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CANNED HORSE MEAT AS A DIET FOR TROUT

By

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Food best suited for trout and reasonable in cost has been difficult to obtain for the past five years. Numerous products have been substituted with varying degrees of success, but very few have been thoroughly tested with controlled experiments. To better evaluate one product, canned horse meat, Mr. J. T. Wilkinson, Regional Fisheries Supervisor, suggested that a controlled experiment be conducted at Oden Fish Hatchery. Accordingly, the following experiment was undertaken.

One group of sub-legal brook trout was divided into two groups of 12,061 fish each. On June 9, 1948, the date the study was initiated, the fish weighed 50 pounds per 1,000. The two groups were stocked in two separate ponds of equal size with identical water supply. One group, in pond 17, was fed pork melts and cereal and the other group, in pond 18, was fed only canned horse meat for the duration of the experiment. Both groups were returned to normal diet on October 1, 1948.

Red blood cell counts made on July 7, August 5, and on August 31 did not show any important difference between the two groups, although those on the diet of canned horse meat had a slightly lower count.

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As can be seen by the chart, the loss in the group being fed only canned horse meat (pond 18) was significantly higher throughout the experiment. From June to October, the loss in pond 17 was only 2.9 percent as compared with a loss of 22.2 percent in pond 18. However, the loss was somewhat compensated for by the greater weight of the fish on the canned horse meat. On July 27, 1948, the larger fish were graded out of both ponds. At that time, the 724 graded from pond 17 weighed 117 pounds per 1,000 fish and the 1,364 graded from pond 18 weighed 195 pounds per 1,000 fish. The remaining fish in ponds 17 and 18 weighed 71 and 81.5 pounds per 1,000 fish respectively. Final weights were taken on September 8, 1948. The fish in pond 17 weighed 110 pounds per 1,000, a gain of 39 pounds per 1,000 fish. Those in pond 18 weighed 145 pounds per 1,000, a gain of 63.5 pounds per 1,000 fish. Average length in pond 17 was 6.3 inches and in pond 18, 6.9 inches.

In conclusion, a difference of 19.3 percent loss among the two groups clearly demonstrates that under the conditions of this experiment there is a lack of some fundamental ingredient in a diet of straight canned horse meat. Although a greater weight was attained by the trout fed the canned horse meat diet, the high mortality sustained would discredit its use as a hatchery diet. It is possible, however, that canned horse meat might be of some value if used as a supplement to a proven diet.

The cooperation of Mr. H. L. Thompson, District Fisheries Supervisor, Mr. L. Sheldon, Hatchery Foreman, and the hatchery crew is greatly appreciated.

Table 1

Growth and Mortality of Brook Trout Fed Pork Melts and Cereal
as Compared to Those Fed Canned Horse Meat.

(POND #17 - 12,061 Brook Trout, 50 lb./1,000 fish. Pork melts and cereal.)
(POND #18 - 12,061 Brook Trout, 50 lb./1,000 fish. Canned horse meat.)

Date	POND 17		POND 18	
	Loss	Weight	Loss	Weight
June	88 (0.73%)	50 lb./1,000	212 (1.8%)	✓50 lb./1,000
July 1-7	23 (0.19%)		86 (0.72%)	
July 8-14	17 (0.14%)		101 (0.86%)	
July 15-21	15 (0.12%)		85 (0.73%)	
July 22-28	18 (0.15%)		86 (0.74%)	
Total	161 (1.33%)		570 (4.8%)	
July 28: Graded out	724	117 lb./1,000	1,364	195 lb./1,000
Number remaining	11,176	71 lb./1,000	10,127	81.5 lb./1,000
July 29-August 4	29 (0.26%)		125 (1.2%)	
August 5-11	9 (0.08%)		148 (1.5%)	
August 12-17 ²	12 (0.11%)		196 (2.0%)	
August 19-25	25 (0.22%)		467 (4.8%)	
August 26-September 1	20 (0.18%)		719 (7.8%)	
September 2-30	93 (0.84%)	✓110 lb./1,000 Length 6.3"	107 (1.3%)	✓145 lb./1,000 Length 6.9"
Total	188 (1.6%)		1,762 (17.4%)	
Final Total	349 (2.93%)		2,332 (22.2%)	
October 1-November 30 ⁴	74 (0.67%)		32 (0.38%)	

✓ Weight taken June 9, 1948.

✓² Diet changed in both ponds to horse liver and meal from August 17 to September 1, 1948.

✓³ Weight taken on September 8, 1948.

✓⁴ Returned to normal diet October 1, 1948.

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