RESEARCH
IN SERVICE LABORATORIES

AUGUST 1948

Beaufort, N.C.

A small shrimp trawl, with a spread of 12 feet, was constructed and operated to test the survival of young fish that were able to escape through the 2½-inch stretched mesh of a new type of tail bag. In 16 experimental hauls, a total of 864 young fish escaped through the special mesh of the tail bag and were collected in a larger tail bag of 7/8-inch mesh, which is the type used on most of the regular shrimp trawls. Over 96 percent of these young fish, 4 to 7 inches long survived their passage through the new type bag. A trawl with a spread of 30 feet has been ordered for use in future experiments.

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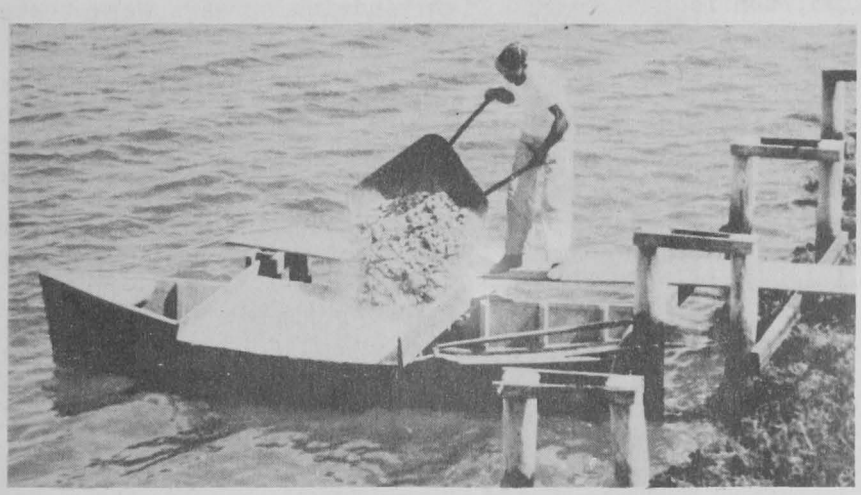

PLANTING FOSSIL SHELL MATERIAL--"BELGRADE ROCK"--FOR COLLECTING SEED OYSTERS AT THE NORTH RIVER EXPERIMENTAL OYSTER FARM AND BEAUFORT, N. C. SERVICE LABORATORY

A series of tests were made to determine the suitability of a type of fossil rock to be planted on oyster beds for the collection of oyster spat. After a two-week setting of oyster larvae, the fossil rock was covered with as many spat as the clean oyster shells which were planted at the same time.

Boston, Mass.

A report covering the tests made in several of the clam areas in Maine has been completed. The results obtained indicate that there is some factor which interferes with the enterococci method for testing water samples.

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Arrangements are being made to freeze fish aboard the Albatross III, in connection with the technological research program. These fish will be defrosted, filleted, and refrozen after packaging for storage tests.

College Park, Md.

Twenty-eight portions of cooked fishery products, as prepared for serving, have been analyzed for nutritive value as represented by proximate analyses.

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Two hundred packages of mackerel fillets were packaged and frozen for storage. These fillets will be used to study the effect of the fluctuation of temperature on the quality of fish.

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Commercial canners in New Jersey were advised concerning canning techniques for "little tuna."

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Palatability tests were conducted using recipes for halibut, crabs, and shrimp. Also, ten lots of canned fish sandwich spreads were tested.

Seattle, Wash.

Collection of samples of salmon cannery waste were resumed. The objective is the development of a product for use as hatchery food. Work will be limited largely to determining the value of hatchery food prepared from different parts of the waste. Accordingly, in collecting the samples, it was necessary to sort the waste before freezing. Samples of roe, milt, liver, and digestive tract were obtained.

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The vitamin A content of a sample of shark livers collected at Bikini was found to be too low for commercial utilization.

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Three lots of flounders (rock, yellowfin, and lemon) frozen round aboard the Pacific Explorer in the Bering Sea were thawed, filleted, packaged in cellophane, and refrozen in the sharp freezer at -20° F. After storage for two weeks at 0° F., an organoleptic examination was made in which the refrozen fillets were compared to fillets which had been prepared, packaged, and frozen aboard vessel. In general, tasters found the color, texture, and flavor of the refrozen fillets as satisfactory as those prepared aboard vessel. Lemon flounder, a species not previously studied, were found to be lacking in the normal color and flavor of the flounder family, and both the refrozen and vessel frozen fillets were rated lower in quality than the other species.

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Four lots of king crab meat frozen aboard the Pacific Explorer in the Bering Sea and stored at 0° F. for 10 weeks, showed little difference in color, texture, and flavor whether frozen in tin cans, with and without brine added, or in cellophane. In general, the comparison of this meat with that stored for almost a year, indicates that the primary changes in the crab meat in storage at 0° F.

are slight loss of normal texture and flavor, and discoloration of meat packaged in brine or in a loose package with access to air.

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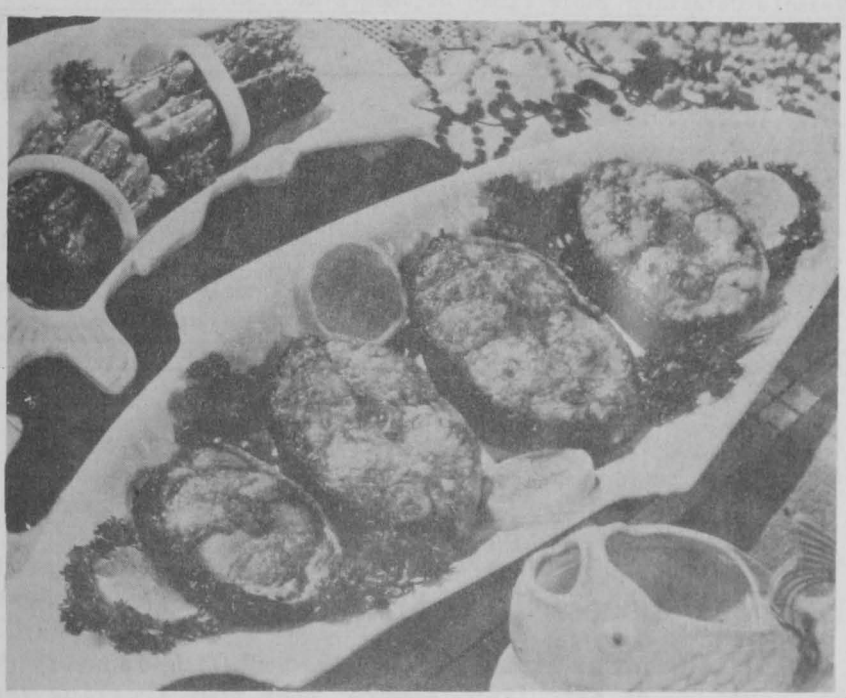
Commercially prepared rockfish fillets, which had been packaged in cellophane and stored for 34 weeks at 0° F. were found to be entirely inedible due to rancidity in the surface fat layer. Fillets from which the fat layer had been removed before packaging and freezing were entirely edible and of fair commercial quality.

BROILED SALMON STEAKS



2 pounds salmon steaks
1 teaspoon salt
1/8 teaspoon pepper
4 tablespoons butter or other fat, melted.

Cut fish into serving size portions. Sprinkle both sides with salt and pepper. Place fish on a preheated greased broiler pan about 2 inches from the heat. Brush fish with melted fat. Broil for 5 to 8 minutes or until slightly brown, baste with melted fat and turn carefully. Brush other side with melted fat and cook 5 to 8 minutes or until fish flakes easily when tested with a fork. Remove carefully to a hot platter, garnish, and serve immediately, plain or with a sauce. Serves 6.

Other steaks or fillets may be used in the above recipe.