

ACKNOWLEDGEMENTS

All praises to almighty Allah who gives me the strength to complete this thesis. There are huge sorts of reasons I would like to thank to the persons regarding this thesis submission. I owe my appreciation to all those people who have made this thesis happen and because of whom my gratitude experience has been one that I will look back at forever. It is difficult to embellish my gratitude to my supervisor **Professor Dr. Jannatara Khatun** for giving me the opportunity to do MS in Animal and Poultry Nutrition and supervising me. Thank you also for managing to read the whole thesis so thoroughly and for helpful comments on the texts. Without your knowledge, perceptiveness, guideness and encouragement I would never have finished.

I reckon it as a proud privilege to acknowledge my gratefulness, heartfelt gratitude and best regards to my respected research co- supervisor **Professor Dr. Md. Manirul Islam**, Department of Animal Science and Nutrition, Chittagong Veterinary and Animal Sciences University.

Thanks to all members of the department of Animal Science and Nutrition, Chattogram Veterinary and Animal Sciences University, for their kind cooperation.

I would like to express my deep sense of gratitude and thanks to Vice Chancellor, **Professor Dr. Goutam Buddha Das**, Chattogram Veterinary and Animal Sciences University.

The author is immensely grateful to all of them, although it is not possible to mention every one by name.

Finally, I am forever indebted to my parents for their countless patience and encouragement when it was most required.

Author

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ABSTRACT

This study was conducted to evaluate the effect of feeding of different proportions of neem tree leaves with/without concentrate mixture on the feed intake, digestibility, body weight gain, carcass parameters, as natural anthelmintic and meat quality of sheep. Hybrid neem leaves were harvested from 1 to 3 years age trees. After collection of leaf the fresh samples were dried at sunlight and then grounded into powder using a laboratory grinder. After grinding the powder were kept in plastic bags for Laboratory analysis and further use as Animal feed in experimental diet. A total 12 indigenous sheep with initial body weight approximate 12kg were selected from a flock of 30 animals of the CVASU animal farm. The animals were quarantined for seven days to get them used to their new environment and to observe their health condition. At the end of the quarantine period, the sheep was randomly allocated into four dietary treatments in a Completely Randomized Design (CRD) with three replications, each containing three animals. Concentrate mixture was replaced with dry neem leaves (foliage) at 0, 50, 100 and 150g among remaining 300g of diet and four experimental treatment were as: T1, 300g concentrate mixture; T2, 250g concentrate mixture + 50g dry neem foliage; T3, 200g concentrate mixture + 100g dry neem foliage; T4, 150g concentrate mixture + 150g dry neem foliage. All animals were weighed before morning feeding at the start of the experiment and each week interval. Daily faecal samples (2 days / week) were collected from each animal in the morning and this was continued for 6 weeks for the McMaster faecal egg counting. At the end of the feeding trial after two months, two sheep were randomly selected from each treatment and were slaughtered for determination of carcass and meat quality and collection of rumen fluid for estimation of in- vitro digestibility of the dietary supplements. Dry matter percentage of neem foliage, leaf, stem were 34.79%, 32.42%, 37.87% respectively. It is observed that neem stem contents more dry matter than leaf and foliage. Neem leaf has more moisture content than foliage and stem. Leaf content more ash, CP than other part of plant whereas stem content more fiber than leaf and foliage. The average daily weight gain of sheep increased significantly with increased amount of dry neem leaf and significantly higher live weight and superior feed conversion efficiency were found sheep fed T3 and T2 diet compared to other diet. After 14 days of trial start mean nematode faecal egg counts (E.P.G) decreased rapidly in neem treated group compared to those fed control diet. The sheep

fed dietary supplements using 50gm to 100gm dry neem foliage had significantly ($P<0.05$) higher hot carcass percentage and numerically higher dressing yield compare to those fed other diet. Significantly ($P<0.05$) lower cook loss and drip loss was obtained sheep fed 100 to 150g dry neem foliage used in dietary treatments that is T3 and T4. In conclusion, 30% (100g) neem leaf meal can be used in dietary supplements to increase performance, digestibility and meat quality of sheep and to reduce feed cost and increase of net return of sheep rearing.

Key words: Neem leaf, Sheep, Anthelmintic, Meat quality, Digestibility

LIST OF ACRONYMS

ADF	Acid Detergent Fibre
AOAC	Association Of Official Analytical Chemists
CVASU	Chattogram Veterinary And Animal Sciences University
DM	Dry Matter
ME	Metabolizable Energy
CRD	Completely Randomized Design
EPG	Egg Per Gram
FAMACHA	Faffa Malan Chart
VFA	Volatile Fatty Acid

