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Qualitative Analysis without Hydrogen Sulfide

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was given to the "QH error" and the "QH electrode error," and also to any changes in the hydrogen-ion concentration of the soil as it is permitted to stand in contact with water. The modified bulb, silver-silver chloride type of glass electrode and the ordinary type of platinum electrode with quinhydrone were employed in making the determinations.

The data obtained show that the addition of quinhydrone to the soil suspension increased the pH of each soil slightly. This change in pH resulting from the addition of quinhydrone is referred to as the "QH error." The error was scarcely large enough to make the quinhydrone electrode method unsuitable for determining the pH of the soils studied. The glass and quinhydrone electrodes gave similar results when employed to determine the pH of soil suspensions containing quinhydrone. The "QH electrode error," therefore, was of little or no consequence in these soils.

There was little change in the pH of the supernatant liquids or the soil suspensions during the first 6 and 12 hours, respectively, after preparation. After that time, however, there was a significant increase in the pH of the acid soils and a decrease in the pH of the basic soil. This change in pH is presumably, of no practical significance in determining the pH of soils as it does not occur until a rather long time after preparation of the samples for the determinations.

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QUALITATIVE ANALYSIS WITHOUT HYDROGEN SULFIDE

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A system of Qualitative Analysis is presented in which ammonium sulfide instead of hydrogen sulfide is used as a source of sulfide ion.

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