It was aimed to evaluate diets containing different oilseeds on consumption, performance and the costs of production of confinement with Nellore steers with initial mean live weight of 311 ± 17.98 kg of body weight (BW) were used, distributed in a completely randomized design. The diets were formulated with whole plant millet silage, four concentrates and three whole grains of oilseeds, totaling four diets with six replicates per treatment. The total diets presented 600 g kg⁻¹ of concentrated and 400 g kg⁻¹ of roughage. Diets with oilseed presented 70 g kg⁻¹ of fat. Animal were maintained in individual pens 4 x 20 m. Intermediate weighing each 21 days in order to evaluate the performance of the animals. The dry matter intake of the control treatment was higher than the other treatments (10.90 kg day⁻¹; P = 0.00001); followed by treatment containing soybean (10.64 kg day⁻¹), cottonseed (9.88 kg / day) and sunflower seeds (9.30 kg / day). The fiber intake in relation to body weight did not exceed 1% BW. Treatment containing cottonseed showed higher NDF intake than body weight (0.91% BW), followed by treatment containing sunflower seeds (0.85% BW). There was treatment effect on the final weight (P = 0.04594), total weight gain (P = 0.01756) and consequently on the average daily gain (P = 0.00852). The animals treated with soybean grain had the highest mean weight of final weight (544.38 kg), total gain (232.55 kg) and average daily gain (1.58 kg day⁻¹), while grain sunflower showed the lowest averages for final weight (488.67 kg), total gain (177.33 kg) and average daily gain (1.21 kg day⁻¹). The use of cottonseed and whole soybeans in the confined cattle diet was adequate, although the use of whole grain soybeans in the diet presented the best results, higher average of final weight, total gain and average daily gain. The use of cottonseed in the diet becomes an interesting alternative due to the daily cost of the diet compared to the absence of additional lipid.

**Keywords:** cottonseed, soybean seed, lipid, performance, sunflower seed

**Acknowledgments:** CNPq, FUNDECT