

MENHADEN INDUSTRY--PAST AND PRESENT

Fishery Leaflet 412 (Menhaden Industry--Past and Present) describes the early history of the menhaden industry from its start in New England sometime prior to 1875, the role of the Federal Government in the development of this industry, a description of the menhaden, the early history of the menhaden oil industry, and a comparison of the early and modern menhaden plants, economic comparison of past (about 1875) and present-day (1950) plant operations, geographic shifts in the importance of menhaden fisheries, fishing methods, uses of menhaden--past and present, and the future of the menhaden industry. Since this Fishery Leaflet was published (June 1953), the menhaden have returned to New England waters and at the present time are of considerable economic importance to the port of Gloucester, Mass.

The menhaden industry has expanded considerably during recent years--the catch reached a record high of 2.1 billion pounds in 1956, plants and vessels have been modernized, demand and prices for both menhaden oil and meal have been excellent, and due to a vigorous program of research on the improvement of present and the development of new uses, the future appears bright for this industry.

The modern plant is mechanized to the ultimate degree. Fish are unloaded from the hold by conveyors, or, in many plants, by large suction pumps, onto conveyors which carry them through



The menhaden, alias porgy, fatback, mossbunker, old wife, bony-fish, hardhead, white-fish, bug-fish, cheebo, alewife, and yellowtail shad--in short Brevortia tyrannus--is similar in appearance to the herring, has a black spot just back of the head on each side, ranges in size from 5 to 8 inches, which make up most of the present catch, to a maximum of 18 inches.

the cookers or to temporary holding bins. The fish are then forced through long steam cookers in a continuous stream by screw conveyors, and, while hot, go directly to huge continuous screw presses.

In some plants the press liquors are still run off to settling tanks, a procedure not unlike the earliest methods. However, in most modern plants the fines are first filtered out on vibrating screens and the filtrate of liquor-and-oil mixture goes through two batteries of centrifuges. An almost dry, clear, yellow oil emerges from the second series of centrifuges. The water phase, called stickwater, contains considerable amounts of dissolved protein and vitamins but was ordinarily discarded. However, it is now concentrated to 50-percent solids in many plants to yield "condensed fish solubles." Most plants now have equipment of all types individually driven by electric motor rather than by steam power. This eliminates the maze of shafting and belts which is necessary for power transmission from a single central power unit.

The press cake is fed directly into large rotary, direct flame or steam driers where the wet material is reduced to "scrap" with a moisture content of six to ten percent. Most of the driers are now fired with fuel oil rather than coal, a change which results in a cleaner, more readily controlled operation. Some plants have cyclone separators to remove fine material from the exhaust gases.

The dried scrap is piled on the "scrap house" floor to cool before being bagged. In many plants, cooling is hastened by shoving the scrap into a conveyor that carries it up to the ceiling and then sifts it down to the floor in a fine shower. The ultimate in mechanical handling is reached by plants using small truck-tractors equipped with dozer blades for moving meal piles around the cooling floor.

In some plants the scrap is ground to meal, in others the unground scrap is shipped. In either case, the material is weighed into sacks automatically and the sacks are sewed by a special sack-sewing machine in modern plants. Another recent innovation in the menhaden industry is the use of pallettes and special fork-hoist trucks to load the sacked scrap or meal into trucks or freight cars.





SMITHSONIAN INSTITUTION LIBRARIES



3 9088 01018 1881