17th EURO BIOTECHNOLOGY CONGRESS

September 25-27, 2017 Berlin, Germany



Anli Geng^{1, 2}

¹BioEnergy Society of Singapore, Singapore ²Ngee Ann Polytechnic, Singapore

Industrial biotechnology application in fuel and chemical production

Industrial biotechnology is a set of practices that use living cells (such as bacteria, yeast, algae) or component of cells like enzymes, to generate industrial products and processes. This presentation focuses on the application of industrial biotechnology in technology development for fuel and chemical production. The talk will cover industrial biotechnology application in the development of cellulolytic enzymes and metabolic engineering of yeast for the conversion of lignocellulosic biomass to fuels and chemicals. The conversion of oil palm empty fruit bunch, the main biomass resource in Southeast Asia, will be particularly discussed.

At the moment only approx. 25% of the oil palm plant is used for oil/biofuel production

2nd generation technology will double the yield. (50% based oil, 33% based on C6 sugars and additional 17%

based on C5 sugars)





Figure 1: Utilization of oil palm biomass for fuel and chemical production

Biography

Anli Geng is currently the Assistant Director of Life Sciences and Chemical Technology of Ngee Ann Polytechnic. She currently holds the President position at BioEnergy Society of Singapore (BESS) and she is also the Co-founder and Director of Sunvisiae Biotech Pte Ltd, a Singapore-based industrial biotechnology company. Prior to joining Ngee Ann Polytechnic, she was working at Institute of Environmental Science and Engineering (IESE) as a Research Scientist. She has more than 25 years of R&D experience, working extensively on environmental biotechnology, green energy technology and industrial biotechnology. She has more than 30 journal publications and her work has been presented in many international conferences. Her current research focus at Ngee Ann Polytechnic is developing novel microorganisms to produce industrial enzymes, chemicals and fuels, novel nutraceuticals and cosmetics ingredients. She obtained Ngee Ann Polytechnic Staff Excellence Award and IChemE Award on Sustainable Technology in 2012.

Geng_Anli@np.edu.sg

Notes: