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Competition for nutrients constitutes an important aspect of weed-crop interaction. Weeds usually absorb nutrients faster and in relatively larger amounts than crops and therefore derive greater benefit.

The present work was designed to examine the chemical changes in the soil infested with *Cynodon dactylon* and *Cyperus rotundus*.

The weeds were grown separately in pots with drainage holes at the bottom. Uninfested pots were considered as controls. Pots were watered and the leachate was collected. Samples of leachate were analysed for pH, electrical conductivity, Na, K, NO₃ and Cl contents.

The mineral composition of the leachates of uninfested control soil was significantly different ($p < 0.001$) from that of the leachates of soil infested with *C. dactylon* and *C. rotundus*. The contents of Na, K, pH value and electrical conductivity were lower in infested soils than uninfested control. Presence of less Na and K in the infested soil resulting probably in lower conductivity. Analytical data of the leachates did not show any consistent difference in pH, NO₃ and Cl contents.

The perennial weeds *C. dactylon* and *C. rotundus*, depleted the soil of some essential nutrients due to their rapid growth. The leachate from infested soil contained much less K and Na than that from the uninfested control, suggesting the strong weed effect observed in this experiment, by competition for nutrients.