gators on the relation of manganese to agriculture, the author presented results obtained by growing wheat in manganese-free sand and in cultural solutions, with and without the addition of manganese.

Wheat plants grown to within a few weeks of maturity in cultural solutions containing manganese and others of the same age in which the manganese had been omitted, were on exhibition. Where manganese had been added to the cultural solutions the plants were apparently normal in every respect, whereas the plants grown in solutions containing no manganese showed a retarded growth in the blades, stalks and roots, as compared with the plants of the same age receiving manganese. There was evidence of lack of the proper development of chlorophyl in the plants receiving no manganese and the blades of these plants exhibited a drooping appearance in that they were not able to hold themselves erect, which was quite characteristic and not to be observed in any of the plants receiving manganese.

The author concludes from his experiments that manganese plays a more important rôle in the growth of wheat than has hitherto been suspected.

Formation of petroleum: C. J. Norwood. (By title.)

Cryoscopic work with an ordinary thermometer: C. C. Kiplinger. It has been found possible to read small temperature intervals on a common thermometer, within an accuracy of 1/100 degree, by measurements of the parallax on an auxiliary scale equipped with a sliding peep-sight.

Several heretofore troublesome sources of error in the boiling point method of determining molecular weights have been eliminated by using but one point as reference on a thermometer scale, having established this point by the use of a known substance with a high degree of purity. This procedure eliminates the need of a calibrated thermometer.

The use of the parallax method is suggested in the estimation of fractional parts of a scale division on other instruments than the thermometer.

Generalization on the mean-value theorem: H. H. Downing.

Magnolia fraseri: does it occur in Kentucky? Frank T. McFarland.

List of fungi from Kentucky: Frank T. McFarland.

An equation balance: E. L. Rees.

A method of constructing the graph of an equation in which the variables may be separated: E. L. Rees.

Protein metabolism in the growing chick: G. D. Buckner and others. (By title.)

Review and observations on the mosaic disease of tobacco: G. C. Routt. The author reviews the work of other investigators and reports observations of his own upon the disease in experimental plots of different varieties of tobacco. He favors the view that the best way to combat the disease will be to develop a resistant strain of tobacco.

Dr. J. A. Detlefsen, of the department of genetics of the University of Illinois, addressed the academy on "Laws governing the transmission of characters from parent to offspring."

The speaker gave a brief review of the search by investigators for the cause or causes of evolution. He then explained the law for the transmission of mono-hybrids, di-hybrids and tri-hybrids. He presented these laws and illustrated them so well that there was left no doubt in the minds of workers in other fields that great progress has been made in genetics in recent years.

He threw upon the screen the tables giving the result of his own breeding experiments to show how nearly actual counts agree with the mathematical expectation, in the laws of transmission. It is remarkable how nearly actual counts of animals bred agree with the expectation of what, by Mendel's law, they should be.

Among other items of business, a resolution was passed offering the services of the academy to the U. S. government for any war work in which this organization might be of assistance.

Officers were elected as follows:

J. E. Barton, Frankfort, President; P. P. Boyd, Lexington, Vice-president; A. M. Peter, Lexington, Secretary; J. S. McHargue, Lexington, Treasurer.

Alfred M. Peter,
Secretary

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