

Demonstration of High Biomass Productivity in Outdoor Ponds

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ABSTRACT

This article explains about how can a biomass can be produced from outdoor ponds, by using of different methods Filtration, floatation, gravity sedimentation & what kind of environment should be maintained for the production of biomass like the composition carbondioxide, nitrogen, phosphorous, & other ingredients & what are the factors that would effect the growth of biomass.

Keywords: Sedimentation; Ponds.

INTRODUCTION

Biomass Production: It is the sustainable organic material which is obtained from plants & animals. It reserves chemical energy from sun. it is considered to be refill as plants and animals. Inorder to increase the biomass production from outdoor sources, it requires uninterrupted desicating and drying steps to rise the production of the extract. The technologies of desiccation & dehydration are dependent on species. Outdoor ponds are most extensively used for commercial production of biomass. As the outdoor ponds are cheap, cost effective, defenseless, appropriate expansion. They are easy to maintain as they can be unblemished easily. There are some provocations from microalgal biomass. Ponds nowadays are contaminated by industrial wastes which includes coal gauge, ore processing products, heating plants like slag, ash & power plants. There are certain requirements for production of biomass which are as follows Carbondioxide, nitrogen, phosphorous, and other ingredients. Ponds are most energy proficient.

Dehydrogenation: Consequent introduction of double bond with the dehydrogenation has been outlined for all four rings of the steroid nucleus.

The biomass in outdoor pond contains various aquatic life forms like planktonic, zooplankton which have low metabolic rates. Phytoplankton can consume upto greater amount of oxygen per day. A larger amount of biomass can be produced by reducing plankton biomass as lower oxygen demand. If the oxygen availability is high, greater densities and yields can be produced. Plankton can be harvested using two methods which are Mechanical harvest & Biological harvest.

Mechanical harvest: In this process, water should be pumped via filters and the obtained plankton can be reserved. The screen mesh should in such a small enough in a way that planktons which are tiny can have the capability to pass through it without clogging them. Most of the ponds have higher levels of bacteria due to which biomass growth can be inhibited as they consume

most of the nutrients and area.

In natural open ponds algae can be harvested which are flat and not more than 30cm. By using the help of sunlight radiation, algae can be able to conduct photosynthesis in order to produce biomass. For several industrial purposes, micro algae biomass can be produced which involves drying, lipid extraction, harvesting, esterification. Ponds are generally not of deeper, but they are with various acres. On revealing the algae to natural solar radiation they get converted to biomass. Per day 50m/m (74tons) per year can be produced.

THE METHOD OF PRODUCTION ALGAE FROM POND CAN BE DONE BE BY 3 METHODS

Filtration: The bunch of algae can be abolished with the help of filters by seizing them.

Flotation: in-order to redirect airbubbles, so that algae can be brought to the surface.

Gravity sedimentation: By employing gravity and time to lead the way to algae clumps.

There are few components that would affect the growth of algae which includes levels of nitrogen and phosphorous followed by other nutrients such as carbon, silica, & other micronutrients.

For the merchantile purpose open ponds are most broadly used. A stringent restriction for some of the particular microalgae for reconciliation to extreme environment conditions like high alkalinity (Spirulina), high nutrient conditions, (Chlorella) & high salinity (Dunaliella).

CONCLUSION

Production of biomass from ponds is the most effective method for commercial production of biomass by maintaining stern environment. This process involves high energy efficient and it does't require much speculation for construction and also require more operation.

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