

EFFECTIVENESS OF SUPPLEMENTATION OF VITAMIN C IN BROILER FEEDS IN HOT SEASON

Abdul Qayum Raja and Aijazuddin Qureshi¹

Production Manager, Karachi Feeds, Karachi

¹*Manager Technical Services, Hilton Pharma (Pvt.) Ltd., Karachi, Pakistan*

INTRODUCTION

During summer in Pakistan farmers experience poor performance, losses of their flocks due to high temperature and humidity. It is well known that Vitamin C supplementation improves body weight, FCR, immunity under hot humid climate stress. Vitamin C (Ascorbic Acid) is synthesized in renal tissues of chicken and is assumed usually that amount of vitamin C synthesized is adequate to meet the requirement of chicken. Vitamin C biosynthesis is influenced by many factors e.g., age, environment, management, growth, production and stress etc., therefore, vitamin C level in plasma and tissues could be changed resulting in specific vitamin C deficiencies. Feed ingredients used in rations do not contain adequate amount of vitamin C to meet the requirement of birds. Feed millers do not use vitamin C at all. The objective of this study was to evaluate the influence of vitamin C (Rovimix C-EC) supplementation at the rate of 100 g per ton of ration fed under hot climatic conditions to broilers.

MATERIALS AND METHODS

A six weeks experiment was conducted under field conditions at Gulshan Poultry Estate, Gaddap,

Karachi, during hot months (June 22 to August 2, 1999).

The trial was initiated with 255 Olympia broiler day old chicks, in each group i.e. control and 3 replicates of the treated group reared on litter floor and kept on Karachi Feed (pellet form) under one roof of open sided conventional house. Management, medication/ vaccination and all other parameters were identical. The house temperature and humidity ranged between 29-36°C and 54-69%. Live weight was recorded weekly. Mortality was recorded daily. The control and treated groups were vaccinated against IBD, ND and Hydropericrdium disease on 5th, 11th and 18th day, respectively. Collibacillosis and IBD affected the flocks during this period.

RESULTS

The study confirmed the positive effects of vitamin C supplementation at 100g/ton on broiler performance (Table 1). Significant improvements were observed in body weight and feed conversion ratio. Livability also improved (Table 1). It was concluded from the experiment that vitamin C proved to be the cost effective, paying back reasonably more than the cost of its inclusion in the feed.

Table 1: Effectiveness of vitamin C supplementation in broiler feeds and its cost/benefit ratio

Parameters	Control	Treated (R ₁)	Treated (R ₂)	Treated (R ₃)
Starting number of chicks	255	255	255	255
Initial average live weight per chick (g)	40	39	42	41
Average final live weight per bird (g)	1320	1360	1366	1370
Total live weight sold (kg)	306.24	319.60	325.10	320.60
Total weight gain (kg)	296.40	309.66	314.40	310.15
Mortality (%)	9.01	8.62	6.66	8.24
Income per kg *	45.00	45.00	45.00	45.00
Gross income *	13780.00	14386.00	14629.00	14427.00
FCR	2.38	2.27	2.24	2.27
Cost of feed per ton *	10000.00	10050.00	10050.00	10050.00
Cost of Rovimix C-EC *	-	35.00	35.00	35.00
Feed cost due to Rovimix C-EC *	7050.00	7085.00	7085.00	7085.00
Earning from sale of birds *	6730.00	7301.00	814.00	7342.00
Extra earning due to Rovimix E-EC *	-	571.00	7544.00	612.00
Cost/Benefit (%)	-	+ 8.5	+ 12	+ 9

Note: the feed cost is calculated on 7.5 kg actually put to each group. Feed consumed by each group was: Control=704.57 kg; R₁=702.92 kg; R₂=7.4.25 kg; R₃=703.97 kg; * = prices are in Pak rupees.