

ANTHELMINTIC ACTIVITY OF *NIGELLA SATIVA* L., SEEDS ON GASTROINTESTINAL NEMATODES OF SHEEP

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Abstract

Nigella sativa L. (Ranunculaceae) seeds have been used as a traditional medicine for the treatment of a variety of ailments in human and animals including parasitic diseases. The anthelmintic activity of *N. sativa* was evaluated against the gastrointestinal nematodes of sheep *via* egg hatch assay and faecal egg counts reduction test *in vitro* and *in vivo*, respectively. *In vitro* studies revealed that aqueous and ethanolic extracts at the concentration of 3.12, 6.3, 12.5, 25.0 and 50.0 mg / ml exhibited ovicidal effects ($p < 0.05$) against the eggs of gastrointestinal nematodes. The highest ED₅₀ value of *N. sativa* extract was recorded on the eggs of *Oe. columbianum* (21.88 mg / ml) whereas the lower value was recorded on the eggs *Trichostrongylus* spp. (15.85 mg / ml). *In vivo* studies revealed that experimental animal groups treated with the doses of 200 mg / kg of either aqueous or ethanolic extracts of *N. sativa* exhibited higher ($p < 0.05$) reduction rate on FEC as compared to untreated groups (negative control). The highest reduction rate on FEC of treated animal groups was 69.5 and 54.2 % with ethanolic and aqueous extracts, respectively at the dose of 200 mg / kg on the 14th day post treatment whereas at the treatment doses of 50 and 100 mg / kg, the reduction rate ranged between 2.48 to 29.59 % from 3rd onward to 14th post treatment. The current study showed that *N. sativa* seed extracts possess anthelmintic activity, thus justifying their use in traditional and veterinary practices.