ABSTRACT: The use of vegetable oils in the population led to the need to better assess their degree of resistance, principally its storage stability and thermal stress. In this process, the oil interacts with air, water and food compositions and undergoes oxidation and hydrolysis reactions, formed toxic compounds responsible for flavors, colors and smells. The objective of this research was to evaluate physico-chemical changes of vegetable oils used in frying process in Food Production Units (FPU) in Cuiabá-MT. For the analyzes, 05 samples were collected from each unit. Data were collected from 02 to 02 days to dispose of frying oil by the (FPU), including virgin oil, with 03 repetitions of each sample, totaling 30 portions of samples for titleholder acidity and peroxide index. The parameters for the comparison of the results were: 0.3 g of acidity in acid oléico/100g oil, 10meq/kg peroxide. According to the results obtained, it was observed that for FPU's acidity in the two studied, the acid rapidly increased by increasing each time of frying. As for the peroxide index, there was high degradation of the oil to derive the process until the moment of reject, principally of FPU2, both to distanced very Brazilian permitted by law for commercial refined soybean oil, since there is no specific legislation for frying oil.