

Table 7. Some practical feed formulations for North African catfish *Clarias gariepinus*

Feed formulations	L1	L2	L3	F&B1	G1	G2	G3	G4	G5	G6	G7	G8	G9
Ingredient composition	%	%	%	%	%	%	%	%	%	%	%	%	%
Fishmeal	43.0	50.0	50.0	30.0	20.0	55.0	25.0		10.0	10.0	24.7	20.0	2.0
Blood meal				5.0			10.0					5.0	48
Carcass meal		12.5		15.0					50.2	22.7	10.5	15.0	
Bone meal						4.0							
Poultry by-product meal										10.0	10.0		
Milk powder (full fat)		10.0											
Lake shrimp meal								34.0					
Torula yeast	50.0												
Soya meal (full fat)			30.0	15.0			35.0					22.0	
Soya oilcake					15.0	5.0				10.0	10.0		
Cotton oilcake ¹					15.0	5.0			9.0				2
Groundnut oilcake					5.0	4.0							
Sunflower oilcake ¹													
Brewery waste					15.0	10.0							
Rice/wheat bran					15.0	2.0		66.0					
Maize bran				11.5								13.5	48
Maize			20.0		8.0	3.0	15.0		15.0				
Wheat		25.0		22.0					15.0	14.0		22.0	
Lucern meal											30.0		
Tomato waste meal										20.0			
Molasses powder									9.8	10.0	8.0		
Palm oil					2.0	5.0							
Sunflower oil	3.0						4.0						
Fish oil	3.0						6.0			3.3	6.8		
Starch/binder						2.0	2.0						
Vitamin & mineral premix	1.0	2.5		1.5	5.0	5.0	3.0					2.5	
Eggs (fresh)			5.0										
Proximate analysis													
Crude protein (%)	55.4				34.5	43.3	40.0		38.0	38.0	38.0		
Total lipid (%)	9.0				9.0	11.0			8.1	12.5	13.5		
Carbohydrate	21.0												
Gross energy (kJ/g)					19.2	20.4							
Digestible energy (kJ/g)									12.0	12.0	12.0		
Protein/energy ratio (mg/kJ)	30.4												
Feed Conversion Ratio									1.2	1.1	1.1		

¹ Sunflower and cotton oilseed cakes are interchangeable.

Feeds and references

L1 = Larvae and early juvenile crumble diet (South Africa) (Hecht, Uys and Britz, 1988)

L2 = Larvae and early juvenile diet (Malawi) (Chimatiro and Chirwa, 2007)

L3 = Farm-made starter feed (Uganda) (Rutaisire, 2007)

F&B1 = Fingerling and broodstock diet (Malawi) (Chimatiro and Chirwa, 2007)

G1 = Grower diet (Cameroon) (Pouomogne, 2007)

G2 = Starter diet (CP45) (Cameroon) (Pouomogne, 2007)

G3 = Grower pellet (Nigeria) (Ayinla, 2007)

G4 = Catfish grower pellet (Kenya) (Nyandat, 2007)

G5 = Example least costed feed 1 (South Africa) (Hecht, Uys and Britz, 1988)

G6 = Example least costed feed 2 (South Africa) (Hecht, Uys and Britz, 1988)

G7 = Example least costed feed 3 (South Africa) ((Hecht, Uys and Britz, 1988)

G8 = Grower pellet (Malawi) (Chimatiro and Chirwa, 2007)

G9 = Farm-made grower formulation (Uganda) (Hecht, 2007)