The inclusion of residual soybean frying oil in the ruminant diet is a good alternative to reduce environmental impacts as well as increase the energy density of the diet. The objective of this study was to evaluate the effects of the forage:concentrate ratios in diets with inclusion of yellow grease (residual soybean frying oil – YG) on the intake of dry matter and nutrients. For it, 24 male lambs non-castrated of the Santa Inês breed with the average age of 4 months and mean body weight initial of 22 kg ± 2 kg, were used. The animals were in the forage:concentrate ratios of 70:30, 55:45, 40:60 and 25:75. All diets contained 4% of yellow grease on total dry matter. Intake data of dry matter (DM); organic matter (OM), crude protein (CP); ethereal extract (EE) and neutral detergent fiber (NDF) were undergo analysis of variance (ANOVA) and tested used polynomial regression at 5% probability. It was observed that the intake of dry matter (DM), organic matter (OM), crude protein (CP) and ethereal extract (EE) by lambs increased linearly \((P<0.05)\) as the proportion of concentrate increased with average values to DM of 0.853; 1.0367; 1.125 and 1.253 kg.animal\(^{-1}.day\(^{-1}\) \((Y = 0.616 + 0.00859x)\), to OM of 0.808; 0.988; 1.083 and 1.190 kg.animal\(^{-1}.day\(^{-1}\) \((Y = 0.585 + 0.00827x)\), to CP of 0.170; 0.202; 0.221 and 0.237 kg.animal\(^{-1}.day\(^{-1}\) \((Y = 0.13075 + 0.00146x)\) and to intake of EE 0.065; 0.077; 0.080 and 0.082 kg.animal\(^{-1}.day\(^{-1}\) \((Y = 0.05717 + 0.00036x)\), respectively to the proportion of concentrate (30; 45; 60 and 75%). The different forage:concentrate ratios have not showed statistical effect \((P>0.05)\) to intake of neutral detergent fiber (NDF) with the average value of 0.422 kg.animal\(^{-1}.day\(^{-1}\). Thus, it was concluded that the best forage:concentrate ratio in diets containing yellow grease for growing lambs was 25:75, because in this relation the nutrients intake was maximum, except NDF.

Keywords: animal, energy, lipids