

ripe for manipulation. Above the cellar are other useful apartments. The whole establishment is built on a well devised, simple and inexpensive plan. It is calculated for the disposal of between four and five millions of fish eggs.

After the ripened eggs are expressed from the female fish and impregnated by the milt from the male fish they are placed on grills made by arranging double rows of glass rods in small wooden frames, sufficiently close together for the eggs to rest without falling through. The frames are so disposed in the troughs that a gentle current of water flows constantly over them from the reservoir: and the work of incubation proceeds. Incessant care and delicate and minute attention are necessary to ensure the safety and healthy condition of the eggs, and the gradual development of the embryo fish. The slightest mistake, neglect or carelessness might frustrate every endeavour, and some trivial accident may thwart the entire process. The hatching out occupies from 150 to 180 days, according to the mean temperature. Most of the eggs laid down by Mr. Wilmot, in November, hatched out on the 24th of April. When the young fish first emerge from the shell they are self subsisted for about six weeks from the oily yolk of the egg in the form of an umbilical sac adhering to their transparent bodies. This appendage having become absorbed by the living organism, the young fish require to be afterwards fed by artificially prepared food. Boiled bullocks liver grated very fine is scattered amongst them, and they devour the morsels with great avidity.

The outside works at Mr. Wilmot's, intended as receptacles for the brood, consist chiefly of a succession of ponds caused by damming the main creek at different places. In these the fish will be nursed till they attain sufficient strength and size for the lake, preparatory to pursuing their natural instincts—salmon to seek the salt water, white fish and salmon trout the larger water of the lake.

When it is considered that fully seventy per centum of the eggs deposited in this establishment have produced healthy young fish, last year's operations may be safely pronounced most successful. And should these fish pass a lucky season, there is every reason to count on their returning to the vicinity of this stream as adults in such immense numbers as to astonish and delight us with the prospect of a new and abundant source of valuable and nutritious food.

It is worthy of mention here that the large quantity of salmon fry now ready to be released from the hatching house, is nearly half as great as that raised from last year's deposit of eggs in the famous Stormonfield ponds, on the River Tay, which establishment has been in full operation for upwards of fifteen years.

Besides the salmon eggs hatched out at Newcastle, Mr. Wilmot has tried some equally satisfactory experiments with the ova of white-fish, hatching out considerable numbers. Owing to an accident the bulk of these were unfortunately destroyed. He also has proved the result of impregnating with the milt of a male grilse the eggs of a female salmon-trout. This experimental cross has resulted in the production of hybrids of a very promising kind. It is quite probable such a mixture may form a desirable addition to our already varied stock of native fishes—partaking perhaps of the fine edible qualities of both the migratory and lacustrine species. These hybrids may not propagate, but if they can be artificially bred in sufficient numbers the improvement is a very material one. We have the testimony of Professor Von Siebold and Dr. Gunther for the superiority as table food of barren fishes of the salmon family. Their flavor is excellent, and their flesh is more easily cured than that of the true salmonidæ.

The principal advantages to the public fisheries of the Province of Ontario which these very successful operations justify us in anticipating, are of a two-fold nature—direct and indirect. Directly we count upon a cheap and immediate increase, capable of almost indefinite extension, in the supply of salmon to our markets; and the restoration of this fish to many of our rivers throughout Canada which are now in an exhausted or deserted state. The breeding also by similar process of other descriptions of fresh water fishes such as can be propagated in unlimited quantities, consequently at cheaper cost, and are required to furnish the wants of those classes among our people who cannot afford the high priced fishes, is also a direct public benefit. This establishment may become not merely an exemplar, but a feeder to other endeavours of the same kind in the various Provinces of the Dominion. And in a commercial sense we are justified in expecting remunerative results from the enhanced value of the various fishing stations.

We venture to affirm that within three years not only the present, but any like estab-