The objective of this study was to compare the content of selected nutrients of fast foods determined by chemical analysis versus estimated by recipe calculation based on data from two versions of the Danish food composition databank, FOODCOMP and the latest FRIDA. A total of 155 samples of ready-to-eat fast foods were collected from fast food outlets, separated into their components and weighed. Typical components were bread, French fries, vegetables, meat and dressings. The fast foods were analyzed, and energy, protein, saturated fat, iron, thiamin, potassium and sodium contents were compared to recipe calculation. When using the FOODCOMP in recipe calculation, the error percentage was largest for saturated fat (28%). When using FRIDA, the error percentage for saturated fat decreased to 11% and was below 15% for all nutrients. The correlations ranged from 0.49 to 0.89 with both databanks. For the individual fast foods, the error percentages were both acceptable (<15%) and large (>50%). Future challenges for the databank in relation to recipe calculation are to include more varieties, a better coverage of foods used as ingredients, and inclusion of analytical values of mixed dishes if they are commonly eaten from fast food outlets.