

## Studies on characterisation of biomass fuel

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■ **ABSTRACT** : Current investigation was followed by characterization of pigeonpea briquettes, soybean briquettes and *Prosopis juliflora*. Proximate, ultimate and thermogravimetric analysis (TGA) of, pigeonpea and soybean briquettes was done by standard procedure and compared with *prosopis juliflora* (woody biomass). The calorific value of *Prosopis juliflora*, pigeonpea and soybean briquettes was 18.41, 18.52 and 18.35 MJ/kg, respectively. The volatile matter content of *Prosopis juliflora*, pigeonpea and soybean briquettes was 83.64, 76.02 and 76.89 % (d.b.), respectively. The ash content of *Prosopis juliflora*, pigeonpea and soybean briquettes was 1.14, 5.01 and 6.11 % (d.b.), respectively. The carbon content of *Prosopis juliflora*, pigeonpea and soybean briquettes was 49.86, 43.35 and 39.9 %, respectively. Thermogravimetric analysis of *Prosopis juliflora*, pigeonpea and soybean briquettes was done at 10, 20, 30 and 40 °C heating rate. It was found that at 30 °C heating rate the thermal decomposition of pigeonpea and soybean briquettes was same as *Prosopis juliflora*.

■ **KEY WORDS** : *Prosopis juliflora*, Pigeonpea briquettes, Soybean briquettes, Proximate analysis, Ultimate analysis, Thermogravimetric analysis

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