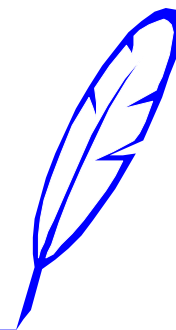


# Atlantic Poultry Research Institute

## APRI FACTS



FACTSHEET # 14  
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### EFFECT OF ANTICOCCIDIAL PROGRAM ON RUNNY MANURE IN TURKEYS

#### Introduction

Runny manure or “flushing syndrome” seen in regional turkey flocks has been associated with increased incidence of breast buttons and blisters which results in increased downgrading during processing. In addition, decreased feed consumption has been associated with the production of runny manure. Wet litter increases moisture and ammonia levels, thereby reducing litter quality. Heat and ventilation requirements need to be increased in an effort to maintain litter quality, which directly affects production costs.

Necrotic enteritis as well as coccidiosis may affect the incidence of runny manure. External symptoms of both of these conditions include reduced feed intake, and diarrhea (Ficken and Wages 1997; McDougal and Reid 1997). Peak runny manure production is usually seen in flocks from 6 -14 weeks of age which coincides with the removal of the anticoccidial from the diet (Leeson and Summers 1997). Removal of the anticoccidial may be result in changes in the intestinal microflora. The anticoccidial program may possibly be related to the runny manure problem.

#### Trials

##### Trial 1

Turkey poults were fed standard diets (Table 1) with the following antibiotic/anticoccidial treatments from 1 - 84 days of age: -Stafac/-Coban, +Stafac/-Coban, -Stafac/+Coban, +Stafac/+Coban. Coban was removed from the diets at 70 days of age.

##### Trial 2

Turkey poults were fed standard diets (Table 1) with the following antibiotic/anticoccidial treatments from 1 - 84 days of age: -BMD/-Amprol, +BMD/-Amprol, -BMD/+Amprol, +BMD/+Amprol. Amprol was removed from diets at 70 days of age.

Table 1. Standard Diet Composition

Age	Diet	CP	Metabolizable Energy
(Days)		(%)	(kcal kg <sup>-1</sup> )
1-14	Starter	29	2850
15-28	Grower 1	26.5	3000
29-56	Grower 2	23	3200
57-70	Finisher 1	19	3250
71-84	Finisher 2	17	3300

#### Results

Table 2. Effect of Anticoccidial Program on Growth Performance (Trial 1)

Parameter	Anticoccidial Program				SEM
	-Stafac -Coban	+Stafac -Coban	-Stafac +Coban	+Stafac +Coban	
<i>Weight (g bird<sup>-1</sup>)</i>					
14 d	327c	342a	331bc	340ab	3
28 d	1176	1200	1143	1160	14
56 d	4038	4113	3991	4010	47
70 d	5804	5933	5754	5786	65
84 d	7197	7343	7214	7193	93
<i>Feed Efficiency (feed gain<sup>-1</sup> bird<sup>-1</sup>)</i>					
1-14 d	1.24a	1.15b	1.19b	1.17b	0.01
15-28 d	1.33	1.35	1.36	1.38	0.02
29-56 d	1.81a	1.75b	1.75b	1.73b	0.01
57-70 d	2.39	2.28	2.35	2.29	0.03
71-84 d	3.07	3.13	3.03	3.06	0.08
1-84 d	2.12	2.08	2.09	2.07	0.02
<i>Runny Manure (% of observations)</i>					
1-84 d	3.4	4.1	3.1	4.1	1.0

a-c Means with different letters differ significantly (P≤0.05)

### Trial 1

Feed intake was not affected by treatment. Birds fed the +Stafac/-Coban treatment had greater 14 d weights (Table 2) than the birds fed the -Stafac/+Coban treatment. Birds fed the +Stafac/-Coban and +Stafac/+Coban treatments had greater 14 d weights than those fed no medication. Past 14 days, treatment did not affect body weights. Birds fed the non-medicated treatment were less efficient (Table 2) during the 1-14 and 29-56 d periods, however, treatment did not affect overall feed efficiency. Except at 35 days of age, treatment did not affect litter dry matter content. When live graded at 84 days of age, only four birds were found to have breast blisters. Runny manure was observed during the trial but only in small amounts by all treatments (Table 2).

**Table 3. Effect of Anticoccidial Program on Growth Performance (Trial 2)**

Parameter	Anticoccidial Program				SEM
	-BMD	+BMD	-BMD	+BMD	
	-Amprol	+Amprol	-Amprol	+Amprol	
<i>Weight (g bird<sup>-1</sup>)</i>					
14 d	393	401	388	409	7
28 d	1139	1186	1133	1120	23
56 d	3955	4089	3921	3937	81
70 d	5369	5444	5359	5278	82
84 d	6897	6863	6934	6826	82
<i>Feed Efficiency (feed gain<sup>-1</sup> bird<sup>1</sup>)</i>					
1-14 d	1.26	1.22	1.24	1.20	0.02
15-28 d	1.40	1.37	1.43	1.42	0.04
29-56 d	1.76	1.71	1.81	1.71	0.05
57-70 d	2.36	2.34	2.28	2.34	0.05
70-84 d	2.79	2.91	2.72	2.64	0.09
1-84 d	2.05	2.02	2.05	1.98	0.03
<i>Runny Manure (% of observations)</i>					
1-84 d	2.7	5.5	3.9	4.2	0.9

Means do not differ significantly (P>0.05)

### Trial 2

As with trial 1, feed intake was not affected by treatment. There were no effects of treatment on body weights (Table 3) or feed efficiency (Table 3). Except at 84 days of age, litter dry matter content did not differ among the treatments. The litter from the +BMD/+Amprol treatment had a significantly higher moisture content (34.4%) than the litter from the other three treatments (27.1%, 21.9%, 28.0%; -BMD/-Amprol, +BMD/-Amprol, -BMD/+Amprol, respectively).

No birds live graded had breast blisters at 84 days. As with trial 1, runny manure was observed in small amounts for all treatments (Table 3).

### Industry Impact

Runny manure is a condition in the commercial turkey industry which is resulting in reduced economic returns and production efficiency. Information about factors which predispose the turkeys to this condition is limited. In the trials conducted, anticoccidial program did not affect the production of runny manure.

### References

- Frickens, M.D. and Wages, D.P. 1986.** Necrotic enteritis *In* Diseases of Poultry, 10<sup>th</sup> ed. Iowa State University Press, Ames, Iowa.
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