

A THEORETICAL AND EXPERIMENTAL STUDY OF THE ENERGY HARVEST EFFICIENCY OF AN ENERGY CROP

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Abstract—It is shown that growth kinetics of a plant community determine the maximum rate at which biomass can be extracted continuously while maintaining a quasistatic equilibrium. The floating hydrophyte *Lemna major* is studied as a model system. It is shown that the measurements on this system are in agreement with the theoretical model and that the optimum energy harvest efficiency of *Lemna major* is ~4%.