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Contents

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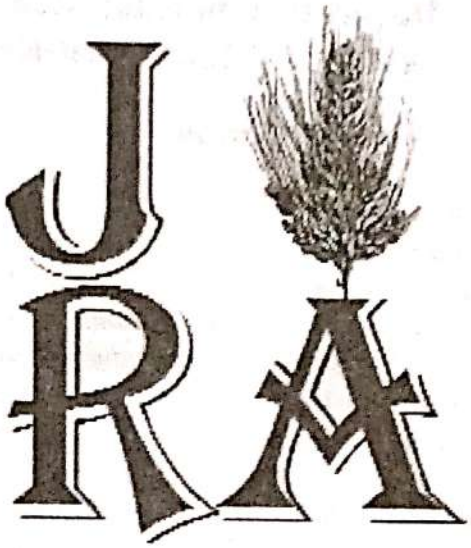

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Analysis of home reading habits of higher secondary students from arts and science streams

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Abstract

Present research was aimed to compare home reading habit of students of two streams i.e. arts and science at higher secondary level in Aligarh, State of Uttar Pradesh (India). The students of higher secondary level from ten schools were subjected. For the study purpose 250 students from each of two streams i.e. arts and science were randomly selected and administered questionnaire to find out their responses on various items related to diagnosis of their home reading habits. It can be conclude on the basis of comparison of two observations that textbooks and magazines reading habit at home was similar in students of two streams at higher secondary level whereas, students of science stream had better fiction and nonfiction materials, newspapers and on Internet reading habit at home at this level.

Keywords: Aligarh, Education, Higher secondary, Home reading habits, Internet, Study habit.

Introduction:

Reading has been the passion of the greatest personalities of all times. Human beings have been reading subsequently ages and thus words of knowledge have been passed through generation to generation. Abeyrathna and Zainab, (2004) reported that the students continue their study regularly outside school hours. This is mainly confined to textbooks and mainly carried out for the purpose of acquiring knowledge. The library is generally used to study or do homework rather than to borrow items to read at leisure. Most students indicated positive attitude towards the library for providing them with the facility to carry out their study or meet friends, but hardly use the services the library provides.

Agnihotri, (2012) advocated that the students should be helped to be acquainted with the vocational implications of various school subjects. Carol, (1977) suggested a procedure for using the think-aloud technique in the classroom. Reading habit, skill, and attitude were found

to result substantial incremental validity in predicting academic performance (Crede and Kuncel, 2008). Reading habit and skill measures improvement in prediction of academic performance more than any other non-cognitive individual difference variable examined to date and should be regarded as the third pillar of academic success. Need for achievement and reading habits have been found to be the significant variables, which contributes to better performances in the pupils (Parveen, 2011). Dixit, (2011) reported a positive correlation between the readiness towards the use of meta-cognition and academic achievement.

Gender differences in reading habit of children are reported to be very much critical. Higher percentage of girls indulges in leisure reading compared to that of boys (Abilock, 2002). The boys prefer adventure and sports stories, while girls enjoyed animal stories and stories about teenage problems (Simpson 1998). At the time when children read for their pleasure, it is presumed that they involuntarily and unconsciously improve their language skills. The habit of reading improved their reading skills. It helps broaden their experiences and knowledge.

The objectives of present investigation included to compare reading habits of the students of arts and science streams at higher secondary level in Aligarh District of Uttar Pradesh (India).

Materials and Methods:

Students of higher secondary level from ten schools of Aligarh district of State of Uttar Pradesh (India) were selected and classified into two groups on the basis of their streams. For the study purpose 250 students from each of two streams i.e. arts and science were randomly selected. Those were administered a questionnaire to find out their responses on various items related to diagnosis of their home reading habits. They were requested to return questionnaire along-with their responses to the research workers as early as possible. The surveyor re-contacted the respondents and tried to find their responses on the non-responded items. Responses on questionnaire were classified in various meaningful categories and analyzed statistically using suitable statistical models (Snedecor and Cochran, 1994).

Results and Discussion:

Arts stream:

The observations with regard to the home reading habit of the students of arts stream at have been presented in the Table 1. Most of the students of arts stream at higher secondary level had a good home reading habit. About 21 per cent students were reading textbooks for 4 days per week, 20, 25 and 21 per cent students were reading fiction,

nonfiction materials and magazines for 2 days per week and 19 and 21 per cent students were reading at least 1 day per week, respectively. Only 7, 14, 14, 6, 13 and 15 per cent students were not reading textbooks, fiction, non-fiction materials, magazines newspapers and Internet at their home. The major reason for this type of habit was due to the fact that a huge number of students under this category were related to the rural and remote localities where fiction and non-fiction materials, magazines, news-papers and Internet facilities were not properly and adequately available for them. Another reason was that most of the students under this locality were engaged in hard work of their daily homely routine works. About 9, 4, 4, 7, 6 and 5 per cent students were reading text-books, fiction and nonfiction materials, magazines, news-papers and Internet daily. Most of these students were belonging to urban localities where these facilities were available at satisfactory mark.

Table 1: Home reading of higher secondary students of Arts Steam (%)

Days per week	Text-books	Fiction	Non-fiction	Magazines	News-papers	Internet
0	7	14	14	6	13	15
1	5	16	21	16	19	21
2	8	20	25	21	15	19
3	19	18	13	17	15	18
4	21	12	9	14	13	9
5	17	10	9	11	11	7
6	14	6	5	8	8	6
7	9	4	4	7	6	5

Science stream:

The observations with regard to the home reading habit of higher secondary students of science stream are presented in the table 2. Most of the students of science stream at this level had a good home reading habit. About 21 per cent students were reading textbooks for 4 days per week, 20, 25, 17 and 22 per cent students were reading fiction and nonfiction materials, newspapers and on Internet for 3 days per week and 20 per cent students were reading magazines 2 days per week, respectively. Only 8, 12, 9, 7, 13 and 10 per cent students were not reading textbooks, fiction, non-fiction materials, magazines newspapers and Internet at home. The major reason for this type of habit was due to the fact that a huge number of students under this category were from rural and remote area where fiction, nonfiction material magazines, newspapers and Internet facilities were not properly and adequately available for the students. Another reason was that most of the students under this locality were engaged in hard work of their daily homely

routine works. About 8, 5, 4, 7, 7 and 6 per cent students were reading textbooks, fiction and nonfiction materials, magazines, newspapers and Internet daily. Most of them were belonging to urban localities where those facilities were available at satisfactory mark.

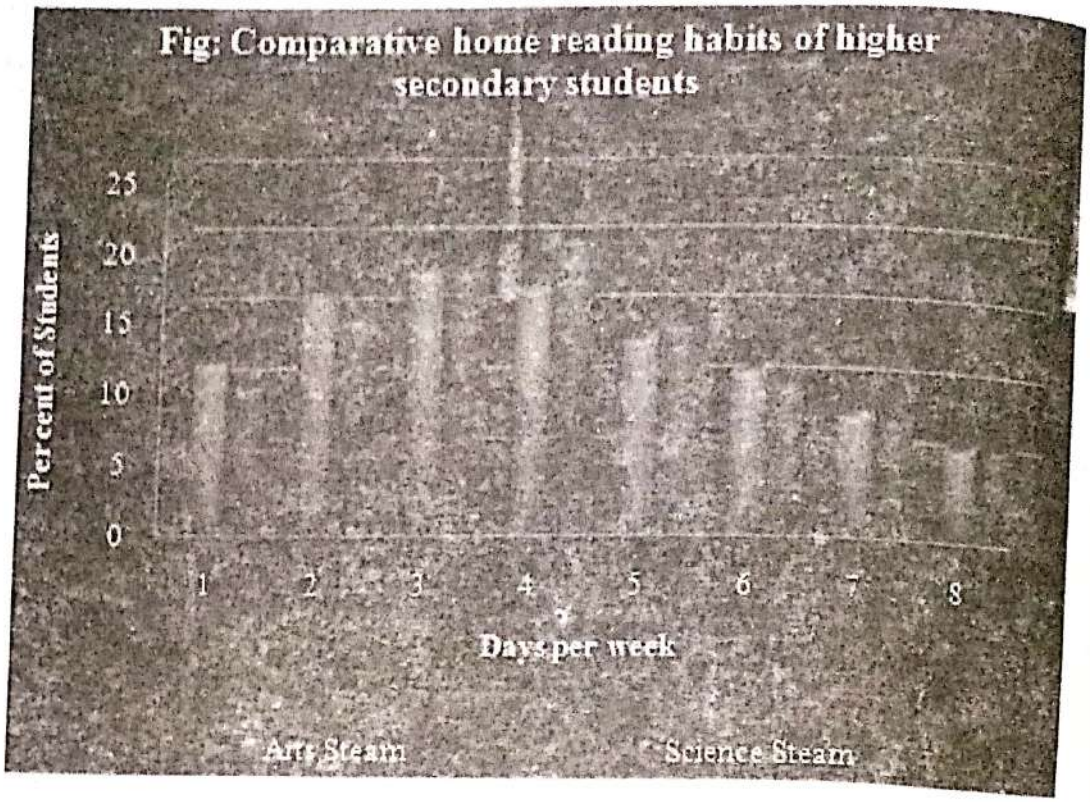
Table 2: Home reading of higher secondary students of Science Steam (%)

Days per week	Text-books	Fiction	Non-fiction	Magazines	News-papers	Internet
0	8	12	9	7	13	10
1	9	18	14	15	14	18
2	16	16	21	20	15	19
3	20	20	25	17	17	22
4	21	12	13	15	13	10
5	10	10	9	10	11	9
6	8	7	5	9	10	7
7	8	5	4	7	7	5

Table 3: Comparative home reading habits of higher secondary students.

Days per week	Arts Steam	Science
0	12	10
1	16	15
2	18	18
3	17	20
4	13	14
5	11	10
6	8	8
7	6	6
Total	100	100
F=0.01; *P-value*=0.93		

Table 3 and Figure demonstrated that overall reading habits of secondary higher secondary students were non-significant (F value = 0.01 and P value = 0.93) in two streams i.e. Arts and Science. It appears on the basis of the outcomes of present investigation that reading habit is poorer in the students. Teachers (Wiesendanger, 1994) and teacher librarians (Valari, 1995) can help to improve their reading skills and attitude towards reading at home.



Conclusion:

It can be conclude on the basis of comparison of present observations that textbooks and magazines reading habit at home was similar in the students of two streams at higher secondary level whereas, the students of science stream had better fiction and nonfiction materials, newspapers and on Internet reading habit at home. The reading habit of the students need improvement and teachers and teacher librarians may be helpful in this regards for the students.

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Effect of Fat Levels in Milk on Physico-Chemical Attributes of Paneer

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Abstract

The present investigation was undertaken to study the effect of Fat Levels in Milk on Physico-Chemical Attributes of Paneer. For the preparation of paneer during current investigation fresh buffalo milk was standardized for 6% fat (control) and cow milk for 5.0 (T_1), 4.5 (T_2), 3.5 (T_3) and 2.5% fat (T_4). Synthetic citric acid (2.0% w/v) was used as coagulating agent. The coagulation process was completed at the temperature of 80°C. Paneer was prepared from standardized milk using standardized procedures and yield, nutrient recover and composition of paneer were determined. Data obtained were subjected for statistical analysis using suitable models. Level of fat in milk had significant ($P<0.01$) effect on yield, nutrients recovered. Paneer yield and recovery fat, protein and total solids decreased with the decrease in level of fat in milk used for preparing paneer. Decrease in level of fat in milk increased contents of moisture, fat, calcium and phosphorus; decreased FDM and could not affect pH, protein lactose and ash in manufactured paneer.

Keywords: Buffalo milk paneer, Composition of paneer, Cow milk paneer, Fat levels, Paneer, Recovery of paneer.

Introduction:

Paneer, a coagulated milk product, is an important indigenous nutritious and wholesome dairy product of great value in diet because it is a rich source of high quality protein, fat, minerals and vitamins and is similar to an un-ripened variety of soft cheese (Kumar *et al.*, 2011). Although it is commonly prepared from buffalo milk (Singh and Kanawjia, 1991) but various workers have also successfully utilized the cow and goat milk for the preparation of paneer/chhana (Sharma *et al.*, 1998). The economics of paneer manufacture work out to be more favourable as compared to fluid milk and other products. (Sachdeva and Singh, 1990).

Good quality paneer is characterized by a marble white color in appearance, sweetish, mildly acidic, nutty flavour, cohesive and spongy body and close knit texture. Buffalo milk paneer has all these attributes, hence preferred over cow milk paneer which is of inferior quality due to its very compact and fragile body and its pieces lose their identity in cooking (Sachdeva *et al.*, 1985).

Good quality paneer is obtained by heating milk to about 90°C, acidifying the hot milk by adding citric acid solution followed by removal of whey and pressing of the curd before cooling the pressed mass in chilled water. The technology of manufacturing this milk product from buffalo milk has been standardized so as to obtain the most acceptable and safe product with maximum recovery of solids (Sachdeva and Singh, 1988). Subsequently, process of preparing paneer of acceptable quality from cow milk has also been developed (Sachdeva *et al.*, 1991).

Good quality paneer has been prepared from goat milk using citric acid (0.15% w/w) and fermented paneer whey as coagulants and packed in polypropylene bags could safely be preserved for three days under refrigeration (4+1°C) (ICAR, 2001).

Keeping importance of this indigenous milk product, the present investigation was undertaken to study the effect of Fat Levels in Milk on Physico-Chemical Attributes of Paneer.

Materials and methods:

For the preparation of paneer (a coagulated milk product) during current investigation fresh milks from cow and buffalo obtained from local dairies were separated in the laboratory and cow and buffalo skim milks and creams both were used in standardizing milk at different levels of fat as per experimental requirements i.e. buffalo milk testing 6 (control) and cow milk testing 5.0 (T_1), 4.5 (T_2), 3.5 (T_3) and 2.5% fat (T_4). Synthetic citric acid at the rate of 2.0% (w/v) concentration was used as coagulating agent. The coagulation process was completed at the temperature of 80°C. A lot of 3 lit of standardized milk were formulated every time to manufacture each batch of paneer. The milk product was prepared from standardized milk using procedure of Bhattacharya *et al.* (1971) as modified by Sachdeva, (1983) and yields were recorded. The paneer samples were subjected to analyse chemically for Yield, Moisture, Titratable acidity, pH, Fat, FDM, Protein, Lactose, Ash, Calcium and Phosphorus (AOAC, 1980; ISI, 1973; ISI, 1977; ISI, 1981). Data obtained during the present study were subjected to statistical analysis as described by Snedecor and Cochran (1994).

Results and discussion:

Observations recorded (Table 1) revealed that level of fat in milk affected yield, nutrients recovered in paneer. Highest yield was obtained in paneer that was made under control whereas lowest under T_4. The yield of paneer under T_3 and T_4 and T_1, T_2 and T_3 remained similar to each other. Paneer yield was decreased with the decrease in level of fat in milk used for manufacturing this milk product (Pal *et al.*, 1991).

Table 1: Effect of Fat Levels in Milk on Recovery of Nutrients in Paneer

Parameters (%)	Milk Fat Levels				
	6.0%	5%	4.5%	3.5%	2.5%
Yield	22.42 $\pm 0.15^{C}$	17.65 $\pm 0.46^{B}$	17.77 $\pm 0.18^{B}$	16.8 $\pm 0.07^{A,B}$	15.27 $\pm 0.40^{A}$
Fat	82.22 $\pm 3.55^{B}$	80.76 $\pm 2.25^{A,B}$	78.01 $\pm 4.43^{A,B}$	74.81 $\pm 2.95^{A,B}$	68.77 $\pm 2.86^{A}$
Protein	92.88 $\pm 2.21^{C}$	68.85 $\pm 1.97^{B}$	68.20 $\pm 2.19^{B}$	70.72 $\pm 0.48^{B}$	52.45 $\pm 0.86^{A}$
Total solids	84.67 $\pm 0.18^{C}$	76.64 $\pm 1.68^{B}$	76.09 $\pm 0.32^{B}$	72.26 $\pm 0.68^{A,B}$	66.91 $\pm 0.38^{A}$

^{A,B,C} *Values bearing different superscripts within the row differed significantly ($P<0.01$.)*

Fat recovery in paneer made under T_1, T_2, T_3 and T_4 and Control, T_1, T_2 and T_3 remained same to each other (Sanyal and Yadav, 2000[a]). Fat recovery in paneer decreased with the decrease in fat level in milk. Present findings with regard to fat recovery in paneer confirmed the findings reported earlier (Agnihotri and Pal, 1996). Protein recovery in paneer made under T_1, T_2, T_3 and T_4 and Control, T_1, T_2 and T_3 remained similar to each other (Sanyal and Yadav, 2000[a]). These observations confirmed the findings reported earlier (Bund and Pandit, 2007; Pandya and Ghodke, 2007; Kumar *et al.*, 2008; Verma and Khan, 2009). Protein recovery in paneer was decreased with the decrease in level of fat in milk used for manufacturing this milk product. High content of protein in milk used to manufacture paneer is responsible for high loss and low recovery of the nutrient. The fact could be associated as the reason for decrease of protein recovery in the finished product. Total solids (TS) recovery in paneer under T_3 and T_4; and T_2, T_3 and T_4 TS remained similar to each other. Total solids recovery in paneer was decreased with the decrease in level of fat in milk used for manufacturing this milk product. The observations with regard to recovery of total solids in paneer confirmed the findings reported earlier (Vishweshwaiah and Ananta Krishnan 1986;

Singh and Kanwaji, 1988; Sharma *et al.*, 2002; Farooquei *et al.*, 2008; Kumar *et al.*, 2008; Deshmukh *et al.*, 2009; Harjai *et al.*, 2009; Jadhavar *et al.*, 2009; Nalkar *et al.*, 2009). High content of total solids in milk used to manufacture paneer is responsible for high loss of the nutrients.

Highest moisture, titratable acidity and phosphorus content in paneer (Table 2) was obtained under T_4 and lowest under control; highest fat, FDM, protein and calcium under control and lowest under T_4, whereas highest lactose under T_3 and lowest under control and highest ash under T_4 and lowest under T_2.

Table 2: Effect of Fat Levels in Milk on Physico-chemical Attributes of Paneer

Attributes (%)	Milk Fat Levels				
	6.0%	5%	4.5%	3.5%	2.5%
Moisture	49.33 $\pm 0.43^{A}$	50.06 $\pm 0.21^{A}$	52.89 $\pm 0.67^{A,B}$	54.84 $\pm 0.25^{B,C}$	56.12 $\pm 0.93^{C}$
Titratable acidity	0.17 $\pm 0.01^{A}$	0.18 $\pm 0.00^{A}$	0.18 $\pm 0.01^{A}$	0.21 $\pm 0.00^{A,B}$	0.26 $\pm 0.01^{B}$
pH	5.85 ± 0.05	5.85 ± 0.05	5.93 ± 0.05	5.94 ± 0.05	5.97 ± 0.05
Fat	24.69 $\pm 1.08^{C}$	21.17 $\pm 0.32^{B,C}$	17.4 $\pm 0.55^{A,B}$	16.66 $\pm 0.86^{A}$	15.27 $\pm 0.61^{A}$
FDM	48.7 $\pm 1.80^{B}$	42.4 $\pm 0.79^{A,B}$	37 $\pm 1.69^{A}$	36.86 $\pm 1.71^{A}$	34.84 $\pm 1.60^{A}$
Protein	18.22 $\pm 0.32^{B}$	17.16 $\pm 0.19^{A,B}$	16.87 $\pm 0.38^{A,B}$	18.52 $\pm 0.05^{B}$	15.14 $\pm 0.41^{A}$
Lactose	2.49 $\pm 0.03^{C}$	2.35 $\pm 0.00^{B,C}$	2.2 $\pm 0.05^{B}$	2.03 $\pm 0.01^{A}$	2.45 $\pm 0.04^{C}$
Ash	1.84 $\pm 0.09^{B}$	1.75 $\pm 0.00^{A,B}$	1.54 $\pm 0.02^{A}$	2.04 $\pm 0.01^{B}$	2.13 $\pm 0.04^{C}$
Calcium	0.49 $\pm 0.00^{A}$	0.5 $\pm 0.00A,^{B}$	0.51 $\pm 0.00^{A,B}$	0.52 $\pm 0.01^{A,B}$	0.53 $\pm 0.01^{B}$
Phosphorus	0.54 $\pm 0.00^{A}$	0.55 $\pm 0.01^{A,B}$	0.56 $\pm 0.01^{A,B}$	0.57 $\pm 0.01^{A,B}$	0.58 $\pm 0.01^{B}$

^{A,B,C} *Values bearing different superscripts within the row differed significantly, ($P<0.05$.)*

The moisture content in paneer obtained under T_4 and T_2, T_3 and T_2, and T_2, T_1 and control remained non-significant to each other. The titratable acidity of paneer obtained under T_4 and T_3; and T_3, T_2, T_1 and control remained similar to each other. The fat content in paneer obtained under T_4, T_3 and T_2; T_2 and T_1; and T_1 and control remained non-

significant to each other. The FDM of paneer obtained under T_4, T_3, T_2 and T_1; and T_1 and control remained similar to each other. The protein content in paneer obtained under T_4, T_2, and T_1; and T_3, T_2, T_1 and control remained similar to each other. The lactose content in paneer obtained under T_2, and T_1; and T_4, T_1 and control remained similar to each other. The ash content in paneer obtained under T_3, and T_1 remained similar to each other. The calcium content in paneer manufactured from milk testing T_4, T_3, T_2 and T_1 and T_3, T_2, T_1 and control remained similar to each other. The phosphorus in paneer obtained under T_4, T_3, T_2 and T_1; and T_3, T_2, T_1 and control remained similar to each other.

Moisture, fat, calcium and phosphorus content in paneer was increased with the decrease in level of fat in milk used for manufacturing (Torres and Chandan, 1981; Chawla *et al.*, 1985; Vishweshwaiah and Ananta Krishnan 1986; Singh and Kanwaji, 1988; Parmar *et al.*, 1989; Mistry *et al.*, 1990[a]; Mistry *et al.*, 1990[b]; Desai *et al.*, 1991; Gupta *et al.*, 1992; Pal and Kapoor, 2000; Sanyal and Yadav, 2000[a]; Sanyal and Yadav, 2000[b]; Sharma *et al.*, 2002; Uprit and Mishra, 2004; Topcua and Saldamlia, 2006; Kumar *et al.*, 2008; Deshmukh *et al.*, 2009; Goyal and Gandhi, 2009; Mathare *et al.*, 2009; Sahul and Das, 2009). FDM of paneer was decreased with the decrease in level of fat in milk used for manufacturing this milk product (Nalkar *et al.*, 2009; Pal *et al.*, 1991). Levels of fat in raw milk did not have any significant influence on pH, protein lactose and ash content content in resultant paneer (Arora and Gupta, 1980; Chawla *et al.*, 1987; Kanawjia *et al.*, 1990; Jindal *et al.*, 1993; Agnihotri and Pal, 1996; Khan and Pal, 1997; Kanawjia and Singh, 2000; Nanda *et al.*, 2004; Bund and Pandit, 2007; Kumar *et al.*, 2007; Pandya and Ghodke, 2007; Farooquei *et al.*, 2008; Nanda *et al.*, 2008; Divya and Kumari, 2009; Harjai *et al.*, 2009; Jadhavar *et al.*, 2009; Verma and Khan, 2009; Yadav and Grover, 2009; Kandeepan and Sangma, 2011; Pawar *et al.*, 2011).

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Effect of oral quercetin administration on exoskeleton of Barbari goats in sub tropics regions

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Abstract

Present investigation was designed to study find out the influence of oral administration of quercetin on the exoskeleton of goats. The study was carried out on six Barbari goats selected randomly from the herd and offered identical balanced feed. Those were given oral administration of quercetin at the rate of 1.5 mg per Kg live weight, in the morning daily. Sample of hairs, horns and hooves were collected from goats under experiment on the day 00, 30, 60 and 90 of the experimental trial. The samples were estimated for crude protein, crude fat, major and trace elements. The data recorded during the experiment were statistically analyzed using suitable models. Salient conclusion based on the study can be drawn that content of crude protein in exoskeleton, and magnesium in hooves of goats was increased with the advancement in the duration of administration of quercetin in goats.

Keywords: Exoskeleton, Goat, Hairs, Hooves, Horns, Quercetin.

Introduction:

Quercetin having anti-inflammatory and antioxidant properties, (Stewart *et al.*, 2008; Davis *et al.*, 2009) is a plant-derived flavonoid, which is used as a nutritional supplement. Biochemically Quercetin is the aglycone form of flavonoid glycosides, such as rutin together with rhamnose and rutinose, respectively and quercitrin, which are found in citrus fruit, buckwheat and onions.

In laboratory studies of cells (*in vitro*), quercetin produced changes that are also produced by compounds that cause cancer (carcinogens), but not reported increased cancer in animals or humans (Verschoyle *et al.*, 2007; Rietjens *et al.*, 2005; van der Woude *et al.*, 2005). Quercetin has been claimed to surpress skin and prostate cancer cells (Paliwal *et al.*, 2005); reduces blood pressure (Edwards *et al.*, 2007), inhibits chronic prostatitis, (Shoskes, 1999), inhibited production of fat cells In combination with resveratrol (Yang *et al.*, 2008). Despite of these preliminary indications of possible medicinal effects, quercetin

has neither been confirmed as a specific therapeutic action nor been approved by any regulatory agency. Quercetin influences cellular mechanisms in a very limited fashion, to reduce the risk of certain cancers (Neuhouser, 2004; Murakami *et al.*, 2008) in human population. Quercetin is defined as an inhibitor of CYP2C9 (Dayong *et al.*, 2009), however, the sources are not so consistent as to whether quercetin is an inhibitor (Hsiu *et al.*, 2002) or inducer (Raucy, 2003) of CYP3A4.

Present investigation was designed to study find out the influence of oral administration of quercetin on the exoskeleton of goats.

Materials and methods:

The study was carried out on six Barbari goats selected randomly from the herd, on the basis of various phenotypic traits (Age 845.3±5.4 d; LW 17.3±0.6 Kg; BL 573.7±6.4 mm; BH 551.2±6.6 mm; HG 572.8±6.4 mm). The subjected animals (both sheep and goats) were reared at the door of the farmer in village Chaumuhan and were offered identical feed as per the specification of ICAR, (1998) to meet out their daily nutritional requirements. The steps were taken for deworming under prescription and supervision of veterinarian to make sure that the animals will remain free from internal and external parasitic infection during the investigation. The animals were given oral administration of Quercetin at the rate of 1.5 mg per Kg live weight, in the morning daily.

Sample of hairs, horns and hooves were collected from goats under experiment on the day 00, 30, 60 and 90 of the experimental trial. Samples of hairs were collected from the neck, shoulder, mid flank, ventral abdomen, croup and lateral thigh region. Sample of the horns were collected at the base and the tip of both left and right horns. The samples of hooves were collected from four legs of the animals.

The samples were immediately brought to the laboratory and washed to remove all the outer material using standard techniques followed by drying. The collected samples were subjected to estimation of crude protein, crude fat, major and trace elements (Denis, 1922; Robertson and webb, 1938; Macpherson and Stewart, 1939; Allen, 1940; De Loureiro and Janz, 1944; Jones, 1948; Fowden, 1951, Futterman and Saslaw, 1961; AOAC, 1990; Mathpal and Kandpal, 2009). The data recorded during the experiment were statistically analyzed using suitable models (Snedecor and Cochran, 1994).

Results and discussion:

The observations regarding the effect of quercetin supplementation on distribution of different components in the

exoskeleton of, at different intervals (day 00, 30, 60 and 90 days) of regime of antioxidant has been presented in the Table 1.

Table 1(a): Composition of exoskeleton of goat as affected by oral administration of quercetin

Subject	Organ	Day 00	Day 30	Day 60	Day 90
Crude protein	Hairs	81.44 ±0.13 [b]	84.28 ±0.73 [a,b]	86.92 ±0.67 [a]	88.77 ±0.62 [a]
	Horns	71.37 ±0.74 [b]	72.51 ±0.55 [a,b]	72.68 ±0.50 [a]	75.09 ±0.46 [a]
	Hooves	74.25 ±0.69 [c]	5.55 ±0.55 [b,c]	76.42 ±0.74 [a,b]	77.76 ±0.38 [a]
Crude fat	Hairs	8.09 ±0.14	8.22 ±0.10	8.23 ±0.13	8.13 ±0.40
	Horns	12.54 ±0.22	12.75 ±0.21	12.68 ±0.19	12.74 ±0.25
	Hooves	14.26 ±0.32	14.36 ±0.27	14.24 ±0.25	14.11 ±0.35

Content of crude protein (CP) ranged from 81.44 to 88.77, 71.37 to 75.09 and 74.25 to 77.76 and crude fat (CF) 8.09 to 8.23, 12.54 to 12.75 and 14.11 to 14.36µg/100g in goat hairs, horns and hooves, respectively during the course of the study. Content of CP in exoskeleton was significantly increased but CF remained unaffected due to increased length of oral administration of quercetin. Williams *et al.*, (1983) presented findings similar to those recorded during present results in control group in terms of CP and CF distribution in soft tissues.

The contents of major elements except magnesium in exoskeleton were not differed due to increased length of oral administration of quercetin in goats, however content of magnesium in goat hooves was increased because of lengthened duration of oral administration of magnesium. Very modest information is available in the literature with regard to major element profile in exoskeleton of goats affected by quercetin administration. The findings of BoBelmann *et al.*, (2007) for content of calcium, sodium and magnesium and Abdin-Bey, (2007) for phosphorus in exoskeleton in control groups were well comparable. Present findings in control group had also confirmed the out-comes of Williams *et al.*, (1983); Hidiroglou and Williams, (1986); Anson, (2000); and Ali, (2008) in this regard.

The contents of micro elements in exoskeleton of goats were not differed as a result of lengthened oral administration of quercetin. Very little information is available in the literature with regard to profile of micro elements in exoskeleton of goats. The present findings in control group were in agreement with the results perceived by Onwuka *et al.*,

(2001); AL Qahtani, (2004); Abdin-Bey, (2007) and Ali, (2008) in terms of cobalt profile; Hidiroglou and Williams, (1986); AL Qahtani, (2004); Abdin-Bey, (2007); Ali, (2008) and Mehren, (2009) in terms of copper profile; Williams *et al.*, (1983); Anson, (2000); Onwuka *et al.*, (2001); Al Qahtani, (2004); Ali, (2008) and Mehren, (2009) in terms of iron profile and Spruit and Bongaarts (1977); Chatt and Katz, (1988); Aras and Ataman, (2006) and Ali, (2008) in terms of nickel profile of exoskeleton of mammals.

Table 1(b): Composition of exoskeleton of goat as affected by oral administration of quercetin

Subject	Organ	Day 00	Day 30	Day 60	Day 90
Calcium	Hairs	774.17 ±9.97	776.83 ±9.24	774.50 ±6.65	776.83 ±5.94
	Horns	108.33 ±4.71	108.67 ±4.89	108.67 ±4.89	129.83 ±5.38
	Hooves	120.17 ±1.96	119.67 ±1.75	119.17 ±1.96	119.17 ±1.96
Phosphorus	Hairs	385.00 ±1.03	391.83 ±2.04	396.83 ±1.80	398.83 ±1.54
	Horns	129.83 ±5.38	132.17 ±5.51	133.67 ±5.53	134.67 ±5.53
	Hooves	136.50 ±1.71	138.50 ±1.71	140.50 ±1.71	141.50 ±1.71
Sodium	Hairs	83.70 ±2.18	80.27 ±1.87	78.58 ±1.05	77.85 ±1.68
	Horns	433.60 ±5.17	427.67 ±5.17	418.67 ±4.95	417.00 ±4.99
	Hooves	184.67 ±6.90	185.67 ±6.90	185.67 ±6.90	184.67 ±6.90
Magnesium	Hairs	400.67 ±5.53	399.67 ±2.82	402.67 ±1.45	401.00 ±1.15
	Horns	169.17 ±1.56	169.17 ±1.56	170.17 ±1.56	171.17 ±1.56
	Hooves	440.83 ±1.26 [a]	434.50 ±1.05 [b]	425.50 ±1.72 [a]	424.00 ±1.72 [c]

Conclusion:

Salient conclusion based on the study can be drawn that content of crude protein in exoskeleton, and magnesium in hooves of goats was increased with the advancement in the duration of administration of quercetin in goats.

Table 1(c): Composition of exoskeleton of goat as affected by oral administration of quercetin					
Subject	Organ	Day 00	Day 30	Day 60	Day 90
Cobalt	Hairs	10.37 ±0.03	11.17 ±0.09	11.22 ±0.08	10.22 ±0.08
	Horns	1.90 ±0.17	1.91 ±0.17	1.93 ±0.18	1.88 ±0.17
	Hooves	1.63 ±0.04	1.64 ±0.04	1.66 ±0.04	1.62 ±0.04
Copper	Hairs	182.50 ±0.92	186.33 ±1.69	184.17 ±1.14	184.17 ±1.45
	Horns	21.00 ±2.42	21.35 ±2.46	21.18 ±2.44	21.47 ±2.48
	Hooves	18.42 ±0.55	18.75 ±0.57	18.55 ±0.57	18.82 ±0.55
Iron	Hairs	67.93 ±2.06	69.77 ±0.78	75.05 ±1.22	79.62 ±2.16
	Horns	25.33 ±2.16	26.20 ±2.23	28.03 ±2.39	29.82 ±2.53
	Hooves	19.12 ±0.55	19.73 ±0.56	21.08 ±0.60	22.48 ±0.64
Nickel	Hairs	30.15 ±1.59	29.20 ±0.94	31.72 ±0.95	27.67 ±1.58
	Horns	35.67 ±2.42	33.55 ±2.28	36.92 ±2.50	34.82 ±2.36
	Hooves	31.15 ±0.90	29.32 ±0.84	32.25 ±0.92	30.42 ±0.88

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Information services and the effect on users in the university libraries in western Uttar Pradesh

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Abstract

A study critical study was conducted to find out present scenario of availability of information services in university libraries of western Uttar Pradesh and its effect on end users. Out of all the total university libraries of western Uttar Pradesh, 4 states, 1 Deemed to be university and 2 private university libraries were randomly selected for the study. A number of 7 university librarians or counterparts, 10 faculty members, 15 research scholars, 20 post graduate students and 25 undergraduate students from each university library were randomly selected for the study from source list. Variables of study were information that was collected using experimental tools on various aspects under study. Present investigation was proposed to be based on 427 respondents. Purposefully designed questionnaire, schedule and interview were used as tools of present survey. Valid conclusions were drawn using standard statistical models (Snedecor and Cochran, 1994). Major findings were that the highest number of satisfied users was recorded with circulation services and lowest with teleconferencing; MJPRU was the richest university library amongst others under present study; and CCSU was the richest and DEI was poorest university library in terms of collection of reference sources amongst others under present study.

Keywords: E-Journals, ICT, Information services, IT, University libraries, Uttar Pradesh.

Introduction:

"Information" refers to communicate news, knowledge, or facts consisting knowledge endowed with relevance and purpose. Its main function is presentation of facts with the intention that man's vision is broadened to enable him to fight against the issues pose by ignorance and fallacy. Services with respect to the libraries refer to enable the user to access the information that he requires for his knowledge enhancement.

The majority of university libraries are found to work in the conventional settings and the diffusion rate of web information services is relatively low (Preedip Balaji and Kumar, 2011). Thus more prominence is needed for emphasizing on advancement of existing learning, online educational facilities and benchmarking electronic information services for sustainability.

All the advancements give way to new range of reference services. Advancement of digital reference is the latest trend of the digital era. Easily accessible digital information has rapidly become one of the hallmarks of internet (Singh, 2012).

To manage with the present situation, libraries are shifting towards new media, namely electronic resources for advancement of collection so that the demands of users are fulfilled in a better way. The e-resources on magnetic and optical media have a massive impact on the collections of university libraries. These are more useful due to inherent capabilities for modification along with searching. Sometimes the electronic form is the only alternative for providing information access in cheaper way to obtaining information resources, savings in storage and maintenance (Bajpai *et el.*, 2009).

E-Journals refer to interchangeably as Electronic Serials, Online Journals and Electronic Periodicals. (Lancaster 1995; Dhingra and Mahajan, 2012). E-Journal is defined as "a journal created for the electronic medium and available only in this medium". The e-journals in university libraries is one of the useful e-reserves regarding infrastructure as well as staff, space, technical services, photocopying, inter-library loan, library use and reference services (Kaur, 2011).

UGC-INFONET and INDEST- Consortium are two major initiatives that have come to the rescue of academic libraries from shrinking budgets and simultaneous exponential rise in prices of the journals in a way that they can furnish needs of academic depending upon them. This revolutionary step is providing scholarly resources including peer reviewed journals, databases, abstracts, and proceedings. The efforts are definitely boosting the higher education system in our country (Chakravarty and Singh, 2005).

Information and Communication Technology (ICT) presents an occasion to provide value-added information services and access to a wide variety of digital-based information resources to the end users. Libraries are using modern ICT to automate their nucleus functions, execute efficient and effective library cooperation and resource sharing through networks. The ICT use implies competence building programmes for library staff and information literacy programmes for

library users. In most of the university libraries in India, use of ICTs has largely restricted traditional library automation like replacing manual operations by computerized ways (Rana, 2011).

To meet necessities of distance learners, library services at the present are including not only traditional postal loan services, but also off- campus online access to the full- text of electronic journals. Increasingly distance education is utilizing e- mail and web- based facilities to deliver teaching materials and provide interactive tutorial support (GOMEZ, 1999).

The e-reference service is used most by people who have integrated computing network into all aspects of their work and communication. A greater emphasis is now required for e-reference service that not only on advancing librarian's professional expertise, but also on his role in managing the expectations of his end users. In the networked environment, e-reference service is increasingly important that libraries provide an explicit statement of the aims of the reference service that they provide (Johnson *et al.*, 2011).

Information Technology (IT) offers a wide range of opportunities to the user in solving some of the major challenges. Rapid advances in IT has greatly improved the potential of storage, processing, retrieval, repackaging, communicating and sharing, and managing explosive growth of information effectively and economically in libraries. Use of IT in libraries has become predictable in an era of information explosion and the emergence of a wide range of IT in order to satisfy the changing complex information needs of end users (Venkata Ramana and Chandrasekhar Rao, 2003).

The digital media Archive is a nonprofit digital library with the mission of worldwide access to all knowledge. It endows with permanent storage and free public access to collections of digitized materials, including sites, music, moving images, and public-domain books. As on October 2012, its collection topped ten petabytes (Brown, 2006). In addition to its archiving function, the Archive is an activist organization, advocating for a free and open Web.

The objective of present research was decided to study critically the present scenario of availability of information services in the university libraries of western Uttar Pradesh and its effect on end users.

Materials and Methods:

All the state, deemed to be university and private university libraries of Western Uttar Pradesh and there users were contributing as

the population or universe for the present study. There were four types of user respondents viz. faculty, research scholar, postgraduate and undergraduate respondents. The sample were university librarian or counterparts and users including faculties, research scholar, postgraduate and undergraduate students. Random sampling technique was followed during present investigation to draw the samples from the population. A number of 7 university librarians or counterparts, 10 faculty members, 15 research scholars, 20 post graduate students and 25 undergraduate students from each university library were randomly selected for the study from the source list. The variables of the study were the information which will be collected using experimental tools on various aspects under study. Present investigation was proposed to be based on 7 university librarian or counterpart respondents and 490 user respondents but due to unchangeable circumstances like death, deputation, retirement, completion of degree etc. 63 user respondents could not return the questionnaire. Thus the study is based on 427 units. Questionnaire schedules and interview were used as tools of present survey. Valid conclusions were drawn using standard statistical models (Snedecor and Cochran, 1994).

Results and Discussion:

It can be perceived based on the findings that the highest number of satisfied users (Table 1) were recorded with the circulation services in the university libraries of western Uttar Pradesh followed by Newspaper, Reprography, Email, Reference, Dial up, Automated CAS, Automated SDI, E-resources, Internet Browsing, Periodical, CD-ROM Search, On-line search, FAX, Web OPAC, E-Bulletin board, Inter library loan, Automated translation and Voice chatting, whereas with the teleconferencing services of the same libraries under present study, users were recorded most unsatisfactory.

Highest numbers of satisfied end users, amongst all the satisfied users were those that were satisfied with the circulation services followed by Newspaper, Reprography, Email, Reference, Dial up, Automated CAS, E-resources, Automated SDI, Internet Browsing, Periodical, CDROM Search, Online search, FAX, Web OPAC, E-Bulletin board, Inter library loan, Automated translation and Voice chatting whereas lowest satisfied users were under teleconference services of the same libraries under present study.

Collection of books (Table 2) in different university libraries of western Uttar Pradesh under present study ranged between 26000 and 290000, the highest collection of books was there at MJPRU followed by DBRAU, DEI, CCSU, AU and BU whereas the same was lowest in MU. Collection of periodicals varied between 40 and 258. It was observed to

be highest in CCSU followed by MJPRU, BU, DEI, MU and AU whereas in DBRAU the same was recorded to be lowest. Collection of compact discs (CDs) varied between 50 and 518. The same was observed to be highest in MJPRU followed by AU, CCSU, BU, DEI and DBRAU whereas in MU the same was recorded to be smallest. Collection of magazines varied between 8 and 32. MJPRU was found to be richest in this respect followed by AU, CCSU, BU, DEI and DBRAU whereas MU was recorded to be poorest in this regard. CCSU was found to be richest in this respect followed by MJPRU, DEI, DBRAU, AU and BU whereas MU was recorded to be poorest in this regard. Collection of newspapers was varied between 9 and 17. However, the highest collection was there at CCSU followed by MJPRU, DEI, DBRAU, AU and BU whereas the same was lowest in MU.

Table 1: Level of satisfaction about various types of services.

Sl. No.	Services	Satisfactory		Fair		Unsatisfactory	
		No.	%	No.	%	No.	%
1	Automated CAS	196	45.90	154	36.07	77	18.03
2	Automated SDI	171	40.05	128	29.98	128	29.98
3	Automated translation	21	4.92	21	4.92	385	90.16
4	CD-ROM Search	149	34.89	137	32.08	141	33.02
5	Circulation	410	96.02	13	3.04	4	0.94
6	Dial up	201	47.07	68	15.93	158	37.00
7	E-Bulletin board	38	8.90	56	13.11	333	77.99
8	Email	273	63.93	94	22.01	60	14.05
9	E-resources	171	40.05	94	22.01	162	37.94
10	FAX	60	14.05	98	22.95	269	63.00
11	Inter library loan	38	8.90	81	18.97	308	72.13
12	Internet Browsing	162	37.94	77	18.03	188	44.03
13	News paper	286	66.98	90	21.08	51	11.94
14	On-line search	111	26.00	120	28.10	196	45.90
15	Periodical	162	37.94	102	23.89	163	38.17
16	Reference	231	54.10	77	18.03	119	27.87
17	Reprography	282	66.04	102	23.89	43	10.07
18	Teleconferencing	9	2.11	30	7.03	388	90.87
19	Voice chatting	13	3.04	34	7.96	380	88.99
20	Web OPAC	43	10.07	51	11.94	333	77.99

Collection of reference books in different university libraries of western Uttar Pradesh under present study ranged between 2000 and 33000. However, the highest collection of books was there at CCSU followed by BU, MJPRU, DBRU, AU and DEI, whereas the same was lowest in MU. Collection of indexes varied between 4 and 51. It was observed to be highest in DEI followed by BU, DBRAU, CCSU, MJPRU and AU whereas in MU, the same was recorded to be lowest. Collection of abstracts varied between 2 and 46. However, the highest collection was there at DEI followed by MJPRU, CCSU, AU, BU and DBRAU whereas the same was lowest in MU. Collection of bibliographies varied between 2 and 67. The same was observed to be biggest in CCSU followed by BU, DEI, MJPRU, DBRAU and AU whereas in MU the same was recorded to be smallest. Collection of total reference sources varied between 2008 and 33120. CCSU was found to be richest in this respect followed by BU, MJPRU, DBRAU, AU and DEI whereas MU was recorded to be poorest in this regard.

Table 2: Availability of services in different university libraries

	DBRU	BU	CCSU	MJPRU	DEI	AU	MU
Books	166087	122000	131525	290000	150000	125000	26000
Periodicals	40	173	258	180	144	42	100
CD	112	272	418	518	271	422	50
Magazines	20	27	32	41	24	24	8
Newspapers	12	10	17	12	12	11	9
Reference books	24000	31000	33000	29000	14000	15000	2000
Indexes	36	45	21	21	51	15	4
Abstracts	23	29	32	44	46	30	2
Bibliographies	47	61	67	52	55	10	2
CD	112	272	418	518	271	422	50
Cassettes	20	25	30	35	10	0	0
Floppy	35	30	20	25	5	0	0
Micro films	10	5	7	10	0	0	0
Pen Drive	5	8	5	7	5	10	10

Collection of compact discs (CDs) in different university libraries of western Uttar Pradesh under present study ranged between 50 and 518. However, the highest collection of books was there at MJPRU followed by Au, CCSU, BU, DEI and DBRAU, whereas the same was lowest in MU. Collection of cassettes varied between 0 and 20. It was observed to be highest in MJPRAU followed by CCSU, BU, DBRAU, DEI and AU whereas in MU, the same was recorded to be lowest.

Conclusion:

It can be analyzed that the highest number of satisfied users was recorded with the circulation services and lowest with teleconferencing;

MJPRU was the richest university library amongst others under present study; and CCSU was the richest and DEI was poorest university library in terms of collection of reference sources amongst others under present study.

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Feed consumption and nutritional status of lactating buffaloes in Agra District under subtropical agro-climate

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Abstract

Present study was conducted to compare feed consumption and nutritional status of milch buffaloes during various season and domesticated by various categories of farmers in Agra District under subtropical agro climate. Buffaloes (300) were randomly selected from 10 villages of 5 community development blocks in the District containing 2 villages in each and each 30 farmers, categorized in 5 groups i.e. landless, marginal, small, medium and larger farmers. Each category includes 10 farmers in each village. They were surveyed during winter, spring, summer, rains and autumn seasons. Outcomes were collected with the help of questionnaire and personal observation. The samples of feed and fodders were analyzed for proximate principle. The quantity of DM, DCP and TDN intake of various animals were calculated from the record of intake of feed and fodder using average digestibility coefficient values. Data recorded were statistically analyzed using appropriate methods. The decline in feed consumption with increasing environmental temperature was observed in buffaloes. DMI in winter season was higher. On an overall basis, animals remained underfed in terms of DCPI and TDNI in all season compared to that of minimum requirement.

Keywords: Agra, Buffaloes, Feed Consumption, Intake, Nutrition, Subtropical agro climate.

Introduction:

More than half of the buffalo population of the world inhabitate in India (FAO, 2002). The buffalo forms the backbone of Indian dairy industry and is rightly considered as the 'bearer cheque' of the rural flock or India's milking machine (Balain, 1999). These animals require a relatively low level of inputs in the predominantly mixed farming systems, and are well known for their ability to thrive on low-quality crop residues and green forage (Resali, 2000) under harassing climatic conditions. Therefore in India, buffalo is steadily gaining its importance as a major dairy animal. They contribute more milk than cattle although

one third in population (Giovanni, 1988). Thus, the contributions of milk, meat, manure and draft power of the buffalo to the overall national economy have been overwhelming (Shrestha and Shrestha, 1998).

The present study was conducted to compare feed consumption and nutritional status of milch buffaloes during various season and domesticated by various categories of farmers in Agra District under subtropical agro climate.

Materials and methods:

Agra District of Uttar Pradesh was selected using random technique as a representing district amongst others in subtropical agro-climatic zone. Three hundred lactating buffaloes were randomly selected from 10 villages of five community development blocks in the District. Each block contains two villages and each village include thirty farmers, which were categorized in five groups on the basis of landholding capacity i.e. landless farmers (0 h), marginal farmers (< 1 h), small farmers (1-2 h), medium farmers (2-3 h) and larger farmers (>3 h). Each category includes ten farmers in each village. A survey was conducted during the different seasons of the year (2007-08) viz. winter, spring, summer, rains and autumn seasons, i.e. Winter (15 Nov to 31 Jan), spring (1 Feb to 15 Mar), summer (16 Mar to 14 Jun), rains (15 Jun to 15 Sep) and autumn (16 Sep to 14 Nov). The data were collected with the help of questionnaire and personal observation. The body weight of the individual animal was collected by using Minnesoto formula. The samples of feed and fodders were ground and analyzed for proximate principle (AOAC, 1990). The quantity of DM, DCP and TDN intake of various animals were calculated from the record of intake of feed and fodder using average digestibility coefficient value given by Ranjhan, (1983). The data recorded were statistically analyzed as per standard methods (Snedecor and Cochran, 1994).

Results and discussion:

Seasonal variations and categories of the farmers are most important factors which affect the feed consumption and nutritional status of the livestock. Seasonal variation in chemical composition of feed and fodders in tables 1 and DMI in milch buffaloes have been presented in Table 2.

The declines in feed consumption with increasing environmental temperature was observed in the experiment (Mishra *et al.*, 1963; Raghavan *et al.*, 1963; Lal *et al.*, 1986; Verma and Hussain, 1988; Mishra, 1995; Verma, 1998;). Decrease in feed and increase in water

intake under high environmental temperature (Collier *et al.*, 1982; Lal *et al.*, 1986; Verma and Hussain, 1988) have been reported in buffaloes.

Table 1: Chemical composition of feed and fodders (%).

Ingredient	DM	CP	EE	CF	NEF	Ash	DCP	TDN
Berseem	20.7	16.4	1.2	26.1	40.7	14.8	12.2	62.5
Doob grass	33.5	08.3	1.5	32.8	43.2	10.5	09.7	62.4
Maize green	30.4	07.1	1.6	29.7	53.3	08.4	04.1	56.6
MP Chari	30.1	07.8	1.9	24.4	55.6	11.1	04.4	67.3
Paddy straw	90.2	03.6	1.0	30.5	48.4	15.2	00.0	38.1
Pasture	35.8	07.5	1.2	30.1	48.9	12.8	05.7	55.0
Sudan Grass	25.7	07.4	1.3	25.0	53.0	11.7	04.8	52.9
Sugarcane baggase	35.0	03.7	3.0	40.3	57.6	04.9	02.5	45.2
Wheat straw	90.9	02.9	1.0	40.8	42.1	14.9	00.0	44.8
Chuni arhar	90.9	14.1	2.8	22.9	52.7	07.2	14.8	74.7
Chuni gram	90.6	16.2	3.6	12.3	61.4	05.9	13.5	57.0
Maize grain	90.6	09.0	3.9	02.3	82.0	02.7	07.0	81.7
Mustard cake	90.7	38.4	9.4	08.0	38.1	05.3	27.4	74.4
Rice bran	90.2	11.5	7.9	20.1	49.4	11.4	09.9	76.7
Wheat bran	90.3	12.2	3.6	11.8	64.1	08.4	08.6	70.0
Wheat grain	90.1	10.8	2.5	02.2	82.6	02.3	06.0	72.7
Cake mustard	90.8	47.7	2. 6	16.2	61.9	03.6	28.3	74.0
Cake groundnut	90.1	50.4	2.3	15.5	56.8	03.1	30.4	76.7

Intake of dry matter (DMI) in winter season was higher in medium followed by large, small, marginal and landless categories of farmers. In spring season it was high in medium followed by small, marginal large and landless categories of farmers. The same in summer season was higher in medium followed by large, marginal, small and landless categories of farmers. Intake of this nutrient in rainy season was higher in medium followed by marginal, large, small and landless categories of farmers whereas in autumn season, it was higher in large followed by medium marginal, small and landless categories of farmers. Lowest DMI was found in landless categories of farmers in each seasons due to non availability of cultivated green fodder, the animal were maintained only on purchased wheat straw and limited amount of pasture grasses. The observations could confirm the previous observations (Jadhav, 1973; Sohal *et al.*, 1982; Handa and Gill, 1989 and Verma *et al.*, 1995).

On an overall basis, animals remained underfed in terms of Intake of digestible crude protein (DCPI) in all season compared to that of minimum requirement (ICAR, 1985). DCPI was observed to be lowered in summer season than that in others. Present findings confirmed the results of Verma and Hussain, (1988); Handa and Gill, (1989) and Verma *et al.*, (1995). DCPI is closely and positively correlated to DMI hence reduced DMI reduced DCPI. Hydrochloric acid secretion from abomasums declines during summer season, when the ambient temperature reaches 40-45^{0}C, resulting fall in acidity and causes reduced

digestion of crude protein (Harvey, 1963). Another reason of loss of appetite in hot climate under tropical conditions, lower ingestion and digestion of proteins having higher specific dynamics action (Best and Taylor, 1945) and fat with twice the calorific value are necessary to reduce thermo-genesis which is beneficial for the animal, thus the animals accept less crude protein and more carbohydrate in the form of roughages during summer season (Mishra, 1995).

In winter season, higher DCPI was found in medium followed by large, small, marginal and landless categories of farmers. There was higher DCPI under spring season in small followed by marginal, medium, large and landless categories of farmers. In summer season, higher DCPI was found in medium followed by large, small, marginal and landless categories of farmers. In rainy season higher DCPI was found in medium followed by large, small, marginal and landless categories of farmers. The results were clearly showing that DCPI was directly associated with the purchasing power and of the farmers and their economic status; land and irrigation facilities were also limiting factor for cultivation of green fodder (Sinha, 1982).

DCPI was higher under autumn season in large followed by medium, marginal, small and landless categories of farmers. The deficit DCPI (Kg/animal/day) was provided in land less, marginal and small categories of farmers under winter season; in landless, marginal, small, medium and large categories of farmers under spring season; and in all categories of farmers under summer, rainy and autumn season. The surplus DCPI was provided in medium categories of farmers during winter season, while in same season, in large category of farmer the DCPI was just equal to the requirement. Amongst categories, maximum DCPI was found in medium and large, lowest DCPI was observed in landless category of farmers. DCP availability in different categories of animals was found to be less as compared to standard requirement (Ahlawat *et al.*, 1960; Singh, 1970; Sharma and Chandar, 1971; Sharma and Agarwal, 1979; Handa and Gill, 1989;Lal *et al.*, 1998; Singh *et al.*, 1998).

The deficit TDNI as per requirement (ICAR, 1985) in winter, spring, summer and rainy season while, in autumn season whereas surplus TDNI was noticed under landless and large category of farmer was recorded. The deficit TDNI in all categories of farmers in winter, spring, summer and rainy season, while only in marginal, small and medium categories of farmers, in autumn season was found. TDNI in milch buffaloes was declined with increasing ambient temperature (Mallick and Kakkar, 1961; Raghavan *et al.*, 1963; Mishra *et al.*, 1963 and Verma and Hussain, 1988). Low voluntary feed consumption in summer season might be due to fact that total energy expenditure may

varied considerably with ambient temperature and feed intake in ruminant is regulateded by the total energy expenditure.

Table 2: Average consumption of feed and fodder

Category of farmer	BW (Kg)	Consumption per day per animal		
		DMI(Kg)	DCPI(g)	TDNI(Kg)
(a) Winter season				
Landless	420±2	08.1±0.1	432±10	4.03±0.07
Marginal	427±2	10.6±0.1	605±08	5.39±0.05
Small	469±3	11.1±0.1	653±11	5.79±0.09
Medium	474±3	12.6±0.1	720±08	6.61±0.05
Large	461±3	11.8±0.1	661±11	6.24±0.09
Average	450±1	10.8±0.1	614±06	5.62±0.05
(b) Spring season				
Landless	420±2	8.4±0.1	450±09	4.21±0.06
Marginal	431±2	11.2±0.1	655±11	5.74±0.06
Small	475±3	11.4±0.1	684±11	6.01±0.08
Medium	473±3	11.5±0.1	609±08	6.04±0.06
Large	457±5	11.5±0.1	581±11	5.85±0.08
Average	451±1	10.7±0.1	596±06	5.51±0.04
(c) Summer season				
Landless	435±4	9.0±0.1	187±05	4.17±0.07
Marginal	430±2	11.0±0.1	285±07	5.26±0.07
Small	462±3	10.6±0.1	323±10	5.18±0.09
Medium	476±3	12.0±0.2	456±10	6.02±0.09
Large	461±2	11.0±0.2	424±09	5.51±0.09
Average	453±1	10.7±0.1	335±06	5.23±0.05
(d) Rainy season				
Landless	437±4	10.3±0.3	255±15	4.96±0.16
Marginal	432±3	12.1±0.1	342±10	5.88±0.10
Small	466±3	10.7±0.1	348±13	5.28±0.10
Medium	475±3	12.5±0.1	445±10	6.21±0.07
Large	460±3	11.3±0.1	418±09	5.67±0.08
Average	454±2	11.4±0.0	361±06	5.60±0.05
(e) Autumn season				
Landless	425±4	11.8±0.1	376±11	5.70±0.09
Marginal	432±2	13.2±0.1	501±12	6.55±0.10
Small	469±3	12.1±0.1	476±09	6.04±0.09
Medium	474±3	13.1±0.1	543±08	6.56±0.06
Large	457±5	13.6±0.1	574±11	6.84±0.09
Average	451±7	12.8±0.1	494±06	6.34±0.04

TDNI was higher in medium followed by large small marginal and landless categories of the farmers. In rainy season, TDNI was higher in medium followed by marginal, large, small and landless categories of farmers. In autumn season, it was higher in landless followed by medium, marginal, large and small categories of farmers. Similar observations were reported by Sharma and Chandar, (1971); Jadhav, (1973); Lal *et al.*, (1998) and Singh *et al.*, (1998).

Conclusion:

Seasonal variations and categories of the farmers are most important factors which affect the feed consumption and nutritional status of the livestock. The decline in feed consumption with increasing environmental temperature was observed in buffaloes. Intake of dry matter (DMI) in winter season was higher. On an overall basis, animals remained underfed in terms of Intake of digestible crude protein (DCPI) in all season compared to that of minimum requirement. The deficit TDNI in all categories of farmers in winter, spring, summer and rainy season, while only in marginal, small and medium categories of farmers, in autumn season was found.

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Distribution of physically challenged students (Age 6-14 years) in Mathura District (India)

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Abstract

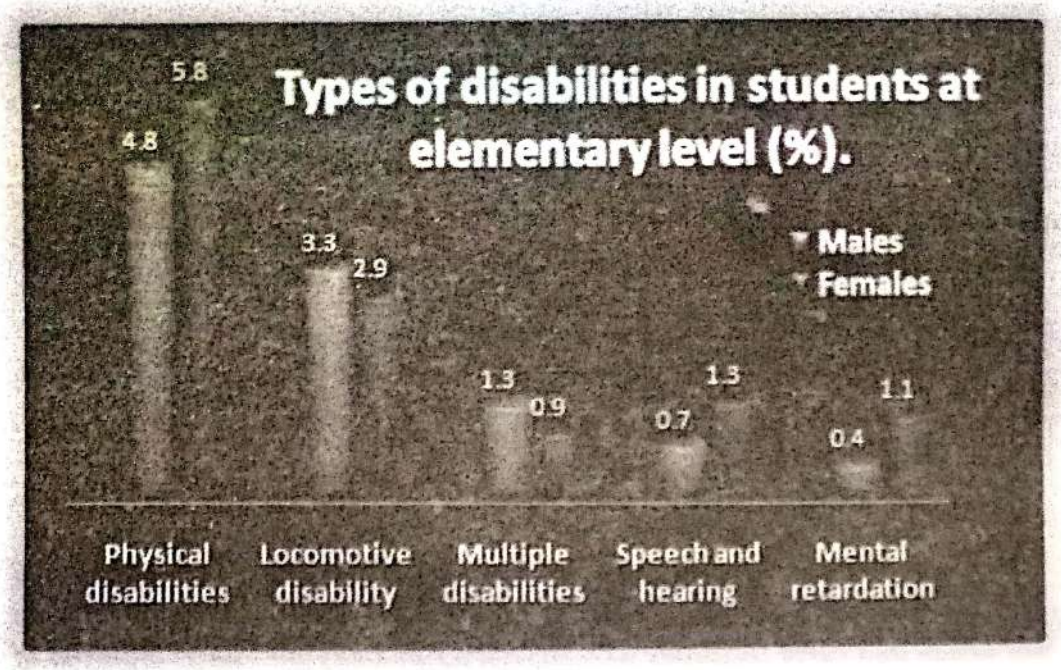
Present study was conducted to examine distribution of disabled students between age group 6-14 years in Mathura. 25 elementary schools from each of urban and rural localities were selected randomly for study. Students of 6-14 year age group (n=1454) were interviewed/examined to diagnose disability. Disabilities in male pupils were higher than that of females. Most of them had physical followed by locomotive, multiple and speech & hearing disability and mental retardation. Not all such pupils were requiring special education programmes but some of them needed same provisions.

Key words: Disable pupil, Elementary education, Handicapped students, Physically challenged child, Primary schools, Special education.

Introduction:

A physically challenged child may be defined as a child who has a disability of locomotors and neurological origin which constitutes disadvantages or restrictions in one or more aspects of daily living activities. It may be physical, cognitive, mental, sensory and emotional type. The disability may be congenital or acquired.

Teachers view fellow professionals as those who abet the planning process. They identified budgetary factors, accountability factors, access to equipment and materials, and physical environment in the classroom and school as barriers in managing physically challenged students (Schumm and Vaughn, 1992). Students in the school which included peers with disabilities generally indicated the more positive attitudes (Clunies-ross and O'meara, 1989). Impairments in young children need to be reviewed in the initial phase of the disability process, which if not addressed properly, leads to add secondary disabilities and so many other complexes as the child grows. Planning of rehabilitation of such type of child at local level should consider quality and quantity and care required accordingly for different types of disabilities (Padmamohan *et al.* 2009).



The purpose of this survey was to examine and create a clear-cut picture of the distribution of physically challenged students between age group 6 and 14 years in Mathura District (India). The outcomes of the study may facilitate the general education teachers' perceptions and feelings about planning for physically challenged students as well as their planning practices.

Materials and Methods:

Present survey was conducted to find out the distribution of physically challenged students at elementary level in Mathura District (India). Twenty five elementary schools from each of urban and rural localities were selected randomly for the study. The students of 6-14 year age group (n=1454) were interviewed or examined for diagnosis of disabilities. The observations were statistically analysed using suitable statistical model (Snedecor and Cochran, 1994).

Results and Discussion:

The findings of the research work are presented in figure. It can be revealed on the basis of observations that disabilities in male students in comparison that in females remained higher. Most of the students were physically disabled followed by locomotive, multiple and speech and hearing disability. Mental retardation was observed to be lowest in comparison to other types of disabilities. Padmamohan *et al.* (2009) reported almost similar patterns of disabilities in the state of Kerala. Ahmad, (2012) explored that the majority of children with disabilities in developing countries are currently out of school, while many of those enrolled are not learning. The major barriers that confront with inclusion

of children with special needs for adequate learning are as barriers Related to Time and Skills, physical Barriers, attitudinal Barriers, curricular Barriers and communication Barriers.

The findings of the study indicated that the physically disabled children needed for planning for instituting easily accessible learning programmes, incorporating existing social welfare and health service. There is a burning need of development of infrastructural facilities for children with disability and creating community awareness regarding childhood disability. There was also a requirement for proper utilization of rehabilitation plans necessary for increasing the utilization of schemes available. Planning at the local level should consider the difference in quality and quantity of care required for different types of disabilities in such type of children.

The physically challenged students under research work were requiring special schools as per their particular disability problem but those were continuing their study in the similar schools; therefore they were feeling srious difficulties in learning. Englert *et al.*, (2009) has revealed that the students with disabilities have more difficulties in using the learning-to-learn strategies as they read, study, and write expository texts, although neither group is judged to be highly proficient. However, from the educational point of view, not all the pupils with physical disabilities required special school provisions. There may be variations in duration or severity among physical disabilities.

Conclusion:

It can be concluded on the basis of present investigation that disabilities in male students in comparison that in females remained higher in the district Mathura (India). Most of the physically challenged children were physical followed by locomotive, multiple and speech and hearing disability. Mental retardation was observed to be lowest in comparison to other types of disabilities. Not all the pupils with physical disabilities were requiring special education programmes but some of them needed same provisions. The requirement was dependent on the variations in duration or severity among physical disabilities.

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Quality of milk products viz. Channa, Rabbari and Khoa made from milk produced by lactating crossbred cows kept on buffers added diets

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Abstract

Channa, rabbari and khoa were manufactured using standard techniques from milk produced by crossbred cows kept either under control or buffer feed technology (BFT) and studied for their quality and recovery of product and its constituents. Six crossbred lactating cows were divided into two groups based on milk yield and fat content in milk. In T1 the animals were not given buffers whereas in T2 they were offered buffers in combination of sodium bicarbonate and magnesium oxide @ 0.02 and 0.01% of LW, respectively. After 30 days of the experiment the animals under T1 and T2 were switched over to T2 and T1, respectively. They were nourished to meet their daily nutrient requirement. Milk collection to prepare products was adopted after 25@ of 3 per animal per product. Products were chemically analyzed and the data recorded were subjected to statistical analysis viz. RBD for mean values and Student's T test for differences in means. SNF content in rabbari decreased and TS content in khoa increased in buffers fed groups. Recovery of product and their constituents in both the groups were similar. BFT may thus be recommended due to increased milk quality without damaging the quality and recovery of its products.

Keywords: Channa, Cow, Khoa, Magnesium Oxide, Rabbari, Sodium bicarbonate.

Introduction:

Betterment in chemical quality of milk in goats due to supplementation of buffers has been reported (Singh et al., 1996). The reason for this is discussed that due to addition of buffers in goat nutrition was manipulated rumen fermentation for synthesis of surplus fat (Kishore et al., 1996). The milk produced by feeding buffer was essential to access the quality of products manufactured from this milk. To test TS of two milks, the best product may be khoa which is manufactured by concentrating milk through evaporation. Sometimes yield of khoa per unit volume of milk is considered to fix the cost of

milk. Similarly to compare milk protein of two milks, the best milk product may only be channa which is manufactured by coagulating milk proteins using acids and draining the whey. Rabbari is also an important milk.

Materials and methods:

Six lactating crossbred cows were selected and divided into two groups on the basis of their productive and phenotypic features. After 30 days the animals under T1 and T2 were switched over to T2 and T1, respectively. Each animal received diet to meet out their daily nutrient requirements (NRC, (1978) containing wheat straw, berseem, wheat grain and mustard cake (Table 1). Buffers were offered only in T2 in

Table 1: Chemical composition of feeds (% DM)

Parameters	Straw	Berseem	Concentrate
DM *	87.30	22.00	91.50
TA	10.40	12.70	09.10
OM	89.60	87.30	90.90
CP	03.10	14.90	21.60
EE	01.20	04.30	02.50
TCHO	85.30	68.10	66.80
GE **	04.20	04.20	04.40
CF	36.20	29.80	08.70
NFE	36.20	38.30	58.20
Ca	00.10	02.20	00.30
P	00.10	00.10	00.20
Na	00.20	00.50	00.50
Mg	00.10	00.20	00.40
K	05.40	01.10	01.00

combination of sodium bicarbonate (SB) and magnesium oxide (MO) at the rate of 0.02 and 0.01 per cent of live weight, respectively whereas T1 served as control. The animals were milked twice a daily. Milk collection trial was conducted after 25 days after start of experiment. The quality and quantity of milk and its constituents were accessed (Table 2). The amount of milk from individual animal to produce channa, rabbari and khoa was 3 litres for each. Standard techniques to manufacture the products were followed (De, 1996) and the produces were tested chemically (ISI, 1975; Gupta et al., 1988). Recovery of the products and its constituents were calculated. The statistical analysis included randomized block design over mean figures and student's T test over mean differences in two treatments (Snedecor and Cochran, 1994).

Table 2 (A): Chemical quality and nutrient yield of milk						
Parameter	T1	T2	T1	T2	Difference	
					T1	T2
Milk yield (l/d)	4.33	4.22	4.16	5.09	(-)0.17	(+)0.87
Specific Gravity	1.03	1.03	1.03	1.03	0	0
Fat (%)	4.92	3.38	4.63	5.15	(-)0.28	(+)1.77
Yield (g/d)	214	140	191	265	(-)23	(+)124
SNF (%)	9.34	9.63	9.32	9.23	(-)0.03	(-)0.4
Yield (g/d)	405	406	387	471	(-)18	(+)64
TS(%)	14.3	13	14	14	(-)0.3	(+)1.40
Yield (g/d)	619	547	578	736	(-)41	(+)188
Lactose (%)	4.61	4.68	4.62	4.68	(+)0	(+)0
Lactose(g/d)	197	197	192	237	(-)7	(+)40
Protein(%)	3.99	4.2	3.96	3.82	(-)0.04	(-)0.38
Yield (g/d)	172	177	163	197	(-)10	(+)20
Calories*	86.4	75.8	83.6	87.9	(-)2.8	(+)12.2
Yield **	3.75	3.18	3.46	4.5	(-)0.3	(+)1.32
Minerals (%)	0.74	0.75	0.74	0.76	(+)0	(+)0.01
Yield(g/d)	32.01	31.50	30.7	38.50	(+)1.3	(+)6.9
*(Kcal/100 ml); **(Mcal/d)						

Table 2 (B): Chemical quality and nutrient yield of milk			
Parameter	CD at 5%	CD at 5%	CD at 5%
Milk yield (l/d)	0.9	1	1.64
Specific Gravity	0	0	0
Fat (%)	0.54	0.97	1.3
Yield (g/d)	58	51	62.4
SNF (%)	0.33	0.89	0.99
Yield (g/d)	38	94	128
TS(%)	0.8	1.8	2
Yield (g/d)	134	141	183
Lactose (%)	0.01	0.21	0.06
Lactose(g/d)	37	63	75
Protein(%)	0.57	1.03	0.87
Yield (g/d)	47	63	49
Calories (Kcal/100 ml)	6.1	12.8	15.80
Yield (Mcal/d)	0.83	0.87	1.2
Minerals (%)	0.01	0.01	0.01
Yield(g/d)	7	7.6	12.3

Results and discussion:

The chemical quality of channa produced by milk from animals kept under T1 and T2 were similar and the differences in chemical quality except minerals content were equal to zero (Table 3). The effect of mixing buffers in milk producer's diet on their performance in quality of channa has not yet been reported in the literature but in case of control group, the composition of channa were almost similar to those reported by various authors i.e. fat and and TS (Ray and De, 1953), protein and minerals (De and Ray, 1954; Balasubramaniam and Basu, 1955) and lactose and SNF (Rajoria et al., 1990). The recovery of product and its constituents in T2 and T2 and the differences between both the groups were equal to zero. Recovery of product from milk was equal to zero. Recovery of product from milk was similar to that reported by Ray and De (1953).The information are lacking in the literature to present the effect of feeding buffers to milk producer's animals on quality and recovery of channa and therefore confirmation of registered effect is due.

Table 3: Chemical quality and recovery of channa.

Parameter	T1	T2	CD (5%)	Change	T value
Chemical quality (%)					
Fat	24.2±1.0	25.2±0.8	7.4	(+)1.0±1.0	(+)0.7
Protein	22.1±0.6	19.5±0.06	5.2	(-)0.6±1.1	(-)0.5
Lactose	2.33±0.04	2.37±0.05	0.15	(+)0.03±0.69	(+)0.44
Minerals	2.21±0.00	2.24±0.00	0.04	(+)0.03±0.01	(+)4.39*
SNF	24.7±0.6	24.1±0.5	6.0	(-)0.6±1.1	(-)0.5
TS	48.9±1.1	49.4±1.2	12.5	(+)0.5±0.2	(+)0.2
Recovery					
Product	14.4±0.3	14.9±0.3	2.4	(-)0.5±0.4	(-)0.2
Fat	75.4±0.9	73.1±0.5	5.3	(-)2.2±0.9	(-)2.2
Protein	73.1±1.7	76.9±2.2	12.3	(+)3.7±2.2	(+)1.6
Lactose	7.26±0.16	7.53±0.11	1.14	(+)0.27±0.20	(+)1.22
Minerals	42.9±0.9	44.2±0.9	7.1	(+)1.4±1.3	(+)1.0
SNF	38.2±1.1	38.9±0.6	8.5	(+)0.6±1.5	(+)0.4
TS	49.3±3.9	51.1±0.4	20.0	(+)1.8±3.5	(+)0.5

* P <0.05

Chemical composition of rabbari in terms of various nutrients did not differ but the differences in all the parameters in both the treatments except SNF were equal to zero (Table 4). It can be revealed on the basis of observations that mineral content was decreased in rabbari due toinclusion of buffers in the milk producer's diet. The effect of addition of buffers in dairy cattle nutrition on the composition of rabbari has not been reported so far and therefore the trend could not be verified. However, the same in control group were according to those

reported in the literature i.e. fat (Singh, 1997),protein and mineral (Dubey and Gupta, 1986)and TS and SNF (Singh, 1995; Davies, 1958; Singh, 1997). The recovery of rabbari and its constituents and the differences in both the groups were equal to zero. The effect of buffers addition in milk producer's diet on these aspects has not yet been discussed in the literature but for control group the recovery were according to those recorded by various authrs i.e. De, (1996).

Table 4: Chemical quality and recovery of rabbari.

Parameter	T1	T2	CD at 5%	Change	T value
Chemical quality (%)					
Fat	19.6±0.3	20.2±0.2	1.9	(+)1.5±0.3	(+)1.4
Protein	10.2±0.1	10.0±0.3	2.2	(-)0.2±0.4	(-)0.5
Lactose	16.7±0.1	16.5±0.2	1.3	(-)0.2±0.2	(-)0.7
Minerals	3.19±0.12	2.96±0.08	0.88	(-)0.28±0.15	(-)1.34
SNF	41.8±0.2	40.0±0.2	1.1	(-)0.6±0.2	(-)2.9±
TS	61.4±0.2	61.0±0.1	2.8	(-)0.1±0.5	(-)0.2
Recovery					
Product	22.8±0.9	24.8±0.8	7.0	(+)2.0±1.2	(+)1.5
Fat	96.8±0.5	97.1±0.4	3.3	(+)0.3±0.6	(+)0.4
Protein	59.4±2.7	65.4±1.1	15.1	(+)6.0±2.7	(+)2.0
Lactose	82.3±4.7	87.4±3.1	36.4	(+)5.2±4.6	(+)1.0
Minerals	97.6±0.6	96.9±2.3	3.8	(+)0.8±0.7	(-)0.7
SNF	96.0±1.5	97.7±0.9	10.2	(+)1.7±1.8	(+)0.9
TS	80.5±2.0	85.5±1.1	10.5	(+)5.0±1.9	(+)2.5
					* P <0.05

The chemical quality of khoa prepared from milk produced by the animals kept under control and buffers added diet not differ significantly except only TS which was higher in buffers fed group in comparison to that in control group (Table 5). The changes however in all the parameters including TS in both the treatments were non-significant. It can be revealed on the basis of these observations that inclusion of buffers in milk producer's diet increased TS content in khoa. De and Ray, (1954) reported increased content of TS in khoa with the increased fat and TS content in milk from which it was prepared. The effect of BFT application in milk producer animals on the performance in khoa has not been presented in the literature, but in control group it was almostin line with those reported by De, (1996). Recovery of khoa from milk in control group was almost similar to that reported by De and Ray (1954) and De, (1996). Recovery of all the nutrients in both the groups were non-significant and the changes in this regard were also equal to zero The findingsare to be confirmed the effect of BFT in milk producer's diet on the recovery of khoa and its constituents.

Table 5: Chemical quality and recovery of Channa.					
Parameter	T1	T2	CD at 5%	Change	T value
Chemical quality (%)					
Fat	24.3±1.3	27.0±1.1	9.6	(+)2.7±1.7	(+)1.5
Protein	20.8±0.5	20.2±2.4	3.9	(-)0.6±1.7	(-)0.3
Lactose	24.7±0.2	24.5±0. 4	2.2	(-)0.2±0.4	(-)0.4
Minerals	3.98±0.02	3.95±0.03	0.22	(-)0.00±0.00	(-)0.8
SNF	49.4±0.5	48.7±1.0	5.0	(-)0.8±1.4	(-)0.5
TS	73.7±1.1	75.7±2.0	0.4	(+)1.9±2.9	(+)0.6
Recovery					
Product	18.2±0.3	18.3±0.1	2.0	(+)0.1±0.3	(+)0.7
Fat	95.3±0.6	96.0±0.6	6.2	(+)0.7±1.1	(+)0.6
Protein	95.5±1.0	96.8±0.5	4.9	(-)1.2±0.9	(-)1.2
Lactose	96.9±0.5	95.8±0.5	5.1	(+)1.3±0.9	(+)1.4
Minerals	97.9±0.5	95.8±0.7	6.1	(-)2.1±1.1	(-)1.8
SNF	96.3±0.3	94.4±0.6	3.1	(+)0.2±0.6	(+)0.3
TS	95.9±0.3	96.2±0.6	4.0	(+)0.4±0.7	(+)0.5

Conclusion:

It can be concluded on the basis of above study that the application of buffer feed technology in crossbred cattle does not affect the quality of milk products viz. channa, rabbari and khoa and the recovery of product and its constituents. It can be analysed on the basis of this study that the quality of milk was improved without damaging quality of its products in buffer fed group.

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Comparative analysis of aggression level of rural and urban youth

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Abstract

Present attempt was carried out to make a comparative analysis of aggression level of rural youth from various social categories. Descriptive survey was adopted for collecting data using standardized test namely Aggression Scale from a sample of 600 teacher trainees, selected randomly, from the colleges/ institutes of Mathura District. 240 trainees were selected using Target sampling. Thus a double sampling i.e. sampling from sample was followed. The scores were calculated using standard method discussed in manual of test. Appropriate statistical techniques were used to draw valid conclusion. Marital status, annual income, place, family structure and qualification of the youth were not found capable to affect aggression but living habits, family occupation, caste, age and gender of youth has significant influence on their aggression.

Keywords: Aggression, Mathura, Rural, Teacher trainees, Urban, Youth.

Introduction:

The term 'aggression' is originated from the Latin word '*aggressio*', applied for 'to attack'. Psychologically, the term aggression refers to a range of behaviours that can result in both physical and psychological harm to oneself, other or objects in the environment. The expression of aggression can occur in a number of ways, including verbally, mentally and physically. The term involves physical behaviour, use of language, or creating a climate of abuse that causes psychological or physical injuries. Aggression is defined as to any behavior that is hostile, destructive, and/or violent. In general, aggressive behaviour has the potential to inflict injuries or damages to the target person or object. Examples of aggressive behavior include physical assaulting, throwing objects, destructing property, conducting self-harming behaviors, and verbal threatening. Aggression can take a variety of forms and can be physical or be communicated verbally or non-verbally (Akert et al., 2010). Aggression differs from what is commonly called assertiveness, although the terms are often used interchangeably among laypeople, e.g.

an aggressive salesperson. Aggression is, typically, a means of gaining control over resources and aggravated during times when high population densities generate resource shortages (Wilson, 1978). The aggression and aggressiveness among youth is not a new issue for the theory and practice which is based on emotional volitional manifestations of the youth, deviations in the character and behaviour as a display of aggressiveness (Margaritova, 2006). The aggressive behaviour is an action that an individual performs to deliberate wilful violence upon another individual or, a group of people on another group of people. Decoster et al., (1996) and Ferris et al., (1996) reported that stimulation of the amygdala results in augmented aggressive behavior in hamsters, while lesions of an evolutionarily homologous area in the lizard greatly reduce competitive drive and aggression (Crews et al., 1984). Amaral et al., (2006) found out that in rhesus monkeys, neonatal lesions in the amygdala or hippocampus results in reduced expression of social dominance, related to the regulation of aggression and fear. Meta-analyses of sex differences in physical aggression to heterosexual partners and in its physical consequences are reported (Archer, 2000). Women were slightly more than men to use one or more acts of physical aggression and to use such acts more frequently. Men were more to inflict an injury, by the partner being women. Vig and Nanda, (1999) found that the urban adolescents were more aggressive than rural ones. Sonawat, (1993) reported that the aggression towards self and towards other children was very common among kindergarten children. The family background is found to shape the pattern of aggression in important ways. Singh and Saxena, (1993) noted that the children belonging to large and low SES families were more aggressive. Tomar, (1999) reported that in adolescents, with humour being constant need for aggression. Following a procedure of inquiry which is well known but seldom used in the social sciences is a best way to cope with aggression in youth (Dollard et al., 1939). The problem of aggressive behavior is here advanced one step along this road which all social inquiry that aspires to become truly scientific must eventually follow. This step has consisted partly in a more systematic formulation and further elaboration of the Frustration-Aggression hypothesis.

Present investigation was carried out to make a comparative analysis of aggression level of rural youth from various social categories.

Materials and methods:

Descriptive survey method was adopted while conducting present study for collecting data using standardized test namely Aggression Scale (Mathur and Bhatnagar, 2007). The population of the study consisted of all the teacher trainees of B.Ed. colleges located in

both rural and urban area in the district Mathura. A number of 600 samples from different background comprised the introductory sample. For research purposes the 240 trainees were selected using Target sampling. Thus a double sampling i.e. sampling from sample was followed in the present study. Selection of 5 Colleges from each of rural and urban areas, for the study was made following lottery method of random sampling. Independent variables of the study were various social categories of the trainees and dependent variables of the study remained aggression. Observation schedule method was implemented to collect major primary information with the cooperation of Head of the Institutions. Research worker interviewed respondent trainees individually and tried to interrogate them for their unfilled responses on the questionnaires. The investigator prepared the final lists of institutions to be covered in the study frequently as and when needed. The recorded data were tabulated as per the objectives of the study and scores were calculated using standard method discussed in manual of test. Appropriate statistical techniques (Howell, 1997) were used to draw valid conclusion and possible interpretation on the analytical outcomes as to reach final destiny of the study.

Results and discussion:

Non-significant aggression levels are presented in Table 1. The overall level of aggression of teacher trainees was recorded to be grade of 'High aggression'. The youth related two categories married and unmarried were significantly differed and recorded to be of the grade 'high aggression'. Income of the family could not affect aggression level significantly and graded as 'high aggression' in three categories under study. The trainees belonging to eastern and western Uttar Pradesh (INDIA) had similar aggression status of the grade of 'high aggression'. Family structures namely joint and nuclear did not show any impact on aggression. However, aggression level is reported to be 'very high' at senior secondary but in present study the same was not differed and remained more or less statistically identical of the grade 'high aggression'. Thus it can be analyzed that marital status, annual income, place, family structure and qualification of the youth were not found capable to affect aggression.

On the analysis of Table 2 it was reflected that living habits are one of the factors to influence aggression level of youth which was observed to be high in urban in comparison to that in rural youth. Similarly major family occupation of the respondent trainees was effective to affect aggression level. Aggression in youth having family occupation 'agriculture' was lowest i.e. average aggression. Highest aggression was seen in youth from families having their occupation

labour, service and teaching followed by those from families having their occupation business. Among different social classes, respondents belonging to general class were most aggressive followed by those belonging to OBC and SC. As far as the age of the trainees were concerned the aggression level was increased with the increase in age. Female respondents were found more aggressive in comparison to those of male. Thus it can be resulted that living habits, occupation, caste age and gender of youth has significant influence on their aggression.

Table 1: Non-significant Aggression level

Parameter/ Variable	N	Mean±SEM	SD	Aggression level
Overall				
Total	240	208.59±1.74	25.51	High aggression
Marital Status				
Married	108	209.21±2.68	27.90	High aggression
Unmarried	132	206.26±2.26	23.53	High aggression
Annual income				
Below 1 lac	174	205.48±1.92	25.36	High aggression
1-2 lac	24	224.00±5.16	25.30	High aggression
Above 2 lac	18	214.33±3.86	16.39	High aggression
Place				
East UP	94	207.94±2.57	24.97	High aggression
West UP	122	209.59±2.32	25.68	High aggression
Family structure				
Joint	94	207.94±2.57	24.97	High aggression
Nuclear	122	209.59±2.32	25.68	High aggression
Qualification				
Graduates	116	209.00±2.34	25.21	High aggression
Post graduates	100	207.63±2.52	25.23	High aggression

** - Values differed significantly within the groups, i.e. p >0.05.*

Conclusion:

It can be concluded that marital status, annual income, place, family structure and qualification of the youth were not found capable to

affect aggression but living habits, family occupation, caste, age and gender of youth has significant influence on their aggression.

Table 2: Significant Aggression level

Parameter/ Variable	N	Mean±SEM	SD	Aggression level
Overall				
Total	216	208.59±1.74	25.51	High aggression
Living habits				
Rural	134	201.70±2.20*	25.48	Average aggression
Urban	82	220.02±2.24*	20.31	High aggression
Occupation				
Agriculture	120	198.96±2.14*	23.43	Average aggression
Business	42	211.57±4.08*	26.44	High aggression
Labour	18	230.67±1.98*	8.42	High aggression
Service	12	229.50±0.45*	1.57	High aggression
Teaching	24	223.50±5.02*	24.61	High aggression
Caste				
General	108	212.80±2.07*	21.49	High aggression
OBC	60	206.70±3.32*	25.73	High aggression
SC	48	198.63±4.32*	29.95	Average aggression
Age (y)				
20-22	52	207.92±2.96*	21.33	High aggression
23-25	81	218.70±2.84*	25.54	High aggression
26-28	47	197.38±3.23*	22.11	Average aggression
29-31	24	204.75±5.34*	26.17	Average aggression
32-34	12	190.00±6.93*	24.02	Average aggression
Gender				
Female	72	229.50±1.55*	13.17	High aggression
Male	144	198.40±1.96*	23.57	Average aggression

** - Values differed significantly within the groups, i.e. P >0.05.*

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Review on the role of animal husbandry in rural development

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Abstract

Livestock production plays a major role in the life of farmers in developing countries. It provides food, income, employment and many other contributions to rural development. In India, more than two third populations lived in rural areas and engaged in farming. As day by day the size of farms is decreasing so the rural people start diverting toward livestock sector for the primary source of income of family. India's livestock population characterized by vast population comprising of world 14.6 percent cattle, 57.6 buffalo, 16.7 goat and 6.8 sheep. Those species are disease resistant and highly adopted to local climate. Vast population of livestock in India not only provides milk and meat as food but also provide employment to rural youth. In rural areas animals are mostly reared along with farming o that they consume crop residues and serve as additional source of income for rural poor. Animals also enhance the productivity of farm in two ways first by direct working in the field as draught animal secondly by providing manure to increase fertility of land. Animals helps in rural development in several ways like a source of nutritious food for children and pregnant women's by providing milk and meat, source of power in the form of draught animals, provide medium for transportation, source of income for livelihood and also serve as bank for rural poor.

Keywords: Employment, Income, Livelihood, Livestock production, Rural development, Rural poor.

Introduction:

Animal Husbandry sector plays an important role in the national economy and in the socioeconomic development of the developing countries (Delgado *et al.*, 1999). This sector also plays a significant role in supplementing family incomes and generating gainful employment in the rural sector, particularly among the landless labourers, small and marginal farmers and women, besides providing cheap nutritional food to millions of people.

Livestock are the best insurance against the vagaries of nature like drought, famine and other natural calamities. Livestock provides major additional contribution to agriculture through draft power, fuel, manure, fertilizer. Animal products such as meat, milk and eggs provide daily cash income and much required nutrition to rural population (Sugiyama, 2000).

Livestock production is a major component of the agricultural economy of developing countries and goes well beyond direct food production. It is practiced in various forms, such as mixed farming, nomadic herding, commercial grazing, etc. This activity is very closely related to agricultural activity/production, as cultivation receives input from livestock and, in turn, provides output from livestock in the form of animal feed (Khan *et al.*,2006).

Sales of livestock and their products provide direct cash income to farmers. Livestock are the living bank for many farmers and have a critical role in the agricultural intensification process through provision of draught power and manure for fertilizer and fuel. They are also closely linked to the social and cultural lives of millions of resource-poor farmers for whom animal ownership ensures varying degrees of sustainable farming and economic stability. Official statistics often underestimate the overall contribution of livestock and especially their multipurpose contributions in agricultural production and development of rural poor (Anonymous, 1992).

An important form of diversification of agriculture has recently emerged in the livestock sector in many developing countries like India. Employment generation for millions of poor and small rural landholders is also served by this sector. It provides a significant contribution to the national economy. Approximately 75 per cent of the world's poor live in rural areas. For most of these people, livestock are an important part of their livelihood. In rural India, where over 15- 20 per cent families are landless and about 80 per cent of landholders belong to the category of small and marginal farmers; livestock is their main source of livelihood. The un-affordability of modern inputs such as tractors and fertilizers for poor farmers is compensated by livestock husbandry (Akila, 2009). The livestock sector supports the livelihood of over 200 million rural poor in India. A large majority of livestock owning households comprise of small and marginal farmers and landless households. Overall, the distribution of livestock is much more equitable than that of land, leading to more equitable distribution of gains from livestock production (Ahuja and Sen, 2002.).

The livestock sector play a crucial role in Indian economy, and contributes over 4% to the total GDP and about 30 per cent of the value

of output of agriculture and allied activities which is almost doubles of 13.88 per cent contribution in 1980-81 (Economic survey, 2008-09). This sector is a main source of family income in the arid and semi-arid regions. Moreover, this sector plays an important and vital role in providing nutritive food, rich in animal protein to the general public and in supplementing family income and generating gainful employment in rural areas.

It also, clearly indicates that livestock and livelihood of the rural people are very intimately related. The productive potential of animals depends crucially on the quality of animal health system and in this respect; India has a poor record (Ahuja and Sen, 2002). Although the country has emerged as the largest milk producer in the world, the quality of livestock support services remains poor. So there is a good opportunity for rural poor, to uplift their life through engaging themselves in livestock sector (Rollefson, 2001).

The present study was undertaken to evaluate the importance of livestock sector in the development of the rural economy and empowering the rural poor. The main objectives of study were to show the present scenario of animal husbandry in India and utilization of human resources in this sector, importance and functions of livestock sector in rural development.

Livestock sector of India:

India's livestock sector is one of the largest in the world. According to 18th livestock census (2007) there are 199 million cattle, 105 million buffaloes, 72 million sheep, 141 million goats, 11 million pigs and 649 million poultry birds in India, contributing 57.6 per cent of world's buffaloes, 14.6 per cent cattle and 16.7 per cent goats with total livestock population of 529.4 million compared to last Animal censes in 2003 the average growth rate is 1.83, 1.84, 3.1, 3.78 and -4.74 per cent respectively for cattle, buffalo, goat, seep and pig (Basic Animal Husbandry Statistics, 2010).

Functions of livestock in rural development:

Term livestock production suggests that the ultimate aim is to produce commodities such as milk and meat which are utilized or sold by farmers. However, rural people keep the livestock to achieve a variety of aims, of which food production is only one (Ahuja *et al.*, 2000). The rural economy and development rest on the viability of economic actor's i.e. on the ability of rural households to use and maintain their resources. Livestock play an important role in ensuring this viability with following functions-

Food production:

Livestock products such as milk and milk products, eggs and meat are foods of animal origin and relatively high in good quality protein and also source of energy, minerals and vitamins. Livestock and their products are also sold in market by farmers and they generate additional income for their survival of their family or exchanged to obtain required things. Total meat milk and egg production in India is 6.56 million tonnes, 127.6 million tonnes and 63.5 billion, respectively (FAO, 2012).

Provision of other raw materials:

Livestock is capable to produce several high quality raw materials for various industrial use. Livestock provide not only foodstuffs but also various other raw materials like wool, hair, feathers and hide of industrial use. These products are used for furnishing clothing and implements etc. both for household use and for sale. Added value of such raw material can be a further source of income for both men and women with in rural communities (Krishnamurthi, 1969).

Provision of energy for work:

The livestock especially large animals are very good source for generation energy in India. Animal traction in some areas in the country is used for various agricultural operations like ploughing, weeding and pulling load. Most widespread is the use of animals for riding and transporting load on their back. House hold goods, farm inputs and produces are generally carried, in this way. The male animals are sometimes used to operate irrigation and threshing equipments. Sometimes those are directly used in threshing through their hooves. Thus, draught animals provide a way to generate income for family survival of rural poor (Verma, 2013).

Manure production:

Manure production and its utilization in field is highly useful for sustainable crop production and reclamation of soils. Through manure production farmers in rural areas can get money by selling it and can get indirect benefits through increase in production of crops. Not only large but small animals, for example-goat sheep and poultry, are also providing good quality and quantity manure for cropping. The nitrogen (N), phosphorus (P), and potassium (K) ratios were 8.8:1:6.5 and 8.3:1:6.9, in goat and sheep manure respectively, and over 50 per cent of N and K were in the urine (Ogejo, 2010).

Means of saving and investment:

Livestock serves an important function as saving account and producing offspring as an interest. Income from cropping and other enterprises is often invested in livestock. In Indian situation keeping of livestock in rural areas is economic due to less requirement of input resources for them so the farmers get more benefits through their investment in livestock sector. These animals are also serving as bank for small farmers and who can get ready cash at the time of requirement by selling the animals. Daily off take from living animals such as milk and egg, provides more or less regular flow of cash income, even if only part of the off take is sold and absolute income of per day is low, at least it is enough to pay small regular purchases of commodities of daily use (Swallow and Brokken, 1987).

Animal can serve as an important source of income not only for full time livestock farmers, but also for the crop farmers who keep only a few animals. Crop residue utilized as feed for animals and animals are utilized as economic back bone for those farmers (Khan *et al.*, 2006).

Raising employment opportunity:

In India, 70 per cent of the rural households own livestock. They are an important source of employment in rural India, especially for women. In spite of the fact that the average holding of livestock is small, the livestock sector has considerable potential for generating additional employment through milk, meat, wool and eggs production. Milk production alone involves more than 30 million small producers (GOI, 2008).

At farm level, dairying is a labour-intensive activity, involving women in both production and marketing. Labour typically accounts for over 40 percent of total costs in smallholder systems. It has been estimated that for each 6 to 10 kg of additional milk processed per day in India, one working day is added for feeding and care. Goat, sheep, poultry and rabbit husbandry, especially in backyard production systems, provides an important source of part-time job opportunities, particularly for landless women and children (Sansoucy, 2007). Livestock represents at least a partial source of income and food security for 70 per cent of the world's 880 million rural poor who live on less than USD 1.00 a day (Neely *et al.*, 2009).

The level of employment generated or workforce absorption in the livestock sector is controlled by the size of operational holdings of the farmers. Farmers with marginal, small and medium sized holdings

participated in a larger proportion of work, and more than 21 per cent of their total workforce in each category was employed in different operations of livestock husbandry (Iqubal, 2010).

Utilization of women labour:

The mode of utilization of women's labour in animal husbandry activities was also estimated, and it was found that, of the total input by female labourers, more than 90 per cent were unpaid i.e. they were women from the same household (Iqubal, 2010).

Women's typical role within a livestock production system is different from region to region, and the distribution of ownership of livestock between men and women is strongly related to social, cultural and economic factors. Generally, it depends on the type of animals they raise. In many societies, for example, cattle and larger animals are owned by men, while smaller animals – such as goats, sheep, pigs and backyard poultry kept near the house – are more a woman's domain (Grandin *et al.*, 2008).

Women are typically responsible for milking ewes, processing and selling milk products, providing feed/fodder and water, caring for newborn lambs/kids and sick animals. Young girls are also involved in the grazing of goats and sheep, whereas married and young women are responsible for household activities (Anonymous, 2008).

Conclusion:

Livestock sector play a crucial role in rural economy and livelihood. Livestock can be raised on crop residues and agricultural bi-products in rural environment. The multiple livestock species rearing pattern is usually followed in rural India, which is environment friendly and plays an important ant vital role in providing nutritive food, supplementing family income as well as in generation of additional gainful employment in the rural sector, particularly among the landless, small, marginal farmers and women. Thus an increase in demand of livestock products can be major factor in raising the income and living standards of rural households.

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SUBJECT INDEX

Instructions for authors

The Journal of Rural Advancement (JRA) is a peer-reviewed journal published biannually by the Institute for Development of Technology for Rural Advancement (IDTRA). The aim and scope of the journal is to disseminate knowledge in research, development, education and transfer of technology on diverse aspects for advancement of rural life. The JRA accepts research contribution in the form of review article, research paper or short communications for publication. The authors are requested to be life members of the JRA.

Research Paper should report the results of an original research not previously published elsewhere, except in a preliminary form. The manuscript should be organized as per the format of the JRA.

Review Articles are invited for publication in JRA. The article should be comprehensively written with introduction, status of research in frontier areas with broad headlines, lacunae in research, possible scope for future work, brief summary followed by references. It should cover in detail the "State-of-art scientific research" on any subject of active research interest falling within the scope of the JRA.

A Short Communication should be concise but complete description of a limited scientific investigation or a unique case report. The manuscript should be written with no headlines but it should be complete in itself with a summary at the end. The summary should be clear and not longer than 150 words. It should be reproducible in abstracting journals. The summary should state briefly and specifically what the paper reports, summarizes conclusion, point out new information and indicate the relevance of the work. Short Communications may be submitted to the JRA as such, or may result from a request to condense a regular paper, during the peer review process.

Submission of manuscripts:

The manuscript for publication in JRA should be submitted in duplicate and also in electronic form to "The Chief Editor, Journal of Rural Advancement, Institute for Development of Technology for Rural Advancement, MIG-2/18, Mahavidya Phase 2, Mathura 281004 (INDIA). A soft copy of the manuscript is essentially required on E-mail addresses www.jra.com@gmail.com; or idtraidtra@gmail.com or on CD-ROM. Submission of an article to JRA is understood to imply that the article is original and is not being considered for publication elsewhere. Submission of manuscript in JRA also implies that all the authors have approved the paper for publication and are in agreement with its content. The authors will be required to fill the Author Agreement Form and

submit it along with the hard copy. It is pre-requisite for submission of a manuscript that all the authors should be life member of the JRA.

Preparation of manuscripts:

The manuscripts submitted to JRA should be written in clear and grammatically correct English (in MS Word document, Times New Roman font (font size 12) and printed in double space (except tables) in A4 size bond paper with a margin of 1 inch in all the sides. International system of units (SI) should be used for preparation of manuscripts. All the pages of the manuscript should be serially numbered with numerals. Manuscripts in general should be organized in the following order:

Title:

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