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A TECHNO-ECONOMIC EVALUATION OF TWO NON-EDIBLE VEGETABLE OIL BASED BIO DIESEL IN PAKISTAN

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Abstract:

Technical evaluation of Bio diesel, produced from various non-edible oils, was carried out on the basis of emission profile, torque, engine brake power and exhaust temperatures at 10% blend ratio (by volume) with mineral diesel. The performance of engine parameters showed that the castor oil based bio diesel gave the best results. Economic feasibility for bio diesel production was carried out based on available data on cultivation of necessary plants on marginal lands. This economic analysis also included the value of by-products which would be available during the chemical process for the production of bio diesel. It was found that jatropha bio diesel could be produced at a comparable cost to mineral diesel, however, castor bio diesel required substantial subsidies or mass cultivation of plants on marginal lands to enable it to compete economically with mineral diesel.

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