

No. 31.

Lieutenant SMITH, R.N., to the SECRETARY, Marine Department.

SIR,—

Wellington, 23rd March, 1887.

I have the honour to report as follows on the salmon-ova *ex* "Doric" conveyed by me to the southern acclimatization societies:—

Leaving Wellington at 11.30 a.m. on the morning of the 16th instant by the "Stella," Lyttelton was reached at 7.20 next morning, too late to catch the ordinary train to Christchurch. A special was in waiting, and by delaying the south express four minutes the ova-van was attached to it. At Oamaru I handed over one box of ova to Dr. Delatour, the President of the Waitaki County Acclimatization Society. During the short interval allowed there I opened the case in the presence of the President and Vice-President. Fungus had apparently made headway in this case; but, owing to the short interval allowed at Oamaru, and the dim light of the van, no thorough inspection could be made. The cases were filled three times on the journey with ice; but, as the weather was cool, the loss never amounted to more than a pound in the intervals, the ice-trays being practically full all the time. A start was made from Dunedin on the morning of the 18th, and at Clinton I handed over ten boxes to the curator of the Otago society, who accompanied me from Dunedin. The ova was examined *en route*, and was found (so far as the top layers were concerned) to be in first-class order. At 6 p.m. the same evening the remaining five boxes were handed over to the curator of the Southland society. On my return I visited the Clinton and Opoho hatcheries. The young salmon resulting from the "Kaikoura's" shipment of ova were in first-class condition. I returned to Wellington per "Hawea" to-day.

I have, &c.,

The Secretary, Marine Department, Wellington.

GEO. F. SMITH, Lieut., R.N.

No. 32.

Lieutenant SMITH, R.N., to the SECRETARY, Marine Department.

SIR,—

Wellington, 4th April, 1887.

I have the honour to report as follows on the transshipment from Wellington to Lyttelton, Dunedin, and Oamaru of the consignment of trout- and salmon-ova per steamship "Tongariro":—

Leaving Wellington at 6.30 p.m. on the evening of the 28th ultimo, Lyttelton was reached at noon the following day. I there handed over to Mr. Farr a large case containing Continental ova, and one Howietoun case containing Scotch ova (*Salmo salar*).

Lyttelton was left at 2.30 p.m., and Dunedin reached at 10.30 a.m. on the 30th. Mr. Deans there took charge of the six cases of Scotch ova, one case containing only half the usual amount, the remaining half being despatched to Oamaru by the 3.10 p.m. train.

I personally assisted at the unpacking and placing of all the ova in the Opoho hatching-boxes, and found the result, as concerns the bad eggs, to be precisely the same as in the shipments per "Doric" and "Kaikoura." The bottom layer in each tray was seldom less than 50 per cent. bad, the majority being fully 75 per cent. bad; and in one tray the whole of the bottom layer was bad, although the superincumbent layers were in very good order.

With a small spring-balance I found the weight of the saturated moss and ova resting on the bottom layer to be 2½ lb. This weight appears to be excessive, as the ova frequently had a crushed appearance. The moss also throughout each tray was dense enough to roll off in a sheet, forming a thick pad, and the bottom layer, being close to the perforated-zinc bottom of the tray, received the effects of any concussion resulting from jarring of the case.

I would respectfully suggest that Sir J. Maitland's attention be drawn to this important defect. A lessening of the number of layers in each tray, and increasing the number of trays in a case, or substituting white scrim for perforated zinc, appear from the result of the recent unpacking to be different ways of gaining the same remedial effect.

The unpacking was completed by 1 p.m. on the 31st instant, and I returned to Wellington per "Hinemoa," leaving Lyttelton on the 2nd instant.

The supply of water at Opoho is now excellent, and, Mr. Deans informs me, will remain so until close on the end of the year.

The "Kaikoura's" fry were in fine condition. It may be noted, however, that a larger percentage of deformed fish existed in the fry from Tay ova than from the others.

I have, &c.,

The Secretary, Marine Department, Wellington.

GEO. F. SMITH, Lieut., R.N.

No. 33.

The SECRETARY, Lakes District Acclimatization Society, to the SECRETARY, Marine Department.

SIR,—

Office Lakes District Acclimatization Society, Queenstown, 9th February, 1887.

I have the honour to report that the consignment of whitefish-ova arrived here last evening in care of Lieutenant Smith, who has given every attention to his charge. The ova was allowed to remain on the steamer until daylight this morning, when the boxes were taken up to the hatchery. The ova, on being opened out, proved to be in splendid condition, with the exception of the two bottom trays, in one of which one-half of the contents was bad. The percentage of bad eggs in the other trays was virtually nil, not more than two or three in a thousand. The packing has been most carefully done, and the only fault to be found with it is that there has been a little too much pressure, making the eggs stick together in lumps: this, however, I think, can be got