Brazil is currently the world's largest producer of coffee, representing 30% of the world market. The large production and consumption of coffee in the country also produces a huge amount of waste. The obtention of extracts from the coffee waste appears as an important alternative to increase the value of this agro-industrial waste. Supercritical technology is a modern technique for extraction that seeks to increase quality by exploiting the selectivity of the process. The manufacturing cost of supercritical extract is mainly influenced by two categories: direct cost and fixed cost. The manufacturing cost of spent coffee oil was calculated employing extractions data obtained at 200 bar and 50°C and for different solvent flow rate and extraction time conditions, by means of the software Tecanalysis. The economic viability was assessed by comparison with the value of commercial oils. Additionally, the raw material was the lowest cost of the process since it is a residue. The extraction time of 90 minutes was the most feasible process condition, with the specific cost of US$ 48.60 and the commercial price of coffee oil, with similar characteristics, may reach US$ 460.00/kg. The results showed that the supercritical extraction of oil from spent coffee grounds presents a high cost, but due to high marketing value of this product this technique is viable.