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Tolerance of Grasses to Calcium Chloride, Magnesium Chloride and Sodium Chloride

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Abstract: The tolerance of six cool-season grasses and six warm-season grasses to three kinds of salt was examined in solution culture. Among the cool-season grasses, tall fescue (*Festuca arundinacea* Schreb.) was the most tolerant to all three salts. Among the warm-season grasses, bermudagrass (*Cynodon dactylon* (L.) Pers.) was the most tolerant to excess calcium chloride and sodium chloride, while bahiagrass (*Paspalum notatum* Flugge) was the most tolerant to excess magnesium chloride. A positive and significant correlation was found between estimates of the concentration at which plant growth decreases by 50% (C_{50}) in the presence of excess CaCl_2 and those in the presence of excess NaCl . The C_{50} estimates in excess MgCl_2 , however, were not correlated with those in the other two salts. The results suggest that common physiological mechanism confers tolerance to both excess CaCl_2 and excess NaCl , but a different mechanism to excess MgCl_2 .

Keywords: [Calcium](#), [Co-tolerance](#), [Grass](#), [Magnesium](#), [Salinity](#), [Sodium](#)



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