SUMMARY AND CONCLUSION
Chapter V  SUMMARY AND CONCLUSION

A study was conducted in the Sultanpur district to access the nutritional & reproductive status as well as to access the incidence of common reproductive problems prevalent in the cattle and buffaloes of this area. The study was conducted in 30 villages of 10 blocks in the 5 tehsils of district. The livestock owners were divided into four categories viz. landless, marginal, small and large depending on their land holding capacity. A total of 1514 cattle and 1585 buffaloes were included in the study. Out of the total animals, they were further divided into lactating and non-lactating and data from 974 lactating animals including 441 cattle and 533 buffaloes were included in the study. Cross-sectional study, employing questionnaire survey, and regular follow up using some laboratory evaluation were employed in this study.

Nutritional status of the animals was accessed by their body weights and body condition scoring as well as from the availability of DM, CP and TDN in their feeds. The body weight was calculated by Minnesota formula using the length and girth. Body condition scores of the animals were measured on a 9 point scale by visual enquiries. Availability of various nutrients was calculated from the average digestibility coefficients of various feed ingredients and from the requirements of the animals.
Milk fat and SNF percentage were estimated from the samples collected from the animals using standard protocols. Serum analysis was done for glucose, protein, cholesterol, calcium and phosphorus.

Reproductive status of the animals was accessed by enquiring the farmers regarding the dates of calving, number of lactations, number of services required for conception and service periods. Reproductive problems in the animals were accessed by enquiring the farmers as well as by the examination of the animals.

The general findings of the present research work can be summarized as follows—

1. The animals in this area are not in a good nutritional condition as indicated by their body weights and body condition scores. The average body weight of cattle and buffaloes were 316.63 Kg and 428.16 Kg respectively. The BCS was 3.86 and 4.18 in cattle and buffaloes respectively, on a 9 point scale.

2. The feeding system in this area comprises of free range (grazing), semi zero to zero grazing systems depending upon the socio economic status, land availability and awareness among farmers.

3. Based on the present investigation, it can be concluded that animals in this area are deficit in the availability of Crude Protein and Total Digestible Nutrients, whereas the availability of DM was at par with the recommendations of...
NRC. The CP was deficit by 15.83% in cattle and 17.39% in buffaloes; whereas the percent deficit of TDN in cattle and buffaloes were 7.24% & 7.95% respectively. These deficits need to be managed properly for their optimized production and reproduction performances.

4. The average daily milk yield of the animals is poor especially in landless category of farmers that needs to be improved. It was 2.71 liters for cattle and 3.71 liters for buffaloes. The peak milk yield (L/d) and total lactation milk yield (liters) for cattle were 4.07 & 813.27; whereas for buffaloes they were 6.40 & 1280.55 respectively.

5. The lactation length of the animals is very high particularly in landless category of farmers. This is basically due to the misconception that if they milk their animals for more time, they will get more milk for longer time; and also because of their socio economic status that forces them to make availability of milk for longer time for their livelihood. The lactation length (days) and dry period (days) in cattle were 307.49 & 142.43; whereas for buffaloes they were 352.06 & 121.98 respectively.

6. Milk fat and SNF percentage shows that the animals have the genetic potential but the managerial and feeding practices needs to be improved to increase their production performances. The milk fat and SNF percentage in cattle were 4.03% & 8.16%; whereas in buffaloes they were 7.09% & 9.31% respectively.
7. The blood biochemical profiles of the animals were almost normal except for calcium and phosphorus. The serum calcium and phosphorus levels are lower in both cattle and buffaloes. The blood glucose (mg/dl), serum total protein (g/dl), serum cholesterol (mg/dl), serum calcium (mg/dl) & serum phosphorus levels in cattle were 52.14, 7.04, 95.81, 8.58 & 4.68 whereas in buffaloes they were 57.66, 6.85, 95.27, 9.42 & 5.15 respectively.

8. The reproductive performances of cattle and buffaloes were very poor in this region. The AFC (months), Calving interval (days), Service period (days) & NSC in cattle were 51.98, 448.20, 176.96 & 483.77; whereas in buffaloes they were 54.40, 483.77, 181.25 & 2.45 respectively.

9. A total of 37.98 % of cattle and 38.30 % of buffaloes were found to be suffering from various types of reproductive abnormalities in this area; that can be accounted as a major cause of poor production performance.

10. Anoestrus, repeat breeding and endometritis were identified as the major reproductive health problems of cattle and buffaloes in this area, accounting for more than three fourth of all reproductive problems. The incidence of Anoestrous, repeat breeding and endometritis in cattle were found to be 43.33 %, 20.52% & 16.52%; whereas the incidence in buffaloes were 41.04%, 23.89% & 14.33% respectively.

11. The RFM, Abortions & Dystocia were identified as second group of reproductive health problems. The incidence of RFM,
Abortions & Dystocia in cattle were 7.13%, 6.96% & 5.22%, whereas in buffaloes they were 5.60%, 5.60% & 4.45% respectively.

12. Minor reproductive problems in this area included prolapsed and still birth. The incidence of prolapse was 1.69% & 0.96% in cattle & buffaloes respectively; whereas the incidence of still birth was 0.87% & 0.99% in cattle & buffaloes respectively.

13. The animals in this area are deficit in serum calcium and phosphorus levels. Calcium is needed for proper growth, development of bones & teeth, milk production and reproductive efficiency. Phosphorus is associated with energy metabolism and its deficiency results in lowered productive and reproductive efficiency even a marginal deficiency of phosphorus is detrimental to pituitary gonadal axis. The ratio of Ca: P was also not the standard 2:1. Thus another major cause for the poor performance of the animals can be attributed to the deficiency of calcium & phosphorus.

Based on the above findings, it can be concluded that the cattle & buffaloes of Sultanpur district are under nourished and need to be improved by supplementing the deficient nutrients through locally available feed resources or area specific mineral mixture supplementation. There appears to be a scope of enhancing fertility through emphasis on pre partum supplementary feeding (steaming up) and prevention of summer stress in buffaloes through improved managemental practices.
FURTHER RECOMMENDATIONS

Based on the above findings, some of the suggestions to improve the status of the cattle and buffaloes in this area are as follows—

1. The nutritional status of the animals in this area is not in a good condition, as indicated by their body weights, BCS and deficiency of CP & TDN in their ration. To improve the nutritional status, it is suggested that animals must be provided a balance of dry fodder, green forage and concentrate mixtures. The use of concentrate mixture needs to be encouraged especially among landless farmers.

2. The lactation performances of cattle and buffaloes are poor in this region, as indicated by poor average yield, peak yield and total milk yield. These are mainly due to the practice of increasing lactation length and increased dry periods. The practice of increasing lactation length in animals is putting extra stress on animals and thus decreasing their production performance below than their genetic make-up. Thus the farmers need to be advised to reduce the lactation length of animals so that the animals may remain in good condition of health and to maintain the genetic potential of animals.

3. The dry periods of the animals in this area also needs to be managed up to a standard of 60 days, so that animals produce their optimum level of production.

4. To improve the reproductive performance of the animals, it is needed to advice the farmers to monitor the number of...
services per conception and go for the AI at proper time with a skilled person, as unskilled persons can make wear & tear to the reproductive system leading to repeat breeding or other uterine disorders like cervicitis & endometritis.

5. The farmers also need to be advised for proper treatment of their animals, as the reproductive disorders are very much prevalent in this area. The anoestrus which is prevalent at a maximum proportion can be minimized by addition of mineral mixture and common salt in their ration.