Objective was to evaluate the effect of concentrate supplementation on the digestibility of the diet nutrients of grazing beef cattle in the finishing phase. The experiment was conducted between March and April, 2014. Eight young Nellore bulls were used with an average weight of 322.1 ± 43.55 kg and age of 15.00 ± 1.35 months, housed in Urochloa brizantha cv Piatã pastures, distributed in four 2 x 2 Latin Square design, simultaneous two by two, with two treatments alternating between the experimental units, in four periods. The treatments included receiving concentrated Lipomax AC® (0.5% of body weight daily); or mineral supplement Real H 650® (both from Real H, Campo Grande, MS), supplied ad libitum. We used LIPE® as the indicator to estimate fecal excretion. Each experimental period had 14 days: nine days for adaptation and four days for intake evaluation (in the last day, animals were evaluated for metabolic profile – data not shown). In the days eight to twelve, animals received oral capsules of 500 mg of LIPE® (to estimate the fecal excretion). Fecal samples were collected directly from the rectum animals in different schedules by day (06:00, 10:00, 14:00 and 17:00 hs), between 10th and 13th. The concentrate intake was estimated by weighting, daily, the total supplied and the leftovers. Animal’s forage intake was estimated using indigestible neutral detergent fiber (iNDF - in situ incubation for 288 hs) as indicator. Qualitative sample of each pasture were taken, at each period, by hand sampling technique. Feces, concentrate, leftovers and pasture samples were analyzed for DM, OM, CP, EE, NDF and NFC. Apparent digestibility were estimated by the difference between total intake and excretion of the nutrient. Data were submitted to an analysis of variance according to a four Latin Square 2 x 2, simultaneous two by two, design. Comparing the averages for "t" test at 5%, using the PROC GLM of SAS v 9.4. The supply of concentrated supplement increased (P<0.05) the apparent digestibility of CP (0.72 vs. 0.59%) and of EE (0.52 vs. 0.39%). The participation of the metabolic N and EE in feces are reduced as these nutrients increases in the diet, which allows that the apparent digestibility increase, approaching of the true digestibility. Then, the highest digestibility of CP and EE can be associated to the higher intake of these nutrients by supplemented animals. The concentrate supplementation did not affect (P>0.05) digestibility coefficient of the other nutrients. Concentrate supplementation increase apparent digestibility of CP and EE due the higher intake of nutrients.

Keywords: Digestible nutrients, intake, metabolic N