

SEP 3 1975 *efh*

What Can Be Done About PCB's in Fish Flesh?

There has been concern recently over the safety of eating salmon and trout caught in Lake Ontario because of contamination by PCB's. These fish do contain PCB's - polychlorinated biphenyls - at levels two to three times higher than the regulations set by the U.S. Food and Drug Administration (FDA) for commercial sale of fish. However, no definite ruling has been made on the safety of eating PCB contaminated fish. Until a ruling is made, there are some simple steps in fish preparation that can lessen consumption of PCB's.

PCB's apparently do not adversely affect fish themselves. While research on the effects of low level doses of PCB's on humans is very scant, indications are that they might not be so harmless to man. It is known that levels many times the FDA limit can be quite dangerous. Restricted by limited information, the FDA has set a somewhat arbitrary limit of five parts per million in fish to be sold commercially. This guideline is based on all the information available at the time the standard was set. Certainly fishermen have eaten many Lake Ontario salmon and other fish with no immediate, obvious effects despite containing relatively high levels of PCB's. Still long term effects are unknown. In monkeys, near relatives of man, short term exposure to five times the FDA recommended level caused health problems.

Fish take in PCB's directly through the gills, fins, and skin as well as through the food they eat. Once in the fish, PCB's are very slow to leave and may be concentrated many times over levels in the surrounding waters. Thus, while levels of PCB's in the water may be very low, levels in fish flesh can be dangerously high. The actual amounts of PCB's in a given fish depend on its species, physiology, food habits, longevity and other factors. In any single fish a large portion of PCB's may be found in its fat deposits.

REMOVAL OF FAT AREAS

Members of the salmon family, including trout, store up fat in certain parts of their body. These fat deposits are where PCB's are stored in greatest concentration, along with pesticide residues and off flavors. Locating and removing these areas is a way to eliminate a large portion of contaminants.

One fat area in salmon and trout runs along the top (dorsal) fin from the head to the tail.

Roughly, it is V shaped in form and measures up to one half inch in width and one half inch in depth on a mature salmon. Studies have shown that it contains up to 20 per cent fat.

There are two ways in which the back fat strip can be removed. First, if the fish is filleted, the strip can be left attached to the bones by carefully leaving a strip up to one half inch wide on either side of the back fin when making the two cuts from head to tail along the fishes back. The second method, used when the fish is not to be filleted, is to make a V shaped cut from head to tail while removing the top fin. With both methods, the fat strip is disposed of before cooking.

A second fat region is an area called the belly flap. Two belly flaps actually result when the fish is opened during gutting one on each flank of the cleaned fish. Each belly flap includes bottom fins. Research has shown this belly flap region to be 27 percent fat. Remove a strip one half to three quarters of an inch wide on each belly flap from gills to anal opening from fillets or whole fish before cooking.

A third area of fat deposits is found in a thin layer just under the skin of the fish over the entire body. Most of the fat in this layer will melt out during cooking. A sharp knife may be used to score or puncture the skin in several places to allow the melted fat to separate more readily from the flesh. Or, the skin can be removed.

The last easily removable fat deposit is the darkish flesh along the sides of the fish which is visible when the fish has been skinned. A shallow cut will remove most of the darker flesh without ruining steaks or fillets.

Some fat deposits exist throughout the flesh of the fish. During cooking, much of this fat will leave the flesh. As this fat melts out, it carries with it some of the residues of pesticides and PCB's. Steamed, baked, or broiled fish can be drained during and after cooking to avoid consuming the melted fats and fluids. Dishes should be avoided in which the fish is cooked in its own juices, such as boiled fish and many chowder and canning recipes.

Whether or not to eat fishes from Lake Ontario remains a personal decision. Following the procedures suggested above will help minimize consumption of pesticides and PCB's.

Hopefully more research soon will give better answers on possible effects of PCB's on

humans and appropriate levels of consumption. In the meantime, the New York State Department of Health recommends that consumers limit their intake of Lake Ontario salmon to one meal per week. The same recommendation recently has been given by the Wisconsin

Division of Health for consumption of Lake Michigan trout and salmon. Much of the above information was supplied by the Michigan State University Cooperative Extension Service and University of Wisconsin Sea Grant Program.

MONS 032777