

**104.—SHAD EGGS SENT TO COLD SPRING HARBOR, NEW YORK, TO BE HATCHED.**

**By MARSHALL McDONALD.**

On May 19 I forwarded from Central Station, Washington, by express to Cold Spring Harbor, New York, 80,000 shad eggs, which were taken from the hatching jars at Central Station, and were twenty-four hours advanced in incubation. The eggs were placed on wire-bottom trays and securely packed in ice, so as to keep down the temperature. The success of the experiment, as reported below by Mr. Mather, superintendent of Cold Spring Hatchery, is gratifying, inasmuch as it promises most important applications in the development of the work of shad propagation. Under date of May 30 Mr. Mather reported as follows:

**HATCHING SHAD EGGS IN SPRING WATER.**

This experiment was a complete success. On May 20 I received the 80,000 shad eggs. They arrived at 6.20 p. m. and were put in the McDonald jars at 7.30 p. m. The temperature of the package was 55° and of the water 58°. They began hatching about noon on the 24th and finished near noon on the 27th. There was a little fungus on a small bunch of dead eggs in one jar one morning, but no trace of it in the others. The mean temperature was 60°.7 during the nine days they were kept, but the table given below shows that on two days only it rose above that figure, and on one of these it rose to 71°, thus making the mean temperature higher than the temperature of seven days out of nine.

The 78,000 fry were planted in the Nissequogue River, emptying into Long Island Sound below Smithtown, Suffolk County, New York.

Date.	Temperature of water.	Loss.	
		Eggs.	Fry.
May 20 .....	58	380	.....
21 .....	60	30	.....
22 .....	59	45	.....
23 .....	60	60	.....
24 .....	71	40	125
25 .....	62	25	20
26 .....	60	20	42
27 .....	58	15	800
28 .....	59	.....	150
29 .....	60	.....	40
Mean temperature.....	60.7	615	1,177
Total loss in eggs and fry.....			1,792