Ion Exchange Encyclopedia Article

Ion Exchange

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Contents

Ion Exchange Encyclopedia Article.....1

Contents.....2

Ion Exchange.....3

Ion Exchange

The process of replacing one **ion** that is attached to a charged surface with another. A very important type of ion exchange is the exchange of cations bound to **soil** particles. Soil **clay minerals** and organic matter both have negative surface charges that bind cations. In a fertile soil the predominant exchangeable cations are Ca^{2+}, Mg^{2+} and K^{+}. In **acid** soils Al^{3+} and H^{+} are also important exchangeable ions. When materials containing cations are added to soil, cations **leaching** through the soil are retarded by cation exchange.