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CONSUMPTION OF BLUEGILLS BY PELLET-REARED WALLEYE FINGERLINGS

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SUMMARY

Pellet~~ct~~-reared walleye fingerlings ate an average of 1.8 young bluegills per day for 14 days. No mortality of walleyes occurred. It is concluded that small bluegills, yellow perch, etc. will have no important detrimental effect on the digestive tract of pellet-raised walleyes.

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INTRODUCTION

Some concern has been expressed over the ability of pellet-reared predator fishes to successfully consume spiny-rayed food fishes, such as bluegills. The chief fear was that the diet of pelleted food might cause the esophagus and stomach of the predators to become relatively soft and weak. Thus, when the predator fish ate a spiny-rayed food fish, the sharp dorsal spines might easily penetrate the lining of the digestive tract, killing the predator fish. This theory was tested with walleyes raised on pelleted food at the Wolf Lake State Fish Hatchery in the summer of 1977.

PROCEDURE

Two hatchery rearing troughs (274 cm x 50 cm x 50 cm) were set up, with water at 23°C flowing through each trough at a rate of 0.5 CFM. On July 28, each trough was stocked with 20 walleye fingerlings (mean length 9.0 cm) which had been raised intensively on Oregon Moist pellets and an experimental, unfrozen, moist pelleted food for the preceding eight weeks. The two troughs were then stocked, respectively, with 200 fathead minnows (mean length 2.8 cm) and 200 bluegills (mean length 2.8 cm). The test was run for 14 days. Dead food fish were removed from the troughs each day. The supply of food fish in each trough was replenished periodically so that approximately 200 fish were present at all times in each trough. At the completion of the test the total number of food fish eaten by the walleyes was determined for each trough.

RESULTS

During the 14 days of the test the 20 walleyes in Trough 1 consumed a total of 1,009 fathead minnows, or an average of 3.6 minnows per walleye per day. Meanwhile, in Trough 2 the 20 walleyes ate 518 bluegills (1.8 bluegills per walleye per day). No mortality of walleyes occurred in either trough. In Trough 2, walleyes did not eat the largest available bluegills. Evidently 9.0 cm walleyes normally will not eat bluegills larger than 2.8 cm. It is concluded that small spiny-rayed food fishes have no important detrimental effect when eaten by pellet-raised walleyes.