

Effect of dolomite on pyrolysis of rice straw

Abstract

A study of catalytic pyrolysis on rice straw was carried out in a fixed-bed reactor. The objectives were to determine the effect of dolomite catalyst on the distribution of product yield and bio-oil characterization. The non-catalytic and catalytic process of rice straw was performed at the optimum conditions. The chemical characterization studies of uncatalysed bio-oil derived from pyrolysis of rice straw reflect a considerable amount of carbonyl and oxygenated compound, resulting in higher oxygen content in elemental composition. In the presence of the dolomite catalyst, the yield of bio-oil was markedly reduced and so was the oxygen content of the bio-oil itself. The product yields and quality of the resultant bio-oil were significantly affected by the use of dolomite catalyst.

Keywords

Biomass; Catalyst; Dolomite; Pyrolysis