

Synthesis and application of carboxymethyl cellulose from water hyacinth for coated seeds to increase germination efficiency and extend shelf life of seeds after harvest

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Abstract

Synthesis and application of Carboxymethyl cellulose from water hyacinths to extend and protect agricultural products after harvest (Local rice : Gor Khor 06) is able to increase the efficiency of rice seeds by coating them with carboxymethyl cellulose that obtains from water hyacinth to prevent microorganism and bacteria.

In our study, 43 grams of water hyacinth can be synthesized as a Carboxymethyl Cellulose for 31.75 grams. Percentage of Carboxymethyl Cellulose products which synthesized from 100.00 grams of water hyacinth is 73.81 percent. Uncovering and storage at room temperature for 20 days, the coated rice is yellow and the uncoated rice is black. When measuring the growth of fungus and bacteria in rice, the coated rice has 45 colonies and the uncoated rice has 93 colonies that mean carboxymethyl cellulose can prevent microorganism and bacteria by the coated seeds.

Keywords : CMC , Water hyacinth , Carboxymethyl cellulose