7. The volatile material determination was increased by carbon dioxide treatments, and since this increase could not be accounted for in the determination of total carbon, the carbon dioxide gas must have changed the water of constitution of some of the soil silicates.

8. The composition of the conductivity water extracts from the different soils varied as the fertilizer constituents added would theoretically replace substances known to be present in the soil.

9. The composition of the conductivity extracts from the carbon dioxide treated samples showed that the increased specific conductivity and acidities due to carbon dioxide treatment were associated with substances with low solubility and ionization constants present under conditions where hydrolysis readily took place.

The shifting of the acidity, the chemical changes in the soil and the soil extracts were in accordance with the solubilities of salts of metals high in the electromotive series and their tendencies to hydrolyze. The work leads to the conclusion that soil acidity is the resultant of hydrolytic mass action phenomena and thus the application of the exact amount of lime shown by any method can not be expected to give exact neutrality.

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THE AMERICAN MATHEMATICAL SOCIETY

The two hundred and sixteenth regular meeting of the American Mathematical Society was held at Columbia University, on Saturday, April 23, 1921, extending through the usual morning and afternoon sessions. The attendance included sixty-seven members. Twenty-four new members were elected, and eleven applications for membership in the society were received.

The council voted to accept the invitation received at the February meeeting to hold the next annual meeting of the society at Toronto in connection with the meetings of the American Association for the Advancement of Science.

The following papers were read at this meeting:

On the gyroscope: W. F. Osgood.

Seven points in space and the eighth associated point: H. S. White.

Most general composition of polynomials: L. E. Dickson.

Number of real roots by Descartes' rule of signs: L. E. Dickson.

The Einstein solar field: L. P. Eisenhart.

A special kind of ruled surface: J. K. Whittemore.

On the theorems of Green and Gauss: V. C. Poor.

Pressure distribution around a breech-block: J. E. Rowe.

The mathematical theory of proportional representation. Third paper: E. V. Huntington.

On the apportionment of representatives. Second paper: F. W. Owens.

On the geometry of motion in a curved space of n dimensions: Joseph Lipka.

Note on an irregular expansion problem: Dunham Jackson.

Hyperspherical goniometry, with applications to the theory of correlation for n variables: James McMahon.

On the location of the roots of polynomials: J. L. Walsh.

The kernel of the Stieltjes integral corresponding to a completely continuous transformation: C. A. Fischer.

On a simple class of deductive systems: E. L. Post.

Topics in the theory of divergent series: W. A. Hurwitz.

A new vector method in integral equations: Norbert Wiener and F. L. Hitchcock.

On a certain type of system of ∞^2 curves: Jesse Douglas.

Concerning Laguerre's inversion: Jesse Douglas.

Closed connected point sets which are disconnected by the omission of a finite number of points: J. R. Kline.

The sum of a series as the solution of a differential equation: I. J. Schwatt.

Method for the summation of a general case of a deranged series: I. J. Schwatt.

Higher derivatives of functions of functions: I. J. Schwatt.

A covariant of three circles: A. B. Coble.

R. G. D. Richardson,
Secretary