytase. The birds that received NC diet had lower body weight compared to the birds that fed on PC diet at 35 d. Supplementation of Phytase to NC diet improved body weight and FCR to that of PC birds. Addition of phytase to NC diet also increased ($P < 0.05$) digestibility of DM and retention of Ca, P, Zn and Mn compared to unsupplemented NC. The present data demonstrate the potential of phytase to improve DM digestibility and availability of Ca, P, Zn and Mn in broiler fed corn-soya based diet.

TRAINING NEEDS OF FARM WOMEN FOR SUSTAINABLE PISCICULTURE

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Women play a significant role in agricultural development and allied fields including crop production, livestock production, horticulture, fisheries etc. The decision-making role of

farmwomen would be more powerful if they were exposed to various aspects of farming by organizing training programmes. Such training programmes will be more effective if they are based on felt needs of farmwomen. Fifty numbers of farm women from five villages of Puri district of Odisha having a number of fish ponds were selected for the study, to know the preferences of farm women towards season, method, venue and duration of training. The study revealed that the training programmes should be arranged for three days during April to June through demonstrations, group discussions and field trips at Krishi Vigyan Kendra of their locality which will be more effective than any other training program

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EFFECT OF FIELD LEVEL STORAGE SYSTEM ON FROZEN SEMEN OF CATTLE UNDER THE AGRO-CLIMATIC CONDITION OF WEST BENGAL

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Evaluation of frozen semen of cattle is important to ensure the quality of cryo-preserved semen straws used in artificial insemination programme. A total of 17 bulls, maintained under farm condition were collected during September, 2005 to March, 2008 at the Frozen Semen Bull Station, Salboni, Midnapore (West), West Bengal, India. The present study was conducted to assess the semen characteristics of bulls used for artificial insemination (AI) programme in different district of West Bengal to determine the quantum of deterioration at field level storage points. The semen traits at different storage points revealed a relative significant ($P < 0.02$) reduction at DSB and AIC over RSB in sperm motility by 6.98 and 14.22 percent; intact acrosome by 7.05 and 15.47 percent; HOS positive by 5.27 and 11.09 percent. . In cervical mucous penetration capacity there was a reduction of 24.93 percent at AIC over RSB.

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SERO PREVALANCE OF CANINE LEPTOSPIROSIS IN KENNELS OF KOLKATA

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23 Dogs and bitches (18 Labrador, 3 Whippet & 2 Mini – Pinscher breeds) of 3 Kennels of Kolkata was suffering from chronic jaundice, anorexia, blood in stool, conjunctivitis and pyrexia. Serum samples of all the infected animals were collected and tested by Microscopic Agglutination Test (MAT) against six serovars of *Leptospira*. 3 dogs and 2 bitches (Total 5) was found positive against *Leptospira canicola* and *Leptospira autumnalis*. The infected animals were treated by Doxycycline for 4 weeks gives satisfactory result.

PERCEPTION OF OPPORTUNITIES BY WOMEN SELF HELP GROUP MEMBERS ENGAGED IN LIVESTOCK REARING*

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This study aimed to determine the perception of opportunities by the members of Women Self Help Groups (WSHG) engaged in livestock rearing. Data were collected through a pre-tested semi-structured interview schedule from 140 members of twelve randomly selected groups engaged in livestock rearing and belonging to purposively selected three blocks viz. Angara, Kanke and Ormanjhi of Ranchi district in Jharkhand. The study revealed that majority of the respondents were in agreement with the positive statements about Self Help Groups (SHGs) like development of saving habit, reduces dependence on moneylenders, access to credit to members, develops better decision making power, generates cooperation between people, makes self reliant and provides self employment opportunities and in disagreement with the negative statements like does not improve the skill in various aspects of the group and not a tool for poverty alleviation. In overall perceived opportunities, majority of the respondents (66.43%) fall in the medium perception category indicating a strong positive feeling towards the concept of SHGs.

EFFECT OF WASHING, HEAT TREATMENT AND SALT CONCENTRATION ON THE FUNCTIONAL PROPERTIES OF MINCED SQUID MEAT

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The abundant catch of small sized squids through bottom trawls are considered of low cost and thrown to sea causing pollution. An attempt was made to use those low cost squids as raw material for surimi industry. The standardisation of washing of minced squid meat was done and its effect on the gel properties was investigated. The squid mince was washed with 0, 0.05, 0.1, 0.15 and 0.2% NaCl for different washing period (5, 10 and 15 minutes). Washing the minced squid meat once in 0.1% NaCl for 10 minutes (6 minutes agitation, 4 minutes setting) produced good quality surimi. Highest gel strength was obtained at optimum setting temperature of 500C for the squid mince. A two step heat process (500C for 2 hours prior to heating at 800C for 30 minutes) gave the good gelling performance than one step heating process (500C for 2 hours). The effect of salt concentration on the gel functionalities of squid mince was also investigated for which different salt concentrations such as 1.0%, 2.0%, 3.0% and 4.0% NaCl were used. Addition of 3% NaCl to the squid mince during grinding showed the highest gel strength regardless of heating schedule. The overall study showed that the squid mince can be utilised effectively for the preparation of surimi as raw material which can be utilised for preparation of different value added products.

**SEASONAL VARIATION IN ERYTHROCYTIC INDICES OF
BLACK BENGAL GOATS (*CAPRA AEGAGRUS HIRCUS*)
IN PURULIA, WEST BENGAL**

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Being a multipurpose animal goat can produce meat, milk and hide. Purulia has a good number of Black Bengal goat populations, which has an important role in the lives of local goat rearers. The goal of the present study is to find out the effects of changing seasons on blood elements in Black Bengal goat (*Capra aegagrus hircus*) in Purulia of West Bengal. The highest mean value of temperature (°C) has been reported during the month of April and May in the season of pre-monsoon. However, the lowest value of temperature (°C) has been reported during the month of December and January in the season of post-monsoon. The parameter studied here are concentration of Hb, RBC count, PCV, MCV, MCH and MCHC. Data has analyzed for the effect of seasonal variation among both the sexes and the current findings implies that seasonal variation plays the major role to influence the erythrocytic indices.

**EFFECT OF FEEDING MANGO (*Mangifera indica*)
SEED KERNEL ON THE PERFORMANCE OF BROILER CHICKEN**

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To find out the optimum level of inclusion of mango seed kernel (MSK) in ration of broiler starter chicken (0-4 weeks of age), day old broiler chicks (n=225) was randomly assigned to five groups having three replicates each having 15 birds in each group. The experimental diets containing MSK at 0, 5, 10, 15 and 20 per cent levels replacing deoiled rice bran were fed up to 4 weeks of age. Body weight gain, feed consumption, feed efficiency of birds was similar ($p < 0.05$) to control group when MSK was used in the diet upto 20 per cent replacing deoiled rice bran. As the inclusion level of mango seed kernel increased, carcass qualities (dressing percentage and eviscerated percentage) and organs *viz.* liver, heart, gizzard and spleen were non-significant ($p < 0.05$) in all the groups. The cost of ration and feed cost per kg body weight was reduced as the level of MSK increased in ration. Highest profit was observed at 20% MSK inclusion in the broiler ration. On the basis of experiment results it was suggested that MSK can be used in broiler ration up to 20% level without any adverse effect on their performance and profitability.