

Table

Dietary protein requirements of some finfish and shellfish species for their optimum growth

Species	Protein source	Protein requirement (% dry weight of food)
<i>Cyprinus carpio</i> (spawn, fry and fingerlings)	Casein	45
<i>C. carpio</i> fingerlings	Fish meal	54
<i>C. carpio</i> juvenile	Casein	31–38
<i>Labeo rohita</i> fry	Casein	45
<i>L. rohita</i> fry	Fish meal and groundnut oilcake	40
<i>L. rohita</i> fingerlings	Casein and groundnut oilcake	30
<i>Catla catla</i> fry	Casein gelatin	47
<i>C. catla</i> fingerlings	Casein gelatin	40
<i>Cirrhinus mrigala</i> fry and fingerlings	Fish meal and groundnut oilcake	40
<i>Tor khudree</i> fingerlings		40
<i>T. putitora</i>		45
<i>Ctenopharyngodon idella</i>	Leaf protein concentrate	36
<i>C. idella</i> fry	Casein	42
<i>Macrobrachium rosenbergii</i>	Fish meal, groundnut oilcake, soybean meal	35
<i>Channa striatus</i> fry	Fish meal, groundnut oilcake	55
<i>Anabas testudineus</i>	Carcass waste and groundnut oilcake	40
<i>Clarias batrachus</i> fingerlings	Casein gelatin	40
<i>Chanos chanos</i> fry and juvenile	Casein	39–40
<i>Tilapia aures</i> fingerlings	Fish/soybean meal	36
<i>T. aures</i> fingerlings	Casein/albumin	34–56
<i>T. niloticus</i> fry	Fish meal	35
<i>Oreochromis mossambicus</i> fingerlings	Fish meal	42
<i>Lates calcarifer</i> juvenile		50
<i>L. calcarifer</i> grow-out		40–45
<i>Salmo trutta fario</i> fry		48–53
<i>Oncorhynchus</i> spp.		35–55
<i>Penaeus mondon</i>		40
<i>Fenneropenaeus (P.) indicus</i>		43
<i>P. merguensis</i>		42–52

Table

Some feed formulations for fry and fingerlings of Indian major carps

Feed	Fry		Fingerlings and growers	
	Ingredients	Composition (%)	Ingredients	Composition (%)
1	<i>Azolla</i> powder	60.0	Rice-bran	35.0
	Soybean meal	19.0	Groundnut oilcake	25.0
	Groundnut oilcake	13.9	Roasted soybean meal	25.0
	Sesame oilcake	4.0	Fish meal	7.0
	Rice-bran	2.0	Vegetable oil	5.0
	Vitamin mineral mix	1.0	Fish oil	2.0
	Attractant (seeds of <i>Trigonella</i> and <i>Murraya</i> )	0.1	Vitamin-mineral premix	1.0
2	Groundnut oilcake	26.0	Groundnut oilcake	28.0
	Soybean meal	23.0	Soybean meal	20.0
	Rice-bran	33.0	Rice bran	30.0
	Fish meal	16.0	Meat-cum-bone meal	20.0
	Vitamin mineral mix	2.0	Vitamin-mineral premix	2.0
3	Groundnut oilcake	28.0	Soybean meal	7.0
	Soybean meal	20.0	Groundnut oilcake	30.0
	Rice-bran	30.0	Mustard oilcake	35.0
	Meat meal	20.0	Rice-bran	26.0
	Vitamin mineral mix	2.0	Vitamin-mineral premix	2.0
4			Groundnut oilcake	40.0
			Soybean meal	20.0
			Fish meal	8.0
			Rice-bran	30.0
			Vitamin-mineral premix	1.5
			Vegetable oil	0.5
5			Fermented silkworm pupae	6.7
			Rice-bran	19.3
			Groundnut oilcake	62.0
			Groundnut oil	5.0
			Binder mix (tapioca flour, <i>maida</i> and rice flour in 6 : 3 : 1 ratio)	5.0
			Vitamin-mineral premix	2.0

Source: Hand book of Fisheries and Aquaculture, ICAR, New Delhi)