

study, we found that Cd stress decrease in the contents of various elements was more in cv.LRG41 and ICPL85063 than in LRG30 in response to Cd treatment.

5. Conclusions

The mineral elements of the roots and shoots of the three pigeonpea cultivars studied decreased with increasing concentrations of externally supplied Cd ions. On the other hand, the retention of the mineral elements with increasing concentrations was observed in the cotyledons of the three cultivars. The decrease in the contents of different mineral elements were more in cv.LRG41 and ICPL85063 than in LRG30 in response to Cd treatment suggesting that heavy metals are affecting the transport of mineral elements from cotyledons to growing axis. To reverse the negative effect of Cd stress, plants need to either inhibit its accumulation or enhance its tolerance capacity to Cd for survival. The severity of Cd toxicity, however, can be reduced through the optimization of these nutrients. Sufficient availability of nutrients may reduce the accumulation of a metal in plants and decrease its toxicity by inducing several physiological processes.

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