A-four week on-farm-feeding trial was conducted to evaluate the response of 120 'Ross 308' cockerel chicks to diets containing sheanut cake (SNC). Three isonitrogenous and isocaloric diets represented as SNC 0%, SNC 5%, and SNC 10% were fed in a completely randomized design (CRD). Measured parameters were body weight, weight gains, and feed intake. Also, feed conversion efficiency and feed cost per kilogram diet were calculated. Hematological parameters were also obtained after the 28-day trial. A reduction in performance was observed with inclusion of SNC into the diets. Weight gain, feed conversion efficiency (FCE) and final body weight reduced significantly (P>0.05) with addition of SNC. However, feed cost per kilogram weight reduced with inclusion of SNC. The highest feed consumption was recorded among birds offered diets containing 10% SNC. The health of the birds was not affected by dietary treatments. It was therefore concluded that though performance of birds was significantly hampered in this experiment, SNC could still serve as a potential replacement for cotton seed cake in cockerels' diet during periods of scarcity. Keywords: Cockerel, performance, blood parameters and sheanut cake.