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INVESTIGATION OF MORTALITY AMONG RAINBOW TROUT FRY AT
WOLF LAKE HATCHERY, MAY 2, 3, AND 4TH, 1946

by

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A heavy mortality among rainbow trout fry at Wolf Lake Fish Hatchery began on the first of May, and increased during the following several days. Of 53,300 fry, approximately 500 died on May 1st, 1300 on May 2nd, and 2000 on May 3rd. Prior to this time the daily loss averaged about 80 fry.

The troughs in which the mortality occurred were parallel to troughs containing brown trout fry of the same age. All troughs were supplied with water from the same source and both species were on a straight liver diet. Fry in troughs received identical care. Only slight loss was noted among the brown trout fry (15 per day among 89,000 fry). Of 83,000 brook trout fry, also receiving identical diet, only a normal loss occurred.

No unusual behavior of dying fry was observed. The sick fry became darker in color, appeared to "hang" listlessly near the surface of the water, later sinking to the bottom of the trough where they gradually died. The dead fish were of normal growth and shape, indicative of a short illness.

Macroscopical and microscopical observations did not reveal any organism that might have caused death. The liver in sick fry appeared slightly lighter in color than that of normal fry. The contents of the stomach and intestines of most dead and dying fry contained a thin, yellowish fluid. The contents of the stomachs and intestines of normal fry contained food particles and fecal material.

No specific diagnosis was made from the foregoing observations. According to Dr. H. S. Davis, rainbow trout may be afflicted with fatty degeneration of the liver whereas brook and brown trout rarely are affected. Although the sick fry demonstrate some symptoms of this dietary disturbance, fatty degeneration of the liver is usually associated with diets containing dry meals, and since the diet of the fry at Wolf Lake has been straight liver it seems improbable that this diagnosis would be entirely correct. The fry have been fed more heavily than normal, due to availability of fresh liver from a local packing house, and this might have some adverse effect upon rainbow fry. For this reason, it was recommended that mineral oil (two tablespoonfuls per feed pail) be added to the diet for several feedings and the number of feedings per day reduced from five to two for two days, gradually increasing the amount fed on following days, as indicated by close observation of the condition of the fry.

Although it is doubtful whether the history of the fry is significant, it is included here for completeness. Eggs were supplied by Harrietta Hatchery to Oden Hatchery, Thompson Hatchery and to Wolf Lake. Some eggs were retained for hatching and rearing at Harrietta Hatchery. According to Mr. Hatt, the first eggs taken were hatched at Harrietta and Oden hatcheries, while those taken later were hatched at Thompson and Wolf Lake

hatcheries. Mortalities among rainbow fry were experienced at both Thompson and Wolf Lake hatcheries while no mortality was reported from either Harrietta or Oden hatcheries.

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