



ŠĚ[ˆ•ă}^kæ}ăšĚ { ^c@i[]ă}^kă^ĀP^ă:ăă&æc, •@ (Hetero-clarias)ăb^č^}ăĤ^•ĒCĒcĥc^Ĥ^•cæ:čă[-ăc@^Ĥ^c]Ĥ^ă { ^}cĒĀ, -c^Ĥ}ăĈFÍDĀ\*}æ••  
 æ^•æ:ăæĀcæ} \•ĀĈÍĒ& { Ā Ā Ā ĀĀ& { Ā Ā ĀĀ& { DĀ^æ&@ĒĀ, ||^ăĀ, ĩc@Āă [ ;^@ [|^Ā, æc^:Ā~ ]ăc [Ā ĀĒSĀ [-ăc•Ā&æ}æ&ăc^Ā, ^:ĤĀ•c [ &\^ăĀ, ĩc@  
 [ ]^Ĥ^~ }ă:ĤăĀĈFÍĒDĀP^c^! [Ē&|æ:ăæ•ăb^č^}ăĤ^•ĀĈĒĒĒĒ Y cĒĀFĪĒ Ā ĀĒĒĒĒĒ \*DĀ [ ]^ĤăcĥĤĒĒ, •@Ā ]Ĥ^ăcĤ^æc { ^}căă}ăc@Ĥ^Ĥ^Ĥ^}ă&æc^•

**Keywords:**

A ; B ; C ; D ;

**Introduction**

1. A  
 2-5  
 15  
 C (C )  
 16  
 17  
 18  
 (Hetero-clarias)  
 B

*Hetero-clarias*

**Materials and Methods**

**Experimental procedure**

A ; B ; C ; D  
 A  
 200  
 16.00  
 Hetero-clarias ( )  
 B  
 A  
 4 2 1  
 C ( )  
 150 200  
 (15) (70 45 40 )/  
 70

ĒĒĒĒĒ [Ā ĈĒĒ ĈĒĒFĪDĀ Ö: [ , c@Ā Ū^• ] [ ] •ĤĀ [-Ā P^ă:ăăă Öæc, •@Ā ĈP^c^! [Ē

(24 ) 70

**Experimental diets**

A A (D<sub>1</sub>), C (D<sub>2</sub>-D<sub>5</sub>) 2:1:0.5 (250- ) D (500 ) A -200 2.0 D (40% C.) (12.1 / ) (1986).

**Feeding procedure**

08:00-10:00 16:00-18:00 70 ( 480, D ). 14

**Water quality analysis**

(D ), (1992). (D 320 ), 57, A; D /5

**Growth and nutrient utilization parameters**

(1990) :

**Weight gain ( )=**  
**SGR (%)=**100( / ( ) )  
**FCR=**( ( ) / ( ) )  
**PER=**( ( ) / ( ) ) (%)=100. ( / )

**Proximate analysis of diets and sh**

( ) A A C 19 C 6.25 600 C 5 105 C 24

**Statistical analysis**

D ( , C ) (A A) 16. D (D ) 5%

**Results**

**Proximate composition of experimental diets**

2. C 40.19% 40.50% 1.06% 1.67% A 6.36% 7.32%, 6.71% 7.14% 31.88% 34.18%, ( 0.05)

**Water analysis**

3. 25.36-25.81 C



5.20-5.29 / , 6.81-6.91 (D ), 0.20-0.22 / ( >0.05)

**Growth performance and nutrient utilization parameters**

4. ( <0.05)

U { äc [ ^ ä ) Ä Ö U Ä Ç G E E I D Ä Ö } c ! [ ä ~ & c ä [ ] Ä c [ Ä , • @ Ä - ä e ! { ä } \* Ä ä ) Ä P ä \* ^ i ä e Ä ( ä ä ä ä ä ) Ä W ) ä ç ^ ! • ä c ^ Ä

P ^ ä ) ä E Y ä { , ä : ä i S E Ä Y ä e c @ ^ i ^ c i Ö Ä S ^ • c ^ { [ ] } c i Ç G E E I D Ä Ö [ c ^ ) c i ä e ! Ä [ - Ä ] [ & ä i ä e \* i ä & ~ | c ~ i ä e ! Ä ä ^ E ] ! [ ä ~ & c ä - [ i Ä c @ ^ Ä ! ^ ä e i ä i } \* Ä [ - Ä ( E - i ä ä e ) Ä & ä e c , • @ Ä Ö j ä i ä e • Ä \* ä e i ä ^ ] ä i } • Ä ä i ) Ä Ü , ä ) ä ä e Ä

Ö ä ç i ^ • Ä U C E E Ä Ö : ^ } , ä i P Ö Ä Ç G E E I D Ä Ö ! [ ~ } ä ) ~ c i & ä e \ ^ ä e • ä e | c ^ ! } ä e c i ^ Ä ! [ c ^ ä i ) Ä • [ ~ i & ^ ä i ä } Ä

Ö ) ^ i ä i ä W Ö Ä