

ABSTRACT

This study was carried out at Central Laboratory for Aquaculture Research Abbasa during 2007. The experiment trial aimed to investigate the effects of three commercial probiotics known as Super Biobuds, Bioyeast and Stop stress gold at 0.5, 1.0 and 1.5 g / kg diet on the growth performance, feed utilization and immune system of Nile tilapia (*Oreochromis niloticus* Lin.) fingerlings.

A total of 450 fish with uniform size and weight about (5.2 g/fish) were in ten treatments (3 replicate / treatment). Biobuds was chosen according to their superiority in Nile tilapia diet at a level of 0.5 g / kg during the experimental periods. The best results of growth and feed utilization were obtained in T₁ group supplemented with Biobuds in diet at level 0.5 g /kg, followed by T₅ group (1g Bioyeast / kg diet). On the other hand, the lowest value of growth performance was obtained by T₈ group (1.5 g Stop stress gold / kg diet). This result would be effective from the economical stand point of view since T₂, T₅ and T₁ values were higher compared with other group. Treated groups had lower mortality rates than the control one after injection with pathogenic bacteria *Aeromonas hydrophila*. Moreover, such fingerlings recorded best finding had significantly greater of blood measurements control, providing them more immunity response than the others. In conclusion, it can be suggested that adding 0.1 % Biobuds in Nile tilapia fingerlings diet can promote growth, reduce total pathogenic, and improve fish health.

المستخلص العربي

أجريت هذه الدراسة بالمعمل المركزي لبحوث الثروة السمكية بالعباسة في عام ٢٠٠٧. و تهدف هذه الدراسة إلي معرفة تأثير ثلاث أنواع من البروبيوتيك المعروفة تجاريا مثل Super Stop stress gold ، Bioyeast ، Biobuds وذلك بمستويات ٠,٥ ، ١,٠ ، ١,٥ جرام/كجم عليقة علي معدل النمو، الاستفاداة من الغذاء لأسمالك البلطي النيلي . تم أخذ ٤٥٠ سمكة (اصبعيات) بنفس الوزن تقريبا ٥,٢١ جرام/ سمكة وذلك للعشرة معاملات (٣ مكررات / معاملة)

أوضحت النتائج فعالية Super Biobuds عند استخدامه في المعاملة التجريبية الأولى بمستوى ٠,٥ جرام / كجم في عليقة البلطي أثناء فترات التجربة ويتبعها المعاملة التجريبية الرابعة ١ جرام / كجم من Bioyeast ومن جهة أخرى فان أقل النتائج على معدل الأداء كان في المعاملة التجريبية الثامنة ١ جرام /كجم Stop stress gold. وكانت النتائج مؤثرة من وجهة النظر الاقتصادية حيث أظهرت المعاملة الأولى مقارنة أكثر كفاءة يتبعها المعاملة الخامسة ثم المعاملة التاسعة مقارنة بباقي المعاملات.

أظهرت المجموعات تحت الاختبار وجود فروق معنوية كبيرة عند اختبار بعض القياسات الفسيولوجية والبيوكيميائية مثل AST ، ALT ، البروتين الكلي ، الألبومين ، الجلوبيولين.....(الخ).

سجلت المجموعات المختبرة أقل معدلات نفوق مقارنة بالمجموعة الضابطة بعد الحقن بالبكتريا المرضية ، و خلاصة النتائج توضح أن إضافة السوبر بيوبادز بنسبة ٠,٥٥ جرام/كجم عليقة ينشط النمو ويقلل من معدلات الإصابة بالبكتريا المرضية وبالتالي يحسن من صحة الأسماك.

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List of symbols of scientific terms and **Abbreviation**

A.D.G.	Average Daily Gain
A.O.A.C	Association of Official Analytical Chemists
APHA	American Public Health Association
AST	Aspartate aminotransferase
ALT	Alanine aminotransferase
BW_F	Body Weight at the final of the trial
BW_s	Body Weight at the Start of the trial
CF	Crude Fiber
CFU	Colony Forming Unit
CP	Crude Protein
D.E.	Deposition Energy
D.F.	Deposition Fat
DLY	Dried Live Yeast
DM	Dry Mater
D.OM	Deposition Organic matter
D.P.	Deposition Protein
E.E	Ether Extract
E.E.R.	Energy Efficiency Ratio
E:P	Energy / Protein ratio
En. I.	Energy Intake
Fe. I.	Feed Intake
F.A.O.	Food and Agriculture Organization
F.C.R	Feed Conversion Ratio
F.E.R	Feed Efficiency Ratio
FPV	Fat Productive Value
GE	Gross Energy
K	Condition factor
LS	Lacto - sacc
LY	Live Yeast
NFE	Nitrogen Free Extract

NRC	National Research Council
P. I.	Protein Intake
P.E.R.	Protein Efficiency Ratio
P.P.V.	Protein Productive Value
P1	Super Biobuds
P2	Bio-yeast
P3	Stop Stress Gold
PPV	Protein Productive Value
R.B.W.G.	Relative Body Weight Gain
RGR	Relative Growth Rate
S.G.R	Specific Growth Rate
TBL	Total Body Length
W.G	Body Weight Gain