



RESEARCH

IN SERVICE LABORATORIES

MARCH 1948

Beaufort, N. C.

Molds and plastic models for educational work have been completed of the jumping mullet, Mugil cephalus. the most important food fish of the South; the sea



mullet, or king whiting, Menticirrhus americanus; the common pompano, Trachinotus carolinus, one of the choicest of food fishes; the porgy or spade fish, Chaetodipterus faber; and the Moorish idol, Zandus canescens, a very colorful Hawaiian fish often used by artists as an inspiration for designs, and a valuable experimental type for developing flexible molds for molding hot plastic materials. A lightweight compound was developed for filling the large bodies of certain species and reducing the total weight of the casts. Construction of a large oven utilizing radiant heat was completed for solidifying and drying plastic models of fish having a length of 3 or 4 feet.

* * *

Practical tests of a continuous oyster-opening machine were made at two large shucking plants. Although the Virginia oysters were comparatively large for this experimental and portable machine they were quickly cleaned and shocked in rotating and tumbling through the seven cylinders, and immediately began to open their shells when transferred to the tank of chlorinated water. The regular shuckers easily removed the meats from the clean, smooth, and open oysters. There was no loss of weight and a better condition of the oyster tissues as compared with the regular hammer and stabbing method of shucking.



Boston, Mass.

The Deep Sea, a trawler equipped to freeze and package king crab, departed from Seattle for fishing operations in Alaskan waters with a Fishery Engineer from the Boston Laboratory aboard as an observer and consultant in the operation of East Coast trawling gear.

* * *

At one of the periodic informal meetings of local industry and Service food technologists, it was indicated that more fundamental research would be desirable on those bacteria primarily involved in fish spoilage.

* * *

The Quartermaster Food and Container Institute, Chicago, Ill., and a meat packer are planning experiments on the smoking of meat products in the electrostatic fish smoking device at Eastport, Me., through arrangements with the Maine Sardine Packers Association.

College Park, Md.

A gram-positive spore forming rod, tentatively identified as belonging to the B. subtilis group has been isolated from crab meat. This organism is active against a wide variety of gram-negative and gram-positive organisms and also is active against yeasts and molds. Its antibiotic spectrum are being checked for similarity to other organisms of the same group which are already known to produce antibiotic substances.

* * *

Micro-films of German literature on fishery matters obtained by American Technical Teams were being scanned. Those thus far examined contain no information of value.

* * *

Canned packs of chum salmon and pork, chum salmon and veal, shrimp, river herring, and rosefish were prepared for the sandwich spread project. Spiced shrimp and whiting were packed to obtain information on canning methods.

* * *

Several formulas for shrimp specialty products were perfected.

* * *

Palatability tests were conducted using four flounder recipes, nine frozen pollock recipes, three crab meat recipes, five halibut recipes, and one recipe each for smelt, shrimp, and salmon. Also four lots of fish spread were tested.

* * *

Assistance was rendered in the development and testing of large quantity fish recipes and in the preparation of the publication entitled "School Lunch Recipes Using Fish," which will be used in the 111 schools during the Department of Agriculture's fish study project.

* * *

The trailer laboratory was taken to Chincoteague for studies in connection with the clam-duck survey.

Ketchikan, Alaska

Tests made on extracts from clam samples dug in January indicate that toxicity of clams dug moderate distances apart can vary considerably. The data obtained this winter confirms the results of the previous year, which indicated that the toxin is not rapidly dissipated during the fall and winter months.

* * *

Several variations of a smoked salmon spread were prepared and tested, and a satisfactory formula for a processed spread was determined.

* * *

A large quantity of Alaska nuggets, a semi-cooked salmon product, was prepared, packaged, and frozen for later storage tests.

* * *

Preliminary laboratory tests demonstrated that propylene oxide was very effective as a mold retardant for smoked fish. However, the odor and flavor left by this chemical may prove objectionable.

Seattle, Wash.

The annual Open House was held March 11 and 12 with 404 registered visitors. The technological theme was utilization of fish waste with particular emphasis on Alaskan salmon cannery waste. For the first time, the Open House included Fishery Biology exhibits. The Washington State Fisheries Department also participated with a demonstration of a controlled smokehouse.

* * *

An experimental pack of salmon put up last summer with added oil prepared from the segregated parts of cannery trimmings by the conventional steaming method and by alkali digestion showed no significant difference in palatability regardless of the method of rendering the oil.

* * *

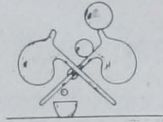
Large scale filleting of frozen and thawed flounder by professional fillet cutters at a commercial plant showed no difficulty in handling the thawed fish.

* * *

"Employment Possibilities in the Alaskan Fishing Industry" was completed for publication as a Fishery Leaflet.

* * *

The Pacific Explorer, an 8,500-ton factory ship, left Seattle for the Bering Sea on March 26 with a Seattle and a Ketchikan technologist aboard as Service observers.



BROILED LOBSTER



Select small (chicken) lobsters.

Place the American lobster on its back on a cutting board and kill by inserting the point of a knife between the body shell and tail segment, cutting downward. Then split from head to tail and remove fat, coral (if present), stomach, and the vein that passes through the center of the tail segment. Rinse, brush the flesh with melted butter, season with salt and pepper if desired, and spread out flat on the broiler, flesh side up. Regulate the heat at about 350° F. Cook slowly for 10 minutes, turn, and cook 10 minutes longer. Remove to a hot platter and dress with melted butter to which a little lemon juice has been added. The spiny lobster tail is usually cut lengthwise on the underside, flattened, and then broiled.