

Effects of different drying methods and storage time on free radical scavenging activity and total phenolic content of *Cosmos caudatus*

ABSTRACT

The present study was conducted to determine the effect of air (AD), oven (OD) and freeze drying (FD) on the free radical scavenging activity and total phenolic content (TPC) of *Cosmos caudatus* and the effect of storage time by the comparison with a fresh sample (FS). Among the three drying methods that were used, AD resulted in the highest free radical scavenging activity against 1,1-diphenyl-2-picrylhydrazyl (DPPH) ($IC_{50} = 0.0223$ mg/mL) and total phenolic content (27.4 g GAE/100 g), whereas OD produced the lowest scavenging activity and TPC value. After three months of storage, the dried samples showed a high and consistent free radical scavenging activity when compared to stored fresh material. The drying methods could preserve the quality of *C. caudatus* during storage and the stability of its bioactive components can be maintained.

Keyword: *Cosmos caudatus*; Free radical scavenging activity; Total phenolic content; Drying; Storage