

The trout ova contained in one of the cases brought out in the refrigerator appear to have been well packed. The sawdust round the inside box was dry. Within, the moss was frozen into a solid mass, the trays being all stuck together, and the ova showed no sign of life. The appearance presented was like layers of light-yellow, transparent, unfertilized ova, each egg being surrounded with a coating of hoar-frost, and one side having slightly fallen in. Several experiments—such as thawing very slowly in iced water, thawing in the air, &c.—were tried; but no signs of vitality could be detected. The ova turned opaque at once on being placed in water, but the indentation on the side swelled out, and each egg resumed its proper shape. There were only about a dozen ova that did not turn opaque. I have not yet received any report as to the condition of the other case of trout ova and the small box of salmon ova, except that they were all dead.

The attendant, Frank Paxton, appears to have done his work well under the direction of Professor Posnett, and he was paid the gratuity of £5 promised to him. I note that the attendant was not supplied with any thermometer; so no record was kept of the temperature in the chamber.

In conclusion, I have to express, both to Sir James Maitland and yourself, the thanks of the New Zealand Government for the great care and interest that you both have taken in attending to this valuable shipment. I feel that it would have been impossible for the ova to have arrived in so good a condition if it had not been for the enthusiastic care that you both have taken of the shipment.

I telegraphed to you on the 5th inst., informing you that the shipment of the ova had been successful, and authorizing you to procure a piece of plate of the value of £50 for presentation to Sir James Maitland; and, in accordance with your suggestion, I have this day written to that gentleman thanking him for the pains he has taken.

I have, &c.,

JULIUS VOGEL.

The Agent-General for New Zealand, 7, Westminster Chambers, London, S.W.

No. 29.

The Hon. the COMMISSIONER of TRADE and CUSTOMS to Sir J. R. G. MAITLAND.

SIR,—

Government Buildings, Wellington, 8th April, 1886.

Sir Francis Dillon Bell, the Agent-General for this colony in London, having drawn my attention to the great pains and interest that you have taken throughout in connection with the introduction of salmon into New Zealand, and more especially in connection with the shipment of salmon ova sent to this colony by the steamer "Ionic," I have to express to you, on behalf of the Government, their warmest thanks for your great kindness and consideration. They feel that it is due largely to your enthusiastic care that the shipment has arrived in such good order.

Sir Francis Dillon Bell has been requested to present you with a piece of plate on behalf of the Government, in slight testimony of their appreciation of your kindness. They hope that you will do them the honour to accept it.

I have, &c.,

JULIUS VOGEL.

Sir James Ramsay Gibson Maitland, Bart., Howietoun, Stirling, Scotland.

No. 30.

The AGENT-GENERAL to the Hon. the COLONIAL TREASURER.

SIR,—

7, Westminster Chambers, London, S.W., 4th March, 1886.

I have referred in more than one letter to the experiment of freezing ova in the refrigerator at the docks, as a test of the chance of success in sending out salmon ova in the freezing chambers of the steamers. You will remember that I was very doubtful of the ova living in so low a temperature, and that I did not think it right to take the risk of sending in that way the large shipment which went by the "Ionic." When we first opened the box of ova, after about forty days in the docks' refrigerator, a number of them seemed to be alive; but when they came to be examined at Howietoun Fishery, the embryo had really been destroyed: and Sir James Maitland was thereupon quite satisfied that if the salmon ova by the "Ionic" had been sent in the ship's refrigerator they would all have perished. It is true that the test was not absolutely conclusive, because the death of the embryo might have been due to the stage chosen for the experiment, or perhaps to the extreme temperature to which it had been subjected; but it appeared to be due to rupture from distortion during the freezing; though it did not necessarily follow that an embryo on the point of hatching, when the tissues were firmer, would have died.

After consultation with Professor Ewart, Sir James could not advise further experiments of the same kind at present; and I am inclined to think you will have to give up the idea of sending out ova in any ship's refrigerator. But we shall wait to hear the result of the box of trout ova in the "Ionic," in order to compare results; and in the meantime we are consulting whether—if the work is to be renewed next season—a chamber could not be designed where the temperature should not be allowed to fall below 25° Fahr., and where the eggs should be placed within about a fortnight of hatching, at which stage it is just possible they might keep for a long time without injury.

I have, &c.,

The Hon. the Colonial Treasurer, Wellington.

F. D. BELL.

No. 31.

The AGENT-GENERAL to the Hon. the COMMISSIONER of TRADE and CUSTOMS.

(Telegram.)

London, 9th March, 1886.

HERRING ova: Considerable shipment "Ruapehu." Professor Ewart strongly wishes send scientific assistant therewith. Instruct whether shall. Please reply immediately.