August 1949

College Park, Md.

At the end of nine months of storage, the striped bass fillets held at -10° F. and at fluctuating temperatures between 0° and -10° F. have shown practically no change over the previous monthly examination. The palatability scores, although nearing the lower limit of acceptability, are changing very slowly. The score was the same for both lots. A slight fishy odor was noticeable upon thawing, but the fillets were reasonably satisfactory in appearance. The group held at 0° F. failed to receive a satisfactory palatability score at this time, although the odor and appearance upon thawing were not too poor.

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The frozen fish having different wrapping and glazing combinations have shown practically no change in weight after five months of storage at 0° F. Slight changes in appearance have occurred in some samples, however. The fish that were first frozen, then glazed and wrapped in cellophane, showed slight desiccation in the belly cavity. This is true also for the fish that were wrapped first and then frozen without a glaze; and this lot also showed slight surface drying. The fish that were first wrapped in vegetable parchment, then dipped in water, followed by wrapping in cellophane and then freezing, were still in excellent condition. Although the last method is intended primarily for locker-storage-plant use, it may be adaptable to other types of frozen storage.

Ketchikan, Alaska

Pilot plant trials of methods for production of oil by alkali digestion of salmon cannery waste indicate that best recovery of oil and vitamin A is obtained using 1½ percent sodium hydroxide and cooking at 200° F. for 36 minutes. Digestions at higher temperatures were difficult to handle and at lower temperatures proceeded too slowly.

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Over 800 pink salmon fillets were packaged, frozen and stored in the laboratory's controlled temperature cold storage to determine practical procedures for commercial freezing of this species. Several antioxidants and packaging methods are under test.

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Nearly nine tons of salmon cannery waste were prepared for use by the Experimental Fur Station at Petersburg in its feeding tests with mink and foxes. A little more than half of the material was frozen raw; the rest was ground and processed in four-pound cans.

Seattle, Wash.

Work was resumed on the project to improve methods for oil analysis of fish meal. Although addition of pumice to fish livers was an aid in giving maximum oil extraction, it was found that there was no advantage in its use in the analysis of fish meal.

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Studies were begun on the freezing of sockeye and pink salmon for later canning. In order to evaluate the factors on freezing and storage which have a bearing on the quality of the canned product, fresh salmon are being frozen and stored for various periods of time before thawing and canning.

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Preliminary preparations were made for experiments on canning of salmon waste to determine the effectiveness of this method of preservation in retaining the various vitamins and nutritive factors contained in the viscera.

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Preliminary work was begun on development of methods for determining vitamin B_{12} in hatchery foods and other materials.

PACKAGING FROZEN FISHERY PRODUCTS

Fish and shellfish may be classified arbitrarily into two broad groups, depending upon the fat content of the muscle tissue. The non-fatty fish comprise one group which includes those fish the flesh of which contains less than 3% fat. The fat or oil of these fish is generally stored in the liver; haddock and cod are examples. The other group, which is made up of fatty fish, includes those which store their fat in the muscle tissues of the body. The flesh of these fish contains more than 3% fat and in some species as much as 20%. Salmon and mackerel are examples of fish included in this group. Shellfish are classified as non-fatty, since their flesh contains very little fat.

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