

Effect of herbal extract and aromatic oil mixture (Arolief™) on broiler performance

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Abstract

Using of antimicrobials during pre-processing period in broiler is prohibited due to consumer food safety concern. To relief symptoms, prevent diseases, improve health status and improve production in this critical period, non-hazardous feed additive is required. Herbal extract, *Andrographis paniculata* is traditionally used in Asia to reduce fever, inflammation and treatment in respiratory tract infection while aromatic oil (e.g. eucalyptus) has property in anti-congestion and anti-inflammation. Mixing of these ingredients is considered to improve health status and anticipate indirect effect on growth performance of poultry. Therefore, our study aims to observe indirect effect of herbal extract and aromatic oil mixture (Arolief™) on broiler growth performance during pre-processing period. A total of 134,028 one day old Arbor Acres broilers were admitted to this study. Chicks were separated to 3 study periods (experiment 1, 2 and 3), in each period birds were divided into 2 houses, one of which was given Arolief™ in drinking water (1cc per 10 liter of water) 8 hour per day during pre-processing period, age 29-35 days old (treatment). Feed and water were provided *ad libitum* throughout experiment. Chick weight, feed intake, number of culling and number of death bird were recorded to evaluate growth performance and mortality rate. Five birds from each group were randomly taken and breast meat samples were collected to detect drug residue at the end of study. The result is shown in table 1. Field trial indicated improvement of growth performance (ADG, FCR and Productive Index (PI)) and decrease in mortality during treatment period. All meat samples were not detected drug residue, indicated safety of the product for consumer. Data suggested supplementation of *A. paniculata* extract and aromatic oil mixture during pre-processing period is benefit to improve broiler growth performance via indirect effect while still safe for consumer.

Keyword

Broiler, herbal extract and aromatic oil mixture, growth performance, pre-processing period

Table 1 Performance Effects of Arolief™ supplement

	Experiment 1 Jun - Jul 2013			Experiment 2 Jan - Mar 2014			Experiment 3 Jan - Mar 2014		
	Cont.	Treat.	Improve	Cont.	Treat.	Improve	Cont.	Treat.	Improve
No.Chicks (chick)	16,626	16,626		19,278	19,380		31,620	30,600	
Sex	male	male		female	female		female	female	
% loss in first week	0.90	0.64	(-) 0.26	0.93	0.64	(-) 0.29	1.01	0.71	0.30
% livability	96.32	95.73	(-) 0.59	95.90	95.70	(-) 0.20	95.47	96.36	0.89
Mortality rate at treatment period (day 29-35)	0.84	0.69	0.15	0.51	0.24	0.27	0.52	0.69	0.17
Body weight (kg)	2.75	2.78	0.03	2.37	2.21	0.16	2.20	2.24	0.04
ADG (g/day)	65.98	66.9	0.92	54.32	58.35	4.03	54.03	54.95	0.93
FCR	1.757	1.746	(-) 0.01	1.804	1.757	(-) 0.047	1.902	1.832	(-) 0.07
PI	367	372	5	294	323	29	276	294	18