

Thermal Properties of Chitosan-Filled Empty Fruit Bunches Filter Media

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Abstract : Non-woven fibrous filter media from empty fruit bunches were fabricated by using chitosan as a binder. Chitosan powder was dissolved in a 1 wt% aqueous acetic acid and 1 wt% to 4 wt% of chitosan solutions was prepared. Chitosan-filled empty fruit bunches filter media have been prepared via wet-layup method. Thermogravimetric analysis (TGA) was performed to study various thermal properties of the fibrous filter media. It was found that the fibrous filter media have undergone several decomposition stages over a range of temperatures as revealed by TGA thermo-grams, where the temperature for 10% weight loss for chitosan-filled EFB filter media and binder-less filter media was at 150oC and 300oC, Respectively.

Keywords : empty fruit bunches, chitosan, filter media, thermal property

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