

**88.—UNEXPLAINED VARIATIONS IN THE YIELD OF OIL FROM COD LIVERS.****By W. H. SCHIEFFELIN & CO.**

[From letter to Prof. S. F. Baird.]

The result of the cod-fishery on the Norwegian coast this season is remarkable. We are at a loss to account for such a state of affairs. A letter from Bergen, dated March 6, states the result of the fishery up to this day as follows:

Year ending—	Number of cod taken.	Barrels of liver obtained.	Barrels of white oil.
March 5, 1881.....	13, 000, 000	27, 500	1, 400
March 5, 1882.....	5, 500, 000	7, 650	240
March 5, 1883.....	6, 000, 000	4, 100	180

Usually 250 to 400 codfish give 1 barrel of liver. This year, from 700 to 1,100 are wanted. Usually 2 barrels of liver give 1 barrel of oil. This year, 4 or 5 barrels of liver are wanted.

172 WILLIAM STREET, NEW YORK, *April 2, 1883.*

**89.—UNEXPLAINED VARIATIONS IN THE YIELD OF OIL FROM COD LIVERS.****By Capt. N. E. ATWOOD.**

[From letter to Prof. S. F. Baird, written upon reading the foregoing letter.]

In my long experience in the fisheries of this locality I have given much attention to the condition of the livers of cod, but more especially so since 1849 when I commenced to manufacture cod-liver oil for medicinal purposes. I have bought the livers as they came in fresh every winter since that time.

The winter school of cod usually comes in here in December and stops until March. In former years there seemed to be no great difference in the condition and quality of the livers from year to year. I think it took from 2½ to 3 barrels of livers to yield a barrel of oil until about 1872. For several winters after, we had a large school of excellent cod visit us; indeed, the best I have ever seen. Their livers yielded a large quantity of excellent oil. It took only 2 to 2½ barrels of livers for a barrel of oil. During the winter ending March, 1878, we had an abundance of cod, but they were thin and poor when compared with those of former years. In their mouths we occasionally found such hooks as are used by the French fishermen on the banks of Newfound-

land. I found their livers poorer than any I had seen here at any time before. I bought 200 barrels of livers, from which I got only about 50 barrels of oil, thus requiring 4 barrels of livers for one of oil. Since that time there have been very few cod taken here. They have been very scarce and their livers have been very poor, requiring from 4 to 6 barrels to furnish a barrel of oil. Last winter a few fish came in having better livers, which required only about 3 to 3½ barrels of livers for a barrel of oil. We think the prospect looks better, and we hope when they come again they will be equal to any former year.

I am at a loss to account for this state of things. It may have been caused by the scarcity of food in the locality where they spent their time when away from us.

PROVINCETOWN, MASS., *April 21, 1883.*

#### 90.—A NEW PROCESS OF DRYING FISH.

[From the Cape Ann Advertiser, about February 25, 1883.]

On Tuesday we visited the establishment of Mr. R. S. Jennings,\* at Vincent's Point, in the building formerly occupied by the Cape Ann Anchor Works, where this gentleman has put into practical operation his process for the artificial drying of fish. He has two apartments fitted up with flakes, the floors of which are partially open to allow the air to circulate. By means of fans, which are operated by steam power, the moisture is removed from the air and applied to the fish to be dried, drying them in a few hours in a perfectly satisfactory manner. By the use of the process, fish-making may be as rapidly and cheaply effected in wet as in dry weather, and in dog-days as in October, and the work may be continued night and day. Fish may be taken from the pickle in the morning of the worst drying day in the year, and dried and shipped before noon, if desired. The fish are perfectly faced, and are whiter and brighter than can be produced on out-door flakes. They are necessarily cleaner, being entirely free from dust, sand, and dirt, and no practical fish maker need be told that the weight of the fish when dried is in favor of the process, as it is a well-known fact that the quicker a fish is dried the less it shrinks in weight. We feel assured that this process will soon come into general use, thereby making available for other purposes the land now used for fish flakes, and preventing the annoyance and losses now experienced in curing fish during certain seasons of the year. The most searching investigation of the practicability of this process is invited. The expense is warranted to be less per quintal than it costs to dry them out of doors in the best drying weather.

\*A copy of Mr. Jennings' claim filed in the Patent Office will be found on page 336 of this volume.—C. W. S.