

Some blood biochemical, antioxidant biomarkers, lipid peroxidation, productive performance and carcass traits of broiler chicks supplemented with *Alpinia galangal* rhizomes extract during heat stress.

ABSTRACT

One thousand one-day-old Cobb broilers were randomly allotted to four dietary groups to study the influences of various levels of nutritional supplementation of *Alpinia galangal* rhizomes extracts (AGRE) on blood biochemical components, antioxidant status biomarkers, lipid peroxidation, productive performance, and carcass traits of broilers beneath summer circumstances. The control set was fed a standard diet free of AGRE; the trial groups obtained the standard diet besides 250, 500, and 750 mg AGRE /kg. The trial time continued for six weeks. The obtain results showed that, in groups, 500 AGRE and 750 AGRE, plasma globulin, albumin, and total protein were significantly augmented. However, all levels of AGRE supplementary diets revealed significantly decreased in the plasma total cholesterol, triglycerides, low-density lipoproteins, and total lipids. Total antioxidant capacity, glutathione S -transferase, superoxide dismutase, catalase, and glutathione peroxidase were significantly augmented by supplementing nutritional AGRE, respectively. In contrast, malondialdehyde was lowered with rising AGRE levels. Chickens of group 750 AGRE had the lowest mortality and also, the most effective feed conversion ratio and body weight gain. Percentage of dressing, breast, and thigh significantly augmented for chicks consumed different levels of AGRE. Also, the group fed on AGRE recorded the highest abdominal fat compared with control group. Additional, liver, heart and gizzard weights were increased significantly in the group of chickens that received different levels of AGRE as compared with the control group. Ascending levels of AGRE supplementary in broiler diet affected the carcass meat, which was noticed an increase in crude protein, moisture and ether extract in breast meat compared to the control group. However, ascending levels of AGRE supplementary caused downward in crude protein contents of thigh meat compared to the control group. The present findings revealed that all tested levels of AGRE supplementations were useful against heat stress to downgrade the adverse effects of heat stress in broilers.

Key words: *Alpinia galangal*-Antioxidant-blood- broiler performance- carcass- heat stress.