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Utilization of agricultural by-products for bacterial α -amylase production

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Potential Amylase enzymes have many industrial applications that are found in biological sources like animal, plants and microorganisms. Fungi and bacteria holds tremendous potential to produce the αalpha Amylases using agriculture by-products under solid state fermentation (SSF). Agro-industrial residues such as rice bran, wheat bran, sugar can burgesses, corn leaf, barley, orange peel, wheat straw, rice straw are abundant and cheapest carbon source. SSF using agro-industrial residues is currently used in a range of applications including classical applications such as antibiotics production, enzymes, composting, bio-surfactants and biofuel production. Microbial α-amylases have several applications in paper, food, pharmaceutical, detergent, and textile industries. The properties of each α-amylase such as thermostability, pH profile, pH stability, and Ca-independency are important in the development of fermentation process. This review is focused on the production of bacterial αα-amylases, their structural-functional aspects and the use of agriculture by-product forα-amylase production α-amylase, SSF, agriculture residue, agriculture by-products.

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