

Table 2 Growth performance and nutrient utilization of *Clarias gariepinus* fed diet containing *Saccharomyces cerevisiae*

Treatment	Inclusion level of <i>Saccharomyces cerevisiae</i> (%)				
Parameters	0%	0.5%	1%	1.5%	2.0%
IW (g)	2.96±0.07 <sup>a</sup>	2.93±0.07 <sup>a</sup>	2.93±0.07 <sup>a</sup>	3.13±0.07 <sup>a</sup>	3.06±0.07 <sup>a</sup>
IL (cm)	7.11±0.15 <sup>a</sup>	7.40±0.15 <sup>a</sup>	7.60±0.15 <sup>a</sup>	7.33±0.15 <sup>a</sup>	7.70±0.15 <sup>a</sup>
FW (g)	48.34±8.47 <sup>ab</sup>	71.59±8.47 <sup>a</sup>	50.23±8.47 <sup>ab</sup>	57.51±8.47 <sup>ab</sup>	40.73±8.47 <sup>b</sup>
FL (cm)	19.00±0.96 <sup>a</sup>	19.66±0.96 <sup>a</sup>	19.33±0.96 <sup>a</sup>	20.00±0.96 <sup>a</sup>	19.33±0.96 <sup>a</sup>
MWG(g)	45.37±8.49 <sup>ab</sup>	68.65±8.49 <sup>a</sup>	47.30±8.49 <sup>ab</sup>	54.37±8.49 <sup>ab</sup>	37.66±8.49 <sup>b</sup>
PWG(%)	93.81±0.84 <sup>ab</sup>	95.67±0.84 <sup>a</sup>	94.13±0.84 <sup>ab</sup>	93.90±0.84 <sup>ab</sup>	92.23±0.84 <sup>b</sup>
SGR(%)	2.06±0.15 <sup>ab</sup>	2.45±0.15 <sup>a</sup>	2.12±0.15 <sup>ab</sup>	2.06±0.15 <sup>ab</sup>	1.82±0.15 <sup>b</sup>
CF	0.71±0.08 <sup>ab</sup>	0.94±0.08 <sup>a</sup>	0.69±0.08 <sup>ab</sup>	0.68±0.08 <sup>ab</sup>	0.58±0.08 <sup>b</sup>
SR(%)	100±11.83 <sup>a</sup>	100±11.83 <sup>a</sup>	96±11.83 <sup>a</sup>	94±11.83 <sup>a</sup>	96±11.83 <sup>a</sup>
PER	1.13±0.21 <sup>ab</sup>	1.71±0.21 <sup>a</sup>	1.18±0.21 <sup>ab</sup>	1.35±0.21 <sup>ab</sup>	0.94±0.21 <sup>b</sup>
FCR	0.70±0.25 <sup>b</sup>	0.52±0.25 <sup>bc</sup>	0.73±0.25 <sup>b</sup>	1.51±0.25 <sup>a</sup>	1.14±0.25 <sup>ab</sup>

Means within the same row with different superscript letters are significantly different ( $P > 0.05$ )

Table notes: SC=*Saccharomyces cerevisiae*, IW= initial weight, IL= initial length, FW= final weight, FL= final length, MWG=Mean weight gain, SGR=Specific growth rate, SR=Survival rate, PWG=Percentage weight gain, PER=Protein efficiency ratio, FCR =Feed conversion ratio, CF=Condition factor

### 2.3 Carcass composition of *Clarias gariepinus* fed experimental diet

The carcass composition of *Clarias gariepinus* fed the experimental diet is indicated in Table 3. The highest crude protein content recorded was 44.07% in the 1.5% inclusion level of *S. cerevisiae*, followed by 43.66% and 41.10% in the 0.5% and 2.0% inclusion levels of *Saccharomyces cerevisiae*, respectively. The lowest crude protein contents were recorded in the 1.0% and 0% inclusion levels, with values of 40.00% and 37.20%, respectively. There was no significant difference between the 0.5% and 1.5% inclusion levels, but the 0%, 1.0%, and 2.0% inclusion levels showed significant differences with one another. The highest ether extract (fat) content recorded was 19.50% in the 1.5% inclusion level of *S. cerevisiae*, followed by 19.00% and 16.50% in the 0.5% and 2.0% inclusion levels of *S. cerevisiae*, respectively. The lowest ether extract (fat) contents were recorded in the 1.0% and 0% inclusion levels, with values of 14.00% and 10.00%, respectively. There was no significant difference between the 0.5% and 1.5% inclusion levels, but the 0%, 1.0%, and 2.0% inclusion levels showed significant differences with one another.

Table 3 Carcass composition of *Clarias gariepinus* fed experimental diet

Treatment	Inclusion level of <i>Saccharomyces cerevisiae</i>					
Parameters	0%	0.5%	1.0%	1.5%	2.0%	SEM
MC	37.92 <sup>b</sup>	25.33 <sup>c</sup>	31.41 <sup>d</sup>	33.32 <sup>c</sup>	44.50 <sup>a</sup>	0.02*
CP	37.20 <sup>d</sup>	43.66 <sup>a</sup>	40.00 <sup>c</sup>	44.07 <sup>a</sup>	41.10 <sup>b</sup>	0.26*
EEF	10.00 <sup>d</sup>	19.00 <sup>a</sup>	14.00 <sup>c</sup>	19.50 <sup>a</sup>	16.50 <sup>b</sup>	0.46*
ASH	5.50 <sup>a</sup>	1.00 <sup>a</sup>	1.50 <sup>a</sup>	1.00 <sup>a</sup>	1.00 <sup>a</sup>	0.48*
NFE	9.38 <sup>c</sup>	11.01 <sup>a</sup>	13.09 <sup>b</sup>	2.11 <sup>d</sup>	10.5 <sup>e</sup>	0.02*

Means with the same superscript (s) across the same row are not significantly different ( $p > 0.05$ )

± = Standard Error Mean

Table notes: MC = moisture content, CP = crude protein, EEF= ether extract on fat, CF= crude fibre, NFE= Nitrogen Free Extract

### 2.4 Water quality parameters of culture medium

The summary of the mean values of the water quality parameters of the culture medium are presented in Table 4. There was no significant difference ( $P > 0.05$ ) in the physico-chemical parameters observed in this study. The temperature ranged from 29.55°C~32.38°C, the pH ranged from 5.70 to 6.16, while the dissolved oxygen ranged from 4.99 to 5.85 mg/L.