MAXIBAN EFFECTS ON HEAT DISTRESSED BROILERS

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Story in Brief

A study utilizing 192 male broilers was conducted to evaluate the effects of Maxiban on the heat distressed broiler. During the 21-day trial, conducted four to seven weeks posthatching parameters monitored and results for control and treated birds respectfully, included: live weight gain (1.95, 1.91 lb); percent survival (87.5, 69.8%); and feed efficiency (.29, .21). Maxiban significantly reduced both percent survival and feed efficiency during the heat stressed period. The reduced feed efficiency was a result of the lower bird survival.

(Key Words: Maxiban, Nicarbazin, Broilers, Heat Distress.)

Introduction

Maxiban[3], a new drug combination consisting of Narasin (40 ppm) and Nicarbazin (40 ppm) has been suggested to provide a means for reducing Nicarbazin toxicity during heat distress. Reportedly, this drug combination may be utilized throughout the growing period. Long (1988) fed birds housed in a thermoneutral environment the Narasin/Nicarbazin combination from 10 to 50 ppm each along with nicarbazin fed alone at 125 ppm. His results indicated that birds performed better when given a mixture of Nicarbazin and Narasin of 10 to 40 ppm each than birds fed Nicarbazin alone at 125 ppm. Long also subjected birds to a 108°F heat stress and found that birds given a 50-50 mixture had a higher survivability than birds fed Nicarbazin at 125 ppm. Dose titration studies conducted in our laboratory however, indicate that Nicarbazin toxicity, as measured by bird mortality increases linearly with its inclusion level. The following study was conducted to evaluate Maxiban toxicity in male broilers during simulated summer heat distress.

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Materials and Methods

One hundred and ninety two Vantress X Arbor Acre male broilers were randomly allotted to 32 experimental units within the Oklahoma State University environmental chamber. Birds were allotted such that chamber position effects were blocked and that treatments consisted of 16 replicates of six chicks each. The environment was cycled between 77°F and 97°F with relative humidity maintained at 50%. At experiment initiation birds were 28 days old. Both feed (Table 1) and water were available for ad libitum consumption. Parameters monitored included live weight gain, feed consumption, feed efficiency and percent survival. Feed efficiency was calculated as:

Feed Efficiency = (average gain x percent survival)/feed consumption.

Table 1. Composition of basal diet.

Ingredient	Percent
Ground corn	56.8
Soybean meal	36.0
Fat	3.0
Dical. phosphate	2.35
Calcium carbonate	.90
Salt	.50
Vitamin mix	.25
Trace mineral	.10
DL-Methionine	.10
Total	100.00

Results and Discussion

Untreated broilers exposed to the cycling temperature heat distress (Table 2) exhibited reduced ($P<.01$) live body weight gain (27%), feed efficiency (31%) and survival (13%) when compared to the thermoneutral controls. Supplementing the rations of heat stressed broilers with Maxiban had no significant impact upon weight gain though it was numerically depressed (2.2%). However, Maxiban supplementation significantly depressed ($P<.01$) broiler survival from a mean of 87.5 to just 69.8%. Primarily as a result of the reduced number of birds surviving the trial, feed efficiency was also reduced ($P<.01$) from a mean of .29 to just .21. These data suggest that the new drug combination Maxiban does not eliminate the problems encountered with Nicarbazin use during high ambient temperature-relative humidity stress.

Table 2. Effects of 40 ppm narasin and 40 ppm nicarbazin on weight gain, feed efficiency and survivability.

Treatment	Weight gain (lb)	Feed efficiency	Survivability (%)
Control	1.97	.3293	87.50
Narasin/nicarb	1.91	.2991	69.79

Literature Cited

Long, P.L. et al. 1988. Anticoccidial activity of combinations of narasin and nicarbazin. Poultry Sci. 67:248.