

**Species/Protein
Chart
(Percent Protein)**

Species	Larval (starter feeds)	Growout	Broodstock
Carnivorous			
Sunfish -Bluegill, hybrids	45-50	36-42	42
Yellow perch	45-50	38-45	40
Largemouth/striped bass	45-50	38-45	40
Trout	45-50	42-46	40
Omnivorous			
Catfish	45-50	28-36	36
Tilapia	45-50	28-35	36
Carp/goldfish/koi/amurs	45-50	28-36	34
Baitfish -Fathead minnows	45-50	28-32	36
Crustaceans			
Freshwater shrimp	45-50	30-36	na
Crayfish		28-32	na

	Protein Level	Cost *	To Be Eligible for Grant \$ 2009 Feed Costs Must be Greater than
Tier 1 - High Protein Feed	Greater than 45%	\$0.518	\$0.648
Tier 2 - Medium Protein Level Feed	Between 45% and 35%	\$0.337	\$0.421
Tier 3 - Low Protein Level Feed	Less than 35%	\$0.257	\$0.321

Average prices (*) were calculated by using price averages for three major suppliers of aquaculture feed in Ohio for the 2003 to 2007 period. Protein levels are suggested levels of protein used for different aquaculture species and production cycles. All prices are listed price per pound. Tier 3 average was calculated from the information that was supplied by one commercial supplier and the average feed costs at The Ohio State University – Piketon facility.

Higher protein level feeds are used for different aquaculture species within different stages of their production cycles. Carnivorous (bluegill, trout, bass and yellow perch) and Omnivorous (catfish, tilapia and baitfish) species require higher protein feed levels during the larval stage of production (starter feeds) compared to grow-out or brood-stock requirements. Crustaceans (shrimp and crayfish) require a lower level protein in the feed. Higher protein level feeds command a higher price than lower levels of protein feed.

When determining the average cost of aquaculture feed for Ohio's program three levels of protein feed (1 - greater than 45%; 2 - 45 to 35%; 3 - less than 35 %) were considered and average prices tiers were calculated for each tier level. Aquaculture feed costs were obtained from three of the largest suppliers of aquaculture feed in Ohio and The Ohio State University's Ohio Center for Aquaculture Research and Development (OCARD) at Piketon Ohio for the feed purchased for the period 2003 to 2007.

Research conducted at The Ohio State University's Ohio Center for Aquaculture Research and Development (OCARD) has helped to increase the productivity, innovation and profitability of Ohio and US aquaculture operations. OCARD extension has emphasized respecting sustainability and good stewardship of the state's resources by implementing good stewardship and by implement of innovative research, outreach, extension and education programs in aquaculture.