

LABORATORY-WORK.

It will be readily understood that the general duties of the district office greatly curtail my time for work in the laboratory, and between the pathological and the vaccine establishments I have found it impossible to undertake any special scientific research, though there is much in this direction which would prove interesting and of great practical value.

The removal of the veterinary laboratory to Wallaceville occurred at the beginning of the year, and the majority of examinations for human pathology has been done at Museum Street, as formerly. The preparation of media, however, is chiefly done at the Wallaceville Laboratory, and certain of the specimens have also gone there. Thus the majority of the samples of milk examined on behalf of the various District Health Officers and for Dr. Valintine's special investigation were referred to Mr. Gilruth, who has special knowledge of this work. He has also frequently taken up my duties when I have been absent from Wellington.

As already mentioned, special investigation has been made into the water-supplies of the colony. I also proceeded to Auckland to make an investigation into the cause of mortality among rats during March.

Details of the pathological examinations made appear in a separate report.

VACCINE LABORATORY.

The work of preparing vaccine lymph is now in full swing, and on the whole very satisfactory results have been obtained. In July, 1905, we began to issue vaccine prepared at this laboratory, and have so far distributed 8,914 tubes. Twelve calves have been inoculated, and 1,114 cubic centimeters of lymph prepared.

With a view to keeping a check on the quality of the lymph issued, I have endeavoured to obtain from the Public Vaccinators reports on every tube used; and with this object have drawn up a form which shows details as to number of insertions, whether a primary or a secondary vaccination, results obtained, and so on. A form is issued with every package sent out, but we have great difficulty in obtaining replies from Public Vaccinators. Thus, of the 5,193 tubes sent out to Public Vaccinators in New Zealand we have received reports upon only 991 of them. So far as these go they show the following results: Cases vaccinated, 991; cases successful, 858; percentage, 96.5. These figures, though satisfactory enough, would, I believe, show even more favourable results had we received full reports. I find that many of the Public Vaccinators only send in reports when they have some complaint to make as to the strength of the lymph.

These figures also include reports on lymph issued during the time we were testing it as regards its power of keeping virile. We found that during the warm weather in midsummer there was a marked decline in strength if kept longer than six months. In order to lessen the rapidity of depreciation in warm weather during storage, the district offices have been supplied with ice-chests of a simple and inexpensive design, which are found to keep at an even temperature in the hottest weather. This should greatly lengthen the time during which the lymph remains virile.

On the application of the French Consul at Auckland, permission was given by the Minister of Public Health for the supply of lymph to the French Government at Tahiti. So far, lymph sufficient for 3,721 vaccinations has been issued, and very favourable reports have been received from the Chief Medical Officer of the colony. A charge of 3s. per dozen vaccinations is made for this issue. The Public Vaccinators in New Zealand are of course supplied free of charge.

Some difficulty has been experienced in obtaining suitable calves for the work, as it is essential they should be without any defects. Before the lymph is issued a report is received from the Chief Veterinarian as to the health of the calf as found on *post-mortem* examination.

After glycerinating the lymph it is stored at 10° C. till it is found on repeated bacteriological examination to be sterile. In this we follow the practice which obtains at the English Local Government Board Laboratory, and, indeed, practically at all the larger Continental and American institutions, and so far we have had no reports which would indicate that undue inflammation resulted from the use of the lymph.

This section of our laboratory-work involves the expenditure of a lot of time and care. The filling and packing of the vaccine tubes alone is a most laborious business, and one which cannot be hurried over. It requires not only a certain amount of manual dexterity, but also constant attention to detail to avoid exposing the lymph to danger of pollution, and to prevent it being overheated in sealing the tubes. It is a satisfaction, therefore, to begin the present year with the extra assistance which we found necessary to cope with the growing demand which this branch of our duties makes on our time.

NELSON DISTRICT.

Dr. Hudson is now in charge of this district, and will furnish a separate report on the sanitary needs. I have paid several visits during the year for special purposes, amongst others the inspection of the new sanatorium already reported on.

The question of appointing a Sanitary Inspector was discussed by the Council in the presence of Dr. Hudson and myself, but no basis of agreement was arrived at. There has been practically no inspection done since Mr. Middleton went on leave.

I made an analysis of the water-supply during December, and found it to be in excellent condition.