Effect of different heat and organic acid treatments as conventional decontamination strategies on feed digestibility and broiler performance

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This study evaluated the effect of different heat treatments including pelleting, long-term conditioning (85°C, 3min), expanding at 110°C and 130°C for 3-5 seconds and also organic acid (Lupro-Cid) treatments (0, 0.75 and 1.5%) as conventional decontamination strategies on feed digestibility and broiler performance. In total, 960 day-old Cobb broiler chicks were randomly assigned to 8 replicate pens using a 4 × 3 factorial design. Performance parameters were determined weekly, and the amino acid (AA) digestibility was measured at d 35. The birds fed diets containing 1.5% acid had a better FCR (P ≤ 0.05) at day 7 compared to the other groups. The acid inclusion levels and heat treatments had no significant effect on performance parameters at the other life times of the birds. The long-term group showed the lowest ileal AA and CP digestibility; however, except isoleucine, no effect of acid inclusion levels were observed for ileal digestibility of AA. Our study demonstrated, with the exception of long-term conditioning, that heat and acid could potentially be used to decontaminate broiler feed without any negative impact on AA digestibility and broiler performance.