This research was conducted in Isparta, Turkey ecological condition to investigate the effects of different zinc application doses on some quality parameters of bread (Gün-91, Altay-2000) and durum (Kızıltan-91, Kunduru-1149) wheat cultivars. The experiment was set up with three replications according to the randomized complete block design with a split-plot design. The cultivars took place in the main plots whereas the zinc application doses (0, 9, 18, 27 and 36 kg ha\(^{-1}\) Zn) were in the sub-plots. Phosphorus and nitrogen fertilizers providing 40 kg ha\(^{-1}\) of P\(_{2}O_{5}\) and 80 kg ha\(^{-1}\) of N were applied to the plots. According to the result of variance analysis, different zinc application in wheat cultivars had significant effect on the grain quality parameters. But zinc fertilization had no effect on test weight. The effect of Zn treatment found statistically important on sedimentation and wet gluten content of flour, Zn, P and crude protein contents of bran and flour. In all cultivars, Zn application increased sedimentation, wet gluten content, protein, Zn content and P content in bran. However, the Zn application decreased the amount of P in flour. Also, protein, Zn and P contents were higher in the bran than in the flour. In the research results, it was found that Zn application had a positive effect on quality parameters, but high Zn doses affected both grain yield and quality parameters negatively.