

MICROBIAL PROCESSING OF ORGANIC WASTE STREAMS INTO PHAs AND OTHER HIGH VALUE BIO-PRODUCTS

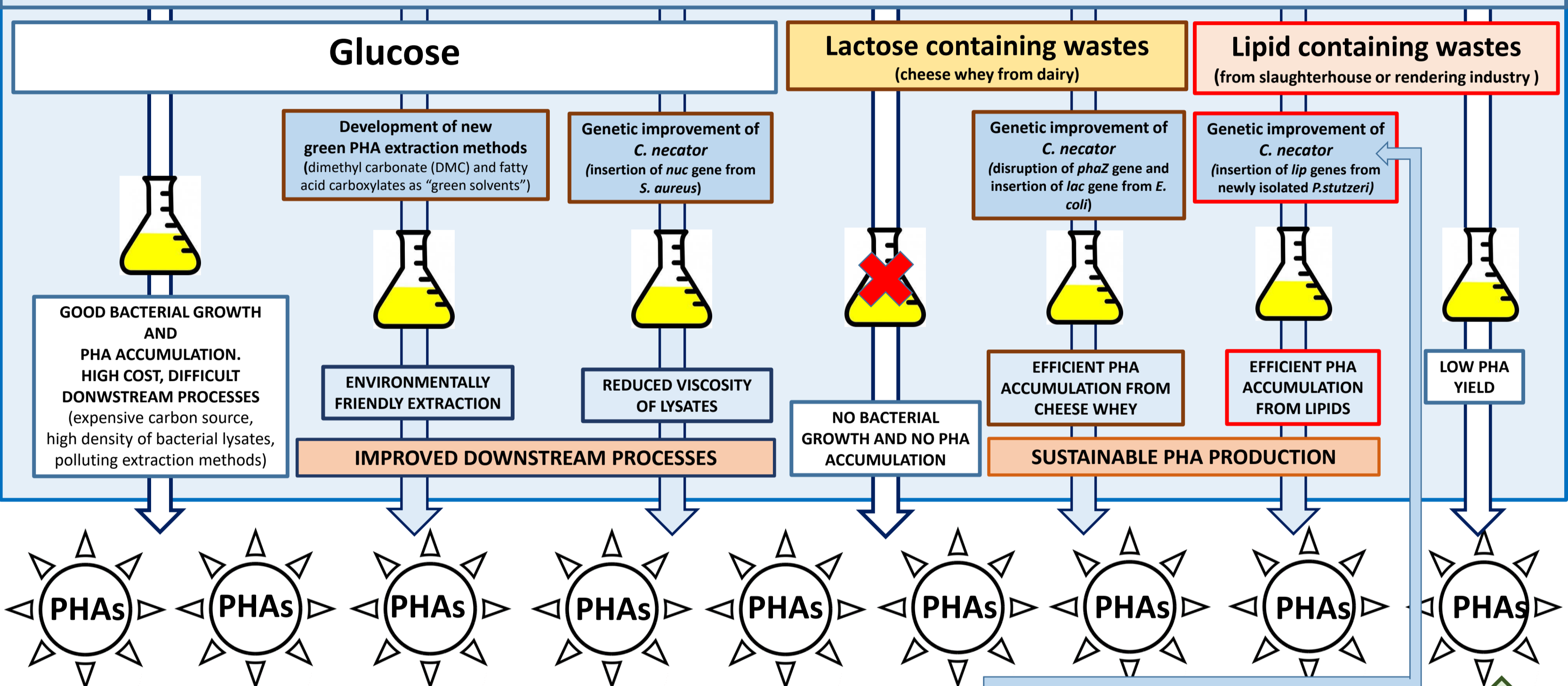
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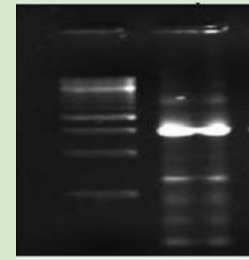
INTRODUCTION. In the last years, economic and environmental concerns arose for oil shortage and climate change; for these reasons the scientific community focused on possible oil substitutes. In this perspectives, the production of new energy, materials and chemicals of non-fossil origin, could be based on biological resources such as biomasses. The efforts of the microbiology group of DAFNAE are mainly devoted to the improvement of industrial downstream processes and to the exploitation of waste and residual biomasses for the production of high value bio-products such as polyhydroxyalkanoates (PHAs), bioethanol and biohydrogen. Examples of our approach are reported below.

IMPROVED DOWNSTREAM PROCESSES AND EXPLOITATION OF AGRO-FOOD RESIDUAL BIOMASSES FOR THE SUSTAINABLE INDUSTRIAL PRODUCTION OF PHAs

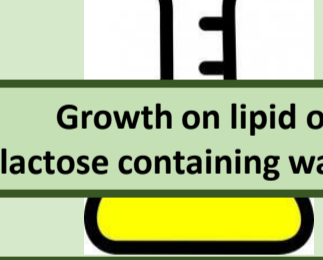
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Isolation from the environment of new PHA accumulating microorganisms, able to grow in extremophile conditions and/or to use cheap feedstocks



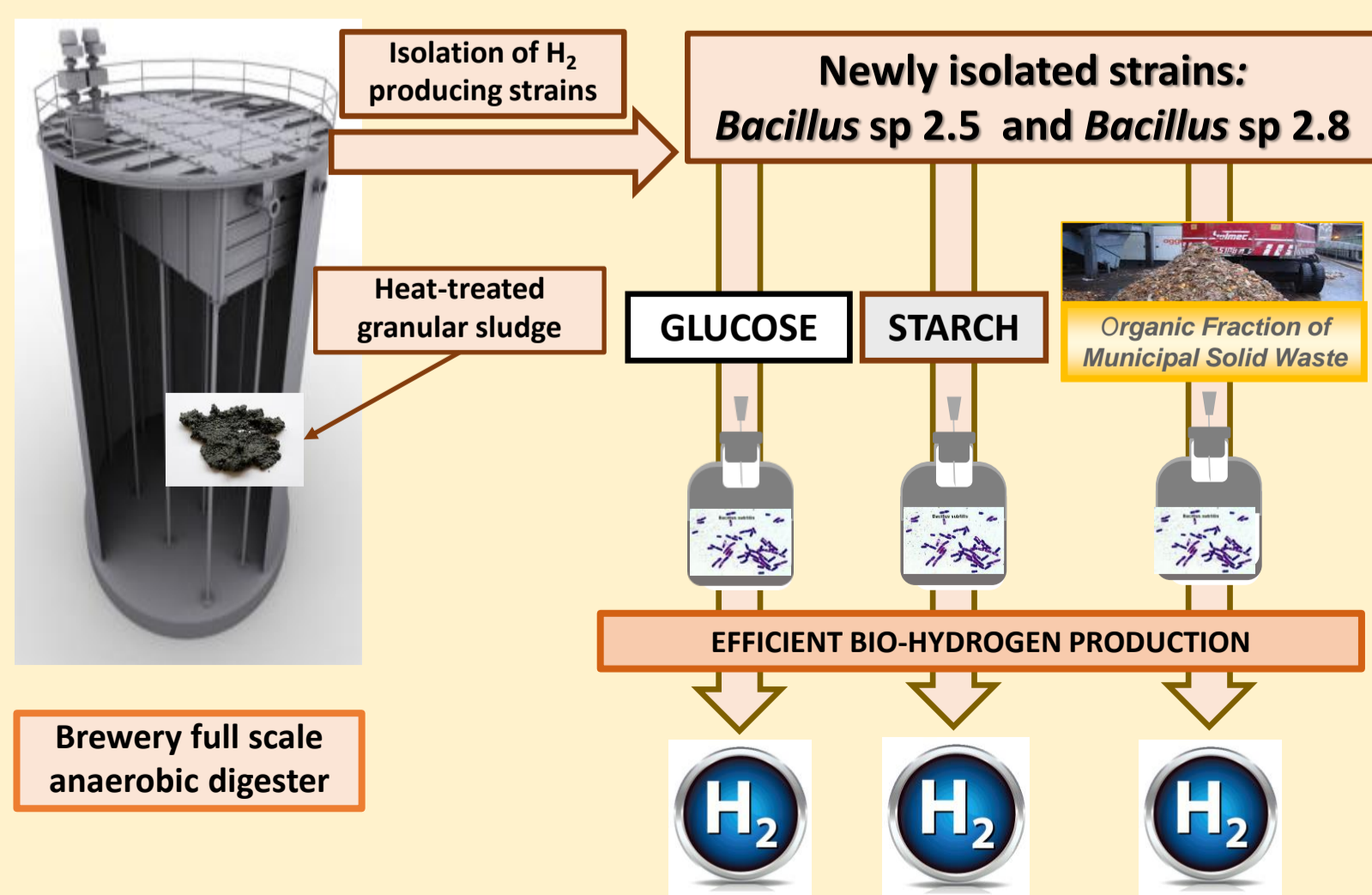
Physiological and molecular characterization of newly isolated strains accumulating PHA from cheap biomasses



Sustainable PHAs production from residues

ISOLATION, PHYSIOLOGICAL AND MOLECULAR CHARACTERIZATION OF NEW PHA-ACCUMULATING MICROORGANISMS

IMPROVED PRODUCTION OF BIO-HYDROGEN FROM THE ORGANIC FRACTION OF MUNICIPAL SOLID WASTE



DEVELOPMENT OF SACCHAROMYCES CEREVISIAE STRAINS FOR THE SUSTAINABLE PRODUCTION OF SECOND GENERATION BIOETHANOL

