

BIOMASS FROM WETLANDS AND OTHER VALUABLE CONSERVATION AREAS AS SUBSTRATE FOR INDUSTRIAL BIOTECHNOLOGY

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Abstract

Biomass from wetlands has historically been an important resource, but today it is difficult to take advantage of this biomass, besides being used as feed on the farm. A very important goal is to find rational and economical viable way to make biogas from wetland biomass, including biomass from other conservation worthy areas of high biodiversity, such as roadsides harvested frequently. Moreover, the residues from biogas process used as bio-fertilizer to the fields, so that nitrogen and phosphorus is returned to the farm land. The biomass can be used for the production of biogas or for extracting valuable chemicals in bio refineries. These valuable chemicals may be potentially useful for making future plastic materials, i.e. bio plastics. Major focus will be on biogas technology, and above all, methods for the pretreatment of recalcitrant substrates such as biomass containing high levels of lignocelluloses, i.e., to make the material available to the biogas-producing bacteria. The work is based on an involvement of research in the areas of environmental engineering and landscape science and includes studies of biodiversity and water treatment function of the landscape. Finally, it is important to stress that mowing of wet meadows mostly will result in a better capacity of such meadows to retain nutrients from water passing through them. Wetland with wet meadows and similar vegetation types will be more efficient in cleaning water and thereby fight eutrophication in the recipient. Summing up, the main advantages using harvest hay (mowing) from wet meadows and roadside meadows as substrate for biotechnical industry are:

- Raw material for bio plastics
- Cheap and easy handled fertilizers to agriculture
- Important for biodiversity
- Better function of wetlands as nutrient traps fighting eutrophication of the sea

Keywords

Biomass, Wetlands, Roadsides, Biogas, Bioplastics, Biodiversity