

عنوان مقاله:

In ovo and dietary feeding of betaine to broiler chickens under heat stress conditions: Effects on hatchability, performance, body temperature and blood parameters

محل انتشار:

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نویسندگان:

Poorya Dadvar - Department of Animal Science, Ilam Agricultural Research and Education Center, AREEO, Ilam, Iran

Ali Maddahian - Department of Agriculture, Payame Noor University, Tehran, Iran

Omid Dayani - Department of Animal Science, College of Agriculture, Shahid Bahonar University of Kerman, Kerman, Iran

خلاصه مقاله:

The effects of in ovo feeding (0 and 1g/L) and dietary feeding (0 and 1g/kg diet) of betaine on hatchability, performance, body temperature and blood parameters of broiler chicks under heat stress condition, were investigated using 600 fertile eggs (Ross 308) for in ovo injection at 17.5d of incubation. After hatching, 192 male chickens were divided into four groups: 1- In ovo feeding of non-betaine solution and post-hatch diet without betaine, 2- In ovo feeding of non-betaine solution and post-hatch dietary feeding 1g per kg of betaine, 3- In ovo feeding of 1g per L betaine solution and post-hatch diet without betaine, and 4- In ovo feeding of 1g per L betaine solution and post-hatch dietary feeding 1g per kg of betaine. The chicks were exposed to heat stress from 7-21d for 4h/d. The results showed that body weight of hatched chicks and the hatched chick body weight to initial egg weight ratio, was significantly increased by in ovo feeding of betaine ($P < 0.05$). The effects of in ovo feeding and dietary feeding of betaine resulted in higher feed intake ($P < 0.05$) and daily weight gain ($P < 0.01$) and improved feed conversion ratio ($P < 0.05$) for 7-21d. Birds that received dietary betaine had more carcass, breast and leg weight than chickens receiving betaine-free diet at 21d ($P < 0.05$). The experimental treatments had no significant effect on carcass yield at d 42. During heat stress between 14 and 21d age, the group that did not receive betaine (in ovo or dietary) had the highest cloacal temperature ($P < 0.01$). The concentration of high-density lipoproteins, triglycerides and cholesterol in the blood of chickens that received betaine-free diet was significantly higher than other groups ($P < 0.05$). In general, dietary betaine feeding improved the performance and carcass parameters and decreased blood lipids and cloacal temperature of chicks under heat stress conditions. However, these effects were not observed from days 28 to 42, which were free of heat stress

کلمات کلیدی:

carcass, cholesterol, cloacal temperature, in ovo injection

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