A study was conducted to compare the nutrient composition and sensory quality of Indian desi-chicken and commercial layer eggs. A total of 20 Indian desi-chicken and 20 commercial layer eggs were obtained from an organized poultry farm. Nutrient composition such as moisture, protein, energy, crude fiber, ash, calcium and phosphorus were analyzed as per standard protocol. The fatty acids composition of farm fresh eggs of Indian desi-chicken and commercial layer eggs were analyzed by gas chromatography using a fused silica capillary column and statistical analysis was done by using t-test. The sensory quality of egg was assessed by taste panel and results were recorded on a seven point hedonic scale and statistical analysis was done by using Kruskal-Wallis K-sample non-parametric test. Eggs from commercial layer showed significantly higher (P<0.05) moisture, protein, energy, ash, calcium and phosphorus than Indian desi-chicken. There was no significant difference in crude fiber content of eggs of commercial layer and Indian desi-chicken. Commercial layer eggs showed significantly (P≤0.01) higher omega-3-fatty acids content than Indian desi-chicken. Eggs from commercial layer showed significantly higher (P<0.05) egg weight and egg yolk colour. No significance difference was observed between shape, albumen and yolk indices and shell thickness of commercial layer and Indian desi-chicken. Sensory scores such as flavor and texture of egg did not show any significant difference between commercial layer and Indian desi-chicken. It is concluded that eggs from commercial layer had higher values of egg weight, moisture content, protein, energy, ash, calcium, phosphorus and omega-3-fatty acids than Indian desi-chicken, where as eggs from Indian desi-chicken had higher values of egg yolk colour and sensory scores such as colour and overall acceptability.

Keywords: nutrients, fatty acids, egg quality, Indian desi-chicken egg