

**Effect of Fertilizeron Growth and Protein Content of Azolla (*Azolla pinnata)***

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**Chattogram Veterinary and Animal Sciences University Chattogram 4225, Bangladesh**

**June 2020**

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**This is to certify that we have examined the above Master’s thesis and have found that is complete and satisfactory in all respects, and that all revisions required by the thesis examination committee have been made**



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**LIST OF ABBREVIATIONS**

|  |  |
| --- | --- |
| DoF | Department of Fisheries |
| G | Gram |
| Mg | Milligram |
| pH | Power of Hydrogen |
| Sd | Standard deviation |
| TSP | Triple Super Phosphate |
| N | Nitrogen |
| P | Phosphorus |
| DO | Dissolved Oxygen |

**Abstract**

This study was conducted to evaluate the effects of fertilizer (Nitrogen and phosphorus) and water quality parameters (DO and pH) on the growth performance and protein concentration of *Azolla pinnata*. Azolla is exclusive because it is one of the fastest growing plants on the earth without soil and honest alternative source of protein from expensive fish meal. Azolla were cultured in 12 plastic containers with different treatments (Nitrogen, phosphorus, DO and pH) in different concentrations to observe the effect. This study was consists of 5 experiment (each experiment conducted for 7 days).In 1st experiments, the combination of nitrogen and phosphorus were used as treatment. In 2nd experiment; phosphorus was used as a treatment. In 3rd experiment, Different DO level maintain as treatment by using different aerator. In the 4th experiments, Azolla treated with different pH level by using lemon and lime. In the 5th experiments, Azolla treated with the combination of all the treatments used in experiment (1-4).After complication of each experiment, different treatment showed different effects. Highest growth performance and protein content were found in treatment T1 (10 mg atom/L N + 30 mg atom/L P) in experiment 1 compared with other treatments **(*P*˂0.05)**. In 2nd experiment, highest growth performance and protein content were found in treatment T3 (6.5mg/l) than the Azolla without phosphorus. After completion of 3rd experiment, highest Growth performance and protein content were found in treatment T1 (D0=7.01). In the last sampling of 4th experiment, the data showed that the Azolla provided with Treatment-0(T0) means experiments with the level of (pH=6.5) plays role in higher growth in terms of cell number and weight while comparing with other treatments. In the terminal sampling of 5th experiment, the data presented that the Azolla provided with Treatment T2 means a combination of the doses which gave best result of experiment 1-4 (phosphorus=6.5mg/l, DO=7.01, pH= 6.5) plays role in highest growth and protein content . The results of this research showing that at pH = 6.5, DO = 7.01mg/l and Phosphorus = 6.5mg/L; there was highest growth with the cell no 116.67± 20.207 & weight 1.1400 ± 0.06928g and also the protein 35.66%.

Keywords: Azolla (*Azolla pinnata*), Nitrogen, phosphorus, DO, pH, Growth performance and Protein content.