

EFFECT OF DIFFERENT LEVELS OF SUMAC (*RHUS CORIARIA L.*) EXTRACT ON GUT DEVELOPMENT IN BROILER CHICKS

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INTRODUCTION

One of the growth promoters are antibiotics which changes gut microflora and therefore facilitate poultry performance. Recently use of antibiotics has been limited and going to be band due to their side effects on consumers (Azadeganmehr, 2007). Research indicated that sumac is effective against both gram positive and negative bacteria, but it is more effective on gram positive than gram negative microorganisms (Ahmadian-attari et al, 2007). Therefore it is possible that sumac may have has some antibacterial effect in poultry and could be consider as a feed additive for poultry. The objectives of this experiment was to investigate the effect of different levels of sumac extract on gut developments in broilers.

MATERIAL AND METHODS

260 day-old broiler chicks (Ross 308) were used in a completely randomized design with four treatments and five replicates. The treatments consisted of A: control, B: growth promoter antibiotic (flavophospholipol), C: 1.5ml/lit sumac extract, D: 3 ml/lit sumac extract. Broilers received treatments from 1 to 42 d. Intestinal morphology (villus height, crypt depth and villus height to crypt depth ratio) at 30 d and digestive organ weight and length were measured at 42 d.

RESULTS AND DISCUSSION

Results showed that duodenum and cecum weight were increased by treatment C. Weight of ileum and depth of jejunum villus were increased by treatment D. In broilers received Flavophospholipol the jejunal villus height and height to crypt depth ratio were increased. Weight of pancreas, gizzard, proventriculus, jejunum, ileum and length of jejunum, duodenum, cecum, and also the ileal villus height, crypt depth and height to crypt depth ratio were not affected by treatments. Improvement in gut development by plant extract may be due to better use of nutrients, increasing appetite, digestive secretion and antibacterial effect of plant (Kamel,2001). In conclusion, results demonstrated the use of sumac extract can be influenced gut development in broiler chicks.

Keywords: Broiler, Sumac, Intestinal morphology

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