

C O P Y

August 26, 1963

Mr. A. D. Aldrich, Director
Florida Game and Fresh Water Fish Commission
Tallahassee, Florida

Dear Mr. Aldrich:

On June 24 and 25, 1963, Mr. L. E. Cromwell of your Department, and Mr. Burke Chester of this Department, collected eight samples of fish from Lake Apopka by the use of 5% rotenone. They were collected at the following locations:

June 24, 1963

Sample 1 - 500 feet west of Apopka-Dora Canal, Mud bottom, 18 inches of water

Sample 2 - 1000 feet west of Gator Cove at 1st clump of sawgrass, Mud bottom, 3 feet of water.

Sample 3 - East tip of Hog Island, Hard mud bottom, 4 to 6 feet of water

June 25, 1963

Sample 4 - 1/2 mile north big pump house, Hard mud bottom, 3 feet of water

Sample 5 - Haystack maiden cane grass bed, 300 feet off shore, Hard mud bottom, 3 to 6 feet of water

Sample 6 - Crown Point, Hard sand bottom, 2 to 4 feet of water

Sample 7 - 3/4 mile west of Winter Garden ramp, Sand bottom, 3 to 4 feet of water

Sample 8 - Pine Island, Sand and mud bottom, 3 to 6 feet of water

The fish were packed in dry ice and delivered to our pesticide residue laboratory in Tallahassee for analysis.

The request for analysis was for investigation of possible poisoning of fish by the use of pesticides. For this reason we chose the fat plus roe for one analysis and the livers for another analysis. It has been our experience that chlorinated pesticides would be stored in the fat of fish or animals and would affect the livers more drastically than other organs if the fish had been contaminated by diet or environment.

The fat plus roe from the abdominal cavities and livers were removed and blenderized with acetonitrile to extract the pesticides containing chlorinated hydrocarbons. The analytical data by micro-coulometric gas chromatograph is presented as follows:

SAMPLE NUMBER	AVERAGE WEIGHT PER FISH IN GRAMS			NUMBER OF FISH COMPOSITED	TYPE OF FISH
	TOTAL BODY	FAT	LIVER		
1	195.0	5.3	1.8	12	Bream
2	173.8	3.6	1.3	12	Bream
3	194.0	5.4	1.7	11	Bream
4	200.8	8.4	1.2	10	Bream
5	950.0	33.9	8.2	4	Trout
6	112.0	1.1	0.7	15	Bream
7	120.4	0.7	0.8	20	Bream
8	202.6	4.5	1.5	15	Bream

Stated as parts per million of the listed pesticides.

SAMPLE NUMBER	OLEFIN OF											
	DDT		DDD		DDE		DDD		DIELDRIN		ENDRIN	
	*A	*B	A	B	A	B	A	B	A	B	A	B
1	2.0	0.46	4.88	1.37	2.42	0.97	1.1	-	.05	-	.05	-
2	8.8	0.43	22.2	1.39	15.00	1.18	4.88	0.39	-	.02	-	-
3	1.86	0.36	5.8	1.36	2.75	0.82	1.02	0.35	.02	-	.02	-
4	1.90	0.62	8.05	2.66	3.63	1.48	1.4	0.60	.04	.02	.04	.02
5	3.20	0.22	19.9	1.55	7.90	0.59	4.0	0.34	.12	-	.20	-
6	0.44	0.33	1.72	0.99	1.14	1.03	0.49	0.36	.02	.02	.02	.03
7	2.62	0.21	13.2	0.68	7.7	0.83	2.90	0.33	.10	.02	.12	.02
8	2.56	0.32	12.9	1.07	6.4	0.86	1.86	0.32	.06	.02	.05	.02

*A - Fat plus Roe

B - Liver

DDT and its decomposition products, DDD and DDE, were found in all eight samples of fish. Dieldrin and endrin were found in seven of the samples. The fish containing the lowest concentrations of chlorinated pesticides was the group of small bream averaging about 112 grams each. The fish with the greatest concentration was the group which averaged 173 grams each. This group is followed by the trout which averaged about 950 grams each. The trout did not contain roe but did have over three times as much abdominal fat or liver by weight as did the small fish therefore,

Mr. A. D. Aldrich

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the total accumulation of chlorinated pesticides in the trout was greater than the group of smallest broom.

Very truly yours,

Doyle C. Golden
Administrative Assistant
DIVISION OF CHEMISTRY
DEPARTMENT OF AGRICULTURE

DCG:b