

69.—THE TENCH RECOMMENDED FOR CULTIVATION IN SWEDEN.**By FILIP TRYBOM.**

In Sweden we have a fish closely related to the carp, which at least so far north as Dalarna and Helsingland could be planted to great advantage in many lakes, streams, ponds, and other small waters with a loose bottom, and with banks at least partially covered with vegetation. Professor Wittmack says, "Besides the eel there is hardly another fish so suitable for stocking marshy waters as the tench;" and in making this statement he has reference to Germany, where it is thought that the carp is the best fish for this purpose. In the carp ponds tench are often kept with carp, as the tench is satisfied with food which the carp does not care for, or could not easily get at. In Germany it is said that the tench does not grow as rapidly as the carp. In Sweden this will probably be different. There is every reason to suppose that the tench, being indigenous in more northerly latitudes, will flourish and grow in colder water than the carp can stand, and will therefore have a longer annual period of growth. Cold winters and thick ice do not disturb the tench, which has a great capacity for burrowing in the mud and lying in a state of torpor. In Germany it reaches a weight of $1\frac{1}{2}$ kilograms [a little over 3 pounds] in the third year, and when six or seven years old is said to reach a weight of 3 to 4 kilograms [$6\frac{1}{2}$ to $8\frac{3}{4}$ pounds]. In Sweden, when in suitable waters, like those in the northern part of the province of Småland, it reaches a weight of 5 or more pounds. I do not know how fast it grows in Sweden in a free state, for, to my knowledge, only very imperfect observations have been taken regarding this matter. Very few of our fish can so well stand a long transportation as the tench. It can therefore easily be transferred to waters at a great distance from its home. Although it is much sought after by the pike, it can nevertheless be planted in waters where pike and perch are found, as it knows well how to hide in the mud and in dense growths of aquatic plants. As an instance of the successful planting of tench, it may be mentioned that in a small lake in the northern part of the Kalmar district, in 1871, 46 tench, weighing from $\frac{1}{4}$ to $\frac{1}{2}$ pound, were planted. Three years later the largest of these had reached a weight of 4 pounds. After 15 years, and probably sooner, many tench were caught in this lake, and they had spread to another lake in the neighborhood. In another small lake, not far from the above-mentioned, 20 tench were planted, measuring 5 to 6 inches in length. After 12 or 15 years had passed, there were excellent tench fisheries in this lake, many of the fish weighing from 4 to 5 pounds. In

these small lakes there are also the bream, crucian, roach, bleak, pike, perch, eel, and some other kinds of fish.

In many parts of Sweden the tench is considered as a fish of little value, and as not being a wholesome article of food, and consequently it does not sell at a good price. In Germany, where this fish is better known, it is appreciated more. It is stated that it often sells at as high a price as the carp, but generally tench costs about two-thirds of the price of carp. The tench has frequently a more pronounced muddy or peaty flavor than the carp, but if kept in clear, running water for five or six days it will almost entirely lose this flavor.

70.—NEW ENGLAND FISHERIES IN JULY, 1886.

By W. A. WILCOX.

With the exception of mackerel the receipts show few changes in quantity from those of the corresponding month of last year. At Gloucester the same number of fares of cod and other ground fish have been landed—277 cargoes each year. Of mackerel 30 fares arrived from the Gulf of Saint Lawrence and 7 small broken fares from off the New England coast, against 116 fares during July, 1885, making the aggregate fares 307 in July, 1886, and 393 in July, 1885.

Codfish of good size and quality were abundant. A number of vessels have returned to home ports from their second trips with full fares, caught on Banquereau, Western Bank, and Grand Banks. Nearer home the catches on George's and Brown's Banks have been good, at the close of the month falling off on the former and increasing on the latter. The July catch by the Gloucester fleet of the past two seasons, on these two banks, is of interest as showing the fluctuation in the catch from one bank to the other:

Codfish landed at Gloucester during July.

	1885.	1886.
	<i>Pounds.</i>	<i>Pounds.</i>
From George's Bank.....	1,671,000	4,585,000
From Brown's Bank.....	3,007,000	214,000
Total.....	4,738,000	4,799,000

The fish from George's usually are given the preference, as being of superior quality to those from any other locality.

Halibut have continued scarce, vessels arriving mostly with small fares. A few vessels fishing between George's and Brown's have brought in larger fares than those from the Grand and other banks. The total receipts for the month show a falling off of 170,350 pounds from those of July, 1885.