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King Saud University  
College of Food and Agric. Sciences  
Soil Science Department

Fundamentals of Soil Science

## 4.2. Organic Colloids

... As we mentioned before that organic colloids are one of the most common colloids in soils. ... One of the most important and characteristic properties of humus is its high cation-exchange capacity. Cation-exchange capacity or negatively charged sites arise in humus by the dissociation of hydrogen ions from hydroxyls of carboxyl groups (see the blackboard). A reduced concentration of hydrogen ions in solution, as occurs when the pH increases, encourages more dissociation of hydrogen from hydroxyls, and thus produces more negatively charged sites or cation exchange capacity (Figure 1). To a limited extent, the same occurs for the exposed hydroxyls of the silicate clay minerals (Figure 1).

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pH

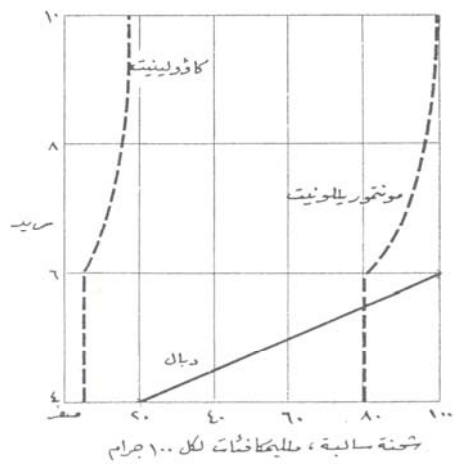
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**References**

Foth, H. D. 1978. Fundamentals of Soil Science. John Wiley & Sons, New York, USA

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