



## Abdul Aziz

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### *Azolla pinnata* var. *pinnata* cultivation and use as a multipurpose crop

*Azolla pinnata* var. *pinnata* R. Brown, a heat tolerant (up to 41° C air and 42.5° C water temperature at 0.5 cm depth) native aquatic fern was grown in ponds (by foliar spray of 10 kg TSP and 5 kg MP in a solution/ha/day) without nitrogen input and harvested about 10% crop every day which was on an average 1 ton/ha/day with full sun-shine) round a year in tropical Bangladesh. Lowest yield (>800 kg/ha/day) obtained during spring has been attributed to low humidity (50-67%) and lower sun-shine, and highest (1200 kg/day/ha) in late summer with high humidity (>70%). Cost of production was about 12 US\$/ton fresh *Azolla*/ha/day which was sold at about 25 US\$. The net income over fish production was estimated to be about 1,800 US\$. The low investment and good return every day was lucrative and cost effective. The organism has symbiotic N<sub>2</sub> fixer *Anabaena azollae* that fixes about 600 kg N/ha/year like that of Rhizobia in legumes and contains about 3.5% N, rich in

anthocyanin pigment, etc. These features made the organism an excellent feed for fish (production increased over 20%) and poultry (2% sun-dried *Azolla* granules as food supplement resulted better health and increased egg production by 45%), use as compost or as biofertilizer (*Azolla* as dual crop and pounding in to the soil before tiller and flower initiations) and raw material for biogas production. Integrated farming with *Azolla pinnata* var. *pinnata* could increase productivity, keeping clean environment.

#### Speaker Biography

Abdul Aziz has completed his PhD at the age of 33 years from Durham University, UK. He is the professor of Dhaka University, Bangladesh. Currently, working as a Consultant, Bangladesh Agricultural Research Institute, Bangladesh. He has over 115 publications that have been cited over 65 times and has been serving as an editorial board member of reputed Journals.

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