

**THE SEAWEED INDUSTRIES
OF JAPAN: THE UTILIZATION
OF SEAWEEDS IN THE UNITED
STATES, PP. 134-181**

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The Seaweed Industries of Japan: The Utilization of Seaweeds in the United States, pp. 134-181
by Hugh M. Smith

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DEPARTMENT OF COMMERCE AND LABOR
BUREAU OF FISHERIES

GEORGE M. BOWERS, Commissioner

THE SEAWEED INDUSTRIES OF JAPAN
THE UTILIZATION OF SEAWEEDS IN THE
UNITED STATES

BY

HUGH M. SMITH

Deputy U. S. Fish Commissioner

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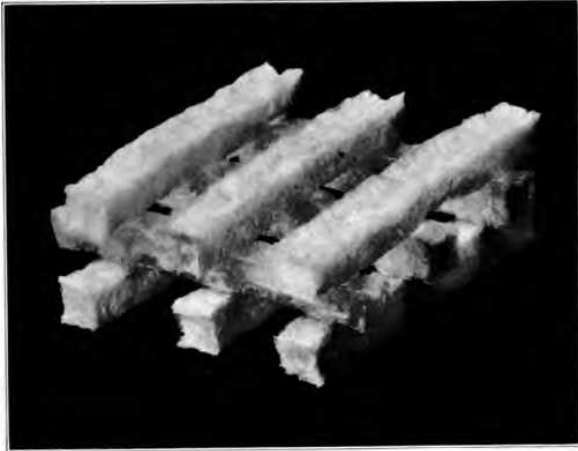
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Deputy U. S. Fish Commissioner.



BAR OR "SQUARE" KANTEN.



A BUNDLE OF "SLENDER" KANTEN.
KANTEN, OR SEAWEED ISINGLASS.

THE SEAWEED INDUSTRIES OF JAPAN.

By HUGH M. SMITH,
Deputy U. S. Fish Commissioner.

Seaweeds are among the most valuable of the aquatic resources of the Japanese Empire, and conduce largely to the prominent rank attained by the fisheries of that country. While marine plants are extensively utilized in France, Ireland, Scotland, and other European countries, in the East Indies, in China, and elsewhere, in no other country are such products relatively and actually so important or utilized in such a large variety of ways as in Japan.

The seaweed industries of Japan owe their importance to the great extent of the coast line (estimated at 18,000 miles); to the abundance and variety of useful algae; and to the ingenuity of the people in putting the different kinds of plants to the most appropriate uses and in utilizing them to the fullest extent.

The value of the seaweeds prepared in Japan at the present time exceeds \$2,000,000 annually, this sum excluding the value of very large quantities of marine plants which do not enter into commerce but are used locally in the families of the fishermen.

In view of the extent and long continuance of these industries, some diminution in the supply of economic algae might reasonably be looked for, and this has in fact occurred; but while excessive gathering has influenced the abundance of some species, much more serious decrease has been brought about by conditions not connected with the seaweed industries. Investigations conducted by the imperial fisheries bureau have indicated that the disappearance of useful algae on a number of sections of the coast has resulted from a temporary freshening of the littoral waters, probably owing to improper lumber operations near the headwaters of streams. The denuded areas have always been contiguous to the mouths of rivers or within the possible range of influence of streams during freshets. It is reported that in a few places certain algae have been able partly to reestablish themselves, but the process is very slow, and complete replenishment will require many years, even if no lowering of water density ensues in the meantime. Some experimental planting in the denuded districts has been undertaken with favorable results, but on a very small scale. In other parts of Japan cultivation is extensively carried on, but as yet is directed to practically only one species, the laver (*Porphyra laciniata*).

It is noteworthy that the disappearance of seaweeds has injuriously affected another fishery—namely, that for abalones, which rank among the important water products of Japan. These mollusks feed among the algae and are no longer found on large areas of bottom on which they formerly abounded.