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COMPARATIVE EVALUATION OF ISO-NUTRITIONAL MASH AND PELLET FEED UNDER MIXED CULTURE CONDITIONS OF INDIAN MAJOR CARP ROHU (*LABEO ROHITA*) AND MRIGAL (*CIRRHINUS MRIGALA*)

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ABSTRACT

Comparative evaluation of iso-nutritional mash and pellet feed (crude protein- 22%) were assessed for 96 days of culture in outdoor experimental tanks (180 L) subjected to mixed culture of column- bottom feeder, Rohu (*Labeo rohita*) and bottom feeder, Mrigal (*Cirrhinus mrigala*) under Indian pond culture protocols of management practices. Though, the feed types (mash and pellet) were not influential in determining the growth rate of the test fishes, the higher overall mean value of feed conversion ratio (FCR) in pellet feed (9.21) indicated that it was less effective compared to the mash type of feed.

FCR maintained almost a steady level during the first half of the investigation period after which, the value increased sharply for both the feed types tested. Net protein utilization (NPU) and protein efficiency ratio (PER) continued to decline sharply during the period of investigation in both feed types tested. The average value of NPU and PER for mash feed (5.98 and 1.36) did not differ much to that of pellet feed (5.93 and 1.345). As the body weight of fish increased overtime with concomitant decline in the values of PER and NPU as well in both the feed types tested, the relationships between them became inversed and were fitted either by polynomial or linear models.

Therefore, it was obvious that the test fish as advanced fry required more protein during the initial phase of their culture. Absence of any significance difference in FCR between the two physically different feed types with iso-nutritional properties indicated that nutritional quality not the feed types acted as determinants for the feeding efficiency in terms of FCR. Therefore, for culture of omnivorous Indian carps *viz*. rohu and mrigal ordinary mash feed is equally effective with costly pelleted feed under manured culture condition as supplementary feed.

KEYWORDS: ISO-Nutritional Feed, *Labeo rohita*, *Cirrhinus mrigala*, FCR, NPU, PER