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HATCHERY-REARED FINGERLING TIGER MUSKIES UNHARMED BY DIET CHANGE FROM PELLETS TO SPINY-RAYED PREY FISH

George B. Beyerle, Fisheries Research Biologist

SUMMARY

Pellet-reared tiger musky fingerlings ate an average of 2.0 young bluegills per day for 14 days. No mortality of tiger muskies occurred. It is concluded that pellet-reared tiger musky fingerlings will suffer no unusual detrimental effects when they consume spiny-rayed prey fishes.

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INTRODUCTION

Some biologists have expressed concern about the ability of pellet-reared predator fish to successfully consume spiny-rayed prey fish. Calbert et al. (1974) found that the stomach wall of pellet-reared percids was not as thick as in wild fish. Thus, when a pellet-reared predator fish consumed a spiny-rayed prey fish, the spines might easily penetrate the stomach wall, killing the predator fish. However, Beyerle (1978) found that no mortality of walleyes occurred when 20 pellet-reared walleye fingerlings consumed 518 young bluegills. The ability of pellet-reared tiger musky fingerlings to consume bluegills was tested at the Wolf Lake State Fish Hatchery in 1978.

PROCEDURE

Two standard hatchery troughs (274 × 50 × 50 cm) were set up with water at 19 C flowing through each at a rate of 10 liters per minute. On July 28, each trough was stocked with 20 tiger muskellunge fingerlings (mean length, 8.9 cm; range, 8.4-9.7 cm) which had been raised intensively on W-7 dry diet. Each trough was then stocked with food fish. To one trough was added 200 fathead minnows (mean length, 2.5 cm; range, 2.3-3.0 cm), and to the other 200 bluegills (mean length, 3.0 cm; range, 2.8-3.8 cm). The troughs were checked daily and the supply of food fish in each was replenished so that about 200 fish were present in each trough at all times. At the completion of the 14-day test, the total number of food fish eaten by the tiger muskies was determined for each trough.

RESULTS

No mortality of tiger muskies occurred in either trough. During the test the tiger muskies in one trough consumed 1,743 minnows (395 g), an average of 6.2 minnows (1.4 g) per musky per day. The tiger muskies in the second trough consumed 567 bluegills (181 g), an average of 2.0 bluegills (0.6 g) per musky per day. It appears that pellet-reared tiger muskellunge can successfully consume spiny-rayed food fishes without physical damage to themselves.

LITERATURE CITED

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