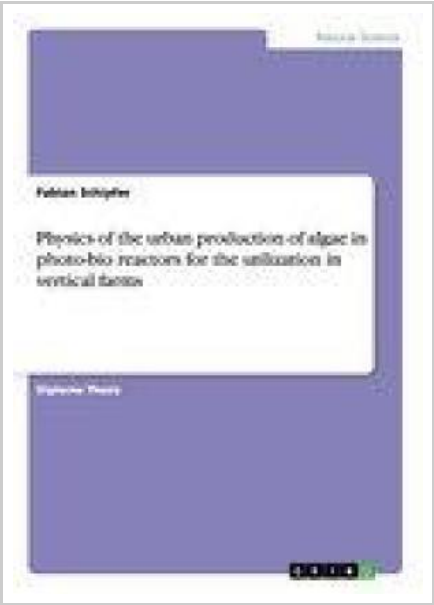

Physics of the urban production of algae in photo-bio reactors for the utilization in vertical farms

By Fabian Schipfer

GRIN Verlag Dez 2012, 2012. Taschenbuch. Book Condition: Neu. 210x148x8 mm. This item is printed on demand - Print on Demand Neuware - Diploma Thesis from the year 2012 in the subject Physics - Biophysics, grade: 1,0, University of Vienna (Physik), language: English, abstract: Todays agricultural food production highly depends on the availability of non-renewable resources like crude oil, natural gas and phosphor rocks. Tomorrow's food security can only be ensured by reducing this dependency. There are open questions concerning the methods that can be used for the production of renewable sources in order to achieve this goal. Is it technically and economically feasible, for instance, to produce micro-algal fertilizer in photo-bio reactors to recycle N and P from waste water streams Is this furthermore possible by avoiding the combustion of non-renewable energies to become energy self-sucient Relevant examples from literature will be used to investigate the microalgal potential to extract nutrients from urban waste water streams for the re-injection into the food chain of the population. The production of algae and heat will be described in a bio-physical way to calculate the mass- and energy flux in photo-bio reactors, attached to walls of buildings in Vienna. It will be...

Reviews

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