

uniformity in the processes and results of analyses has been brought about, and thus much benefit bestowed upon the agricultural population. Interesting and valuable reports were read by the chairmen of the several committees appointed at the annual meeting last year. These reports were on the analysis of cattle foods, fertilizers and dairy products.

Dr. W. H. Wiley, Chemist to the United States Department of Agriculture, very courteously conducted me through the laboratories, which are in the basement of the building and are now much too small for the number of chemists working and the amount of analytical work in progress. The tables ranging round the sides were amply supplied with water and gas, and being covered with white tiles about 6 inches square, presented a very clean and nice appearance. A central table, with a large sink in the centre, is furnished with filter-pumps of an improved kind to the number of ten, thus allowing the prosecution at the same time of a large number of analyses which require this useful and indeed indispensable adjunct. Special places were set apart for apparatus for the determination of nitrogen by Kjeldahl's method and Soxhlet's extraction apparatus. This method, where space allows, of setting up pieces of apparatus in a permanent manner saves very much of the analyst's time. There were special rooms for photography, storing of chemicals, apparatus, &c. Distilled water is here continuously made in connection with the steam heating apparatus.

A short visit was paid to the Laboratories of the famous Johns Hopkins' University, Baltimore, but as they are intended and fitted up for students' work, I shall not go into details. There are here also special rooms for photography, gas analysis and combustion work—the latter supplied with large hoods over the furnaces to carry off the gaseous products of combustion.

On returning to Ottawa I elaborated plans as to the size and arrangements of our laboratories and submitted them to you. They are now with the Government Architect. It was thought most desirable to have two laboratories—a larger and a smaller, and in connection with them a balance room which could also be used as an office for the Chemist.

As the building of these could not be begun last autumn, it was deemed advisable to procure temporary accommodation for laboratory purposes in the city of Ottawa. A suitable room, though small, was obtained in the Russell House Block, the necessary gas and water fixtures were put in, and a certain quantity of chemicals and apparatus procured.

Besides the work incumbent upon one in superintending the fitting up and arranging of the new laboratory, I have been enabled to make the following reports—which will indicate the nature of the chemical work upon which I have been engaged.

REPORT No. 1.

OTTAWA, 31st October, 1887.

Prof. WM. SAUNDERS,
Director, Dominion Experimental Farms,
Ottawa.

DEAR SIR,—As requested by you, I have made a careful analysis of the marl sent in for examination by Mr. Holland of Ottawa, and find its composition as follows:—

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| Calcium carbonate (carbonate of lime)..... | 60.00 |
| Organic matter..... | 25.42 |
| Sand and silica..... | 6.55 |
| Alumina and oxide of iron..... | 3.33 |
| Moisture..... | 4.55 |
| Magnesia, &c..... | .15 |
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| | 100.00 |