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DEPARTMENT OF THE INTERIOR

INFORMATION SERVICE

FISH AND WILDLIFE SERVICE

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SURPLUS CATCHES OF FISH
CAN BE CANNED AT HOME

What to do with the surplus fish which Dad and Junior bring home, now that the fishing season is in full swing, is a problem which bothers many housewives these days.

Providing the housewife has the proper equipment, and is willing to follow instructions carefully, the Fish and Wildlife Service, United States Department of the Interior, recommends the home canning of these surplus catches of fish which might otherwise be wasted.

It is pointed out that when fish is canned in the home, a saving is made only when the raw material is brought in by members of the family, and no outlay of money is involved; for recent studies by Service technologists indicate that fish bought at average wholesale prices makes the cost of home-canned products packed from such fish higher than that of commercially canned products.

"Only fresh fish should be canned and these should be bled and thoroughly cleaned of all viscera and membranes when caught, or as soon thereafter as practicable. Do not attempt by canning to 'save' a lot of fish from spoilage some time after catching, as the finished products will be of inferior quality," warns Norman D. Jarvis, Service technologist. "No canned product can be better than the quality of the raw material from which it was prepared."

If home canning is decided upon as a desirable method of food preservation, it is necessary that the finished products meet the following requirements:

1. It should be determined whether a product of acceptable quality can be prepared. Some fish, due to their composition or structure, are not adaptable to canning.

2. The "process" must be sufficient and it must be possible to control the processing apparatus so that variations which might adversely affect the sufficiency of the process will not occur.

3. There are limitations in size of containers beyond which it is not possible to secure a satisfactory process, regardless of the length of cook or type of apparatus used. The composition and shape of the container must also be suitable.

4. Workmanship in packing must be uniform. It is sometimes argued that this is a technical and arbitrary stand, but it was only by adhering to it that our great commercial food-canning industry has achieved its development. The homemaker will find that lack of uniformity in packing will end, sooner or later, in products not welcomed at the family table. She must not only follow the fundamental principles of canning, as does the commercial canner, but must also adapt these principles to home-canning conditions if the pack is to be successful.

"Only a reliable steam pressure cooker should be used for cooking the product in the containers, in the home canning of fish," emphasizes Technologist Jarvis. "The hot water bath or oven 'processing' (sterilization) methods are not safe and, therefore, cannot be recommended. The steam pressure cooker, in addition, should be equipped with an 'industrial' type thermometer as well as a pressure gauge; this is necessary as a check on the accuracy of the pressure gauge, and as a means of determining errors which may occur in the operation of the pressure cooker."

No container larger than a pint jar or No. 2 tin can should be used in the home canning of fish. Difficulties in sterilization make the use of larger sized containers unsafe. A "plain" (unenameled) can may be used for salmon or shad, but in canning shellfish or shrimp a can lined with "C" enamel should be used to prevent discoloration.

Because of changes taking place in canning, due to the structure or composition of the flesh, certain species of fish are not suitable for canning by any known method. In attempting to can some of these species, such as the squeteague (weakfish or "sea trout"), a large proportion of the moisture content is extracted, leaving the product in a disintegrated or fibrous condition and usually accompanied by an unpleasant taste.

The flesh of some other species, such as the grayfish (dogfish), contains compounds which undergo undesirable changes in processing, making them unsuitable for canning in the light of present knowledge. The flesh of the grayfish makes a good food when fresh but it contains urea. In processing, the urea is transformed in ammonia, making the product entirely inedible.

To enable fishermen to bring home their surplus fish in proper condition for canning, Service technologists recommend the following procedure:

Do not handle fish roughly or carelessly. They should not be thrown into the bottom of the boat where they are exposed to the full rays of the sun or stepped on and left without attention in warm weather, or they will not be fit for use.

Fish should be bled when caught because the process delays spoilage and improves the color of the flesh. Either of these two methods may be used: (1) The head is grasped with one hand, the body with the other, and both hands are

brought together quickly, thus breaking the backbone and opening the large blood vessel running to the gills; (2) Make a deep cut just below the head.

If possible, after bleeding, the fish should be packed in finely crushed ice. Icing is not possible in a great many cases, especially on smaller boats, but the fish can and should be handled in this manner: Clean the fish thoroughly when they are caught, removing intestines and all other waste material, then scrape out the dark clotted bloody material just below the backbone and wash them well. Rub the inside of the belly cavity with fine salt and store the fish in a well-ventilated covered box. A burlap sack frequently wetted with water makes a good cover, but it should not rest directly on the fish. If it is necessary to transport the fish some distance after landing from the boat, either ice them or use such a box.

Methods specifically recommended for canning salmon, shad, mackerel, lake trout, whitefish, mullet or "Mooneye," mackerel in tomato sauce, spiced fish, and fish chowder, are contained in Memorandum S-338, "Home Canning of Fish," which is available without charge upon request to the Publications Desk, Fish and Wildlife Service, United States Department of the Interior, Washington, D. C.

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