IMPACT OF HOT WEATHER CONDITIONS ON PERFORMANCE AND CARCASS YIELD OF ROSS 308 BROILERS FED ZN AND CR AMINO ACID COMPLEXES. Marco Rebollo, Alba Fireman, Thim Cheng, Cheng Zang, Leonardo Linares, Duarte Neves, Terry Ward (Zinpro Corporation, Eden Prairie, MN, USA).

Heat stress is damaging for poultry production with adverse consequences on growth performance. The effect of broiler diets supplemented with Zn and Cr amino acid complexes in hot weather conditions (28 to 35**°**C and 80 to 90% of relative humidity) was evaluated. Ross 308 one-day-old chicks (840 males and 840 females) were placed in 42 floor pens in a randomized block design with 14 replicates, 20 birds/replicate and 3 treatments. Birds were fed diets containing: 120 ppm Zn from ZnSO4 + 800 ppb Cr from Cr picolinate (Control), 120 ppm Zn from ZnSO4 + 800 ppb Cr from Cr methionine (CrMet), or 80 ppm Zn from Zn amino acid complex + 500 ppb Cr from Cr methionine (ZnAA+CrMet). Live performance, carcasses yield and blood parameters related to stress response were measured. Birds fed CrMet had greater feed intake (*P* < 0.01), body weight (*P* < 0.04), and breast meat yield (*P* < 0.06) than birds fed the Control diet. Corticosterone levels were greater (*P* < 0.003) in birds fed CrMet than birds consuming the other treatments. Levels of immunoglobulins, total proteins, albumin, and globulins were greater (*P* < 0.0001) in birds fed ZnAA+CrMet than the other two treatments. Males fed ZnAA+CrMet had greater body weights (*P* < 0.002) and improved adjusted feed conversion rates (*P* < 0.06) than males fed the Control diet. Carcass yield by females fed ZnAA+CrMet was greater (*P* < 0.07) than birds fed the other two treatments.

Key Words: Heat Stress, Zinc, Chromium