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In the Tropics the major constraint for goat production is gastrointestinal nematodes (GIN) infection. One promising alternative to chemotherapy is the improvement of host nutrition yet the underlying mechanisms remain unknown. The aim of the study was to assess the effects of GIN infection and supplementation on packed cell volume (PCV), average daily gain (ADG) and carcass quality of growing Creole kids. Sixty male goats were reared indoors following a 2×3 factorial design. The factors were the experimental infection levels IE (I: infected and NI: non-infected) and the diets D (G: grass only diet; B: grass plus dried banana and C: grass plus concentrate). Fecal egg counts did not vary among I groups (on average 2,200 ω/g). The PCV and ADG were improved (P<0.001) for NI animals vs. I ones. There was a D effect (P<0.001) and no I×D interaction was observed. There was no significant effect of EI upon the main carcass data, except liver and reticulorumen weights that increased slightly in I compared to NI goats (P<0.05). Same trend was observed for the breast proportion. The absolute values of abdominal fat (related to EBW), meat redness and water losses appear to be affected by IE levels (P>0.05). All carcass data increased significantly with the addition of supplement in the diet (P<0,001) except for carcass cut proportions. Obviously, the C groups performed better than the two others (whatever their EI levels). From one extreme group (GI) to another (CNI) there was an increase of 10.5% of carcass yield (P<0.01). Meat physical parameters are damaged when the I kids received the B diet with higher lightness and water loss than in the G and C groups. Given that the B diet contained less nitrogen (N) than the G one and that the GIN stress affect the animal N metabolism, it could be hypothesized that the IB kids may have suffered from a lack of N. Further studies are required to assess the N nutrition×parasitism interactions upon physiological features and carcass quality of goat.