

# Influence of dietary commercial Beaker's yeast, *Saccharomyces cerevisiae* on growth performance, survival and immunostimulation of *Oreochromis niloticus* challenged with *Aeromonas hydrophila*.

H A M, Osman<sup>1</sup>, Taghreed, B Ibrahim<sup>1</sup>, W E, Soliman<sup>1</sup> and Maather, M Monier<sup>2</sup>

1. Hydrobiology Dept. National Research Center Dokki, Egypt. 2. Fish diseases and management Dept. Fac. of Vet. Med. Seuz Canal Univ. Egypt.  
dr.hussien\_osman@yahoo.com

### Abstract :

Eight weeks feeding trials were conducted to examine the effect of dietary commercial brewer's yeast, (*Beaker's yeast*), *Saccharomyces cerevisiae* on growth performance, survival and immunostimulation of Nile tilapia, *Oreochromis niloticus*. Brewer's yeast supplemented at 0, 1, 2, 3 and 6 gm/kg diet A, B, C, D and E respectively. Each diet was fed to triplicate group of *O. niloticus* with initial body weight at  $77.39 \pm 5.33$  g at 8 weeks feeding period. Control group fed non supplemented diet at total period of experiment. Final weight, weight gain, specific growth rate (SGR), condition factor (CF) were recorded, and the optimum growth performance were obtained with 3.0 g yeast/kg diet. Physiological and biochemical parameters (RBCs count, Hb concentration, HCT value, glucose and lipids of fish), cellular immune parameters (total leucocytic count, phagocytic activity) and hormonal immune parameters (Total protein, albumin, globulin and lysozyme concentration) were significantly elevated than the control group (fed on A diet) and improved in *O. niloticus* fed brewer's yeast up to 3.0 g/kg diet. After experimental period (8 weeks) fish from each group were challenged by pathogenic *Aeromonas hydrophila* IP, kept under observation for 7 days, total fish mortality, clinical signs were recorded, and mortality percent decreased with the increase of yeast level in fish diets. [Nature and Science 2010;8(3):96-103]. (ISSN: 1545-0740).

### Key Word :

*Oreochromis niloticus* ; brewer's yeast ; growth performance ; immuno-stimulation ; condition factor ; immune promoters ; *Aeromonas hydrophila*.

Volume 8, Number 3, March 2010, ISSN 1545-0740