Abstract: The objective of this research was to examine the concentrations of Protein, N, P, K, Mg, Ca, Fe, Mn, Cu and Zn at different growth stages of 12 triticale genotypes. The nutrient concentrations of triticale showed variations depending on the genotypes and different growth stages. The concentrations of K, Ca, Fe, Mn and Zn in whole plants decreased from stem elongation to maturity, while Mg, P and Cu contents increased. Protein (\%17.91) and N concentrations at dough development stage were higher than other growth stages. According to results, it was determined that mineral contents of some triticale lines are superior to control cultivars (Karma-2000, Tatlicak-97). These lines can be used as breeding line for cultivar registration.