

Table 8. List of commonly used supplemental feed ingredients in tilapia culture. Nutrient contents are given in % as fed basis

Feed ingredients	Nutrient composition					Estimated FCR
	Moisture	Crude protein	Crude lipid	Ash	Gross energy (kJ/g)	
Feeds of animal origin						
Blood meal	10.4	81.5		2.0	20.0	1.5 - 1.7
Chironomids, fresh	84.0	9.0	14.0	7.0	7.5	2.3 - 4.4
Daphnids, fresh	89-94	3 - 7.5			1.2 - 2.5	4 - 6.4
Earthworm, fresh	81.1	10.6	2.0	3.0	3.1	8 - 10
Fishmeal	7 - 9	57 - 72.7	4 - 9	10-26	16.8 - 20.7	1.5 - 3.0
Liver, spleen	70 - 73	20.2 - 20.5			6.7 - 7.3	5.5 - 8.0
Locust, dried	10.5	46.2			20.5	5.0
Locust, fresh	68.2	22.1			7.1	10.7
Trash fish, raw	52-83	11-26	1 - 36	1-2		4 - 9
Meat meal	6.9	53.0		31.1	16.8	2.0
Poultry viscera, fresh	74.0	14.0	11.0	1.0		5 - 8
Silkworm pupae, dried	10.0	55.9		1.9	24.2	1.3 - 2.1
Silkworm pupae, fresh	74.9	13.7	8.0	1.2	6.9	3 - 5
Snail meat, dried	5.7	62.7			20.6	10.2
Snail meat, fresh	78.0	12.0	1.0	4.0	4.0	22.0
Feeds of plant origin						
Banana leaves	75.0	2.4	1.0		4.7	25.0
Cassava leaves	74.4	7.7	1.0	2.0	4.9	10 - 20
Corn	12.2	9.6	4.0	2.0	16.3	4 - 6
Cottonseed cake	7.8 - 10.7	21.9 - 41.2		8.3	16.9 - 18.7	3.0
Ground rice	11.3	7.5	0.6	0.6	15.8	4.5
Groundnut cake	9.6 - 10	30.2 - 46.2	9.0	8.6	6.7 - 9.1	2 - 4
Palm oil cake	10.5	17.7	10.0	3.3	18.0	6 - 12
Rye grass	88.3	2.9			15.1	17 - 23
Soybean	8.8 - 9.1	24.1 - 37.8	10.0	7.0	18.3 - 21.2	3 - 5
Water hyacinth	91.5	1.2	0.3	1.0	1.4	50.0
Wheat bran	12.1	14.7	4.0	5.5	16.0	6.1 - 7.3
Wheat flour	12.0	11.7	1.0	0.5	16.1	7.2

Data source: Tacon (1987b); Tacon (1988)