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Effect of Neem leaf powder and spirulina as antibiotic growth promoter substitute on peroxidation status, physicochemical and organoleptic parameters of broiler meat

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The present study examined the effect of neem leaf powder along with spirulina as an antibiotic growth promoter substitute on antioxidation status, physicochemical and organoleptic parameters of broiler meat. A total of 270 Vencobb strain, day old broiler chicks were randomly divided into 6 groups. 45 chicks from each treatment were wing tagged to form 3 replicates of 15 chicks each in a completely randomised design. Group I was normal control fed with only basal feed without any growth promoter, group II chicks were antibiotic control fed with 0.05% of TM 200 (Oxytetracyclin), group III chicks were fed with 1% NLP, group IV chicks fed with 1% NLP & 1% Spirulina, group V chicks were fed with 0.05% TM 200 & 1% spirulina and group VI were fed with 1% spirulina along with feed. The broiler meat peroxidation markers like TBARS and protein carbonyls are significantly decreased and antioxidant markers like GSH and SOD are significantly increased in group IV and V compared to control in fresh meat and after preservation at 4°C for two weeks. Physicochemical parameters of meat such as water holding capacity, extract release volume, muscle pH and organoleptic parameters like tenderness, juiciness, flavour, colour and overall acceptability were significantly higher in group IV and V compared to control in fresh meat and after preservation at 4°C for two weeks. The results showed supplementation of feed with 1% NLP along with 1% spirulina has significant improvement in antioxidant status and thereby improved physicochemical and organoleptic parameters of broiler meat.

Biography

K Ravi MVSc is presenting this abstract which is the part of his MVSc degree research work. Presently he is pursuing the PhD in the department of Pharmacology & Toxicology, NTR College of Veterinary Science, Gannavaram.

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