

washing several of the trays the eggs presented a bright and healthy appearance, the embryo being discernible in all. This being the case, I considered, in that stage of development, the sediment was less hurtful to them than disturbance would be, and I directed Mr. Sheasgreen to let them remain another week without washing or moving them.

On making measurements and planning the position of the filters I found that they could not be attached to the main tank without very considerable changes in the height and position of the troughs, necessitating a greater amount of disturbance to the ova than would then be prudent. As the freshet was then going down, and the water every day becoming clearer and purer, I considered it more prudent not to attempt putting in the filters at that time. I made arrangements to have them prepared, and ready to attach without loss of time, if necessary, when the further development of the ova would admit of the unavoidable motion without risk. During the first week in December the whole of the ova was carefully washed with the most gratifying result, and coming out of the sediment bright and healthy, with the very small loss of only 700 in this critical operation. As the weather has since set in cold, and as the freezing of the shores and surface of the stream will effectually prevent the flow of any large amount of sediment, I have strong hopes that no further danger need be apprehended from this source. Before the spring freshets set in, the ova will be so far advanced that I do not fear any serious danger from them.

In the course of next summer the floors of the hatching house will need to be coated with tar to prevent decay, and all the troughs will have to be removed, made thoroughly tight, and painted, for the same purpose. When this is done, the necessary changes can be made, the filters put in properly, and so arranged as to give a more complete control of the water supply. This will remove all danger from sedimentary deposits, save much labour, and conduce greatly to future success. In the meantime, as the ova are progressing favourably, beyond my most sanguine hopes, I apprehend no further danger from sediment, nor from any other cause that careful attention cannot guard against. If no unforeseen accident occurs, I have every reason to expect that not less than 600,000 young fish will be ready for distribution next May.

I have obtained from Mr. A. B. Wilmot a number of the earthenware trays now used in the Bedford house, and as soon as the ova will bear removal, I propose to transfer some thousands of them from the zinc trays, in order to test, by actual experiment whether the former are better adapted to the water of the stream from which the troughs are supplied. Mr. Wilmot's opinion is that some foreign element in this water causes a chemical action when in contact with zinc, which is unfavourable to the healthy development of the ova. Should the result prove that this opinion is correct, the adoption of the earthenware trays will save much more than the cost.

The experience of the past two seasons convinces me that in future it will not be wise to trust to the mode hitherto employed to procure the parent fish. Some more certain and effectual means will have to be adopted. I propose next season to commence earlier, and to extend our efforts to the south-west, as well as to the north-west branch of the river. In addition to the bar net heretofore used, I propose to adopt the sweep net, and to employ it in pools where the fish lie waiting for the fall freshets. This mode will, I am convinced, not only be more successful, but also more economical, than that heretofore employed. The great difficulties that have attended our past efforts to secure a sufficient supply of ova will, I hope, by this means, be overcome, and in future seasons I trust that every foot of available space in the hatching troughs will be utilized.

I have the honour to be, Sir,

Your obedient servant,

W. H. VENNING.

*Inspector Fisheries, N.B.*