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Impact of the application of pesticides on the concentration of some heavy metals on vegetables (spinach and sorrel)

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The plant protection products in additions to their specific role to kill pest on vegetables were observed to exhibit a characteristics impact towards increasing heavy metals bioavailability within soil and streaming rate in plants. In this study, the role of pesticide 2,2-dichlorovinyl dimethyl phosphate in influencing heavy metal uptake by the plants was evaluated by comparing the concentration in roots, stem and leaves of sorrel (*Rumex acetosa*) cultivated with and without pesticide. Atomic absorption spectrophotometry was used to determine the concentrations of heavy metals in plant. The fractions of some heavy metals (Cd, Pb, Zn and Mn) taken up by the plant treated with pesticide compared to untreated were observed to follow the trend $Pb > Cd > Mn > Zn$, respectively. The correlation between the pesticide treated in plant and untreated plant in metals concentration was visible for the above part of the plants. The measured concentration of Cd, Pb, Mn and Zn when compared among the various organs shows an elevated amount in the leaves, particularly in Pb concentrations. From the results, the pesticide was observed to facilitate significant metal uptake in plant. The treated sorrel exhibit high heavy metals compared to untreated sorrel.