

Supplementary Materials:

Table S1. Food nutritional composition and growth environment of farmed and wild snakehead fish

Food	Farmed		Wild					
	Feed [1-3]		Trash fish [4-7]		River prawns [8,9]		Frog [10,11]	
	Wet base	Dry base	Wet base	Dry base	Wet base	Dry base	Wet base	Dry base
Moisture	10.0~12.5		69.5~75.88		71.0~81.3		78.14~85.87	
Crude protein	40.0~45.0	44.44~51.43	16.09~19.5	58.62~64.1	15.18~20.	66.0~71.72	10.81~19.07	76.50~87.2
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Crude fat	5.0~6.0	5.56~6.86	2.59~4.51	10.74~16.4	1.9~2.68	10.16~11.3	0.17~0.90	0.92~6.37
				3		7		
Fiber	5.0~8.0	5.56~9.14	-	-	-	-	-	-
Crude ash	14.0~18.0	15.56~20.57	0.91~3.85	3.32~15.96	1.5~4.0	5.17~21.29	0.52~1.1	3.68~5.52
Calcium	0.5~5.0	0.56~5.71	0.29~1.10	0.95~4.48	0.23~1.04	0.80~4.41	0.0107~0.49	0.054~3.47
Phosphorus	0.5~5.0	0.56~5.71	0.57~0.69	1.87~2.82	0.047~0.7	0.16~3.22	0.0064~0.91	0.032~4.82
					6			
Amino acid	2.1~2.3	2.33~2.63	-	-	-	-	-	-
Habitual density	3000~6000 tails/30m2 l		<10 tails					
Illumination	High light intensity		Low light intensity					
Water temperature	The temperature is stable with slight change		Great temperature change					
Way of eating	Feed on time		Hunting					

References:

1. Feed A consists of imported fish meal, starch, soybean meal, fish oil, calcium dihydrogen phosphate, vitamins, multivitamins and organic trace elements. The ingredients refer to the nutrient composition table of snakehead feed, which comes from Zhejiang Dongyu Biotechnology Co., Ltd.;
2. Feed B consists of imported high-quality fish meal, flour, soybean meal, yeast powder, organic chelated minerals, multiple vitamins, trace elements, etc. The ingredients refer to the nutrient composition table of snakehead feed, which comes from Jiangmen Hengsheng Industrial Co., Ltd.
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Figure S1**Farmed snakehead****Aspect ratio:** $4.74 \pm 0.16b$ **BMI:** $5.20 \pm 0.26a$ **Wild snakehead****Aspect ratio:** $5.81 \pm 0.04a$ **BMI:** $4.24 \pm 0.11b$

Figure S1. Appearance and morphological parameters of farmed and wild snakehead fish. Different lowercase letters indicate significant difference in the body mass index between the farmed and wild snakehead fish ($P < 0.05$)

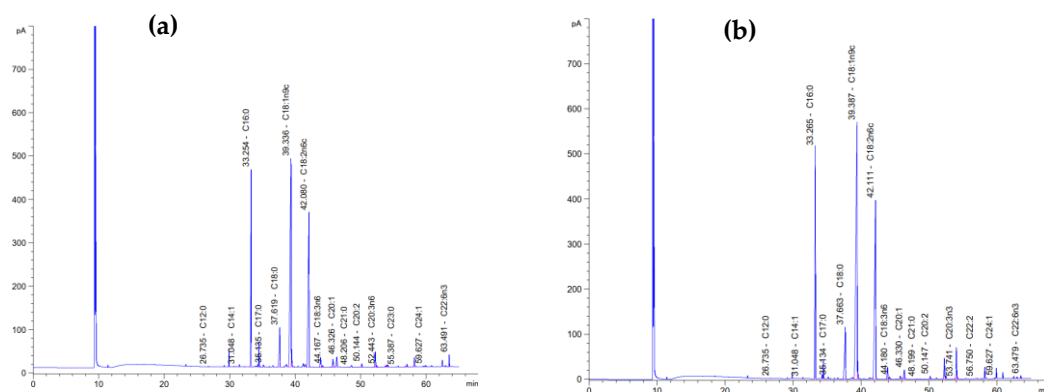


Figure S2. The GC-MS chromatogram of fatty acid analysis. a: farmed snakehead fish soup; b: wild snakehead fish soup.