

**ANTHELMINTIC EFFICACY OF SOME INDIGENOUS MEDICINAL PLANTS IN GOATS**

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**ABSTRACT**

Anthelmintic efficacy of aqueous extracts of seeds of *Butea frondosa*, Neem oil (*Azadirachta indica*), mixture of *Butea frondosa* seed extract and Neem oil and a commercial preparation Jantana powder showed potential *in vivo* efficacy against helminth parasites in naturally infected goats. *Butea frondosa* seed extract showed 95.23 % efficacy against *Trichuris* spp., 92.3% against *Oesophagostomum* spp. and 100 % against *Moniezia* spp. at 4, 6 and 8 days post treatment, respectively. The efficacy of Neem oil was 93.33 % for *Trichuris* spp. after 20 days of treatment. (100% for *Oesophagostomum* spp., *Haemonchus* spp. and *Moniezia* spp. after 10, 4 and 30 days of treatment, respectively). Mixture of Neem oil and *Butea frondosa* seed extract showed 100 % efficacy for *Trichuris* and *Oesophagostomum* spp. after 30 days of treatment whereas Jantana powder was 100 % effective against *Trichuris* spp. and *Oesophagostomum* spp. after 4 and 20 days of treatment, respectively.

**KEY WORDS** : Plants, Anthelmintic, Efficacy, Helminthes, Parasites

**INTRODUCTION**

Synthetic anthelmintics are the only effective way of controlling parasitic infection. However, these are expensive, developed resistance against various anthelmintic compounds as well as their residues and toxicity problems (Kaemmerer and Butenkotter, 1973) pose hazards to livestock development and public health. Hence to overcome these problems it was proposed to investigate the anthelmintic properties of indigenous medicinal plants in goats.

**MATERIALS AND METHODS**

Twenty five goats naturally infected with helminth parasites were confirmed positive by microscopic faecal egg examination. Subsequently, these goats were randomly divided into five groups each containing 5 goats. Seed powder of *Butea frondosa* (Palash) plant was soaked in water overnight and used for dosing the goats in required concentration. Commercial preparation of Neem oil and a herbal powder Jantana (Mycon Pharmaceuticals, Pune) containing *Artemisia maritima*, *Brassica nigra* and *Cassia lanciolata* has been used. First Group (T<sub>1</sub>) was kept as Infected Untreated Control. Second Group (T<sub>2</sub>) was treated with Neem oil @ 1 ml orally for 3 days. Third Group (T<sub>3</sub>) was treated with *Butea frondosa* (Palash) seed extract @ 10%, 50 ml solution orally for 3 days. Group four (T<sub>4</sub>) was treated with mixture of 10% aqueous extract of *B. frondosa* @ 50 ml added with 1 ml Neem oil given orally for 3 days whereas Fifth Group (T<sub>5</sub>) was treated with Jantana" Powder @ 5 g per animal orally (for how much period,) and observation was made up to 40 days in all treatments . The efficacies of herbal drugs were determined on the basis of parasites eggs per gram (EPG) of faeces by Stoll's Method (Soulsby, 1982) before treatment and at alternate days for 10 days and subsequently at 10 days intervals up to 50 days after treatment.

$$\text{Formula: \% Efficacy of drug} = \frac{\text{EPG before treatment} - \text{EPG after treatment}}{\text{EPG before treatment}} \times 100$$

## RESULTS AND DISCUSSION

Faecal sample examination of untreated control group T1 showed the average faecal EPG count for *Trichuris* spp. was 3280, *Oesophagostomum* spp. 2530, *Haemonchus* spp. 180 and *Moniezia* spp. 1780. The treatment of Neem oil @ 1 ml orally for 3 days in Group T2 was effective in reducing the EPG count 93.33 % of *Trichuris* spp. after 20 days, 100% of *Oesophagostomum* spp., *Haemonchus* and *Moniezia* spp. on 10<sup>th</sup>, 4<sup>th</sup> and 30<sup>th</sup> days of treatment respectively. Anthelmintic effect of Neem oil was reported by Bhirangi (1996) in goats. Third group T3 treated with extract of *Butea frondosa* seeds showed efficacy of 95.23 % against *Trichuris* spp. on 40<sup>th</sup> day, 92.3% against *Oesophagostomum* spp. on 6<sup>th</sup> day and 100 % against *Moniezia* spp. on 8<sup>th</sup> day post treatment. Present findings are in agreement with Dash (1997) who reported significant anthelmintic activity of *Butea frondosa*, however, Joshi (1970), reported that an aqueous extract of *Butea frondosa* had no effect against *Haemonchus contortus* and *Oesophagostomum* sp. in sheep. Average values of EPG counts in faeces of fourth group T4 treated with mixture of Neem oil and extract of *Butea frondosa* seeds orally for 3 days was helpful to reduce 100% eggs of *Trichuris* spp. and *Oesophagostomum* spp. after 30 days of treatment. Reduction in egg count of *Trichuris* spp. in fourth group treated with combination therapy was more effective than *Azadirachta indica* oil and *Butea frondosa* seed extract given alone. Fifth group T5 treated with Jantana Powder @ 5g/animal orally was 100 % effective in reducing the egg count of *Trichuris* and *Oesophagostomum* spp. after 4<sup>th</sup> and 20<sup>th</sup> days of treatment respectively. Sharma (1994) reported 100 per cent efficacy of Jantana on 15<sup>th</sup> day post treatment in sheep and goats naturally infected with gastrointestinal nematodes.

## CONCLUSION

Efficacy of Jantana Powder (Mycon Pharmaceuticals, Pune) and combined therapy of Neem oil and *Butea frondosa* seed extracts against *Trichuris* spp. and *Oesophagostomum* spp. proved better herbal anthelmintics.

## REFERENCES :

- Bhirangi, S.M., (1999). Therapeutic evaluation of indigenous plants extracts on helminthiasis in goats. M.V.Sc. Thesis submitted to Dr. P.D.K.V. Akola, (M.S.).
- Dash, B. (1997). Ayurvedic cures for common diseases. Hind Pocket Books. Fifth Ed. Dilshad Garden, G.T. Road Delhi. : 18-19.
- Joshi, H.C. (1970) . *Orissa Vet. J.* **5**(2-3): 5-8. [Vet.CD-1973-1998].
- Kaemmerer, K. and Butenkotter, S. (1973). *Residue Review*, **46**:1.
- Sharma, L.K. (1994) *Indian Veterinary Journal*, **71**: 1123-1124.
- Soulsby, E.J.L. (1982) *Helminths, Arthropods and Protozoa of domesticated animals*, 7th edition, ELBS and Balliere, Tindall, Cassell, Ltd. London.

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