

## ABSTRACT

In recent years much concern has been given to toxic heavy metals that enter the human food chain. Inorganic fertilizers are considered among the potential avenues of such entry. In this work, we report the analyses of 77 samples of commercial fertilizers, marketed in the Kingdom of Saudi Arabia, for their heavy metal concentrations. Fertilizer samples included 20 samples of phosphatic fertilizers (MAP,DAP,TSP), 11 samples of liquid fertilizers, 34 samples of water soluble multiple nutrient fertilizers (WSMF), and 12 samples of solid multiple nutrient fertilizers (SMNF). Concentrations of heavy metals varied according to the type of fertilizer and the tested metal (Cr levels were the highest and Co were the lowest). The data revealed that Cd ranged from 36.8 to  $<1$   $\text{mgkg}^{-1}$ . Nevertheless, the average Cd content was  $32.2$   $\text{mgkg}^{-1}$  for the phosphatic fertilizers,  $13.4$   $\text{mgkg}^{-1}$  for the liquid fertilizers,  $18.4$  for the (SMNF), and  $4.5$   $\text{mgkg}^{-1}$  for the (WSMF). Concentrations of Pb, Ni, Co, and Cr in the phosphatic fertilizers averaged  $17.8$ ,  $72.3$ ,  $12.9$ , and  $276.8$   $\text{mgkg}^{-1}$ , respectively. However, the corresponding average values of these elements, in the liquid fertilizers, were  $13.3$ ,  $19.4$ ,  $12.5$ , and  $85.1$   $\text{mgkg}^{-1}$ . In the (SMNF) were  $14.5$ ,  $44.7$ ,  $11.7$ , and  $162.0$   $\text{mgkg}^{-1}$  and in the (WSMF) samples were  $10.0$ ,  $7.8$ ,  $7.4$ , and  $12.5$   $\text{mgkg}^{-1}$ . Data showed that Cd, Co, and Ni concentrations were lower than the tolerance limits for heavy metal addition, and apart from Cr metal, concentrations of the other heavy metals were comparable to those recorded worldwide.