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研究论文

富含纤维素类农作物秆与丙烯酸接枝共聚制备高倍率吸水树脂

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摘要 用棉花秆、麦秆和玉米秆等富含纤维素类农作物秆与丙烯酸接枝共聚制备了高倍率的吸水树脂. 研究了不同水质(去离子水、自来水及雨水)对接枝产物吸水性能的影响. 采用棉花秆、麦秆、玉米秆与丙烯酸的接枝产物对去离子水的吸水倍率分别为930, 790和630 g/g, 对自来水的吸水倍率分别为670, 350和250 g/g, 用玉米秆/地瓜淀粉混合物制备的接枝产物对雨水的吸水倍率为540 g/g. 为棉花秆、 麦秆及玉米秆等富含纤维素的农作物秆的深加工与应用开辟了一条途径.

关键词 吸水树脂 纤维素 丙烯酸 接枝共聚 农作物秆

分类号 0636

Preparation and Properties of Superabsorbent by Graft Co-polymrization of Acrylic Acid onto Different Celluloses of Crops Stems

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Abstract The different celluloses of crops stalks such as corn, cotton and wheat stem were studied by graft copolymerization with acrylic acid. Many factors, such as ratios of starch to cellulose, de-ionized water, running water and rain water, which affected the absorbency of copolymers, were researched. The copolymer prepared from cotton stem cellulose and acrylic acid can absorb de-ionized water 930 g/g, running water 670 g/g, and rain water 380 g/g. The copolymer of corn crop cellulose and sweet potato starch(3∶2, mass ratio) with acrylic acid can absorb rain water 540 g/g.

Key words Superabsorbent Cellulose Acrylic acid Graft copolymer Crop stem

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