

“Study of Vineyard Pruning Waste as Raw Material for Pellet Production”

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Abstract:

The present research focused on pellet production using vineyard pruning waste as raw material. As climate change challenges are critical, new waste biomasses are being evaluated as an opportunity to produce biofuel, replacing fossil fuels. Vineyard pruning waste is a widely available biomass that offers biofuel opportunities. The focus of the present research was to evaluate the technique feasibility of producing pellets from vineyard pruning waste, focusing on agreeing with ISO standards. For that, the conditions evaluated were moisture content and mixed vineyard biomass with pine sawdust biomass. The main results show that a higher moisture content of 30% and mixed biomass with 70/30 sawdust biomass/vineyard pruning waste could allow pellet quality to be obtained close to ISO 17.225-2 Standard. Mechanical durability of 96.5%, ash content lower than 1%, and a net calorific value of 16.5 MJ/kg are highlighted in the results obtained. The promising results obtained show that the conditions studied could be technically feasible. The production of pellets based on vineyard pruning waste appears to be a promising alternative to promote a circulated economy.

Keywords:

Biomass, vineyard pruning waste, pellet, ISO 17.225-2