Table 1 *Effect of varying dietary electrolyte balance on broiler performance reared under hot and humid environment from 1 to 42 days of age*

	Dietary Electrolyte Balance (Na+K-Cl; mEq kg^{-1})						
Parameters	Control	0	50	150	250	350	Pooled SEM
Weight gain	1602^{bc}	1537^{c}	1749^{a}	1655^{b}	1778^{a}	1657^{b}	22.4
Feed Intake	3217^{bc}	3162^{c}	3419^{a}	3325^{ab}	3437^{a}	3335^{ab}	*28.9*
Feed:Gain	2.008^{b}	2.057^{c}	1.957^{a}	2.010^{b}	1.933^{a}	2.013^{b}	*0.011*

^{abc}Values with different superscripts in a row differ significantly ($P < 0.05$).

Conclusions

The overall favorable performance achieved in this experiment indicate that with a fixed level of K^+ (0.71 and 0.65%), diets containing low Na^+ (0.26 and 0.20%), and high Cl^- (0.88 and 0.71%), or high Na^+ (0.36 and 0.35%) and low Cl^- (0.32 and 0.23%) concentrations, in the starter and finisher diets, respectively, could be used to alleviate the adverse effects of the hot and humid season.

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Meta-analysis of the effect of high ambient temperature on growing pig performance

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The high ambient temperature has been recognized as the most important climatic factor influencing pig performance during summer heat waves in a temperate climate and all year in a tropical climate. However, the results of experiments dealing with the effects of high temperature on pig performance are remarkably variables. In the present work, a meta-analysis was carried out to analyze the results from different studies designed to evaluate the effect of elevated temperature on average daily feed intake (ADFI) and average daily gain (ADG) in growing finishing pigs. Data were extracted from 86 and 80 trials for ADFI and ADG, respectively, from studies published in scientific journals in PubMed, Science direct and proceedings of scientific meetings updated through December 2009. Data on ADFI and ADG were analyzed with a linear mixed model that included the linear and the quadratic effects of temperature (T) and pig body weight (BW), the interaction between T and BW as covariates. The trial has been included as a block random variable. The effects of housing conditions ($n = 2$; individual vs. group) and the year of publication of the trial ($n = 3$; 1970–1989, 1990–1999, and 2000–2009) were tested on the intercept and the linear slope of T. The results show that high T had a curvilinear effect of ADFI and ADG and that this effect was highlighted in heavier pigs. Whatever the temperature level, the ADFI was lower when pigs were group-housed. The intercept and slope for T were significantly affected by the year of the study publication. The effect of elevated T was greater in earlier works suggesting that modern genotypes could be more sensitive to heat stress than low growth potential pigs. In conclusion, the results of this meta-analysis confirm that a large between-study variability exits for the effects of high T on pig performance. A part of this variability is explained by changes in pig BW range and to a lesser extent by the year of the study publication.

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