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College Park, Md.

Further studies on the effect of fluctuating storage temperatures on the keeping quality of frozen mackerel fillets showed relatively high scores for fillets stored at a constant temperature of  $-10^{\circ}$  F. and for fillets subjected to 3-day fluctuating temperatures between  $-10^{\circ}$  F. and  $0^{\circ}$  F. Fillets held at  $0^{\circ}$  F. storage were on the borderline of acceptability, while those held at  $15^{\circ}$  F. and subjected to 3-day fluctuating temperatures between  $0^{\circ}$  F. and  $15^{\circ}$  F. were in poor condition. Of these two lots, the latter received the much better score. The same was substantially true for the mackerel fillets undergoing daily storage temperature fluctuation, although the scores were, in general, lower for corresponding samples.

Boston, Mass.

In connection with the classification studies on bacterial flora in fish, some cultures have shown a peculiar characteristic—the deposition or precipitation of shiny needle-like crystals within and surrounding the area of growth—which was first observed in tubes of semi-solid agar and later in agar slants and nutrient broth cultures of the same organism. In nutrient broth tubes, the crystals were suspended from the pellicle where formed, or in the bottom of the sediment. These crystals appear unlike the "struvite" crystals occasionally found in canned fish.

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A preliminary re-evaluation of the fillet yield data tabulated four months ago, when fish frozen in the round at sea and fish gutted and iced were filleted for quality and flavor studies, have demonstrated that the fillet yield from fish frozen at sea is better and, in some cases, as high as 4 percent greater than the fillet yield from fish iced at sea. There are two possible explanations: (1) the filleter can cut cleaner and work his knife better on the more firm round flesh; and (2) the ratio of fillet flesh to bone and waste is lower in the iced fish due to leaching from melting ice and its pressure. Further study will be required to check these suppositions.

Ketchikan, Alaska

The Researcher, the Laboratory's floating laboratory and transportation vessel, was overhauled and new engines installed.

## Seattle, Wash.

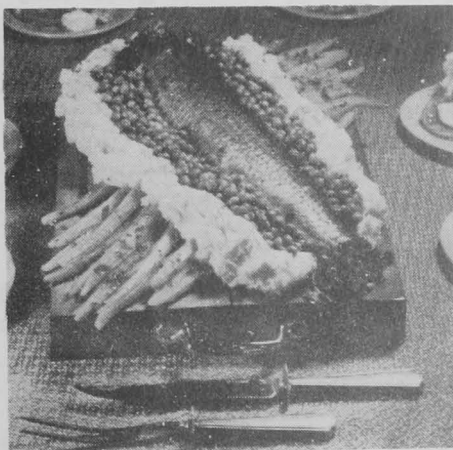
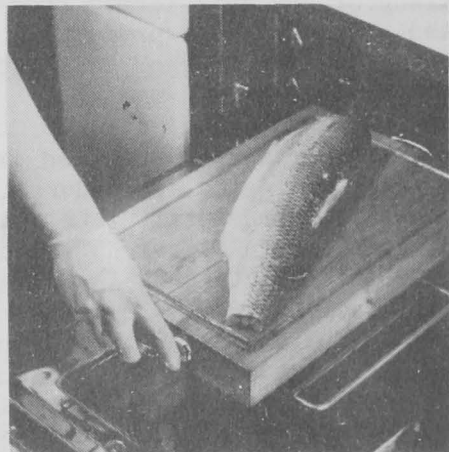
Studies have been completed on increasing the storage life of rockfish fillets by removing and discarding the dark fatty flesh which tends to oxidize and become rancid and discolored in from 3 to 6 months of cold-storage, depending upon the species of rockfish. An alternate procedure was to divide the fillet into two portions. The outside portions containing the dark flesh might possibly be sold fresh. The studies indicate that the remaining white meat portion could be frozen and held in storage for at least one year without becoming rancid or discolored. The dark flesh was removed by use of the newly developed fish skinning machine which also could be adjusted for splitting the fillets. The results will be published in a future issue of this Review.



### PLANKED SHAD

- 3 or 4 pound dressed shad
- $1\frac{1}{2}$  teaspoon salt
- $1\frac{1}{8}$  teaspoon pepper
- 4 tablespoons butter or other fat
- Seasoned mashed potatoes
- Seasoned cooked vegetables (peas, carrots, cauliflower, tomatoes, or onions).

Clean, wash, and dry fish. Sprinkle inside and out with salt and pepper. Brush with melted fat. Place fish on the hot oiled plank or on a greased oven glass or metal platter. Bake in a moderate oven  $400^{\circ}$  F. for 35 to 45 min-



utes or until fish flakes easily when tested with a fork. Remove from oven and quickly arrange a border of hot mashed potatoes around fish. Place in a preheated broiler until potatoes are slightly browned, about 5 minutes. Remove and arrange two or more hot vegetables around fish. Garnish with parsley and lemon or tomato wedges. Serve immediately on the plank. Serves six.

Other dressed fish may be used in the above recipe.